

# annual report 2005-2006

Department of Conservation and Land Management



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**MINISTER  
FOR THE  
ENVIRONMENT**

In accordance with  
Section 70A of the  
*Financial Administration  
and Audit Act 1985,*

I submit for your  
information and  
presentation to Parliament  
the final annual report of  
the Department of  
Conservation and Land  
Management.



**John Byrne**  
**REPORTING  
OFFICER**  
**31 August 2006**

## Executive Director's review

The year in review has proved to be significant for the Department of Conservation and Land Management (CALM) for the work undertaken and because it has turned out to be the Department's final year of operation.

The Minister for the Environment announced in May 2006 that CALM would merge with the Department of Environment on 1 July 2006 to form the Department of Environment and Conservation. The merger is designed to build on the strengths and achievements of both CALM and the Department of Environment, to better address priority and emerging issues related to protecting and conserving Western Australia's environment.

CALM's achievements for 2005-2006 included further steps towards establishing a world-class marine and terrestrial reserve system in WA. Gull Rock National Park was declared east of Albany, and the State Government announced that Dirk Hartog Island in the Shark Bay World Heritage Area would become a national park. Both areas have important conservation values with Gull Rock National Park supporting several species of threatened native flora and the region's most significant remaining stands of scarlet banksia (*Banksia coccinea*) and Dirk Hartog supporting more than 360 species of plants and animals.

Significant progress was also made on the establishment of new marine conservation reserves at Dampier Archipelago/Cape Preston, Geographe Bay/Leeuwin-Naturaliste/Hardy Inlet and Walpole/Nornalup Inlets.

Improvements to the visitor facilities and services in the State's conservation lands were also made thanks to the State Government's four-year, \$56.6 million capital works program. Some of the State's most iconic attractions – Purnululu National Park and Bluff Knoll in Stirling Range National Park – received significant upgrades to visitor facilities. It was also announced during the year that a new visitor centre would be opened for the Perth Hills national parks and a \$4.7 million interpretive centre would be built at the Pinnacles in Nambung National Park.

Members of the public were encouraged to play their part in the State's fight against the threatened invasion of cane toads into WA with the launch of a \$500,000 community awareness campaign. Television, radio and print advertisements, posters and brochures were developed to raise awareness of the proximity of cane toads to the WA border. WA is the first State to mount a concerted effort against cane toads before they arrive. This has been assisted by the partnerships forged with the Northern Territory Government and with community groups, particularly Kimberley Toad Busters and the Stop the Toad Foundation.

The Department's aim of building and maintaining good relations with the more than 16,000 landowners whose properties adjoin CALM-managed lands and waters resulted in the release of a draft Good Neighbour Policy for public comment. Public forums and meetings were subsequently held, to seek input from neighbours to help finalise the policy. The draft was almost two years in the making and was developed through extensive consultation with key rural stakeholders. It covers a wide range of issues, from the construction and maintenance of fences to fire management and weed and feral animal control, and builds on projects CALM already has under way to deliver benefits to its neighbours.

Consultation with Aboriginal people was stepped up throughout the State in 2005-2006 with the operation of eight demonstration park councils. Metropolitan community advisory groups for Perth's regional parks also continued to advise on park management and 21 community groups received grants for a range of conservation projects in regional parks.

Further consultation was undertaken to determine the boundaries to be put forward in the nomination for World Heritage listing for the Ningaloo Reef area, which will also benefit from the State Government's \$5 million Ningaloo Research Program for additional research on the Ningaloo ecosystem and key species such as whale sharks.

CALM initiated the inaugural International Exchange Program with the United States Bureau of Land Management (BLM) and National Parks Service. The program began with four BLM employees taking up a five-month placement with CALM in March 2006.

CALM staff carried out a range of other significant projects in 2005-2006. Their efforts and valuable assistance from CALM's 8,230 registered volunteers, members of the Conservation Commission of WA and the Marine Parks and Reserves Authority, community-based and other organisations who work with us on a day-to-day basis are gratefully acknowledged.

The professionalism and dedication shown by CALM staff throughout its 21-year history has brought tremendous benefits for conservation in WA. I look forward to this commitment continuing as we move forward to a new era of protecting and conserving our environment and the nature of WA.



**Keiran McNamara**

**Director General**

**Department of Environment and Conservation**

**(Executive Director, Department of Conservation and Land Management  
until 30 June 2006)**

**31 August 2006**

In partnership with the community, we conserve WA's biodiversity, and manage the lands and waters entrusted to us, for their intrinsic values and for the appreciation and benefit of present and future generations.

## Our commitment

### Our vision

A natural environment in Western Australia that retains its biodiversity and enriches people's lives.

### Our mission

In partnership with the community, we conserve WA's biodiversity, and manage the lands and waters entrusted to us, for their intrinsic values and for the appreciation and benefit of present and future generations.

### Our values

#### *In working to achieve our mission, we endeavour to behave with:*

- Honesty and integrity – acting ethically, legally and treating people with impartiality.
- Respect – understanding and respecting individual differences, valuing each other's contribution, and respecting the views and aspirations of co-workers and the community.
- Openness – having processes that are transparent and understandable.
- Commitment – being responsible, accountable and dedicated in our work.

#### *We will demonstrate:*

- Teamwork – working collaboratively and cooperatively with co-workers, and in partnership with the community.
- Leadership – being progressive, showing initiative and creativity in meeting our objectives.
- Professionalism – acting in a professional, courteous and fair manner, and using up-to-date and sound scientific principles and accurate information in our work.
- Value – delivering the best possible result for conservation through continual improvement of our efforts.

### Our principles

#### *In making decisions we will be guided by the following principles:*

- The diversity and health of ecological communities and native species throughout WA will be maintained and restored.
- Where there are threats of serious or irreversible damage, the lack of full scientific certainty shall not be used as a reason for postponing measures which seek to prevent loss of biodiversity.
- Users of the environment and resources will pay fair value for that use.

- Use of wildlife will be on the basis of ecological sustainability.
- Outcomes will be delivered in the most effective and efficient way.
- Cooperation, sharing and integration of resources and knowledge within CALM and between communities and agencies will be promoted.
- We will adopt a flexible and responsive approach to management and operations and be receptive to change.

CALM manages more than 26 million hectares, including more than nine per cent of WA's land area.

## Our objectives

### **Conserving biodiversity**

To protect, conserve and, where necessary and possible, restore WA's natural biodiversity.

### **Creating sustainable community benefits**

To generate social, cultural and economic benefits through the provision of a range of services that are valued by the community and are consistent with the principles of ecological sustainability.

### **Maintaining community involvement and support**

To develop community awareness and appreciation of the State's rich diversity of native plants, animals and natural ecosystems, and its unique landscapes, and promote community involvement in and support for their protection, conservation and restoration.

### **Improving the way we do business**

To foster a positive work culture of trust, continuous improvement and anticipation of biodiversity conservation issues and customer needs, and deliver core business activities in the most effective and efficient manner.

## Our responsibilities

CALM is part of a greater conservation community and has distinct State Government responsibilities for implementing Government policy within that community. Conservation is a collective role.

We have the lead responsibility for conserving the State's rich diversity of native plants, animals and natural ecosystems, and many of its unique landscapes. On behalf of the people of WA, we manage more than 26 million hectares, including more than nine per cent of WA's land area: its national parks, marine parks, conservation parks, regional parks, State forests and timber reserves, marine nature reserves and marine management areas. We also have limited management responsibility for a further 89 million ha of unallocated Crown land and unmanaged reserves outside the metropolitan area and townships.

CALM contributes to national and international programs.

As an agency with integrated responsibilities, we manage lands and waters for the conservation of biodiversity at ecosystem, species and genetic levels, including management for the renewable resources they provide, and for the recreation and visitor services they can sustainably support.

We assist the *Conservation and Land Management Act 1984* (CALM Act) statutory bodies (Conservation Commission of WA and Marine Parks and Reserves Authority) to carry out their statutory functions.

We work closely with the Forest Products Commission to ensure that timber harvesting in State forests and timber reserves is consistent with the protection of nature conservation, community, recreation, cultural, catchment and physical values, and provide timely and science-based advice for development and approval processes throughout the State.

We also contribute to national and international programs through national Ministerial Councils, the Natural Heritage Trust, the work of organisations such as the IUCN (the World Conservation Union), and to the implementation of international conservation treaties in WA.

## Customer service

While fulfilling our conservation and land management responsibilities, CALM places a great deal of importance on community and customer relations. We aim to increase our customer focus and provide a range of services that meet customer needs.

Our customers can expect:

- positive, courteous and friendly service;
- competent and efficient assistance;
- timely and accurate information; and
- confidentiality where commercially-sensitive issues are concerned.

More specifically, our customers can expect that:

- CALM staff will be well trained, competent and helpful; will wear name badges when in direct contact with the community; and will identify themselves by name when answering the telephone.
- Requests for information or assistance will be met directly or referred to the appropriate person for answering as soon as possible.
- Telephone calls to our main offices will be answered on average within six rings. Telephone messages will normally be returned by the next business day.
- A contact name, address and telephone number will be given in all correspondence for future inquiries. Where it is not possible to respond to correspondence fully, an acknowledgement will be sent, advising of the current situation and when a reply may be expected.

- Brochures and other information materials will be easily understandable, accurate and up-to-date.
- Recreational facilities in national, conservation and marine parks, reserves and State forests will be well maintained and kept clean.

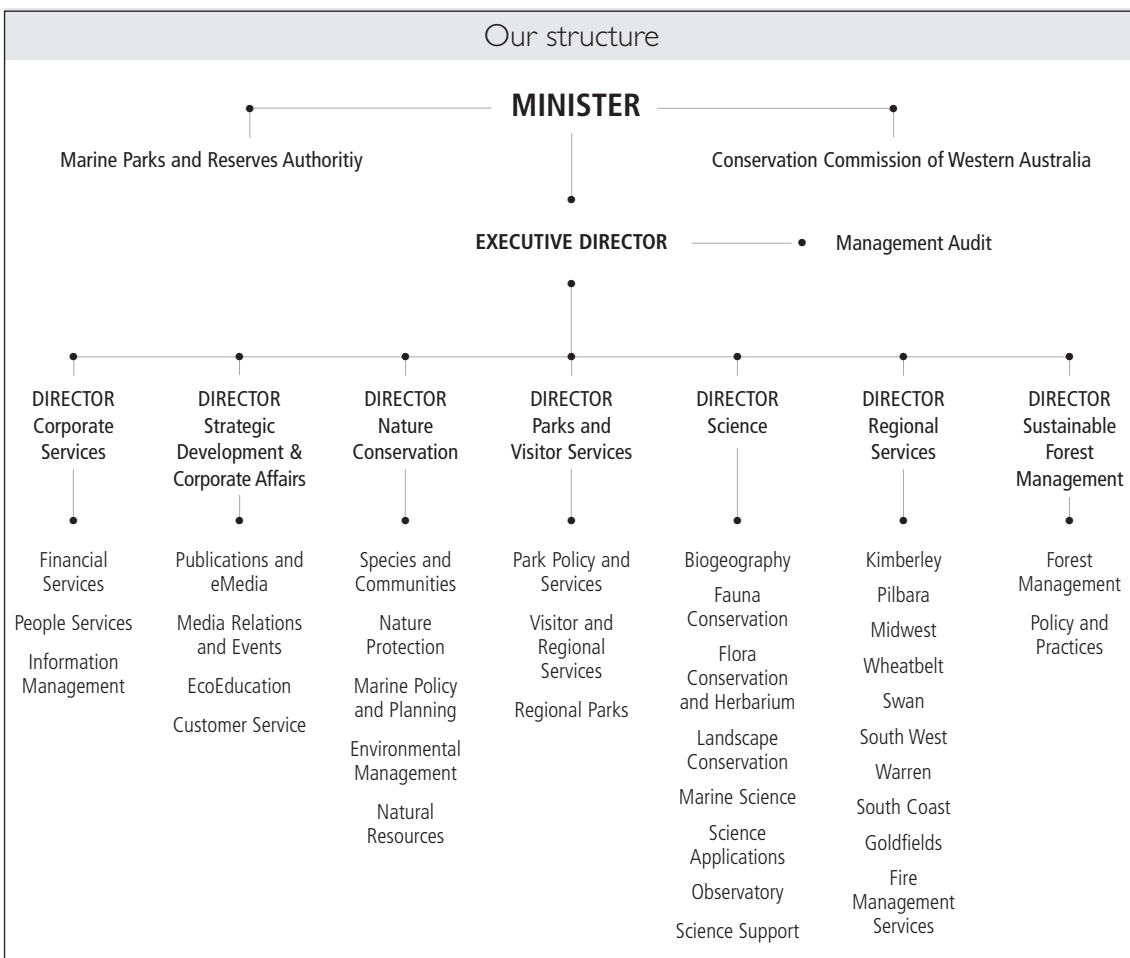
CALM is in the portfolio of the Minister for the Environment.

## Our organisation

CALM is in the portfolio of the Minister for the Environment and is headed by an Executive Director. In keeping with CALM's varied roles, there is also a Corporate Executive, which consists of seven directors working with and reporting to the Executive Director. Regional, branch and other specialist officers often attend meetings of the Corporate Executive.

CALM gives responsibility to its staff whenever possible, depending on skills and potential. Provided there is opportunity, there is no impediment to the progress of a capable individual in the organisation.

The structure of divisions, regions and branches is shown below with the names and qualification of officers occupying senior positions shown over.





Corporate Executive (as at June 2006)

**Executive Director** K J McNamara B Nat Res (Hons)  
**Director, Corporate Services** J C Byrne MBA, PhD, FCPA  
**Director, Nature Conservation** G J Wyre B Nat Res (Hons)  
**Director, Parks and Visitor Services** J R Sharp B Ed, Dip PE, M Ed  
**Director, Regional Services** A W Walker BSc For (Hons)  
**Director, Science** N D Burrows BSc For, PhD  
**Director, Strategic Development and Corporate Affairs** R A Kawalilak BA, FPRIA  
**Director, Sustainable Forest Management** P Jones BSc For

Other senior staff

<b>Regional Manager, Kimberley</b> G MacKay Bed (Env Sc), B App Sci (Parks and Wildlife)	<b>Manager, Marine Policy and Planning</b> P Dans* BSc, MBA
<b>Regional Manager, Pilbara</b> I Walker B App Sci (BRM)	<b>Manager, Natural Resources Branch</b> K J Wallace Dip Ed, BSc (Hons)
<b>Regional Manager, Midwest</b> K Gillen BSc (Hons)	<b>Manager, Nature Protection Branch</b> D Mell* B App Sci
<b>Regional Manager, Wheatbelt</b> B H Bone B App Sc (Nat Res), Dip Mgmt	<b>Manager, Species and Communities Branch</b> K Atkins* BSc (Hons), PhD
<b>Regional Manager, Swan</b> A Sands B App Sc, Grad Dip Nat Res	<b>Manager, Environmental Management Branch</b> N Caporn
<b>Regional Manager, South West</b> R Chandler BSc For	<b>Manager, Fire Management Services</b> R Sneeuwjagt BSc, MSc
<b>Regional Manager, Warren</b> P Keppel Cert For Mgmt	<b>Manager, Forest Management Branch</b> M Rayner BSc For (Hons), PhD
<b>Regional Manager, South Coast</b> J R Watston BSc, Grad Dip Rec, PhD	<b>Manager, Forest Policy and Practices Branch</b> G Stoneman BSc For, MSc PhD
<b>Regional Manager, Goldfields</b> I G Kealley BSc For	<b>Manager, Financial Services Branch</b> M J Neilson BA, MAcc, CPA
<b>Program Leader, Fauna Conservation</b> K D Morris BSc, MSc	<b>Manager, Information Management Branch</b> C J Pearce BSc (Hons), PhD
<b>Program Leader Flora Conservation and Herbarium</b> D J Coates BSc (Hons), PhD	<b>Manager, Office of the Executive Director</b> M Brabazon
<b>Program Leader, Science Applications</b> I J Abbott BSc (Hons), PhD, DSc	<b>Manager, People Services Branch</b> G Edwards B Bus
<b>Program Leader, Landscape Conservation</b> L McCaw BSc For, PhD	<b>Manager, Regional Parks</b> T Bowra BSc
<b>Government Astronomer</b> J Biggs BSc (Hons), PhD	<b>Manager, Park Policy and Services</b> C B Ingram B App Sci
<b>Program Leader, Science Support</b> M M Byrne BSc (Hons), PhD	<b>Manager, Visitor and Regional Services</b> T Shea BA, G Dip Nat Res
<b>Program Leader, Biogeography</b> N L McKenzie BSc (Hons), MSc	<b>Manager, Publications and eMedia</b> C Bailey
<b>Program Leader, Marine Science</b> C J Simpson B App Sci (Biol), G Dip Nat Res, PhD	<b>Principal Media Relations Officer</b> J Stewart

\*Acting

## Regional activities

CALM is committed to regionalisation. There are nine regions, which according to the intensity of activity, are subdivided into districts. Accordingly, CALM is spread over many locations. The map (on page 120) shows regional boundaries and the location of regional offices, as well as the types of lands and waters CALM manages.

Management structures are in place at nine regional, 14 district and 10 local offices including a new one at Northam. Within the regions there are national park rangers at 40 other locations.

Because of community concern for protection of the natural environment and an increasing desire to experience its values, the roles of regional managers and their staff in engaging the community are most important. Satisfactory experiences for the nearly 12 million visits (2005-2006 estimated figures) to lands and waters managed by CALM, drawn from interstate and overseas as well as from all over WA, are largely in their hands. Regional staff are also responsible for the conservation of native flora and fauna on all lands and waters within the regional boundaries.

Regional managers are responsible under corporate direction for developing the region's annual works program, and for managing the region's budget allocation. Liaison with local groups, especially Aboriginal people, other Government agencies and the community in general, is extensive.

There are often advisory committees established with a focus on CALM-managed lands and waters. The committees provide input into the preparation of management plans and, after the plans are approved by the Minister for the Environment, advise on management. It is mostly the regional managers and their staff who are responsible for this important interface with the local community.

## Specialist and service activities

CALM's operations are directed by the Corporate Executive and supported by specialist and service staff. Their responsibilities are as follows:

**Environmental Management Branch** provides key coordination, assessment, policy, monitoring, technical advisory services and support in relation to processes that may threaten biodiversity. These include development proposals and activities (primarily mining, petroleum and industrial), vertebrate pests and weeds. It provides biodiversity advice in respect of native vegetation clearing applications, as well as advice to industry and other government agencies. A primary focus is on the protection and management of CALM-managed lands and waters and other areas in relation to biodiversity conservation.

CALM has nine regional, 14 district and 10 local offices and national park rangers at 40 other locations.

**Financial Services Branch** provides advice to operational managers on purchasing and fleet management, manages accounts receivable and accounts payable processes, and asset records, coordinates remote area housing, consolidates CALM budgets, maintains core financial software that is shared by all parts of the Department, and produces management, tax and statutory reports.

**Fire Management Services** sets fire management standards, coordinates the preparation and implementation of prevention and suppression plans, provides detection, communications, aircraft, fire trucks and equipment and other fire support services, and conducts training.

**Forest Management Branch** carries out resource inventories, disease mapping and database maintenance for CALM's Sustainable Forest Management services and the Forest Products Commission. It maintains corporate resource information and geographic information system (GIS) databases relating to forest areas in the south-west and prepares strategic resource plans.

**Forest Policy and Practices Branch** establishes the standards for ecologically sustainable forest management through development and maintenance of guidance documents and provision of policy advice. The branch also establishes, maintains and supports the systems to approve, monitor and achieve compliance with the standards for disturbance operations on State forest and timber reserves.

**Information Management Branch** plans, coordinates and implements CALM's information systems support, and is responsible for corporate document and records management. The branch maintains CALM's GIS, and provides a land-related information service.

**Management Audit Branch** reports to the Executive Director, providing audits of management systems to advise on their effectiveness, efficiency, economy and compliance with legislation, policies and procedures.

**Marine Policy and Planning Branch** provides policy and strategic advice for marine conservation and management, and advises marine reserves planning teams.

**Natural Resources Branch** is responsible for the development and coordination of CALM's natural resource management policies with a major focus on interaction with regional natural resource management groups. The branch also coordinates the implementation of State Salinity Strategy programs for biodiversity conservation funded through CALM.

**Nature Protection Branch** plans, coordinates and implements CALM's compliance management system and administers wildlife licences and permits. It provides policy, strategic planning and advice for the protection of nature from unlawful activities, and coordinates CALM's wildlife conflict and emergency programs.

**Park Policy and Services** develops policy and strategies for recreation and tourism and other commercial activities, including permits, leases and licences. It coordinates land administration and acquisition programs, and external funding opportunities. The branch also coordinates visitor research and surveys, and maintains databases for the Parks and Visitor Services Division.

**People Services Branch** provides strategic planning, policy development and formulation, advice and coordination in the management of CALM's people. The branch provides services in the functional areas of personnel, payroll, labour relations, training and development, and risk management.

**Perth Observatory** is a group within Science Division. It has three astronomy-based core functions: research, information services and educational services.

**Regional Parks Unit** coordinates the management of Perth's regional parks, including the preparation of park management plans, implementation of landscape and design programs and completion of on-ground operational works. The management of regional parks is undertaken in conjunction with other land management agencies such as local governments as well as the community.

**Science Division** provides up-to-date, scientifically sound information to uphold effective conservation and land management in WA. The research programs address CALM's scientific needs: to discriminate and document WA's biota, ecological processes and biological resources; to conserve threatened species and ecological communities by minimising harmful processes; and to ensure that lands, waters and biological resources are used sustainably.

**Strategic Development and Corporate Affairs Division** is responsible for corporate planning and organisational development, internal and external communications including CALM's website and coordinating the Department's media activities, marketing, advertising and community education.

**Species and Communities Branch** develops policies and provides information and advice on wildlife conservation and management throughout the State, maintains and manages databases on wildlife resources and conservation status, coordinates threatened species and ecological community administration and conservation, and manages off-reserve conservation programs.

**Visitor and Regional Services** incorporates management plans, recreation planning and design, landscape management and visitor interpretation, and coordinates community involvement, Indigenous heritage and tracks and trails for CALM.

The State Government announced that Dirk Hartog Island, in the Shark Bay World Heritage Area, would become a national park.

## Highlights of 2005-2006

### A world-class parks system

Another significant step was taken in 2005-2006 towards establishing a world-class parks system with the creation of the State's 97th national park – Gull Rock National Park. The 2,000 ha reserve, east of Albany, contains several species of threatened native flora and is an important area for the western ringtail possum.

The State Government's \$56.6 million capital works program commitment to improve visitor facilities and services on conservation lands over four years continued. Two new visitor centres were also announced during the year – the new Perth Hills National Parks Centre in Mundaring National Park will cater for the estimated 200,000 people who visit the park and surrounding areas each year, and a new \$4.7 million interpretive centre to be built at the Pinnacles will cater for the 225,000 visitors to Nambung National Park each year.

Purnululu National Park – home to the renowned Bungle Bungle Range – also reached a tourism milestone with the opening of a \$1.2 million world-class, environmentally sustainable wilderness camp. The camp sets a new standard for tourism facilities in the World Heritage listed national park. A major \$750,000 improvement program was undertaken at the tourism icon, Bluff Knoll, in Stirling Range National Park and a further \$723,000 was spent on visitor facilities and services in parks in the Albany region.

The State Government also announced that Dirk Hartog Island, in the World Heritage listed Shark Bay region, would become a national park. The Government signed an agreement with the island's lessees, which will see the island restored and preserved as an important natural asset. Dirk Hartog Island has long been identified as a conservation priority for the State. It has tremendous biodiversity conservation values with more than 250 native plant species, 84 bird species and 27 reptile species. Two birds and one reptile – the black and white fairy wren, the southern emu wren and the western spiny skink – are found nowhere else.

World Heritage status for the Ningaloo Reef moved a step closer with the beginning of a consultation program to determine the boundaries to be used in the nomination. The State Government identified Ningaloo Marine Park, Cape Range National Park and key areas of the North-West Cape next to the reef to be included in the nomination boundary and began seeking further input from stakeholders.

CALM also signed a Memorandum of Understanding (MOU) with the national non-profit organisation, Leave No Trace, as part of its strategy to increase public awareness of how to minimise the impacts of visiting conservation areas.

## Working with the community

Working with the community continued to be a driving force in conserving WA's biodiversity and in the management of conservation lands and water during the year. Significant achievements were made in developing and establishing new relationships with the community across all sectors of CALM.

CALM launched its draft Good Neighbour Policy during the year. The policy was almost two years in the making and involved extensive consultation with key rural stakeholders including the WA Farmers Federation, the Pastoralists and Graziers Association and the WA Local Government Association. The policy seeks to strengthen CALM's relationship with the more than 16,000 landowners whose properties adjoin CALM-managed lands and waters. It covers a wide range of topics, from the construction and maintenance of fences, to fire management. The policy also covers weed management, the control of introduced pest animals, straying stock on CALM-managed lands and native animals that affect primary production. Forums were held in Bridgetown, Mt Barker, Geraldton, Merredin and Narrogin and meetings were held in the pastoral zones in May and June. More than 550 rural and regional neighbours attended these sessions, which provided a forum for them to raise matters of importance and work on common solutions.

As part of the policy, CALM began a \$780,000 remote working program in which CALM staff normally based in the south-west are temporarily deployed to other regions of the State to undertake a number of conservation projects. The initiative involves sending personnel from CALM's three regions between Mundaring and Walpole to other CALM districts for a range of conservation works in nature reserves, conservation parks and national parks, in the north and the interior of the State, as well as in the wheatbelt and the south coast, with the focus on feral animal and weed control.

CALM's commitment to joint management arrangements with Aboriginal people expanded with the operation of eight demonstration park councils throughout the State. These include effective and meaningful liaison with groups such as the Goldfields Land and Sea and Ngaanyatjarra councils, which resulted in operational works in the Gibson Desert, Wiluna and Sandstone areas.

Volunteers continued to make significant contributions to conservation and land management activities. In 2005-2006, volunteers contributed 470,600 hours of support under CALM's Community Involvement Program, which had a total number of 8,230 registered volunteers. CALM continued to recognise and reward volunteers and presented the Volunteers of the Year and Outstanding Service Awards in December 2005.

CALM released its draft Good Neighbour Policy during the year.



# The year in summary

A \$500,000 community awareness campaign was run to alert the public to the threat cane toads pose to the State.

## Biodiversity protection

The battle against cane toads, which are advancing towards WA's Kimberley region, intensified during the year. The State Government provided a further \$3.6 million over the next four years for the WA Cane Toad Initiative, bringing the total fighting fund to \$6.1 million. Projects funded during the year included a \$500,000 community awareness campaign to alert the public to the threat cane toads pose to the State's biodiversity and lifestyle. The campaign featured television, radio and print advertisements, as well as the distribution of posters and brochures to roadhouses, caravan parks, hotels and clubs, schools and the border crossing with the Northern Territory.

Field work continued on the Pilbara biological survey. Preliminary findings have recorded more than 100 species of reptiles, 17 mammal species and more than 100,000 individual invertebrate specimens. The survey is part of CALM's commitment to undertaking a biological inventory and assessment of regional areas, to establish a comprehensive, adequate and representative conservation reserve system, as well as provide advice on sustainable development.

The State Government also released details of a \$5 million Ningaloo research program, with increased funding for research on the Ningaloo ecosystem and key species such as whale sharks.

## Saving our marine mammals

CALM's marine mammal disentanglement team was kept busy during the year, with the team attending 11 whale disentanglements along the State's coast from Albany in the south to Dampier in the north.

The increase in whale entanglements led to increased liaison between the Minister for the Environment and fishing industry representatives, resulting in the enhancement of CALM's specialist disentanglement team and a commitment to further resources to raise awareness in the fishing industry of entanglement issues, including a code of practice. The code, which is recognised as world's best practice, promotes cooperation between fishers and the whale disentanglement team.

A successful marine mammal rescue was undertaken to return to the ocean five striped dolphins stranded at Dunsborough in October 2005. In a separate incident a minke whale was successfully returned to the ocean after it was found stranded in a bay on the eastern side of Princess Royal Harbour in Albany.



## A \$4 million boost for *Western Shield*

CALM's highly acclaimed *Western Shield* wildlife recovery program received a \$4 million boost from the State Government during 2005-2006. The increase brought CALM's total commitment to the native fauna conservation program to \$12 million over the next four years. This includes an additional \$750,000 a year for additional research programs and \$325,000 a year to cover rising costs associated with baits and the use of aircraft.

The program has achieved significant success with three native mammals – the woylie, quenda and tammar wallaby – removed from the State's threatened species list and the woylie from the national list and international IUCN Red List. Many other populations of native animals have recovered or been re-established in their former habitats and the restoration of ecological processes has been initiated. During the year, bilbies, quenda, tammar wallabies, woylies, western ringtail possums, dibblers, numbats, Gilbert's potoroos, western barred bandicoots, black-flanked rock-wallabies and brush-tailed possums were translocated to locations around the south-west under *Western Shield*.

The program also received a further \$300,000 five-year sponsorship from mining company, Tiwest. The objective of the sponsorship is to recover rare and threatened animal species on CALM-managed lands, vacant Crown land and selected private lands in the Jurien-Lancelin area.

A highlight of fauna conservation during the year was the discovery of the first potoroo pouch-young bred on Bald Island Nature Reserve near Albany marking the successful translocation of a colony of Australia's most critically endangered mammal, Gilbert's potoroo. The young potoroo is the offspring of the female and one of the two males released on the island in August 2005 to improve the conservation status of this species.

## Fire management

CALM's resources were put to the test in the suppression of a wildfire in the Murray Valley on 22-24 January 2006. The fire burned through 11,500 ha of jarrah and wandoo forests and threatened the townsites of Waroona and Yarloop and Alcoa's Wagerup refinery and infrastructure. Suspected to have been deliberately lit, the fire also burnt through parts of the Lane Poole Reserve. The suppression effort involved the biggest combined operation undertaken by staff from CALM, supported by the Forest Products Commission, the Fire and Emergency Services Authority, local government bush fire brigades and numerous support agencies.

CALM's *Western Shield* wildlife program received a \$4 million boost from the State Government during 2005-2006



CALM attended and monitored 480 wildfires throughout the State.

During the year, CALM attended and monitored 480 wildfires throughout the State, of which 399 occurred in the south-west. The total area of these wildfires was 2,687,516 ha.

A review of CALM's fire management in the south-west was endorsed by the State Government. The review by the Environmental Protection Authority was part of a staged process to look at CALM's fire management responsibilities and objectives. Other parts of the process have included an internal CALM review, a scientific and community forum, and a revised departmental fire management policy.

## Strategic Planning Framework

During 2005-2006, CALM continued to work to meet the strategic directions set for the WA public sector in the State Government's Better Planning: Better Services – A Strategic Framework for the WA Public Sector.

CALM's contributions to outcomes under the framework's five strategic goals of People and Communities, The Economy, The Environment, The Regions and Governance are detailed throughout this report in the Service sections. Key CALM achievements under each goal included:

### Goal 1 – People and Communities

- CALM launched its draft Good Neighbour Policy, which aims to strengthen its relationship with the more than 16,000 landowners whose properties adjoin CALM-managed lands and waters, and conducted a series of forums and meetings to consult with its neighbours on the policy.
- CALM continued to expand its Healthy Parks, Healthy People initiative, particularly in relation to seeking partnerships with external organisations.
- A remote working program saw CALM staff normally based in the south-west deployed to other regions to undertake a range of conservation projects in nature reserves, conservation parks and national parks throughout the State.
- 2005-2006 had the highest number of recorded volunteer hours with volunteers contributing 470,600 hours of support to projects across WA.
- CALM's Corporate Executive identified the Parks and Visitor Services area as the initial focus for implementing the Policy Framework for Substantive Equality.

### Goal 2 – The Economy

- Significant progress was made on the establishment of new marine conservation reserves at Dampier Archipelago/Cape Preston, Geographe Bay/Leeuwin-Naturaliste/Hardy Inlet and Walpole/Nornalup Inlets, which will generate greater social and economic benefits for regional communities.

## Goal 3 – The Environment

- Gull Rock National Park, a 2,000 ha area east of Albany, was created. This was the State's 97th national park.
- The battle against the advance of cane toads towards WA was stepped up with an additional commitment by the State Government of \$3.6 million over four years. A community awareness campaign was launched in 2005-2006, which included television, radio and print advertisements.
- CALM's *Western Shield* wildlife recovery program received a \$4 million boost from the State Government during 2005-2006. Translocations for the year included bilbies, quenda, tammar wallabies, western barred bandicoots, black-flanked rock wallabies and brush-tailed possums.

WA's 97th national park was created at Gull Rock, east of Albany.

## Goal 4 – The Regions

- CALM worked progressively towards improving environmental management of the conservation estate by providing regional infrastructure in many areas of the State (see Service 4 – Parks and Visitor Services).
- CALM's firefighting resources were employed to suppress a wildfire in the Murray Valley on 22-24 January, which burned through 11,500 ha of jarrah and wandoo forests and threatened the townsites of Waroona and Yarloop and Alcoa's Wagerup refinery and infrastructure.

## Goal 5 – Governance

- CALM continued to provide opportunities for the community to take part in and make effective contributions to Government processes through its comprehensive community consultation process, Community Involvement Program and CALM Bush Rangers program, and worked towards achieving Indigenous joint management of conservation lands in WA (see all Services).
- CALM continued its partnerships with the private sector, local government authorities and the wider community in the delivery of a number of its programs including the Bibbulmun Track, *Western Shield* and the management of regional parks in the Perth metropolitan area.
- CALM continued its commitment to using better information communications and technology to provide better services to the community through its website, NatureBase, and publications such as the Bush Book series and *LANDSCOPE* magazine.

The obligatory reporting requirements of the Strategic Planning Framework, including a report on CALM's compliance with the Public Sector Standards and Code of Conduct, Disability Service Plan outcomes, EEO and diversity management, and a statement detailing advertising expenditure as required by the *Electoral Act 1907*, are met in the 'Statutory information' section of this report.



# What we do

CALM worked in partnership with several government and community groups to proactively fight the arrival of cane toads.

Government goal	Desired Outcomes	Services
To ensure that WA has an environment in which resources are managed, developed and used sustainably, biological diversity is preserved and habitats protected.	Conservation of biodiversity (the variety of life forms; the different plants, animals and microorganisms, the genes they contain, and the ecosystems they form). Community understanding, enjoyment and appreciation of parks, wildlife and the natural environment and involvement in their management.	<ol style="list-style-type: none"> <li>1. Nature Conservation</li> <li>2. Sustainable Forest Management</li> <li>3. Performance of statutory functions by the Conservation Commission of WA.</li> <li>4. Parks and Visitor Services</li> <li>5. Astronomical Services</li> </ol>

## Nature Conservation – Service I

### Highlights

- CALM worked collaboratively with the Northern Territory Government and community groups, particularly Kimberley Toad Busters and the Stop the Toad Foundation, to fight the westward expansion of cane toads. WA is the first State to mount a concerted effort against this noxious pest ahead of its threatened invasion.
- There was a substantial increase in the capacity for protection of nature conservation values through improved impact assessment and management of developments falling within the State Development portfolio. Significant improvements were made to the quality and timeliness of advice provided by CALM to agencies such as the Departments of Environment and Industry and Resources, and the Environmental Protection Authority as a result of the Government’s decision to fund and implement the Integrated Project Approvals system.
- A Statewide wetlands database has been developed that brings wetlands data together enabling them to be viewed and queried through an easy-to-use web interface, providing natural resource managers and decision makers with a strategic planning tool. It also provides public access to wetlands information through a single portal and identifies gaps in survey and monitoring data for wetland areas through the collation of existing data.
- Significant progress was made towards the establishment of new marine conservation reserves at Dampier Archipelago/Cape Preston, Geographe Bay/Leeuwin-Naturaliste/Hardy Inlet and Walpole/Nornalup Inlets.
- Bilby, quenda, tammar wallabies, woylies, western ringtail possums, dibblers, numbats, Gilbert’s potoroos, western barred bandicoots, black-flanked rock-wallabies and brush-tail possums were translocated to locations around the south-west under the *Western Shield* program.



## Outcome achieved by

Conservation of biodiversity (the variety of life forms: the different plants, animals and microorganisms, the genes they contain, and the ecosystems they form).

## Service description

The development and implementation of programs for flora and fauna conservation, for threatened species and ecological communities and for commercially exploited species according to the principles of ecological sustainability; the acquisition, conservation and protection of representative ecosystems; and encouraging public awareness, understanding and support for nature conservation services and policies.

*Note: CALM uses the National Strategy for the Conservation of Australia's Biological Diversity definition of 'conservation', that is 'the protection, maintenance, management, sustainable use, restoration and enhancement of the natural environment.'*

The Service performance can be best measured in five key areas:

1. Establishment of a comprehensive, adequate and representative (CAR) terrestrial and marine conservation reserve system.
2. Maintenance of a terrestrial and marine protected area network.
3. Conservation of landscape and seascape scale ecological systems and processes.
4. Recovery of threatened species and ecological communities, and conservation and sustainable use of other significant species.
5. Providing community involvement and encouraging understanding, and support of biodiversity conservation and other CALM programs and activities.

## Establishment of a CAR terrestrial and marine conservation reserve system

### **Biological inventory and assessment**

CALM has committed to undertaking regional flora surveys of the Banded Ironstone Formations (BIFs) of the Yilgarn Craton over three years (2005-2006 to 2007-2008). These surveys are to focus specifically on flora and vegetation communities of the BIFs. This project evolved out of the global demand for iron ore and the need for environmental impact assessment of projects, which exposed gaps in knowledge about the biodiversity of these restricted ecosystems. Surveys carried out on six ranges in the spring of 2005-2006 identified 10 new species of plants, located 20 new populations of Priority Flora and identified a number of restricted vegetation types.

Biodiversity is the variety of life forms: the different plants, animals and microorganisms, the genes they contain, and the ecosystems they form.



# What we do

The Pilbara biological survey has discovered many new species including several new species of sand-swimming skinks.

Field work continued for the Pilbara biological survey. Preliminary findings include more than 100 species of reptiles including two endemic species of pebble mimic dragons and several new species of sand-swimming skinks. Thirty four mammal species, half of them bats and the rest mainly dasyurids and rodents, have been recorded. As well, more than 100,000 individual invertebrate specimens have been collected, many of them still to be described. The Pilbara Region also continued the biological survey of the ex-Giralia pastoral lease, and completed draft reports for the fauna surveys of the Barlee Range and Burrup Peninsula.

Other biological survey and monitoring programs continued in specific areas. Within the Goldfields Region, a comprehensive biological survey and monitoring program continued on Lorna Glen, and a similar biological survey was completed on Lake Mason and Black Range through the use of LANDSCOPE Expeditions and regional staff. These three former pastoral properties were purchased under the Gascoyne-Murchison Strategy. A biological survey was also undertaken on eight islands within the Recherche Archipelago.

## **Conservation reserve system establishment**

The year saw steady progress in the establishment of the State's marine conservation reserve system, contributing to the development of a representative system of marine reserves in WA.

Analysis of the public submissions received on the indicative management plan for the proposed Dampier Archipelago/Cape Preston marine conservation reserves progressed through the latter part of 2005. The Advisory Committee was reconvened to consider the public comments and provide further advice to the Marine Parks and Reserves Authority (MPRA). Resolution of matters relating to port boundaries and intertidal areas progressed in the first half of 2006. The proposed reserves comprise a proposed marine park and a proposed marine management area.

In conjunction with the MPRA, CALM continued working on the planning and consultation processes to develop a proposal for a new marine conservation reserve in the Geographe Bay/Leeuwin-Naturaliste/Hardy Inlet area. The Minister for State Development and the Minister for Fisheries provided their approval in the first half of 2006 for the release of an indicative management plan for the proposed reserve. This comprises an area of 124,687 ha and extends from the Capel/Busselton shire boundary in the north to Flinders Bay in the south and includes most of the Hardy Inlet.

Planning for the proposed Walpole-Nornalup inlets marine conservation reserve on the south coast of WA continued in 2005-2006. The proposed reserve represents



## What we do

a discrete estuarine system comprising the connected Walpole and Nornalup inlets and the tidal reaches of the Frankland, Deep and Walpole rivers. The proposed reserve is among the few estuaries in the region that are permanently open to the ocean, and is biologically diverse compared to most other estuarine systems. In May 2006, the Minister for the Environment sought the approval of the Minister for Resources and the Minister for Fisheries to release the indicative management plan for public comment.

The area of terrestrial conservation reserves increased by 104,709 ha during the year (2,446 ha in national parks, 4,303 ha in nature reserves and 97,960 ha in conservation parks). Details of significant reservations are provided under the section on 'CALM-managed lands and waters'.

Significant progress was made in the creation of a consolidated conservation reserve in the Albany area. Following extensive community consultation, the Albany City Council agreed to support the vesting of the unvested Gull Rock National Park, Mt Martin Botanical Park and Goodga River Reserve in the Conservation Commission.

Agreement was reached with a second property owner for the purchase of bushland under the Biodiversity Adjustment Scheme. This scheme seeks to purchase high quality bushland from landholders who have been refused permission to clear the land. This property is a 786 ha bushland part of a farming property between Dandaragan and Moora in the northern wheatbelt. The property contains kwongan and woodland vegetation, and a series of wetlands. Land purchase negotiations under the scheme are continuing with a number of other landholders.

### Maintenance of a terrestrial/marine protected area network

#### **Management of the public conservation reserve system**

During the year, the Government provided an increase in recurrent funding for the ongoing management of the marine conservation reserve system. This complemented the increases in the area and number of marine protected areas, and allowed for the management arrangements for those reserves that were extended to be reviewed and updated.

The final management plan for Jurien Bay Marine Park was released during the year. A classified waters notice was gazetted that established the zoning scheme of the marine park. This allowed complementary legislation under *Fish Resources Management Act 1994* to be prepared that officially prohibited fishing in the sanctuary zone of the park which came into force on 23 December 2005. This was a significant milestone in the establishment of the marine park.

The final management plan for Jurien Bay Marine Park was released and the park's zoning scheme was gazetted.



# What we do

Work was carried out on management plans for the Montebello/Barrow islands marine conservation reserves.

CALM continued work on finalising management plans for the Montebello/Barrow islands marine conservation reserves and the extended Rowley Shoals Marine Park in accordance with final decisions on the zoning arrangements for these reserves.

CALM undertook its third year of performance assessment reporting to the MPRA for all of WA's marine conservation reserves. The assessments covered progress in implementing the management plan actions as detailed in annual 'marine work plans' for each marine conservation reserve, the current status of key ecological and social values, and progress in achieving the strategic management objectives for social benefits such as science and education, public participation, and recreational and commercial uses.

Interim Management Guidelines are prepared and implemented for conservation reserves as interim measures before full management plans are prepared. Within the Goldfields Region, for example, Interim Management Guidelines were completed for the proposed conservation reserves over parts of the former Bulga Downs (Ida Valley) and Cashmere Downs station. A review of the Interim Management Guidelines for Lake Mason and Black Range was begun and will incorporate the recently acquired adjacent Kaluwiri North block (ex pastoral lease).

Preparation of an area management plan for Mt Elvire, Mt Manning Range Nature Reserve and Jaurdi area began with funding from Portman Mining Limited.

Management actions continued to be implemented on pastoral leases acquired by CALM for conservation purposes. A project was undertaken with Conservation Volunteers Australia to complete the cleanup of rubbish, begin rehabilitation works and remove internal fences on Lake Mason station. Contracts for 1,100 km of access grading and firebreaks and rehabilitation works on the former Jaurdi, Mt Elvire, Black Range, Bulga, Cashmere and Lake Mason stations and Mt Manning Range Nature Reserve were completed with assistance from the Commonwealth Government's fire mitigation program. Contracts for boundary fences around Goongarrie National Park, Boolyoolgool Springs and Millrose were let, and boundary fence issues were resolved for Lorna Glen and Earahedy.

Specific feral animal and weed control works are also planned on conservation reserves to protect the biodiversity values from specific threats. In the Kimberley Region, for example, feral animal and weed control strategies have been developed for conservation lands, and work is underway on the implementation of specific reserve plans. As part of this work the King Leopold Range Conservation Park was extensively surveyed for the presence of feral animals, most notably cattle and pigs, as a precursor to control works involving mustering, shooting and strategic fencing.





## What we do

CALM conducts monitoring to identify the changes and trends to biodiversity that occur over time as part of natural processes, the effect of threatening processes, and the success of management actions. During the year, permanent monitoring sites were identified for Parry Lagoons Nature Reserve, Mirima National Park, Purnululu National Park and Point Spring Nature Reserve in the Kimberley Region. Post-fire monitoring was completed in the Montane Threatened Ecological Community in the Stirling Range National Park, and at Angove Water Reserve and Two Peoples Bay Lakes, following large fires in these areas. Post-fire native vegetation monitoring plots were also established at Mt Manypeaks, on the south coast.

During the year, 132 new properties were registered in CALM's *Land for Wildlife* scheme.

The Crown Reserves Program under the State Salinity Strategy continued with a range of land management and rehabilitation works on reserves throughout the south-west. The Remote Regions Conservation Employees Program contributed to these works. Activities included:

- collection of local provenance seed for rehabilitation;
- site preparation and revegetation of degraded areas by planting (e.g. Coalseam Conservation Park and East Yuna Nature Reserve);
- gravel pit rehabilitation;
- weed control works (including of Gorteria, African boxthorn, wild melon and Paterson's curse);
- rabbit baiting (e.g. Burma Road Nature Reserve and proposed Moresby Range Conservation Park); and
- feral animal control (e.g. pigs in East Yuna Nature Reserve and goats in Pinjarrega Nature Reserve).

### Conservation of landscape/seascape scale ecological systems and processes

#### **Provision of private land biodiversity conservation support and advice**

CALM's *Land for Wildlife* scheme is a voluntary program that aims to increase the area of wildlife habitat on lands under private management. To achieve this, landowners or leaseholders are invited to register their properties in the scheme. An assessment is made of the quality of the wildlife habitat and advice is provided to encourage land management based on sound ecological methods. Advice is also provided to allow landholders to obtain assistance in fencing, replanting and managing wildlife habitats.

During the year 132 new properties were registered in the scheme. The total area of properties visited during the year was 81,289 ha, with a total area of 10,835 ha being dedicated wildlife habitat. To 30 June 2006, a total of 1,548 property owners had applied to join *Land for Wildlife* and the total area of the 1,380 properties visited at that time was 1,053,765 ha. This included 244,398 ha of land where the primary management purpose was nature conservation.





# What we do

Ten new covenants were established in the voluntary Nature Conservation Covenant program.

While *Land for Wildlife* does not provide any direct financial support, the scheme is accredited as a non-binding 'voluntary management agreement', which assists landholders in seeking grants. During the year, staff assisted with 37 funding applications by registrants to programs such as the Commonwealth Envirofunds, Bushland Benefits and a funding program run by the South West Catchments Council. Support included provision of 'voluntary management agreements', project development and letters of support.

Four editions of the *Western Wildlife* publication were produced, as well as one Wildlife Note, one scientific paper and 26 articles for the print media. *Land for Wildlife* staff also gave 62 talks at workshops, seminars or to schools or other groups. This included 14 events which were specifically badged with *Land for Wildlife*. In addition, 17 displays were erected at agricultural shows or other venues.

The voluntary Nature Conservation Covenant program assists private landowners with the conservation of bushland of high nature conservation value by placing a protective covenant on the land's title, and by providing management advice and assistance through incentives and a stewardship program. During the year, the program established 10 new covenants in perpetuity. Some of these covenants have made an allowance for subdivision, resulting in a total of 17 covenants affecting 20 land parcels, bringing the total number of registered covenants with the program to 70 on 82 land titles. Covenants now protect a total area of 5,786 ha of land, including a number of threatened species and ecological communities. Negotiations began for a further 33 covenants covering 4,267 ha.

The protection of land through CALM nature conservation covenants has resulted in a significant increase in the area of specific vegetation associations protected within some IBRA regions. In one case, the area of the Beard vegetation type 'Shrublands; scrub-heath' protected in the Jarrah Forest I IBRA subregion has increased more than two and a half fold, increasing the total proportion of the vegetation type protected to 89.5 per cent.

The Nature Conservation Covenant program continued to maintain relationships with other State agencies and non-government organisations to improve the delivery of the covenant service, including the World Wide Fund for Nature Woodland Watch Program. The project operating through the South West Catchments Council for the delivery of covenants in the South West Natural Resource Management (NRM) Region continued, and a further project began to deliver a covenant service in the Avon NRM Region.

The program has undertaken promotional opportunities in the form of an occasional newsletter provided to covenantors and interested parties, and attendance at meetings and participation at workshops. A presentation was provided to the National Conservation Incentives Forum held in Melbourne in



July 2005. During December 2005, NCCP representatives attended a National Covenant Programs Manager's Workshop in Canberra with coordinators of other covenant agencies from throughout Australia to share experiences and discuss common issues faced by conservation covenant programs.

CALM greatly increased its ability to distribute wetland management information in order to help improve the management of privately-owned wetlands by bringing on-line a Statewide wetlands database. This free, publicly accessible database brings wetlands data together enabling it to be viewed and queried through an easy-to-use map based web interface. The database was developed by CALM with assistance and support from the Department of Agriculture and Food, Natural Heritage Trust, Coastwest, Murdoch University, and Edith Cowan University.

### **Natural Diversity Recovery Catchments and related salinity projects**

CALM continued to implement programs under the State Salinity Strategy and in general for the management of salinity. Activities included the identification of candidate Natural Diversity Recovery Catchments, and management of the six existing recovery catchments; the Crown reserves program; wetlands monitoring; support for landholder assistance programs, such as *Land for Wildlife*, nature conservation covenanting and incentive schemes; implementing the results of the biological survey program; and work on species and communities threatened by salinity.

Natural Diversity Recovery Catchments are areas in the south-west that have been identified as having high biodiversity values, but which are being threatened by changing hydrology and secondary salination. The catchments have been selected for landscape-scale investment in recovery and protection. Activities during the year included catchment scale planning, consultation and communication activities; hydrology and vegetation monitoring and research; engineering works on Crown land and private property; and revegetation for hydrological control as well as buffers and corridors.

Field verification of potential Natural Diversity Recovery Catchments, based on the recommendations from the biological survey analysis, was undertaken and discussions with representatives of the four relevant regional natural resource management groups were completed during the year to plan various projects in potential Natural Diversity Recovery Catchments.

An important, new revegetation project started in the Lake Bryde and Lake Warden recovery catchments with assistance from State Fleet. Coordinated by CALM, this project is part of the State Government's program to sequester carbon produced by the light vehicle fleet. Key achievements in other areas are listed under individual recovery catchment headings in this section.

Lakes Bryde and Warden were sites for a new revegetation project to sequester carbon produced by the State Government's light vehicle fleet.



# What we do

About 170,000 seedlings were planted in the Lake Warden Natural Diversity Recovery Catchment.

A report on monitoring wetlands in salinising landscapes was drafted, while a study on the depths and salinities of wetlands in south-west Australia between 1977 and 2000 was widely distributed during the year.

The Salinity Investment Framework Phase 2 report was completed. The still to be published report provides a systematic and outcomes-based procedure for selecting salinity investments for biodiversity conservation, focusing on feasibility assessment.

CALM was represented on a range of committees including the Engineering Evaluation Initiative, Catchment Demonstration Initiative, and the Rural Towns Program Advisory Committee.

### ***Buntine-Marchagee Natural Diversity Recovery Catchment***

A draft Buntine-Marchagee Natural Diversity Recovery Catchment Plan was completed for public comment. The plan outlines the extent of current knowledge of the biodiversity and cultural values within the catchment and an assessment of the threats to these values. The plan also recommends recovery actions to be implemented within the catchment over the next 10 years.

### ***Lake Warden Natural Diversity Recovery Catchment***

Work continued on a recovery plan for the Lake Warden Natural Diversity Recovery Catchment. Research and information gathering projects conducted during the year that support the development and implantation of the recovery plan included: hydrological surveys for Lake Warden and Lake Gore Ramsar wetlands; bathymetry surveys being conducted in the upper catchment and three dimensional geographic information system models being developed; and continued monitoring of the lake and groundwater depths, stream flow gauging and water quality (including support for a number of student projects in this area and a partnership with the UWA Centre of Water Research). Implementation of recovery actions will be carried out through the Esperance Regional Forum, which was successful in achieving a \$2 million investment for the Lake Warden Target Catchment Project through the South Coast Regional Initiative Planning Team NRM investment strategy.

About 170,000 seedlings were planted and 25 km of remnant vegetation fencing erected. The recovery catchment team also contributed technical information to the publication of a Rapid Catchment Appraisal report for the Young River Catchment.

### ***Drummond Natural Diversity Recovery Catchment***

Drafting the Drummond Recovery Catchment Management Plan was nearly completed. This plan will outline the extent of current knowledge of the



## What we do

biodiversity and cultural values within the catchment and an assessment of the threats to these values. The plan will also recommend recovery actions to be implemented within the catchment.

Approximately 65,000 seedlings were planted on project sites chosen to address salinity issues affecting nature reserves and create corridor linkages. The largest project is part of an eastern corridor linking Drummond Nature Reserve to fenced off remnant bushland and to large areas of revegetation. This project involved planting 33,000 seedlings high in the landscape and fencing off approximately 40 ha of remnant vegetation. Other projects included establishing a sandalwood demonstration site, and further developing the 'Sustainable Grazing of Saline Lands' partnership project. The second stage of the *Acacia chapmanii* Recovery Research Project was also completed, involving conducting a larger scale research burn to further determine the germination response and management issues of the species to fire.

The wider community was made more aware of the recovery catchment during the year, when as part of a local event, a field visit to Drummond Nature Reserve was attended by about 200 people, most of them from Perth.

### ***Toolibin Lake Natural Diversity Recovery Catchment***

Summer rain in January provided runoff of suitable quality to Lake Toolibin, which partially filled the lake and provided suitable habitat for a large range of waterbirds for several months. Groundwater pumping from beneath the lake continued through the year, with the volume of water extracted being approximately 650 Kl/day.

Data continued to be collected from hundreds of piezometers in the Toolibin Catchment, in addition to regular monitoring of the piezometers on the lake floor. Results so far suggest that the pumping has been effective and the water table is now more than two metres below the lake floor. Plant species regenerating on the lakebed continued to be an encouraging sign of the lowering of the water table by the groundwater pumping.

Forty ha were revegetated with a total 70,000 oil mallee seedlings and 50,000 seedlings of other species.

### ***Lake Muir Unicup Natural Diversity Recovery Catchment***

Groundwater and surface water monitoring continued, in particular to allow the development of a hydrological model for the area. A four-year drilling program was completed with 70 sites now having full geological logging, and eight sites having core retrieval drilled for hydrochemistry/acid groundwater studies.

Groundwater pumping under Lake Toolibin has been effective and the water table is now more than two metres below the lake floor.



# What we do

A contract between the State Government and the Men of the Trees was developed to use oil mallees for carbon sequestration.

A community meeting was held for interested landholders to give an update on the drilling program and the water monitoring that is ongoing throughout the catchment. The Department of Agriculture and Food also presented a workshop on perennial pastures for salt tolerant species and two trial sites are now in place.

Birds Australia (WA group) was active in the catchment undertaking two surveys for bird species both within the wetlands and the surrounding reserves. These surveys focused on the rare Australasian bitterns and little bitterns, which use the salt-sensitive *Baumea* thickets for breeding and feeding. Revegetation of cleared Crown land also continued with 20 ha planted by the end of 2005-2006.

## **Development and establishment of native vegetation services, and spatial integration of those activities with nature conservation activities to bring about increase in landscape functionality**

The goal of the Revegetation Systems Unit is to develop and implement revegetation technologies and industries that increase habitat for natural biodiversity and better protect natural diversity through sustainable land use. Development of new, broadscale industries based on native plants, particularly as a means of salinity control in the wheatbelt region, is a major focus of the unit's work. Natural Diversity Recovery Catchments are one focus for revegetation work with prospective species developed by the unit.

The focus on revegetation with native species is also significantly reducing the potential for woody weeds to be introduced into the inland agricultural areas of the south-west. In addition, species developed by the unit are already being used in carbon sequestration programs to combat climate change. The development of a State Government contract with Men of the Trees involving carbon sequestration based on oil mallees was a notable outcome in 2005-2006 based on the developmental work of the unit and highlighted the multiple benefits arising from CALM's work in this area.

The FloraSearch Project continued to screen, select and develop native species as crops for agriculture, supported by the Joint Venture Agroforestry Program and the Cooperative Research Centre for Plant Based Management of Dryland Salinity (CRC PBMDs). Three WA native species are now under intensive development: *Acacia saligna*, *Atriplex nummularia* and *Eucalyptus loxophleba* subspecies *lissophloia*. Further detailed work on the taxonomy of *Acacia saligna* was undertaken to clarify variation across its wide geographic range. Extensive collection of seed from across the range of natural occurrence of *Acacia saligna* and *Atriplex nummularia* was completed and seedlings were raised for large-scale progeny testing experiments in winter 2006. The work on *Atriplex* is being conducted on a national scale with the help of CALM's CRC partners.



## What we do

An independent assessment of the scientific soundness of the mallee breeding and seed production program commissioned during the year concluded that the program design was sound and being executed competently. Several areas were identified where improvement may be possible and where more rapid future progress could be achieved.

About 26 million mallee seeds were sold and the process of converting progeny trials to seed orchards, to increase future seed production potential, came close to completion.

In a project conducted in conjunction with the Centre for Sustainable Resources Processing, it was shown that charcoal made from the leaf and twig fraction of mallee biomass had attractive properties as a reductant in metallurgy. Another aspect of the project conducted with Curtin University of Technology showed that mallee biomass production has a high energy ratio (i.e. ratio of energy content of biomass produced to energy expended in production). The mallee energy ratio is significantly higher compared to what can be achieved with annual energy crops.

The Revegetation Systems Unit published a paper that showed how the constraints of farm economics and availability of water affect the potential area and volume of biomass production by mallee crops on farms. This led to wider recognition of the priority for better interception of surface water run-off in the design of woody crop systems.

The Western Power Corporation (now Verve Energy) Integrated Wood Processing Pilot Plant for mallees at Narrogin was concluded successfully. The plant met engineering demonstration objectives to conduct operational-scale testing of the new technologies in the process and to produce sample products.

### **Assessment of land use impacts on biodiversity**

CALM undertakes significant work in contributing to the assessment of mining and other development proposals that may impact on the biodiversity conservation assets of the State, including potential impacts on the conservation reserve system and other important flora, fauna and ecological communities. This work often requires extensive negotiations with development proponents and approval authorities and interaction with numerous stakeholders, regarding the identification, avoidance, minimisation or mitigation of potential impacts.

In 2005-2006, the environmental impact assessment process for the Gorgon Gas Field development on Barrow Island, under the *Environmental Protection Act 1986* required a major contribution from CALM in terms of staff time, provision of scientific expertise and other resources. The Gorgon project, which is proposed to be located within the Barrow Island Nature Reserve, would affect sensitive and highly significant terrestrial and marine species and ecosystems.

CALM staff contributed to the 2005-2006 environmental impact assessment process for the Gorgon Gas Field development on Barrow Island.



## What we do

CALM received an extra \$900,000 to support its role in providing advice to industry and agencies involved in assessing and approving developments.

The development and assessment of the planned Worsley Alumina bauxite operations expansion project in the northern jarrah forest and the South West Yarragadee Water Supply Development Water Corporation Proposal Environmental Review and Management Program are other examples of major resource or infrastructure developments located within a region of high biodiversity and public interest that have required considerable CALM input to assess and make recommendations for management of potential impacts on biodiversity values.

Significant work is also required by regional staff into the ongoing management of development projects. For example, in the Pilbara Region, staff continued to provide significant input into the development and implementation of environmental conditions for the Fortescue Metals Group's Pilbara Iron Ore Development project.

CALM continued in 2005-2006 to contribute to the whole-of-government process of implementing the recommendations of the 2002 'Review of the Project Development Approvals System' leading to the introduction of the Integrated Project Approvals system for projects within the State Development portfolio. CALM continued its participation in implementing recommendations through participation in the Inter-Agency Implementation Group (IAIG).

Following consideration of agency capacity in the project approvals area by State Cabinet in October 2005, CALM received \$900,000 in additional funding to support its important role in providing advice and other services to industry and agencies involved in assessing and approving developments. As a result CALM established nine new positions located in metropolitan and regional locations between January and June 2006, focused on the delivery of advice and other services related to approvals within Cabinet endorsed 'time limits'. CALM is required to provide information on performance in relation to these time limits in its annual reports and a summary of performance for the 2005-2006 financial year is provided on page 61.

Funding totaling \$62,000 was provided through the IAIG, which is being used to develop information and documentation for development proponents and other agencies, and provide for management of spatial data associated with development applications and proposals. CALM was also involved in a project to investigate data requirements for major project assessment, with the objective of improving the efficiency and effectiveness of the project assessment process.

Responsibility for native vegetation clearing approvals was transferred to the Department of Environment with the publication of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* on 30 June 2004. Under administrative arrangements developed with the Department of Environment,





## What we do

CALM provides biodiversity advice on five of the 10 clearing principles identified under the *Environmental Protection Act 1986* for applications to clear native vegetation, as follows:

- a. it comprises a high level of biological diversity;
- b. it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to WA;
- c. it includes, or is necessary for the continued existence of, rare flora;
- d. it comprises the whole or part of, or is necessary for the maintenance of, a threatened ecological community;
- h. the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area;

Advice is also provided on Principle (e) where the application is within the area covered by the Regional Forest Agreement:

- e. it is significant as a remnant of native vegetation in an area that has been extensively cleared;

In addition to providing advice to the Department of Environment, verbal and written advice was provided to land managers intending to clear vegetation. There were 325 applications to clear native vegetation covering 21,973 ha referred to CALM for biodiversity advice, during the year.

CALM provided advice on 325 applications to clear native vegetation referred from the Department of Environment.

### **Community-based natural resource management (NRM)**

Regional and head office staff continued to put considerable effort into working on the accreditation of the regional strategies and investment plans of regional NRM groups. Involvement increased in many regions during the year due to the implementation of the first year investment plans, and the start of the process of developing the second year investment plans. In addition, membership and contributions to the State NRM Council and a range of NRM committees, forums and workshops has involved a significant level of staff input.

Of particular note was the contribution CALM staff made to the development of biodiversity conservation projects, and in some instances, being partners with community groups in tendering for the implementation of biodiversity conservation projects. Another area where CALM provided substantial support was in the development and establishment of monitoring and evaluation programs.

### **Amelioration of landscape/seascape threatening processes**

CALM completed a biodiversity hotspot project in the Midwest Region, funded through the Natural Heritage Trust, and administered by the Northern Agriculture Catchment Council (WA has eight of the 15 biodiversity hotspots identified





# What we do

More than 3.9 million ha were baited to control feral foxes and cats through CALM's *Western Shield* program.

nationally). The project incorporates two hotspots, the Geraldton to Shark Bay sandplains and Mt Lesueur/Eneabba regions. The project focused on recovery actions for a suite of threatened flora species and threatened ecological communities, including seed collecting, weed control, monitoring, survey and community education.

A pilot South Coast Region Threatened Species Recovery Plan project funded by the Commonwealth Department of the Environment and Heritage was continued. This project is intended to test the potential for addressing the management of threatened species and threatening processes at a regional scale to determine if greater efficiency in threatened species management can be achieved through this approach. Work on a draft recovery plan was undertaken.

### ***Western Shield and other fauna management***

CALM's wildlife recovery program *Western Shield* baited more than 3.9 million ha of conservation lands to control foxes and feral cats using more than 950,000 poison baits in 2005-2006. Valuable corporate sponsorship continued to be provided to *Western Shield*, notably from Alcoa Australia Limited and Tiwest Pty Ltd.

The objective of *Western Shield* is to achieve the recovery of native wildlife populations by reducing the impacts of introduced predators and, where necessary, reintroducing native animals. Monitoring of fauna populations across the south-west shows the effectiveness of predator control in fauna recovery. In many cases, native wildlife populations recover naturally once the devastating impacts of introduced predators are reduced.

CALM's Corporate Executive approved the broadscale use of the salami-style fox bait, Pro-bait, across the whole *Western Shield* program following research trials that demonstrated the baiting had no negative impact on non-target animals.

Trials continued at the former Lorna Glen pastoral station with the feral cat bait, Eradicat, to determine the most appropriate timing and frequency of baiting determined by cat reinvasion. Staff from CALM's Midwest Region continued operational research into feral cat control on Peron Peninsula and at Useless Loop (Project Eden) and work was undertaken to draft a new strategic plan.

Work began with the Australasian Invasive Animal Cooperative Research Centre to investigate long-term sustained control of feral cats and foxes in the Mt Gibson and Karara-Lochada areas.

Rock wallaby management continued across the Pilbara with baiting programs on the Burrup Peninsula, Cape Range National Park and the Calvert Range. Survey work carried out at the Calvert Range has shown a significant increase in the



## What we do

number of wallabies in the area to the point that they could be considered common. This survey also showed almost no presence of cats and foxes.

Development of a new toxin and bait delivery mechanism for cat control continued in collaboration with the Victorian Department of Sustainability and Environment and the Commonwealth Department of the Environment and Heritage. Research focused primarily on developing an encapsulation process for the toxin that would further reduce the risk of exposure to non-target species.

Although *Western Shield* has produced an increase in the trap success of native species in many areas, there are species that have either not recovered or have subsequently declined in abundance despite continued fox baiting. It is unclear why these populations have not recovered. CALM committed \$5.9 million funding over the next four years to investigate these issues. The research will specifically investigate the effectiveness of fox and cat baiting regimes and the role of feral cats and native predators, including chuditch, pythons and wedge tailed eagles. The impact of these other predators may increase when foxes are controlled (mesopredator release). A review panel was established to advise on the research to be undertaken, to ensure the outcomes from the project are maximised, and an initial workshop has been held.

Since 1 July 2005, CALM has been the lead agency responsible for cane toad management in WA. The Department of Agriculture and Food and the Agriculture Protection Board (APB) are also involved in implementing the State Cane Toad Initiative, primarily in the areas of quarantine and biosecurity, as cane toads are a declared pest species under the *Agriculture and Related Resources Protection Act 1976*. Four key programs are being implemented under the initiative:

- fighting the entry and establishment of cane toads in WA;
- identifying and protecting biodiversity assets at greatest risk from cane toads;
- raising public awareness of the cane toad threat; and
- ensuring effective Statewide coordination of cane toad initiatives.

WA is the first State or Territory to mount a concerted effort against cane toads ahead of their invasion into the jurisdiction. CALM has appointed a five-member surveillance and control team to undertake on-ground operations, mostly in the Victoria River District of the Northern Territory. The team has, among other things:

- deployed and serviced cane toad traps, and collected cane toads by hand, trapping and collecting approximately 11,000 toads during the year;
- undertaken surveillance to identify the extent and spread of cane toads in the Victoria River District; and
- responded to reported sightings of cane toads, both in WA and the NT.

Around 11,000 cane toads were trapped, and collected by hand, by CALM's surveillance and control team.



# What we do

Control activities were undertaken to manage populations of rabbits, feral goats and pigs, as well as foxes and feral cats.

By necessity, operations have involved trial and error, with adaptive management used to ensure that experience gained is built into operational planning. CALM also worked collaboratively with the NT Government and community groups such as the Kimberley Toad Busters and the Stop the Toad Foundation to fight the westward expansion of this intractable invasive pest. Efforts by volunteers saw approximately 17,000 toads destroyed.

The 2005-2006 wet season resulted in exceptional and prolonged flooding events and contributed to the continued westward spread of the cane toad. Work began to develop a dry season strategy to identify the most effective and efficient method of identifying cane toad refuges and removing toads from these refuges, including use of a trained sniffer dog.

The European honey bee (*Apis mellifera*) is an exotic species that was introduced into WA in the 1840s. Feral bees compete with native birds, mammals and invertebrates for floral resources (nectar and pollen), disrupt natural pollination and seed set processes, aid in the spread and establishment of introduced weeds and compete with a range of native birds and mammals that depend on hollows in trees for shelter or nests. Feral bees also compete with managed bees for nectar and pollen resources and represent a considerable risk to the commercial apiculture industry in the event of the introduction of exotic diseases and parasites that affect honeybees and that are not currently present in WA.

Stage One of a Feral Bee Control Strategy was nearly completed during the year in partnership with the Water Corporation. During Stage One, methods were developed to attract bees to bait stations quickly and in large numbers, with efficient use of a bait solution. A technique was trialled and modified to determine the distances feral bees will travel from their hives to bait stations and to also locate feral bee hives. Preliminary trials demonstrated that remote bait stations would not pose a significant threat to non-target species such as insects and birds through primary poisoning. A research permit was granted by the Australian Pesticides and Veterinary Medicines Authority for the use of Regent 200SC® for control of feral honey bees.

In addition to the *Western Shield* fox and cat control program, CALM also conducted control activities on rabbits, feral goats and pigs. CALM is working towards a more strategic and cooperative approach to the management of feral pigs, with a particular focus on the south-west. CALM districts continued to conduct feral pig control activities, including trapping and poisoning, in the forests of the south-west and in the Midwest. However the effectiveness of feral pig control efforts continued to be hindered by illegal hunting, transport and release of pigs by recreational shooters. Appropriate fire management, together with introduced predator and feral pig control, is critical for the conservation of



## What we do

mainland quokkas. Interim guidelines for managing fire to protect quokka populations in south-west forests were prepared and put into place.

Goat control on the Peron Peninsula and Nanga continued, to minimise the impacts of these animals on mangrove communities and fauna habitat. Goat control work was also undertaken in the Midwest with significant numbers of goats being removed from the Kalbarri National Park along with goat control on pastoral leases acquired by CALM.

Since 2003, CALM has had on-ground management responsibility for fire preparedness, and the control of feral animals and weeds on approximately 89.1 million ha of non-metropolitan, non-townsite unallocated Crown land (UCL) and unmanaged reserves (UMR). The program to control wild dogs on UCL and UMRs continued, largely through a combination of ground-based dogging and aerial baiting within buffers. CALM also conducted control activities for other introduced pests, such as donkeys and pigs.

CALM's draft Good Neighbour Policy was announced by the Minister for the Environment in September 2005 following extensive consultation with stakeholders. Issues covered include the control of introduced pest animals, straying stock on CALM-managed lands and native animals that affect primary production. CALM undertakes control of most declared plants and animals on CALM-managed lands for the protection of environmental values and on a good neighbour basis. CALM contributed directly and in-kind to control programs, usually negotiated between neighbours or through Declared Animal Groups with the assistance of the Department of Agriculture and Food. This process has worked well and will continue to operate on a needs basis.

In October 2005, CALM announced a \$780,000 initiative to send CALM personnel from its three regions between Mundaring and Walpole to other districts for a range of conservation works in the north and the interior of the State, as well as in the wheatbelt and the south coast, with the focus on feral animal and weed control. The initiative provided for approximately 40 employees to work on selected projects for about 12 weeks each year providing benefits to CALM's neighbours in both the agricultural and pastoral zones through reduced impacts on those lands from feral animals, weeds and wildfires, as well as reinforcing CALM's commitment to the draft Good Neighbour Policy.

CALM's draft Good Neighbour Policy was launched to address a number of issues that affect landowners whose properties adjoin CALM-managed lands.



# What we do

Additional funding was obtained for the identification and management of weeds across the Swan NRM Region and the west Kimberley.

## ***Management of environmental weeds***

Weed management actions on CALM-managed lands are prioritised within each region according to the policy outlined in the Environmental Weed Strategy of WA (1999). The large area of land managed, large number of neighbours and limited available resources are ongoing management issues. During the year CALM spent more than \$1.69 million on weed management, including the control of arum lily, bridal creeper, blackberry, rubber vine, athel pine, cactus and other significant environmental weeds.

Additional sources of funding for the management of environmental weeds were secured in 2005-2006. CALM received funding of \$100,000 per year for two years from the Swan Catchment Council, to assess and prioritise environmental weeds, set targets for management and begin implementation of threat abatement plans for key individual invasive species, and establish an environmental weed database as a basis for ongoing monitoring and management of priority invasive weeds, across the Swan NRM Region.

CALM was also successful in securing funding from the 2005-2006 allocation of the Federal Defeating the Weed Menace Program, administered by the Department of Agriculture, Forestry and Fisheries and the Department of the Environment and Heritage. The sum of \$145,200 has been provided to implement an eradication program in the west Kimberley, focusing on the Weed of National Significance, rubber vine. This project will be implemented over a three-year period and will continue to foster coordination and integration between various land managers, including Department of Agriculture and Food, regional NRM groups, local community action groups, and land owners. The National Rubber Vine Management Group also approved funding of \$50,000 to assist in the implementation of this program.

The Urban Nature program has specialist expertise in bushland restoration, and in particular the management of environmental weeds. The program continued to assist land managers by providing best-practice advice on the management of environmental weeds, through means including brochures, presentations, field days and scientific publications. The team also established field trials on control methods for regionally significant environmental weeds including Geraldton carnation weed and wavy gladiolus. Funding was acquired to assist land managers with weed management at a number of Bush Forever sites. The Urban Nature team also ran the nationally accredited course Managing Bushland Weeds, which was attended by CALM and local government staff.

## ***Phytophthora Dieback***

The Dieback Response Group (DRG) works with CALM and the Dieback Consultative Council (DCC) to drive the implementation of the State Dieback



## What we do

Management Framework, by:

- identifying and promoting priorities for management action across the community;
- identifying and seeking resources for implementing management actions;
- periodically reviewing the implementation of management actions across the community to identify successes, gaps, shortfalls and remedies;
- maintaining direct communication lines with key organisations engaged in dieback management and management promotion; and
- reporting on progress to the Minister for the Environment every six months.

During the year, the following projects were undertaken:

- a draft of the *WA Phytophthora Management and Investment Plan 2006-2011*;
- the draft *WA Phytophthora Dieback Atlas*;
- the draft action plan for management of *Phytophthora* dieback at Bell Track in the Fitzgerald River National Park;
- the document *Best Practice Environmental Management Principles and Guidelines for the Management of Phytophthora and Disease Caused by It in Native Vegetation* was endorsed by the Conservation Commission for lands managed by CALM;
- in line with the Government's *Protecting our old-growth forests* policy, the Conservation Commission also endorsed a revised *Phytophthora* dieback management policy, prepared by CALM with public input, for lands vested in the Commission;
- the DCC prepared a *Phytophthora* dieback communications strategy and the DRG drafted a communications action plan; and
- the Murdoch University Centre for *Phytophthora* Science and Management finalised a national model for risk assessment criteria and a process that could be adopted nationally as the standard criteria and process used to determine the level of threat that *P. cinnamomi* poses to a place.

Operational *Phytophthora* mapping and hygiene work continued through the year, as did the program of phosphite treatment of susceptible threatened species at risk. Research continued to investigate more effective methods for the application of phosphite for the control of *Phytophthora* dieback.

A major research grant was secured by the Murdoch University Centre for *Phytophthora* Science and Management to evaluate key tactics proposed for preventing the Bell Track infestation from expanding across the southern section of the Fitzgerald River National Park. The boundary of the infested site has been resurveyed, mapped and demarcated; phosphite spraying has been strategically

Key species at risk from *Phytophthora* were treated with phosphite and research continued into more effective methods for phosphite application.



# What we do

In June 2006, there were 372 extant Declared Rare Flora listed and 14 presumed to be extinct.

repeated to slow the rate of spread and the fireline realigned outside of the infested area as interim measures; and hydrological survey work began as a prerequisite to understanding the implications of further proposals for addressing the situation.

The South Coast Regional Initiative Planning Team NRM group completed mapping *Phytophthora cinnamomi* in the south coast region and began modeling priorities for management action. This project has secured funding for a further three years.

## Recovery of threatened species and ecological communities and conservation and sustainable use of other significant species

### **Recovery of threatened species and ecological communities**

The joint project with the Commonwealth Department of the Environment and Heritage to prepare information sheets as the first stage in nominating changes to the list of threatened species under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, to bring those lists in line with the State lists under the *Wildlife Conservation Act 1950*, was continued in 2006. A further 80 species had information sheets prepared under the renewed contract. These sheets will be used by the Department of the Environment and Heritage to prepare nomination forms for the consideration of the Commonwealth Threatened Species Scientific Committee, which considered 28 listing recommendations during the year. As at 30 June 2006, through this project, 11 species have been approved for listing, 19 for de-listing and eight for change from the Extinct category to Threatened (extant) under the EPBC Act.

The State Threatened Species Scientific Committee's (TSSC) 2005 recommendations for changes to the lists of threatened flora and fauna under the *Wildlife Conservation Act*, were endorsed by the Minister for the Environment, and gazetted during the year. The TSSC also met during the first half of 2006 and made further recommendations for changes to the threatened flora and fauna lists. These changes have yet to be referred to the Minister for endorsement. Details of the gazetted changes are provided below.

### **Flora**

The Minister for the Environment endorsed 12 additions to and one deletion (*Centolepis caespitosa*) from the list of Declared Rare Flora (DRF). These changes were published in the *Wildlife Conservation (Rare Flora) Notice 2006* on 23 June 2006, bringing the total number of extant DRF to 372. There were 14 listed as presumed to be extinct.





Five taxa added to the list of DRF were ranked as Critically Endangered (*Andersonia annelsii*, *Eremophila ciliata* ms, *Marianthus paralius*, *Stylidium amabile* and *Stylidium semaphorum*), two as Endangered (*Stachystemon vinosus* and *Eremophila denticulata* subsp. *trisulcata* ms) and five as Vulnerable (*Beyeria* sp. Bandalup Hill (G. Cockerton 7553), *Eucalyptus purpurata*, *Kunzea similis*, *Tetralthea erubescens* ms and *Tetralthea paynterae* subsp. *cremnobata* ms).

A further 132 taxa were added to CALM's Priority Flora list, and 14 taxa were deleted from the list on the basis of further survey and taxonomic review. A total of 2,246 taxa were listed as Priority Flora as at 30 June 2006.

The first year of the second phase of the Millennium Seed Bank Project in WA was successfully completed, with additional support provided in the form of a seed curator. There were 304 collections (246 taxa from 91 genera and 36 families) from the WA flora: 213 of these collections (201 taxa) were of Priority Flora and key species from threatened ecological communities and biodiversity hotspots made as part of the Millennium Seed Bank program.

In addition, 91 collections from 45 DRF were made over the past year and added to the 240 DRF taxa already stored as seeds. More than 1,000 collections of DRF taxa are now in long-term conservation at CALM's Threatened Flora Seed Centre, along with 708 collections of Priority Flora and more than 300 collections from key species in threatened ecological communities and biodiversity hotspots across the State. Another two Critically Endangered species, *Leucopogon gnaphalioides* and *Persoonia micranthera*, were incorporated into the seed orchard site where *Dryandra montana* has been established.

The recovery actions for a suite of threatened flora included:

- Surveys or monitoring of 326 species of threatened and Priority Flora.
- The discovery of 21 new populations or sub-populations of threatened flora and 118 populations of Priority Flora. A highlight was the discovery of a new population of *Lambertia echinata* subsp. *echinata* that more than doubled the previously known number of plants. A new population of *Drakaea concolor* was discovered near Wicherina Nature Reserve by WA Native Orchid Study and Conservation Group members and a new population of *Caladenia graniticola* was discovered on Pingaring Nature Reserve by Narrogin District recovery team members.
- Translocations or seed orchards were established for 17 threatened plant species: *Acacia aprica*, *Acacia cochlocarpa*, *A. volubilis*, *Darwinia carnea*, *Daviesia cunderdin*, *D. euphorbioides*, *Dryandra montana*, *Grevillea althoferorum*, *G. batrachioides*, *G. humifusa*, *G. scapigera*, *Leucopogon gnaphalioides*, *Persoonia micranthera*, *Symonanthus bancroftii*, *Synaphea quartzitica*, *Verticordia albida* and *V. spicata* subsp. *squamosa*.

The Millennium Seed Bank Project received 304 collections from the WA flora.





## What we do

Recovery actions for threatened flora during the year included weed and feral goat control.

- Of the 104 individuals of *Dryandra montana* previously planted, 91 plants were still actively growing and healthy in January 2006, doubling the *in situ* population of 46 mature plants. For *Leucopogon gnaphalioides*, of the 71 individuals that were planted June 2005 from cuttings, 69 were surviving as at January 2006 and 24 plants had flowered.
- Work on a *Caladenia elegans* translocation proposal in cooperation with the Botanic Gardens and Parks Authority.
- The *Darwinia carnea* translocation was conducted with assistance from Central South Naturalist Club Volunteers, with 62 plants translocated in total. Naturally-occurring seedlings continue to appear at a translocated population in a Shire reserve.
- The translocation of the Critically Endangered *Symonanthus bancroftii* into secure sites continued in partnership with the Bruce Rock Land Conservation District and Botanic Gardens and Parks Authority.
- Taxonomic work was undertaken on several DRF that are recorded in disjunct populations in different habitats or are thought to be of hybrid origin. This has included genetic work for *Eucalyptus absita*, *Eremophila rostrata*, *E. microtheca* and *Grevillea althoferorum*.
- Weed control was undertaken for 22 species including the Critically Endangered *Acacia aprica*, *Caladenia elegans* and *Eremophila scaberula*.
- Feral goat control was undertaken in the habitat for *Acacia unguicula* and *Acacia imitans*.
- Fencing of a new population of *Dryandra pseudoplumosa* on private property was completed July 2005. Fencing was also completed to link a roadside population of *Lambertia orbifolia* with remnant vegetation. Individual plants of *Verticordia spicata* subsp. *squamosa* were fenced to protect them from grazing by feral animals.
- Fire and smoke water trials to stimulate germination of soil-stored seed were conducted for *Daviesia euphorbioides* and *Eremophila lactea*.
- Phosphite was applied to 164 ha of *Phytophthora cinnamomi*-affected vegetation containing populations of 17 species of threatened taxa. Critically Endangered taxa sprayed in autumn 2005 were *Andersonia axilliflora*, *Banksia brownii*, *Daviesia glossosema*, *D. pseudaphylla*, *Dryandra anatona*, *D. montana*, *Lambertia echinata* subsp. *echinata*, *L. fairallii*, *Leucopogon gnaphalioides* and *Persoonia micranthera*. Other threatened taxa sprayed were *Daviesia obovata*, *Darwinia oxylepis*, *D. collina*, *D. squarrosa*, *Darwinia* sp. *Stirling* and *Sphenotoma drummondii*. Monitoring of phosphite application is ongoing. Overall the results of phosphite application continued to be promising but further research and monitoring are required.
- A recovery plan for *Tetratheca paynterae* subsp. *paynterae* ms was prepared by Portman Mining Limited with guidance from CALM, and was approved. Some 40 interim recovery plans were in draft.



## What we do

- A Wildlife Management Plan for threatened and Priority Flora was approved for the Wongan-Ballidu Shire and a plan for Warren Region was awaiting final endorsements. A draft plan was prepared for the Goldfields Region.
- A Katanning District threatened flora booklet was developed and published in 2006, to inform staff, community members, volunteers and other agencies about the appearance of the plants and where they grow. Research posters were produced for two Narrogin District Critically Endangered flora – *Grevillea scapigera* and *Rhizanthella gardneri*. The posters were presented at the 'Advances in Plant Conservation Biology' Symposium held in Perth in September 2005.
- The Narrogin District, Botanic Gardens and Parks Authority and a PhD student from The University of Western Australia's Ecosystem Research Group continued to conduct scientific investigations on *Rhizanthella gardneri* and its habitat requirements. Measurements of site characteristics and habitat health were taken from quadrats in a population at Kunjin. A tank and reticulation system were set up at the site to irrigate some of the quadrats for comparison with control sites to determine whether water availability has an impact on Melaleuca habitat and the survival and recruitment of *R. gardneri* at the site.
- Surveys for the Critically Endangered *Caladenia huegelii* were conducted at sites from Gingin to Dawesville, Bunbury and Busselton by CALM, consultants, volunteers from other agencies and the broader community. Although five new populations were located, the survey results did not change the conservation status of the species as a significant proportion of the plants remain threatened by development pressures.
- Threatened flora surveys continued to be undertaken in the Bremer Range, Norseman, Grass Patch and Salmon Gums areas and around Mt Ragged, to clarify the conservation status of threatened and Priority Flora.

The threatened fauna species list remained unchanged in 2005-2006, with 199 extant threatened fauna and 18 presumed to be extinct.

### **Fauna**

The *Wildlife Conservation (Specially Protected Fauna) Notice 2006* was published on 23 June 2006. No fauna taxa were added to or deleted from the list of threatened species by the Minister for the Environment. As at 30 June 2006, there were 199 extant threatened fauna and 18 presumed to be extinct.

Recovery actions were implemented for many threatened fauna. Some highlights include:

- Ongoing monitoring work was carried out to determine the success of the translocation of the black-footed rock-wallaby into Cape Le Grand National Park.
- Surveys of the Critically Endangered western ground parrot (*Pezoporus wallicus flaviventris*) populations in Fitzgerald River and Cape Arid national parks and Nuytsland Nature Reserve were carried out. The second part of a Birds Australia western ground parrot survey project was also completed in the Tooke Jenna-Point Malcolm area.



# What we do

Recovery actions for TECs in 2005-2006 included phosphite spraying in Stirling Range National Park to combat the impact of *Phytophthora*.

- The start of a project to protect malleefowl in the Mt Jackson area in the Goldfields, using 1080 baits to control feral predators, with ongoing monitoring of predators ahead of future baiting. This project was funded partly by Portman Mining Limited.

Additional translocations of woylies into Julimar forest were carried out, with confirmation of breeding success of previously translocated animals indicating initial success in the establishment of populations of these animals. Woylies were also re-introduced to North Karlgarin Nature Reserve during the year.

Thirty bird species are specially protected because of their listing under migratory bird agreements Australia has with Japan and China, and 11 taxa are specially protected for other reasons, including high values for poaching or competition with commercial industries. The Priority Fauna list included 197 taxa at 30 June 2006.

### ***Threatened ecological communities (TECs)***

Ecological communities are assemblages of species occurring in specific combinations that combine in unique ways. The interactions of the plants and animals in communities with each other and the area's soils, water, climate and air provide habitats that may be unique and essential to the survival of species and genetic resources. While WA has a myriad of ecological communities, some of these are becoming increasingly rare and threatened, while others have been destroyed. CALM works with other agencies, industry, landowners and volunteers to identify, protect and recover TECs.

Recovery actions implemented for TECs included the following highlights:

- Several new occurrences of the 'Organic mound springs of the Three Springs area' were located in the Shire of Three Springs and comprehensive flora surveys of these sites were completed. A Shire reserve and a private property block containing occurrences of the organic mound spring community were purchased and transferred to conservation estate.
- Phosphite spraying of TECs continued in the Stirling Range National Park to help combat the impacts of the plant pathogen *Phytophthora cinnamomi*. The areas sprayed include a Critically Endangered heath community, and major populations of threatened flora. Monitoring indicated that the spraying helped to reduce the impact of the disease.
- Approval was given to use funds received from a 'development offset' to implement recovery actions for the 'Sedgeland in Holocene dune swales' community including weed control, fencing, rehabilitation, fire control, signage, and an information pamphlet. A number of these projects began in 2005 and some, including the pamphlet, have been completed. Trials were undertaken in Port Kennedy Scientific Park, within Rockingham Lakes Regional Park, to control *Euphorbia terracina* (Geraldton carnation weed) in the sedgeland community.



## What we do

- A project began to digitise maps and hydrological information for the 'Aquatic root mat communities of caves of the Leeuwin Naturaliste Ridge' produced over many years by cavers. The summary of results from the trial burn and water monitoring program at Jewel/ Easter cave was completed. Results show that under low fire intensity conditions there is limited benefit in undertaking fuel reduction burning to increase water infiltration into the cave system.
- Over the past 15 years some caves that contain the Critically Endangered 'Aquatic root mat community of caves of the Swan Coastal Plain' at Yanchep dried out completely, and the water levels in others was very low. A production bore and water distribution system has been developed to supplement water to all seven caves that contain the TEC. The pump was then found to be drawing non-oxygenated iron-rich water and it was believed that high iron levels may impact the cave fauna. The Recovery Team began investigating and testing appropriate technologies to reduce the iron levels in the water.
- The City of Mandurah undertook a land use survey of residential properties in the Lake Clifton Catchment area in 2005, on advice from the Recovery Team for the thrombolites community of Lake Clifton (Critically Endangered). The City of Mandurah subsequently produced a report on land use in the area.
- A series of recovery actions for nine Critically Endangered communities was implemented with funding assistance from the Natural Heritage Trust, through the Swan and South West catchment councils. Actions completed for specific occurrences include accurate mapping of the boundaries of occurrences, installing signs to indicate the presence and significance of the threatened communities, fencing, weed and condition monitoring, and weed control, surveys for presence of *Phytophthora cinnamomi*, liaison with landholders with regard to management, and planting of seedlings in degraded areas. Hydrological investigations were continued for an occurrence of the Critically Endangered 'Organic mound springs of the Swan Coastal Plain'.
- The mapping and updating of boundary information for all communities listed on the TEC database continued, with boundary data for most communities now included on the corporate database. A new method for digital condition mapping was developed and 35 priority communities were added to the database. Regular updates of TEC data were supplied to relevant State Government departments to assist with assessment of development proposals.
- A long-term program was developed to monitor change in condition of a number of TECs across the Swan Coastal Plain. Quadrats and transects were placed in occurrences of Critically Endangered, Endangered and Vulnerable ecological communities.
- All of the occurrences of the microbial community on marine shorelines at Augusta were mapped and the condition recorded.
- Recovery actions continued for the 'Shrublands on southern Swan Coastal Plain ironstone' community at Busselton including further mapping of the

Boundary data for most TECs have been databased, which enabled updates to be provided to other State Government departments to assist with assessments of development proposals.



# What we do

Annual reports on progress from 17 recovery teams were received for the 2005 calendar year.

habitat critical to survival, monitoring of the community following an intense wildfire in January 2005, aerial application of phosphite for disease treatment, emergency watering of the community to prevent further deaths from drought adjacent to the Tutunup mineral sands mine site, and continuation of the broad scale reconstruction and rehabilitation trials for the community at a translocation site.

- A draft interim recovery plan was prepared for the Priority 1 *Reedia* swamps of the Blackwood Plateau. Some recovery actions were implemented for the community including pig trapping, accurate mapping of individual *Reedia* plants and the extent of representative species, and seed collection.

### ***Recovery teams and recovery plans***

CALM sets up recovery teams to coordinate the preparation and implementation of recovery plans and interim recovery plans, and provides membership to national recovery teams where the species or ecological community occurs in WA and elsewhere. Where appropriate and cost-effective, one recovery team coordinates the conservation of multiple species and/or ecological communities within a CALM region or district or within any other defined area.

Recovery teams for species or ecological communities wholly or predominantly occurring in WA are chaired by a CALM employee and include representatives of stakeholder groups who are willing to work towards and/or financially support the recovery of the species or ecological community concerned. These groups include conservation managers, scientists, landowners or land managers, local government, and appropriate local non-government conservation or community organisations or individuals. Community representatives provide critical input to most recovery teams.

Annual reports on recovery team progress for the 2005 calendar year were received from the following 17 recovery teams:

Western Swamp Tortoise Recovery Team

Orange-bellied and White-bellied Frogs Recovery Team

Lancelin Island Skink Recovery Team

Western Ringtail Possum Recovery Team

Merredin District Threatened Flora and Communities Recovery Team

Narrogin District Threatened Flora Recovery Team

Katanning District Threatened Flora Recovery Team

Esperance District Threatened Flora Recovery Team

Geraldton District Threatened Flora and Communities Recovery Team

Moora District Threatened Flora and Communities Recovery Team

Goldfields Region Threatened Flora Recovery Team



# What we do

- Albany District Threatened Flora and Communities Recovery Team
- Eastern Stirling Range Montane Heath and Thicket Recovery Team
- Sedgeland in Holocene Dune Swales Recovery Team
- Lake Clifton Recovery Team
- Aquatic Root Mat Community of Caves of the Swan Coastal Plain Recovery Team
- Aquatic root mat community 1-4 of caves of the Leeuwin Naturaliste Ridge Recovery Team

The number of interim recovery plans was increased to 227 with the addition of new plans for 27 flora species and six TECs.

There were 33 interim recovery plans approved for 27 flora species and six TECs, as listed below. This brought the total number of approved interim recovery plans to 227 (comprising plans for 11 fauna and 180 flora taxa and 36 for TECs).

A recovery plan for *Tetratheca paynterae* subsp. *paynterae* ms was also approved during the year. This was prepared by Portman Mining Limited, in consultation with CALM, as part of the conditional approval to mine in the Windarling Ranges where this species occurs. Recovery actions for this species began prior to the plan's approval, and continue with funding from the company.

## Flora

### Recovery plan

Paynter's Tetratheca, *Tetratheca paynterae* subsp. *paynterae* ms

### Interim recovery plans

- Wittwer's mountain bell, *Darwinia wittwerorum*
- Manypeaks rush, *Chordifex abortivus*
- Yellow mountain bell, *Darwinia collina*
- Albany woollybush, *Adenanthos cunninghamii*
- Kundip wattle, *Acacia rhamphophylla*
- Hairy-fruited marianthus, *Marianthus villosus*
- Fairall's lambertia, *Lambertia fairallii*
- Bennett's mallee, *Eucalyptus x bennettiae*
- Stirling Range dryandra, *Dryandra montana*
- Kamballup dryandra, *Dryandra ionthocarpa* subsp. *ionthocarpa*
- Long-sepalled daviesia, *Daviesia megacalyx*
- Feather-leaved banksia, *Banksia brownii*
- Grass conostylis, *Conostylis misera*
- Tufted plumed featherflower, *Verticordia plumosa* var. *ananeotes*
- Dunsborough spider orchid, *Caladenia viridescens* (updated)



# What we do

Six fauna and seven flora translocations were carried out in 2005-2006.

Bussel's spider orchid, *Caladenia busseliana* (updated)  
Naturaliste Nancy, *Wurmbea calcicola*  
Boscabel conostylis, *Conostylis setigera* subsp. *dasys* (updated)  
Green flowered emu bush, *Campion eremophila*, *Eremophila virens*  
Wagin banksia, *Banksia oligantha*  
Sprawling spiky adenanthos, *Adenanthos pungens* subsp. *effusus* (updated)  
Hairy phalanx grevillea, *Grevillea dryandroides* subsp. *hirsuta*  
Small two-coloured kangaroo paw, *Anigozanthos bicolor* subsp. *minor*  
Corrigin grevillea, *Grevillea scapigera* (updated)  
Bailey's symonthus, *Symonanthus bancroftii* (updated)  
Badgingarra box, *Eucalyptus absita*  
Hidden beard heath, *Leucopogon obtectus*

#### Threatened Ecological Communities:

Montane Mallee Thicket of the Stirling Range 2004-2009 (Priority 1)  
Assemblages of Organic Mound Springs of the Three Springs Area 2005-2010  
Shrublands and Woodlands on Perth to Gingin Ironstone 2005-2010 (updated)  
Assemblages of Organic Mound (Tumulus) Springs of the Swan Coastal Plain (updated)  
Shrubland Association on Southern Swan Coastal Plain Ironstone (Busselton area) (Southern Ironstone Association) (updated)  
Scott River Ironstone Association

#### *Translocations of plants and animals*

Translocation of plants and animals continued throughout 2005-2006, to augment existing populations of threatened species, or to establish new populations in secure areas. Details of these translocations are set out below.

#### Fauna

Efforts in 2005-2006 focused on adding additional animals to populations already begun under translocation proposals approved in previous years. New translocations were:

- Gilbert's potoroo from the captive colony at Two Peoples Bay to Bald Island Nature Reserve;
- dibbler from Perth Zoo to Stirling Range National Park;
- numbat from Perth Zoo to Tutanning and Boyagin nature reserves and Julimar State forest;
- quenda from sites on the Swan Coastal Plain to Francois Peron National Park;





- western barred-bandicoot from Heirisson Prong to Faure Island; and
- woylie from Karakamia Sanctuary to North Karlgarin Nature Reserve.

#### Flora

Translocations of the following flora species were carried out:

*Acacia aprica*

*Acacia cochlocarpa* subsp. *cochlocarpa*

*Grevillea althoferorum*

*Grevillea humifusa*

*Lambertia echinata* subsp. *echinata*

*Synaphea quartzitica*

*Verticordia spicata* subspecies *squamosa*

### Management of marine fauna

There were 110 whale-watch boat-tour operators licensed Statewide, a decrease of two (two per cent) on the previous year, and one fixed wing aircraft licensed for whale interactions. These tours were primarily based on humpback whales, although southern right whales were the focus in the lower south-west, particularly from Albany, Augusta and Esperance. Pygmy blue whales are also becoming more regularly encountered on tours off the lower west coast.

There were 95 boat-based dolphin interaction licences and three in-water dolphin interaction licences issued during the year. A range of other boat-based marine fauna interaction licences were also issued, with two being issued for dugong interaction, 49 for Australian sea lion and New Zealand fur seal interaction, and 15 for whale shark interaction within Ningaloo Marine Park.

CALM officers attended 31 reported whale and dolphin strandings throughout the year, involving both live and dead animals. There was one mass stranding involving five striped dolphins (*Stenella coeruleoalba*), which occurred at Dunsborough. Mass stranding rescue operations are managed by CALM via the Incident Control System structure, and invariably involve a large number of volunteers. Overall the strandings involved 36 individual animals, representing nine species – striped dolphins, humpback whale, bottlenose dolphin, sperm whale, Gray's beaked whale, long-finned pilot whale, minke whale, pygmy blue whale and southern right whale. The most commonly stranded cetacean was the humpback whale.

Officers responded to 11 reports of entangled humpback whales this year. The CALM large whale disentanglement team managed to disentangle six of the humpback whales, one of which was 50 nautical miles off the WA coast, west of Leeman. Five whales eluded the disentanglement attempts due to distance and not being relocated over night. CALM staff were involved in the training of other

CALM officers responded to 31 reported whale and dolphin strandings, 11 reports of entangled whales and 13 reports of pinniped strandings.



# What we do

Funding from the Natural Heritage

Trust and sponsorship from BHP Billiton and Pilbara Iron were obtained for projects to monitor turtles.

conservation agency staff in disentanglement techniques at a national workshop in South Australia and a training course in Tasmania.

Officers also attended 13 reported pinniped strandings throughout the year, comprising eight sub-Antarctic fur seals, four Australian sea lions and one New Zealand fur seal. Three sub-Antarctic fur seals were taken into short-term captive management, two died and one was returned to the wild, three were found dead, one was monitored on the beach and returned to the sea and one was entangled in net and its fate is unknown. One New Zealand fur seal was found dead and suspected to have been deliberately stabbed. One Australian sea lion suffered propeller cuts, recovered and returned to the sea, two were found dead and one recovered from shark bite injuries. One leathery turtle was entangled in ropes and was successfully cut free and released.

The Ningaloo Turtle Program won the Australian Government Coastcare Community Award for WA, and the Jurabi Turtle Centre won the National Interpretation Award. CALM was successful in obtaining Natural Heritage Trust funds and sponsorship from BHP Billiton and Pilbara Iron to enable the continued implementation of the community turtle monitoring and start of a training program. CALM provided coordination and training to 40 community volunteers in Port Hedland, 15 in Wickham and 30 in Exmouth. The turtle tagging program continued on Rosemary and Barrow Islands with increased numbers of turtles tagged from previous years. CALM's Pilbara Region also coordinated turtle tagging programs in partnership with the Science Division and Chevron Australia. Turtle management, such as beach closures and predator control, was undertaken through the year with a continued decline in the number of nests disturbed by foxes on Ningaloo breeding beaches. Preparation of a turtle recovery plan for WA progressed.

Monitoring of some of Jurien Bay Marine Park's key values was also undertaken. The breeding success of Australian sea lions was monitored from December to June, with pup counts undertaken at breeding islands at the start, during and at the end of the breeding period.

Providing community involvement and encouraging understanding, and support of biodiversity conservation and other CALM programs and activities

### **Communicating with and providing information to the public**

The analysis of public comments on the discussion paper, *Towards a Biodiversity Conservation Strategy for WA*, was completed. Based on these comments, a further round of targeted consultation was undertaken to ensure community views were adequately represented in the consultation phase. Drafting of the proposed Biodiversity Conservation Strategy for WA began.



## What we do

CALM is a member, and co-chair with WWF-Australia, of a consortium of other State government agencies, Commonwealth representatives, non-government organisations, and community representatives seeking to develop a biodiversity conservation strategy for the south-west of the State. The consortium, termed the South-west Australia Ecoregion Initiative, produced a booklet detailing the biodiversity values of the south-west and the threats to those values, which establishes the case for a south-west scale planning approach to biodiversity conservation.

CALM's urban bushland and wetland advisory service, Urban Nature, provides an integrated service for advice, training, best practice guidance, community capacity building and access to expert knowledge and assistance on urban bushland and wetland conservation management within the urban environment. Land managers targeted by Urban Nature are Bush Forever site managers, community groups, local government authorities, private landowners and others involved or interested in bushland and wetland conservation and management. During the year, the Urban Nature team held 12 field days to provide practical bushland management information, and assisted in the delivery of 18 training sessions as part of the Skills for Nature Conservation program – a series of courses run by a partnership between the Swan Catchment Centre, Urban Nature and Greening Australia (WA). In addition, Urban Nature produced brochures on the management of weeds in bushland and provided advice on specific issues to land managers as requested. Urban Nature also produced a quarterly newsletter, *Ecoplan News*, to support community involvement in bushland conservation.

### **Public participation and involvement programs**

CALM provides the administrative support for the Minister for the Environment's Community Conservation Grants, which provide financial assistance in the categories of major conservation organisations, nature conservation projects, and fauna rescue and rehabilitation. Grants were provided to 73 community groups and individuals involved in voluntary community conservation.

Bushland Benefits was implemented during the year as a tender-based financial incentive program to help private landholders in the south-west of the State meet the initial management costs of bushland and wetlands that are under voluntary protection. There were 58 successful tenders (88 tenders had been received from 76 landholders) – 53 projects received milestone payments totalling \$366,764 during 2005-2006 and six projects were completed during the year. Five landholders had to withdraw their tender because they were unable to undertake the work.

During the year, \$100,000 was allocated under the Wetlands Conservation Grants Program across nine new wetland conservation projects. Projects included the development and implementation of management plans, research, survey,

Community Conservation Grants were provided to 73 groups and individuals for community conservation projects.



# What we do

CALM licensed wildlife-based activities, including commercial harvesting of kangaroos, live crocodiles and several flora species.

monitoring and education/information (including visitor facilities). Successful projects involved wetlands listed under the Ramsar Convention, the Directory of Important Wetlands of Australia, the Register of the National Estate, or as a threatened ecological community.

## **Management of commercial interests**

CALM ensures that wildlife-based activities are licensed, in accordance with the Wildlife Conservation Act, and conducts monitoring and investigations to ensure compliance with legislation and the licences issued.

Management of the commercial harvesting of kangaroos continued throughout the year, with input from the Kangaroo Management Advisory Committee. Under the 2003-2007 management plans, commercial harvest quotas were set for each species for the 2006 calendar year. During 2005, aerial kangaroo population surveys were undertaken over parts of the southern survey zones as part of the triennial survey program, and for the second time, the south-west forest areas were surveyed to provide a more complete population estimate for western grey kangaroos. These surveys and submissions endorsed by the State Kangaroo Management Advisory Committee resulted in the Commonwealth Minister for the Environment increasing the 2006 grey kangaroo quota to 193,800 (from 180,000). The 2005 red kangaroo quota was approved at 174,495 in light of the reduced population following several years of drought conditions over the range of this species.

Commercial harvests of live crocodiles for farm breeding stock development, and limited harvest of eggs and hatchlings, can be approved under the saltwater crocodile and freshwater crocodile management programs. For management purposes, these harvests are primarily restricted to the Cambridge Gulf area, where monitoring ensures that the wild crocodile populations are conserved. More extensive surveys were undertaken of saltwater crocodile and freshwater crocodile populations in the Cambridge Gulf to Lake Argyle area during the year ahead of the threatened arrival of cane toads into WA. The data obtained from the survey, combined with the data from a 1989 survey over the same areas, provide a solid baseline by which to monitor any changes in the size and distribution of both crocodile species as a result of cane toads.

During the year, the WA Flora Industry Advisory Committee met to provide flora industry management advice to CALM and the Minister for the Environment. Two species, *Verticordia grandis* and *Petrophile diversifolia*, which were previously referred to the Commonwealth Department of the Environment and Heritage as additions to the State's Export Flora List, were approved for future exports.



## What we do

The Northern Sandplains and Southern Flora regional flora industry management teams met several times during the year to coordinate the industry and to discuss management issues relevant to their respective regions.

CALM was represented on a national flora managers network which sought to establish a greater consistency in State and Territory management of the flora industry. Areas of interest include sustainable harvest assessment, flora tagging, monitoring, compliance, enforcement, communication and data management. A report titled *National Guidelines on the Sustainable Harvest of Australian Native Flora* was produced during the year.

Two meetings of the network, and a meeting of a subsidiary *Xanthorrhoea* focus group, were attended during the year. One meeting of the network was hosted in WA with specific focus on the management of *Banksia hookeriana* and *Xanthorrhoea* species, and CALM's data management system.

During the year, intensive management of *Banksia hookeriana*, and *Eucalyptus* stems used for making didgeridoos, continued, including the monitoring of *B. hookeriana* in northern unallocated Crown lands.

Throughout the year, special investigations occurred into the continuance of the commercial harvesting of flora such as *Agonis*, *Kunzea*, *Leptospermum*, *Melaleuca*, and *Eucalyptus* species taken for beansticks, vegetable or garden sticks, cray pot canes and brush fencing. Additional species for which operations and investigations involving flora included *Banksia menziesii*, *B. attenuata*, *B. prionotes*, *Boronia purdiana*, *B. megastigma*, *B. heterophylla*, *Stirlingia latifolia*, *Verticordia nitens*, *Regelia ciliata* and *Scholtzia involucrata*. Specific attention was also given to the management of firewood, especially in the Goldfields Region, and the greater Perth area. A survey of firewood access and collection was undertaken in Swan Region to determine firewood usage patterns, and compliance with firewood permit conditions.

During the year, a Private Bushland Management field day was attended by CALM representatives to discuss the licensing process with private property owners and other agencies involved in the timber industry. CALM's management of private property timber harvesting continued with an overall drop in licences issued as the effects of the Supreme Court ruling that dead plants were not flora for the purposes of the Wildlife Conservation Act resulted in the inability to licence dead wood products from private property. While the number of licences issued for private property timber dropped to less than 70, this figure represents an increase in the number of licences issued for the removal of green timber for selective harvesting operations under a sustainable forest management plan or a valid clearing permit. Licences issued within a Country Area Water Supply zone

A field day was held to discuss the licensing process for private property timber harvesting.



# What we do

A collaborative plan was prepared by the Department of Fisheries and CALM to ensure consistency in the management of protected marine areas in the State's north-west.

were assessed to the 10 clearing principles prior to the issue of a Commercial Producer's/Nurseryman's licence ensuring that the issue of the licences was consistent with the principles applied to land clearing assessments.

## **Liaison, consultation and negotiation with the Commonwealth, local government and other State agencies**

CALM continued to facilitate externally-driven research for the conservation of the State's marine biodiversity through representation on external committees. These included joint venture management and technical advisory committees of the Strategic Research Fund for the Marine Environment; the Board of Governors of the WA Marine Science Institution; the Western Rock Lobster Effects of Fishing on the Ecosystem Scientific Reference Group; the Marine and Coastal Committee and associated working groups on threatened marine fauna and marine protected areas; the Natural Heritage Trust Marine Futures Steering Committee, collaborations in funding initiatives and on-the-ground marine research projects with Australian Institute of Marine Science, CSIRO and local universities; seed funding of honours, masters and doctoral programs for marine research through local universities; and the facilitation of collaborative programs with local and interstate research organisations for strategic monitoring of the effectiveness of zoning in the State's marine conservation reserves.

A collaborative plan was prepared between the Department of Fisheries and CALM in the Pilbara. The plan details consistent guidelines, principles and operational arrangements between Fisheries Carnarvon and Broome regions and CALM's Pilbara Region for the management of marine protected areas.

The Roadside Conservation Committee (RCC) coordinates and promotes the conservation and effective management of native vegetation on road and rail reserves for the benefit of the environment and the people of WA. The RCC also contributed advice to the Department of Environment on roadside vegetation clearing issues in support of the vegetation clearing permit process undertaken by that agency. CALM meets the cost of servicing the committee and obtains contributions towards the committee's operations from Main Roads WA.

Roadside conservation value maps were completed for six shires during the year: Wagin, Dumbleyung, Kent, Trayning, Dowerin and Tambellup. A further four shires, Serpentine-Jarrahdale, Katanning, Goomalling and Koorda, completed roadside surveys but the data were still to be processed. Re-digitising of the older maps continued, with 17 of the 24 maps completed (three did not have enough data to be re-digitised). Maps were produced by CALM's Information Management Branch and provided to shires with accompanying reports free of charge by the RCC.



## What we do

CALM chairs the State's Wetlands Coordinating Committee (WCC) and is actively involved in the implementation of the Wetlands Conservation Policy for WA (1997). The committee's work during the year included a review of this policy, as well as coordinating the development of key State initiatives to improve the protection of wetlands. Achievements under these initiatives included:

- CALM attracted a \$250,000 grant from the Strategic Reserve to implement the framework for evaluating drainage projects;
- reviewed guidelines for planning buffering requirements for wetlands were released for a three-month public comment period;
- work progressed to develop a framework for assessing the status of wetlands, which includes a guide for wetland classification, evaluation and mapping; and
- two chapters of the wetland management and restoration manual were completed.

CALM is the lead agency in the proposed nomination of up to eight wetlands as wetlands of international importance under the Convention on Wetlands (known as the Ramsar Convention). The candidate areas are Cape Range Subterranean Waterways, Ellen Brook Swamps, the northern portion of Lake MacLeod, Spearwood Creek, Lake Ballard, Lake Gregory/Paruka, Millstream Pools, and Shark Bay East/Hamelin Pool. Ramsar information sheets have been developed for each, while an ecological character description and full management plan have been developed for Lake MacLeod.

CALM continued as a member of the WA Weeds Committee (WAWC), which met seven times in 2005-2006. The committee is comprised of Government and community representatives and is responsible for coordinating the implementation of the State Weed Plan. CALM provides guidance to the group on policy and planning direction, and technical advice on biodiversity conservation. The formation of the committee was a key recommendation of the State Weed Plan and it sits under the Natural Resource Management Council.

The committee conducted a State Government weed survey to assess the level of weed awareness and weed management and the results were used to plan a State Weed Forum held in November 2005. A second weed survey was conducted jointly with Western Australian Local Government Association (WALGA). Discussions on a proposed joint project with WALGA, State Natural Resource Management Council (SNRMO) and the Roadside Conservation Committee (RCC) were facilitated by the Weeds Committee as a direct result of the weed survey.

CALM is involved in the operation of the State's revolving fund program, BushBank, that is administered by the National Trust of Australia (WA). BushBank seeks to purchase private land of conservation value, protect it under a conservation covenant, and then on-sell the land to a conservation buyer.

CALM led the proposed nomination of up to eight wetlands as wetlands of international importance under what is known as the Ramsar Convention.





# What we do

Two graduate trainees were appointed as Assistant Reserves Officers in the Goldfields Region in line with the MoU to progress joint management.

The funds 'revolved' from the on-sale are then available to purchase another property. CALM chairs the Technical Advisory Committee and provides biodiversity advice on prospective properties, and makes its covenanting program available for protecting the properties. CALM was also represented on the BushBank board during the year.

## **Involvement of Indigenous people and other key stakeholders in conservation and management**

Significant resources continued to be allocated to the implementation of the signed Memorandum of Understanding (MoU) with the Goldfields Land and Sea Council to progress joint management and involvement of Aboriginal groups in reserve management. This resulted in two graduate Aboriginal trainees starting as Assistant Reserves Officers in the Goldfields Region. The working group continued to work towards the implementation of the MoU five-year strategic plan. CALM staff met with Northern Territory Native Title claimant groups and undertook consultation trips throughout the Goldfields Land and Sea Council area including Goongarrie and in the Sandstone area.

Liaison with the Ngaanyatjarra Council over joint management planning for the Gibson Desert and Great Victoria Desert nature reserves and the former Lorna Glen/Earaheedy stations continued with significant consultation with Aboriginal communities. Activities included: continuation of agreements with the Ngaanyatjarra people for assistance with Operation Warru (rock wallaby) conservation and management (predator baiting) in the Ngaanyatjarra Indigenous Protected Area; continued joint management working group meetings under the MoU for Lorna Glen and Earahedy with the Wiluna Native Title claimants through the Ngaanyatjarra council, including a range of operational work; joint management of the Gibson Desert Nature Reserve, under the MoU signed in July 2005, with working group meetings, field trips, operational work and planning; and ongoing discussions and field trips regarding the joint management of the Great Victoria Desert Nature Reserve.

In the South Coast Region, consultation with stakeholders in the development of a joint CALM-Noongar Stirling Range Mountain Discovery Centre continued. Funding was also provided for the Cape Le Grand Heritage Trail in conjunction with the Goldfields Land and Sea Council.

## **Regulation**

There were 7,291 fauna licences (other than damage, but including non-commercial) issued during the year, an increase of 6.2 per cent from the previous year (see table on page 62). The increase was again due primarily to continued interest in pet herpetofauna (reptile) licensing with more than 1,260 people licensed



## What we do

to keep pet herpetofauna. The total number of flora licences and permits issued was 2,306, a decrease of 1.3 per cent from the previous year. CALM issued 391 commercial purposes licences and 349 commercial producer's licences and nurseryman's licences in 2005-2006.

Officers in the Kimberley received six reports of problem crocodiles. Licences to remove six saltwater crocodiles from the wild were issued because of the threat they posed to public safety, and 71 dangerous fauna licences were issued for magpies.

Licences issued for the control of fauna causing damage included: 37 licences issued for emus, an increase of 37 per cent; 486 licences for grey kangaroos; 32 licences for little corellas; 37 licences for western long-billed corellas; 24 licences for twenty-eight parrots; 17 licences for galahs; and 23 licences for Australian ravens. Six licences were issued to destroy welcome swallows. These licences are issued only after trapping and exclusion methods have failed and where the birds are causing health or security concerns. The total number of damage licences issued for birds was 248, an increase of 25.9 per cent from 2004-2005.

During the year, CALM staff provided guidance to many people regarding the legal requirements of conservation legislation. There were 323 caution notices issued for minor offences and 186 infringement notices. Written reports were prepared for 125 offences under the Wildlife Conservation Act and Regulations and the CALM Act and Regulations. Action in 66 matters under both statutes was completed.

### ***Animal ethics***

Under the provisions of the *Animal Welfare Act 2002*, CALM operates as a scientific institution pursuant to a Corporate Licence issued by the Department of Local Government and Regional Development. The Department is required to carry out all activities involving the use of vertebrate animals in accordance with the 7th edition of the *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes*. Under the code, every staff member involved in fauna research, biological survey, fauna monitoring or animal handling must have Animal Ethics Committee (AEC) approval. An important part of this approval is to be able to demonstrate staff have the competencies to undertake the work required. In October 2002, CALM agreed to assess WA Museum and the Australian Wildlife Conservancy animal ethics applications as well as CALM's own projects.

Applications and annual reports were assessed by the AEC at six meetings in 2005-2006, with 30 new applications approved and 121 annual reports reviewed. Most of the applications covered translocations of native fauna, fauna surveying and monitoring, and introduced predator control research.

CALM officers issued 323 caution notices for minor offences and 186 infringement notices under conservation legislation.



# What we do

In 2005-2006, 26,810 records were added to the WA Herbarium Specimen Database.

The AEC maintains a register of projects in accordance with the conditions of its licence to use animals for scientific purposes. A comprehensive database of applications has been developed and this stores details of the project, staff affiliations and competencies.

CALM continued to improve the Standard Operations Procedures, a working document that documents the minimum standards for all techniques that have been considered and approved by the AEC.

## WA Herbarium

The Herbarium is responsible for enabling taxonomic research on WA's rich flora and manages and increases the State Collection so that up-to-date taxonomy supports conservation. At the end of the year, the Herbarium collection comprised the following total number of specimens:

Myxomycetes	477
Fungi	10,705
Lichens	12,412
Algae	20,664
Liverworts and hornworts	1,830
Mosses	6,588
Ferns and fern allies	3,255
Gymnosperms (pines, cycads)	1,874
Flowering plants (monocots)	99,943
Flowering plants (dicots)	485,870
<b>Total number of databased specimens</b>	<b>643,618</b>

There was a significant increase in the number of algae specimens catalogued as a result of a grant to database backlog specimens as part of an ongoing externally funded algal databasing project. Similarly, holdings of fungi increased due to the Perth Urban Bushland Fungi project. Validation of the currency of specimen names of the marine algal collection continued to align the collection with the WA marine plant census.

Records of all specimens incorporated in the WA Herbarium are entered into the Herbarium Specimen Database (WAHERB) that is updated constantly. During the year, 26,810 records were added to WAHERB. This included 1,313 Priority Flora and 180 Declared Rare Flora specimens that were added to the State Collection, bringing the total collection of Priority and Declared Rare Flora to 36,829 specimens.



## What we do

Sources of significant accessions added to the State Collection from the following:

- FORESTCHECK (CALM's forest monitoring program);
- Woodland Watch;
- Cassis Collection – Pilbara;
- Barrow Island survey;
- State Salinity Strategy;
- Coates collection;
- Pilbara Regional Herbaria, which moved to Perth;
- Wildflower Society Bushland Survey;
- R. Barrett *Lepidosperma* collection;
- B.J. Carter Algal collection;
- threatened ecological communities;
- S. Patrick collections;
- G. Cockerton collections;
- D.J. Edinger collections;
- G. Byrne collection;
- flora conservation (S. Patrick);
- CALM regional offices; and
- exchange material.

Important taxonomic studies on WA taxa are carried out in other herbaria, especially in Australia. The specimen loan program ensures that WA specimens are made available to researchers so that they can be properly determined and labelled before they are returned to the WA herbarium. During the year, 2,216 specimens were loaned to other institutions, and 1,572 specimens were received on loan from other herbaria. The WA Herbarium received 1,745 exchange specimens from other institutions including CD images from Kew. There were 2,284 exchange specimens distributed to herbaria both nationally and internationally.

Significant curatorial work was accomplished in the flowering plant genera *Eucalyptus*, *Casuarina*, *Leucopogon*, *Lepidosperma*, *Eremophila*, *Goodenia*, *Acacia*, *Thryptomene* and *Micromyrtus*, and in the lichens.

Implementation of a program to recruit and maintain volunteers for a variety of tasks to increase and value-add the collection was continued. During the year, volunteer participation was significant, totalling 15,184 hours (equivalent to 8.8 full-time positions).

Volunteer participation was significant, totalling 15,184 hours on projects at the WA Herbarium.



# What we do

Since 2001, 74,000 specimens have been processed as part of the Australian Virtual Herbarium project.

Tasks managed by curation staff with the assistance of volunteers were as follows:

- production of a volunteer newsletter;
- mounting 16,631 specimens;
- curation of specimens;
- assisting in the incorporation of specimens into the collection;
- validating plant chemistry vouchers; and
- validating 2,722 doubtful location outliers.

Special volunteer projects undertaken included:

- continuing the validation of the 6,000 specimens of the W.E. Blackall collection;
- curating *Austrostipa*, *Eucalyptus*, *Pterostylis*, *Verticordia*, *Calandrinia* and native grasses;
- photographing type specimens;
- capturing and preparing composite images for FloraBase (see below);
- increasing the collection and documentation of Myxomycetes;
- validating collection information on 2,300 Max Koch collections; and
- completing descriptive data scoring for *Isopogon* & *Petrophile* (111 taxa) and *Conospermum* (74 taxa); and starting descriptive data scoring for *Banksia*.

In the fifth year of the Australian Virtual Herbarium (AVH) project, 10,725 specimen collections at the WA Herbarium were curated, identified, databased and validated prior to incorporation into the main Herbarium collection. By the end of 2005-2006, a total of 74,000 specimens had been processed as part of the AVH since 2001, representing more than 10 per cent of the current Herbarium collection.

Biosystematics and conservation studies of the flora continued, with specific work on Proteaceae (*Isopogon*, *Petrophile*), Lamiaceae (*Dicrastylis*), Poaceae (*Austroanthonia*), Epacridaceae (*Leucopogon*, *Monotoca*, *Brachyloma*), Myrtaceae (*Baeckea* group of genera, *Chamaelaucium*, *Darwinia*), Asteraceae (*Olearia*, *Chrysocephalum*, *Erodophyllum*), Stylidiaceae (*Stylidium*), Colchicaceae (*Wurmbea*), Dasypogonaceae (*Lomandra*), Tremandraceae (*Tetratea*), Chenopodiaceae (subfamily *Salicornioideae*), Portulacaceae (*Calandrinia*), Amaranthaceae (*Ptilotus*), and lichens. Studies on Stylidiaceae and Myrtaceae were supported by grants from the Australian Biological Resources Survey. Targeted taxonomic work was also undertaken on Declared Rare and Priority Flora. Name updates were regularly contributed to or checked for the Census of WA Plants, and brief descriptions provided for newly-listed species in the online flora information system, FloraBase. Weed identity checking continued with critical cases being checked by sending specimens to world experts on particular plant groups to ensure the correct name



## What we do

is used in WA. Participation in Weed Action Group and biological control research by CSIRO continued.

The number of specimens in the public access Reference Herbarium in Perth reached 13,772, with about 11,000 taxa represented. Each specimen is linked to a databased specimen in the main Herbarium collection. The Reference Herbarium is extensively used by CALM staff and both professional and amateur botanists (including members of Wildflower Society, Landcare and Bushcare groups) for flora identification and verification. During the year, 2,664 visitors used this resource to identify their plant specimens.

There are some 60 active Regional Herbaria in the WA Regional Herbarium Network Project, which plays a significant role in both the collection of flora information and the dissemination of this knowledge to the regional community. Training workshops were held and the number of trained collectors continued to increase. The project continued to make a positive impact on the location of rare and threatened plant species, with 169 reports on plants in this category being received, as well as discoveries of new taxa. During the year Regional Herbarium Network volunteers added 2,284 specimens to the WA Herbarium collection, bringing the number of specimens contributed by regional herbaria to a total of 26,518 specimens. Regional herbaria continue to provide most of the new specimens lodged in the Herbarium.

The Weed Information Network continued to be maintained largely by volunteers, including links with Department of Agriculture and Food and quarantine authorities. The team of trained volunteers continued to score and code data for presentation in FloraBase with a focus on Kimberley species with funding from the Weed Cooperative Research Centre. Descriptive data for 133 Kimberley weed species have been databased and made available in FloraBase.

The Census of Western Australian Plants (WACensus) contained more than 19,899 records at the end of 2005-2006, representing 12,978 currently recognised plant species and infraspecies for the State. For the first time, these records included 1,590 cryptogams (primarily lichens and macro-algae). The new version of the WACensus software increased capacity for managing alternative taxonomies, common names and improved integration with other related systems such as FloraBase. Herbarium taxonomists and curation staff also participated in checking and contributing to a national project to prepare the Australian Plant Census, a new national plant list.

Two issues of *Nuytsia*, the WA Herbarium's taxonomic journal, were prepared and published. These contained 36 papers and short communications, with the formal recognition of 63 new taxa in 12 plant families, including a new fungus and two

The network of 60 active Regional Herbaria contributed 169 reports on plants as well as discoveries of new taxa.



## What we do

FloraBase provides information on all the 12,978 currently recognised native and naturalised WA plants.

lichen species. This year also saw a greater integration with curation processes ensuring a better-quality and more scientifically-rigorous publication, and providing for a more efficient incorporation of newly published names into Herbarium information systems and therefore to the public via FloraBase. The online presence for the journal provided greater access to contents, abstracts and the download of recent papers. Resources include a search tool across all papers and short communications published since the journal began in 1970, simple standard mapping templates and a Latin plant name dictionary for the Word program.

FloraBase, the web information system for WA flora, has increasingly become the main means of communicating botanical taxonomic information. Since the introduction of the latest version of FloraBase, access to authoritative and accurate information on the State's flora has been greatly enhanced. Both the community and conservation staff are able to retrieve the most recent information on the name, features, status and distribution of all 12,978 currently recognised native and naturalised WA plant taxa. Consequently, conservation efforts across the State are made more effective by building on quality data in a readily accessible format from authoritative information systems. Of particular note this year was the addition of a section detailing scientific work on the marine plants of WA. Ongoing efforts include the maintenance of standard descriptive data for new and revised species. During the year, 292 species descriptions were added, bringing the total number of short descriptions managed to 13,996. Generic and family descriptions were also maintained, together with other standard elements, such as taxon maps and composite images. FloraBase also publishes authoritative flora statistics on the State's plants on a yearly basis, allowing the growth in documented knowledge of the flora to be accessed more readily and providing a standard reference point for these figures.

The Plant Image Database continued to grow, through the assistance of volunteers who scan and edit photographs before archiving them at high-resolution. At the end of 2005-2006, 30,010 images had been scanned, and composite images illustrating habitat, habit and detail of 5,860 species were available on-line via FloraBase.

The Perth Urban Bushland Fungi Project continued for its second year, based at the WA Herbarium. Thirty-one community and contract events including fungi workshops and forays were conducted in 17 urban bushlands. Details of 1,147 fungi were recorded and 188 fungi specimens were collected for the WA Herbarium collection, including 40 first records for WA and several species new to science. A website for the project was created at <http://www.fungiperth.org.au> and launched by the Minister for the Environment. The website includes fungi reports with photos, maps and list of fungi surveyed were produced for each bushland visited.





# What we do

The foundation edition of an expanding field book for fungi of the Perth region was also posted on the website. Fungi reports for bushlands that are BushForever Reference sites were presented to the Department of Environment for inclusion in their reference files. The project was a finalist in the 2005 WA Environment Awards, and received special commendation.

The WA Marine Plants collaborative project begun with CALM's Marine Conservation Branch completed its second phase in March 2006 with external funding through the Natural Heritage Trust. Altogether, 13,800 specimens were received at the Herbarium for databasing from CSIRO, Murdoch University and UWA bringing the total number of specimens included in this project to more than 21,000. A part-time phycologist was appointed to validate identifications of algal specimens prior to databasing. Five volunteers worked on the project carrying out repair work, mounting and sorting of more than 11,000 specimens. A census of WA marine plants with 1,000 names, together with literature references, distribution maps and images, where available, was posted on FloraBase.

Names, references, distribution maps and images for marine plants were added to FloraBase – WA Herbarium's web information system.

Performance in relation to time limits*						
(Advice requests received between 1 September 2005 and 30 June 2006)						
Approval process	Stage	Number of advice tasks within period	Average number of days taken to provide advice	Number of advice tasks completed within time limit	Percentage of advice tasks completed within time limit	Average number of days within (-) or outside (+) time limit
Environmental Protection Act Part IV – PER/ERMP	Advice/comment on environmental scoping document	11	15.2	7	63	0
Environmental Protection Act Part IV – PER/ERMP	Advice/comment on environmental review document	2	14	2	100	-6
Environmental Protection Act Part IV – PER/ERMP	Advice during public review period	7	24	6	86	-2
Environmental Protection Act Part IV – ARI/EPS	Advice to EPA on project proposal	4	14	3	75	-4
Environmental Protection Act Part IV	Post approval environmental management plan/issue management plan	9	15	7	78	-5
Mining Act	Advice on notice of intent/mining proposal	4	13	4	100	-7
Petroleum Act	Advice on petroleum development proposal	3	15	3	100	0
<b>Total</b>	-	<b>40</b>	<b>na</b>	<b>32</b>	<b>80**</b>	<b>-3.2</b>

\*Note only those tasks subject to formal time limits included.

\*\*Average over all IPAS related tasks was 94 per cent.

See page 62 for 'Contributory factors in cases where time limits were not met'.

# What we do

## Contributory factors in cases where time limits were not met

(Advice requests received between 1 September 2005 and 30 June 2006)

Reason	Number of cases	Percentage of cases
Non-availability of documentation	2	22
Non-availability of expert staff	1	11
Non-availability of staff/time resources	4	44
Administrative error	1	23
<b>TOTAL</b>	<b>8</b>	<b>100</b>

## Wildlife licences issued in 2005-2006

Fauna licences	Licences issued	Fauna licences	Licences issued
<b>SCIENTIFIC</b>		<b>KANGAROO</b>	
Scientific collection (Reg 17)	442	Take kangaroos for sale (Reg 6)	386
Bird/bat banding (Reg 23)	120	Deal in carcasses (Reg 8)	24
<b>EDUCATION AND PUBLIC</b>		Skin dealing (Reg 10)	15
(To take) (Reg 15)		Processing (Reg 7)	26
Marine interaction	293	<b>EXPORTS INTERSTATE</b>	
Other	440	Skins of fauna (or other dead fauna)	51
<b>EDUCATION AND PUBLIC</b>		Fauna (live)	319
(To hold) (Reg 16)	69	Herpetofauna (reptiles and amphibians)	37
<b>AVIAN FAUNA</b>			<b>407</b>
Keep and breed in captivity (Reg 12)	3,039	<b>EXPORTS OVERSEAS</b>	
Deal (Reg 13)	45	Skins of fauna (or other dead fauna) into WA	43
Breed for commercial purposes (Reg 14)	0	Emu eggs or products (personal items) from WA	0
Trap (Reg 11)	2	Fauna (avian) from WA (live)	3
Species trapped commercially	Number		<b>46</b>
Twenty-eight parrot	153	<b>IMPORTS INTERSTATE</b>	
Red-capped parrot	132	Skins of fauna (or other dead fauna) into WA	7
Western rosella	292	Australian fauna (live)	317
Galah	92	Live exotic birds and other animals	189
<b>FAUNA</b>		Herpetofauna (reptiles and amphibians)	17
Keep in captivity (Reg 12A)	81		<b>530</b>
<b>HERPETOFAUNA (reptiles and amphibians)</b>		<b>TOTAL FAUNA LICENCES</b>	<b>7,291</b>
Keeping	1,262	<b>FLORA LICENCES</b>	
Dealing	22	Commercial purposes	391
Farming	5	Sandalwood (from Crown land)	42
Taking	13	Forest produce (from Crown land)	6
<b>EMUS</b>		Commercial producers	349
Emu farming (Reg 14)	14	Sandalwood (from private land)	16
Dealing (Reg 8)	3	Scientific/prescribed purposes	1,262
Dealing (emu eggshells Reg 13)	4	Permits to take Declared Rare Flora	240
Processing (Reg 7)	0		<b>2,306</b>
<b>CROCODILES</b>			
Crocodile farming (Reg 14)	1		
Skin dealing (Reg 10)	1		
Processing (Reg 7)	1		



## Summary of damage licences and dangerous fauna licences issued in 2005–2006

	No. of licences issued	Total no. of each species authorised to be taken		No. of licences issued	Total no. of each species authorised to be taken
<b>OTHER AVIAN FAUNA</b>			Sacred ibis	2	45 (destroy)
Australian raven	23	226		1	10 (scare)
Baudin's black cockatoo	16	750 (scare only)	Mountain duck	3	80
Galah	16	4,660 (destroy)	Pacific black duck	1	20
	1	20 (scare only)		4	121 (trap and relocate)
Sulphur crested cockatoo	1	20 (scare)	Pied cormorant	2	8
Kookaburra	4	10 (destroy)			
Little corella	26	4,628 (destroy)	<b>MAMMALS</b>		
	6	710 (scare only)	Agile wallaby	1	200 (destroy)
Red-capped parrot	7	300	Euro	1	50
Silver gull	2	250	Grey kangaroo	486	25,949
Twenty-eight parrots	23	1,010 (destroy)	Red kangaroo	18	2,370
	1	20 (scare only)	Southern brown bandicoot	1	6 (trap and relocate)
Welcome swallow	6	186 (destroy)	Australian sea lion	2	20 (scare only)
	2	17 (scare)	New Zealand fur seal	2	20 (scare only)
Western long-billed corella	35	12,025 (destroy)	Little red flying fox	1	60 (destroy)
	2	100 (scare)			
Eastern long-billed corella	1	500 (destroy)	<b>DANGEROUS FAUNA</b>		
Muir's long-billed corella	1	500 (scare)	Magpie	71	93
Emu	37	1,360 (destroy)	Saltwater crocodile	6	6
	1	15 (trap and relocate)	Australian ravens	2	20
Black kite	1	20 (scare)	Butcherbird	2	2
Brown goshawk	1	10 (trap and relocate)	Magpie lark (mudlark)	1	1
Peregrine falcon	1	1 (scare)	Maned geese	1	20
			Laughing kookaburra	3	5
<b>WATERFOWL</b>			Red kangaroos	2	40
Eurasian coot	2	70 (trap and relocate)	Red wattlebird	2	2
Little pied cormorant	2	55	Western grey kangaroo	11	59
Maned geese	9	365 (destroy)			
	8	109 (trap and relocate)			

## Offence status summary

2004-2005 Reported offences			2005-2006 Reported offences	
	As at 30 June 2005	Revised		As at 30 June 2006
Total offences reported	715	759	Total offences reported	634
Court convictions	14	42	Court convictions	19
Court dismissals	0	0	Court dismissals	0
Infringement notices	200	200	Infringement notices	186
Letters of warning	91	103	Letter of warning	25
Caution notices	278	312	Caution notices	323
No further action	38	52	No further action	22
Pending	94	50	Pending	59
Total court fines	\$6,500.00	\$14,300.00	Total court fines	\$13,807.00
Total court costs	4,884.65	\$5,492.35	Total court costs	\$2,314.74
Infringement penalties	\$13,050.00	\$13,050.00	Infringement penalties	\$11,590.00

**Note 1:** Figures for 2004-2005 reported offences are updated from those included in last year's report under the Revised column.

**Note 2:** See page 64 for details of 2005-2006 offences.



# What we do

Offences under the CALM Act and Regulations 2005-2006										
Charges	Reported offences	Convictions	Fines \$	Costs \$	Dismissed	Infringement notice	Letter of warning	Caution notice	No further action	Pending
<b>CALM Act</b>										
Illegal taking or possession of forest produce	22	3	\$450.00	\$559.62	-	-	-	7	-	12
Offences relating to the occupation of CALM land	14	-	-	-	-	-	2	2	6	4
Offences relating to marine parks and reserves	-	-	-	-	-	-	-	-	-	-
Offences against officers	1	-	-	-	-	-	-	-	1	-
<b>CALM REGULATIONS</b>										
Offences relating to disease risk areas	23	-	-	-	-	-	-	22	-	1
Offences relating to activities on State forests, nature reserves and national parks	446	5	\$1,850.00	\$660.32	-	186	14	233	7	1
<b>TOTALS</b>	<b>506</b>	<b>8</b>	<b>\$2,300.00</b>	<b>\$1,219.94</b>	<b>0</b>	<b>186</b>	<b>16</b>	<b>264</b>	<b>14</b>	<b>18</b>

Offences under the Wildlife Conservation Act and Regulations 2005-2006										
Charges offences	Reported	Convictions	Fines \$	Costs \$	Dismissed	Letter of warning	Caution notice	No further action	Pending	
<b>WILDLIFE CONSERVATION ACT</b>										
Illegal taking or possession of protected fauna	41	6	\$4,207.00	\$492.70	-	3	10	4	18	
Illegal importation, selling or taking for sale of fauna	8	1	\$600.00	\$50.35	-	1	3	1	2	
Use of illegal devices in taking fauna	1	-	-	-	-	-	-	1	-	
Offences relating to the taking or possession of rare or threatened fauna	8	3	\$6,500.00	\$501.40	-	2	-	1	2	
Illegal taking of protected fauna	4	-	-	-	-	-	-	-	4	
Offences relating to the taking of protected flora	1	-	-	-	-	-	1	-	-	
Taking declared rare flora without the Minister's consent	1	-	-	-	-	1	-	-	-	
Offences against wildlife officers	1	-	-	-	-	-	-	-	1	
Failing to comply with licence conditions	41	-	-	-	-	1	40	-	-	
<b>WILDLIFE CONSERVATION REGULATIONS</b>										
Offences relating to the acquisition, possession, control and disposal of fauna	22	1	\$200.00	\$50.35	-	1	5	1	14	
<b>TOTALS</b>	<b>128</b>	<b>11</b>	<b>\$11,507.00</b>	<b>\$1,094.80</b>	<b>0</b>	<b>9</b>	<b>59</b>	<b>8</b>	<b>41</b>	

# Sustainable Forest Management – Service 2

Integrated forest management, monitoring and planning services were delivered.

## Highlights

- Continued implementation of the *Forest Management Plan 2004-2013* (FMP).
- Production of a three-year (2006-2008) timber harvest plan for State forest and timber reserves.
- Further review and revision of the FMP requirements for the management of soil disturbance in native forest timber harvesting following the second year of operation.
- Provision of integrated forest management, monitoring and planning services.
- Enhancement of several biodiversity assessment and ecological modelling tools, including wetland classification systems, vegetation disease spread and risk analysis tools.

## Outcome achieved by

The development and implementation of management plans and systems for sustainable management of State forest and timber reserves.

## Service description

The sustainable management of State forests and timber reserves while maintaining or enhancing nature conservation, water, recreation, landscape and other values in the long term, and encouraging public awareness, understanding and support for sustainable forest management, services and policies.

Consistent with the statutory purpose of State forests and timber reserves as defined in the CALM Act, this Service provides for their management on an ecologically sustainable basis, including:

- implementing the *Protecting our old-growth forests* and other Government policies;
- ensuring forest values are managed on an ecologically sustainable basis through implementation of the FMP; and
- providing for the harvesting, regeneration and growth of forest products in accordance with the FMP and guided by the principles of ecologically sustainable forest management.

The Sustainable Forest Management Service addresses five key areas of activity:

1. Implementation of approved forest management plans and Government policies and programs.

Interim guidance documents were developed for components of the management of informal reserves.

2. Inventory, assessment and modelling of natural resources.
3. Maintenance and enhancement of biodiversity and other values.
4. Provision for harvesting, regeneration and growth of forest products in accordance with approved management plans and guided by the principles of ecologically sustainable forest management.
5. Partnerships.

In 2005-2006, the Sustainable Forest Management Service was delivered over 1,297,800 ha at an average cost per hectare managed of \$29.60.

## Implementation of approved forest management plans and Government policies and programs

### *Protecting our old-growth forests policy*

A proposal to better define the boundaries of three National Estate places was submitted to the Australian Heritage Council (AHC). Acceptance of this proposal by the AHC will enable seven sections within the Reserves Act No. 66 of 2004 to be proclaimed, which will implement a further 10 reserve proposals of the *Protecting our old-growth forests* policy that were included in the FMP.

Action continued on the implementation of the remaining land category changes proposed in the FMP. The boundaries of the proposed reserves have been progressively mapped at a fine scale to enable referral of the proposals to a range of Government and other bodies for comment. Once the consultation process has been completed, it is proposed to create the new reserves via the passage of a Reserves Act.

### *Forest Management Plan 2004-2013*

The FMP requires development of Guidelines for the Management of Informal Reserves and Guidelines for the Selection and Management of Fauna Habitat Zones and set a deadline of 31 December 2004 for their production. Considerable work was undertaken on development of the contents of both guidelines; however, they could not be completed and implementation continued in accordance with the appendices in the FMP and existing guidelines. To provide guidance on areas not covered by existing guidelines, CALM developed interim guidance documents in the form of advisory notes and manuals. Advisory notes were published for blade-up access on State forest, and progressed for management of access in informal reserves, pre-operations checklist, an approval matrix for operations on State forest, the salvage of logs in association with informal reserves, rehabilitation of soil following timber harvesting, and the use of Works Improvement Notices and Management Letters. The *Interim Manual of Procedures for the Management of Soils Associated with Timber Harvesting in Native Forests* was reviewed and a revised version was published in May 2006.

## **Community forest inspection program**

The program of community forest inspections continued. The inspections are designed to provide community representatives with the opportunity to inspect first-hand the systems and processes that are in place to manage the harvest of native forest trees from State forest sustainably, and to note compliance with existing management systems and processes. Members of the voluntary conservation movement, staff from the Forest Products Commission (FPC), the Conservation Commission and CALM inspected harvest coupes in the Warren Region in October 2005 and the Swan Region in June 2006.

Community forest inspections were carried out in the Warren Region in October 2005 and the Swan Region in June 2006.

## **Inventory, assessment and modelling of natural resources**

Forest Management Branch continued to provide a wide range of technical services related to the inventory, assessment and modelling of natural resources for CALM, the FPC, the Conservation Commission and external clients. Major areas of activity included:

- The acquisition and analysis of timber inventory data to assist the FPC, CALM and the Conservation Commission in the planning, management and monitoring of timber production in State forests and timber reserves. Long-term projects were initiated to update strategic inventory across State forest, improve the stratification of regrowth forests and examine new methodologies for forest growth estimation.
- Vegetation mapping in areas subject to disturbance to inform silvicultural decisions, disease impact predictions, and the protection of poorly-represented vegetation complexes.
- Vegetation mapping on the Swan Coastal Plain to facilitate improved biodiversity planning and modelling at the strategic level.
- Enhancement of a computer application that receives daily meteorological data from the Bureau of Meteorology for sites across the south-west and extrapolates updated indices of soil trafficability to guide management of harvesting operations.
- Continued development of a computer system and field measurement programs to monitor the yields and silvicultural standards realised in timber harvest operations.
- Specialist services provided to CALM divisions, the FPC, other Government agencies, natural resource management groups and external clients. These included aerial photography, photo-interpretation, photogrammetry, vegetation and disease mapping surveys, mathematical modelling and systems analysis services.



A total area of 24,686 ha was mapped for the presence of dieback, including 11,969 ha that were rechecked for further spread.

## Maintenance and enhancement of biodiversity and other values of forests

Activities conducted by the Sustainable Forest Management Division incorporated measures to sustain, or where possible enhance, biodiversity and other forest values. Staff delivered information services and the mapping of dieback occurrence for disease management. Staff were also responsible for establishing and implementing an approvals, monitoring and compliance management system and setting standards for the management of a range of forest values. Other sustainable forest management outcomes are delivered through Regional Services Division, and Science Division undertakes research to enhance management of biodiversity, ecosystem health and vitality and soil and water values.

### Health and vitality in natural landscapes

Mapping the presence of symptoms of disease caused by *Phytophthora cinnamomi* (dieback) was carried out by accredited interpreters to determine protectable areas and specify hygiene requirements for activities likely to result in the movement of soil (and as a consequence, *Phytophthora cinnamomi*) on lands managed by CALM. A total area of 24,686 ha was mapped to assist the planning of roading and harvesting operations undertaken by the FPC. This included 11,969 ha of previous mapping that was rechecked for further spread. Mapping and hygiene planning was also undertaken on a further 5,970 ha for the Parks and Visitor Services, Nature Conservation and Sustainable Forest Management Services, and 3,108 ha for external requests. Mapping for nature conservation clients included assistance to determine the current extent and model predicted future spread of dieback from point infestations in the Fitzgerald River National Park (Bell Track project), and in the implementation of phosphite application trials.

A major project to undertake dieback threat assessment and risk analyses for vegetation on the South Coast continued with the SCRIPT (South Coast Regional Initiative Planning Team) natural resource management group. This work included the collation of biological assets, strategic disease mapping, predictive modelling of future disease spread, and estimation of threat and risk categories within a target area of approximately 1.9 million ha.

Re-measurement of the Warren thinning experiment, 20 years following initiation, was completed. Tree height, stem diameter, bark thickness, crown radius and health status with respect to Armillaria root disease were assessed. In the five years since the last treatment it appears that many Armillaria-caused bole scars have occluded, and tree mortality was limited.

The development of a forest health and vitality surveillance and monitoring program was initiated during 2005. An options paper was prepared for consideration, prior to the development of an implementation plan.

## **Integrated planning support**

The maintenance and enhancement of biodiversity and other values across landscapes requires a high level of integrated planning within CALM. This outcome was supported through:

- planning support to Regional Services Division to guide the selection and management of public firewood and flora harvesting areas; and
- monitoring and collating of the areas burnt by wild and prescribed fires across the forest to support integrated fire planning and reporting.

Soil provisions of the FMP were reviewed and the requirements for soil protection measures revised.

## **Management of soil disturbance in timber harvesting**

The FMP provides for increased protection of soils during timber harvesting by introducing soil damage risk periods based on a Soil Trafficability Index and prescribing measures to be applied in each risk period to protect soil during timber harvesting. Recognising that some elements of the soil protection requirements were new, the FMP provided discretion to CALM's Director of Forests in certain aspects of their application and made provision for review and revision of the requirements.

The FPC and the timber harvesting industry again experienced difficulty in planning for and adapting to the increased restriction on access to the forest from the new soil protection requirements. The consequence was that the supply of timber for sawmills over winter and spring in 2005 necessitated timber harvesting facilitated by an approved soil management plan for access in the medium to high risk period.

The soil provisions of the FMP were again reviewed after the second full year of operation using the operational experience gained during the period of operation on wet soils in 2004 and 2005 and the results of trials set up to test soil protection measures. The review resulted in revised requirements for soil management in 2006, which are set out in Appendix 6 of the FMP, *Protection of Soil in Native Forest Harvesting*, and an updated version of the *Interim Manual of Procedures for the Management of Soils Associated with Timber Harvesting in Native Forests*. Consequently, a major revision of the web-based tool for tracking the Soil Trafficability Index through time within harvest coupes was completed. The revised requirements for the management of soils associated with timber harvesting were implemented from late May 2006.

## **Implementation of fauna habitat zones**

A major initiative of the FMP is the introduction of approximately 300 indicative fauna habitat zones of a minimum of 200 ha each in State forest and timber reserves. The purpose of the zones is to provide a sufficiently extensive network of areas excluded from timber harvesting in the mid-term to maintain fauna populations and to provide a source of animals for the recolonisation of nearby regenerating areas following timber harvesting.

A revised map depicting the status of all fauna habitat zones as at 30 June 2005 was published.

When timber harvesting or other disturbance activity proposed on State forest is adjacent to an indicative fauna habitat zone, the size and final position of the fauna habitat zone is required to be determined according to criteria laid out in the FMP. During the year, design, analysis, survey and/or liaison work was undertaken for a total of 21 indicative fauna habitat zones adjacent to proposed disturbance activities. The location of nine indicative fauna habitat zone zones was finalised as a result of that analysis.

A revised map depicting the status of all fauna habitat zones as at the 30 June 2005 was published in August 2005.

### **Management system for approvals, monitoring and compliance**

All forest operations on State forest require approval from CALM. Staff in the Regional Services Division review proposals and provide conditional approval. Monitoring the compliance of operations with the conditions of approval and with environmental management standards was carried out by CALM staff. Where significant non-compliance in timber harvesting operations was identified, CALM may issued the FPC with a Work Improvement Notice (WIN) if the non-compliance was able to be rectified by further field operations, or a Management Letter (ML) if it was not. In 2005-2006, staff issued eight WINs and 26 MLs, each of which covered one or two issues. Twenty-one related to systems and process issues, 21 to soil and water issues, four to biodiversity issues, three to ecosystem health and vitality issues, two to productive capacity issues and one to socio-economic issues.

Revised procedures for gaining approval for operations on State forest were tested for proposed operations in the Wungong catchment and the draft procedures were subsequently refined. Work continued to develop a monitoring and compliance management system for operations on State forest with the objective of more effectively and efficiently fulfilling CALM's obligations in this area.

### **Forest monitoring**

A further 11 study sites were established and assessed in the Blackwood Plateau area as part of the FORESTCHECK monitoring program, bringing the total number of sites established to 48. Sites were included in examples of jarrah forest harvested to release regeneration (gap creation) and harvested to establish regeneration (shelterwood) as well as in undisturbed forest. The FORESTCHECK program is partially funded by the FPC. This year's data collections completed five years of data collection.

The experiment in karri forest in Grey block to examine the interaction of timber harvesting with bird populations continued with a re-count of bird numbers. Now, 20 years after the harvesting treatment, numbers of birds recorded were lower than when measured 15 years following treatment. This is likely due to the senescence of the understorey vegetation and the consequent reduction in diversity of habitat. Only long-lived understorey species now persist, which will remain the situation until the area is burnt.

Monitoring of groundwater levels and streamflow continued in three experimental catchments east of Dwellingup. These catchments form part of a study of the hydrologic impacts of timber harvesting and associated silvicultural treatments in the forest of the intermediate rainfall zone (900-1,100 mm/annum) of the northern jarrah forest. Groundwater levels continued to rise, relative to the control catchment, and did not appear to have reached a peak response five years after harvesting and three years following burn treatments. The average rise in groundwater level was 1.8 m in the area with more intensive treatment than the silviculture guidelines and 0.84 m in the standard silviculture treatment catchment. Both intensive and standard treatments have had no measurable effect on stream water quantity and quality.

A project to monitor the richness of aquatic invertebrates in south-west forest streams began. This project is to meet the requirements of Key Performance Indicator (KPI) 20 identified in the FMP. The KPI will indicate the health of streams by comparing sampled invertebrate richness with the long-term expected richness. The first round of sampling was completed on 50 sites in the south-west jarrah and karri forest. Macroinvertebrate identification and water chemistry analysis have been completed for these samples.

### **Adaptive management**

CALM contributed to the establishment by the Water Corporation of the Wungong Catchment Environment and Water Management project which is an adaptive management trial in the 12,845 ha Wungong catchment that aims to increase streamflow by managing vegetation density.

Fifty sites in the south-west jarrah and karri forest were sampled for aquatic invertebrates.

The genetic adaptations of understorey species were studied for post-harvest forest rehabilitation.

Provision for harvesting, regeneration and growth of forest products in accordance with approved management plans and guided by the principles of ecologically sustainable forest management

### Silviculture guidelines

Comprehensive reviews of the silviculture guidelines for the jarrah, karri and wandoo forests, continued throughout the year. The major emphasis of the work was on the jarrah guidelines and the monitoring and evaluation of current on-ground silvicultural practices.

Investigations into the genetic adaptations of understorey species within seed collection zones identified for forest rehabilitation following harvesting were initiated to better define 'local' seed. Results will contribute to silviculture guidelines for the maintenance of the genetic integrity of rehabilitated forests.

### Monitoring of areas subject to timber harvesting and associated treatments

CALM's Forest Management Branch undertook the monitoring of areas subject to harvesting, silvicultural treatments and land disturbance activities carried out by the FPC or other organisations during the year. In the 12 months to December 2005, 6,220 ha of jarrah forest were harvested with the following silvicultural or management objectives:

Promote growth on retained trees (thinning)	410 ha
Release of regeneration (gap)	200 ha
Establishment of regeneration – eastern jarrah (shelterwood)	730 ha
Establishment of regeneration – western jarrah (shelterwood)	2,140 ha
Single tree selection (dieback areas)	1,940 ha
Selective	460 ha
Other (mining and clearing for utilities)	340 ha
<b>Total</b>	<b>6,220 ha</b>

Silvicultural objectives for 4,920 ha harvested in this or previous years were achieved by follow-up treatment during the year.

In the 12 months to December 2005, 460 ha of karri forest were clearfelled or partially cut, and 1,070 ha were thinned. Regeneration was completed on 740 ha harvested in either this or previous years.

In the 12 months to December 2005, 30 ha of wandoo were thinned.

## Timber harvest plans

CALM reviewed the 2006 Indicative Timber Harvest Plan submitted by the FPC, to ensure consistency with the settings adopted in the FMP.

The three-year Timber Harvest Plan (2006-2008) required by the FMP was produced and released for public comment. The annual Timber Harvest Plan for 2007 will be produced from the second year of the three-year harvest plan and a revised three-year plan will be subsequently released.

A three-year timber harvest plan for State forest and timber reserves was released for public comment.

### SILVICULTURE

#### The jarrah forest

Timber harvesting in the jarrah forest is undertaken to achieve a variety of silvicultural objectives (silviculture is the art and science of establishing and tending forests). Where there is a predominance of vigorously growing trees, the stand is thinned; where this is not the case the stands are harvested with the object of regenerating them. This is achieved either by harvesting in a way that creates a gap in the overstorey canopy, which because of the removal of competition, will release existing advance growth to grow unimpeded into saplings and later growth stages; or, where there are inadequate advance growth, harvesting to create a shelterwood under which seedlings are established. The proportion of each area that is harvested to each of these objectives, and the degree of intermixing, vary according to the existing stand structure and condition.

In many areas the desirable silvicultural objective is achieved completely or nearly completely by the harvesting operation itself. A proportion of the remainder is completed by silvicultural tending operations one or two years after harvesting. In more marginal forest types harvesting is done by selective cutting. In some areas harvesting precedes clearing for mining or the construction of public utilities such as reservoirs or power lines. Cleared areas are not regenerated immediately but where possible are rehabilitated later.

#### The karri forest

Timber harvesting in karri forest is also dependent on the structure and age of the existing forest, though it is less complex than jarrah harvesting. Patches of even-aged and vigorously growing forest are identified for thinning. When the stand is old enough to yield saleable products, it is thinned to an appropriate density by commercial harvesting.

Mature forests and forests of mixed structure created by past logging activities are harvested under a clearfelling system. Regeneration following harvesting is achieved within the following year or two by means of planting with nursery-raised seedlings. Regeneration may be achieved through temporarily retained seed trees or by broadcast seeding. However, these are rarely used because good seed years are infrequent and seed is very expensive to collect, making extensive broadcast seeding impractical.



# What we do

CALM's SFM Division worked with community groups, State agencies and authorities and national bodies.

## Partnerships

Throughout the year effective communication and interaction continued with:

- the community and stakeholders;
- other State agencies and authorities; and
- Commonwealth agencies.

CALM, through the SFM Division, contributed to the work of the Dieback Working Group, Primary Industries Ministerial Council, the Natural Resource Management Ministerial Council, the National Forest Inventory and to other national forums on ecologically sustainable forest management. Partnerships with regional natural resource management groups were also extended through joint projects.



Trends in the area of native forest harvested				
	Jarrah forest	Jarrah/Wandoo forest	Karri forest	
			Clearfelled or cut to seed trees	Thinned
	ha	ha	ha	ha
1976-77	32,320	1,170	2,610	-
1977-78	26,020	740	4,450	-
1978-79	25,540	530	2,710	-
1979-80	25,150	860	2,110	60
1980-81	22,930	1,440	2,080	180
1981-82	24,680	610	2,180	320
1982-83	23,740	330	990	190
1983-84	21,540	580	1,490	260
1984-85	20,010	1,440	2,360	500
1985-86	22,640	650	1,590	340
1986	19,340	1,150	1,090	490
1987	17,180	1,380	1,310	700
1988	23,400	490	1,180	840
1989	15,130	200	1,510	910
1990	12,960	100	1,560	340
1991	10,910	-	1,920	230
1992	13,990	30	1,540	310
1993	14,250	40	1,630	80
1994	14,050	50	1,440	-
1995	17,830	30	2,410	-
1996	22,320	50	1,300	60
1997	18,240	60	1,870	60
1998	19,250	60	1,970	320
1999	14,200	50	1,890	360
2000	20,570	10	1,310	70
2001	15,760	*	1,380	120
2002	13,260	30	700	350
2003	8,520	Nil	720	485
2004	8,860	Nil	330	920
2005	6,220	30	460	1,070

\* Jarrah/wandoo harvested included in jarrah total.



## What we do

Eight demonstration park councils operated throughout the State to advise on matters of joint management.

## Parks and Visitor Services – Service 4

### Highlights

- The allocation of grants to 21 community groups that undertook 12,000 hours of volunteer work in Perth's regional parks.
- The expansion of the Mentored Aboriginal Training and Employment Scheme (MATES) and progress towards achieving the corporate goal of 10 to 15 per cent of the CALM workforce being Aboriginal by 2013.
- The operation of eight demonstration park councils throughout the State to provide formal joint management arrangements with Aboriginal people.
- The support provided to the Bibbulmun Track Foundation, Munda Biddi Trail Foundation, CALM Bush Ranger cadets, Campground Hosts, cane toad community programs, WA 4WD Association and Track Care WA.

### Outcome achieved by

Community enjoyment of wildlife, land and waters without compromising conservation and other management objectives.

### Service description

Management of lands and waters; dealing with public involvement, visitation and appreciation of the natural environment on lands and waters managed by CALM, including preparing and implementing management and recreation site development plans; providing, managing and maintaining appropriate access, recreation opportunities and visitor facilities; protecting natural areas, visitors and facilities from wildfires; training CALM staff and volunteers; working with local tourist bureaux and commercial tour operators; involving Aboriginal people in park management and the provision of visitor facilities and services; providing visitor information and designing and initiating educational and interpretive activity programs which enrich visitor experiences and help develop greater community awareness and support for parks, natural areas, nature-based tourism and recreation services and policies.

The Service performance is reported in eight key areas:

- Planning for management.
- Acquisition and administration of protected areas.
- Park presentation and resource protection.
- Visitor communication and management.
- Community involvement.

- Liaising and working with Indigenous people.
- Business management.
- Legislation and policy for parks and visitor services.

There are several significant projects, such as the Bibbulmun Track and Munda Biddi Trail, as well as regional parks and regional services that merit reporting separately.

Four draft management plans were released for public comment in 2005-2006.

## Planning for management

Section 33 of the CALM Act requires CALM to manage all land to which the Act applies according to a 'management plan' where there is a management plan for that land. A management plan contains a statement of the policies or guidelines proposed to be followed, as well as a summary of the proposed operations. Management plans are prepared by CALM on behalf of the Conservation Commission and the Marine Parks and Reserves Authority for a period of 10 years after which they may be replaced by a new management plan.

At the end of the year there were 48 management plans under the CALM Act and a further 34 plans were in various stages of completion. During 2005-2006 draft management plans were released for public comment for Cape Range National Park, Dryandra Woodland, Kennedy Range National Park and Proposed Additions, and Lake McLarty Nature Reserve.

The CALM Act specifies that the public be given an opportunity to contribute to the content of management plans. CALM achieves this through public and peak stakeholder workshops and meetings, advisory committees, newsletters and inviting comments on draft plans. During 2005-2006, 19 meetings were held with the public and peak stakeholders, 66 meetings for 18 different advisory committees, and two meetings each with two different Aboriginal park councils (excluding marine reserves – see Service 1).

CALM's NatureBase website has features that enable public submissions to be submitted electronically and information relevant to management planning to be downloaded, including Issues Papers, Have Your Say brochures, final and draft management plans, analysis of public submission reports and copies of the Planning Diary newsletter. The latter is aimed at keeping stakeholders up-to-date with progress on each management plan in preparation. Three issues of the Planning Diary were produced during 2005-2006, with the most recent being sent directly to approximately 950 stakeholders.

The following tables list the area of each tenure category managed by CALM for which plans are complete, and the status of plans in preparation or already approved as at 30 June 2006.



# What we do

## Management plans as at 30 June 2006

<b>Final management plans (completed and approved)</b>	<b>Region</b>	<b>Effective from</b>
Mooradung Nature Reserve	Swan	21/2/86
Nature Reserves in the Shire of Wyalkatchem	Wheatbelt	21/2/86
Nature Reserves in the Shires of York and Northam	Swan	10/7/87
Shannon and D'Entrecasteaux National Parks	Warren	8/1/88
Benger Swamp Nature Reserve	South West	12/2/88
Leeuwin-Naturaliste National Park	South West	21/4/89
Yanchep National Park	Swan	29/9/89
Waroona Reservoir and Catchment Area	South West	16/3/90
Logue Brook Reservoir and Catchment Area	South West	16/3/90
Cape Range National Park	Pilbara	23/3/90
Dampier Archipelago Nature Reserves	Pilbara	31/8/90
Lane Poole Reserve	Swan, South West	14/12/90
Fitzgerald River National Park	South Coast	19/7/91
South Coast Region	South Coast	13/3/92
Marmion Marine Park	Swan	15/5/92
Walpole-Nornalup National Park	Warren	3/7/92
Shoalwater Islands Nature Reserves	Swan	20/10/92
Matilda Bay Reserve	Swan	21/5/93
John Forrest National Park	Swan	19/8/94
Goldfields Region	Goldfields	24/2/95
West Cape Howe National Park	South Coast	4/8/95
Yalgorup National Park	Swan	15/8/95
Lesueur National Park and Coomallo Nature Reserve	Midwest	13/10/95
Purnululu National Park and Conservation Reserve	Kimberley	5/3/96
Two Peoples Bay Nature Reserve	South Coast	7/6/96
Wanjarri Nature Reserve	Goldfields	2/7/96
Dryandra Woodland	Wheatbelt	9/8/96
Shark Bay Marine Reserves	Midwest	7/3/97
Canning River Regional Park	Swan	5/12/97
Nambung National Park and Wanagarren, Nilgen and Southern Beekeepers Nature Reserves	Midwest	11/9/98
Leschenault Peninsula Conservation Park	South West	8/1/99
Esperance Lakes Nature Reserves	South Coast	11/5/99
Karijini National Park	Pilbara	15/6/99
Stirling Range and Porongurup National Parks	South Coast	3/12/99
Swan Estuary Marine Park and Adjacent Nature Reserves	Swan	7/4/00
Jurabi and Bundegi Coastal Parks and Muiron Islands	Pilbara	25/08/00
Serpentine National Park	Swan	3/10/00
Shark Bay Terrestrial Reserves	Midwest	3/10/00
Rowles Lagoon Conservation Park and Clear and Muddy Lakes Nature Reserve	Goldfields	19/1/01
Carnac Island Nature Reserve	Swan	4/10/03
Yellagonga Regional Park	Swan	15/07/03
Forest Management Plan	Swan, Warren and South West	1/1/04
Herdsmen Regional Park	Swan	3/12/04
Ningaloo Marine Park and Muiron Islands Marine Management Area	Pilbara	14/01/05
Turquoise Coast Island Nature Reserves	Midwest	24/3/05
Thomsons Lake Nature Reserve	Swan	27/05/05
Forrestdale Lake Nature Reserve	Swan	27/05/05
Jurien Bay Marine Park	Midwest	30/6/05

## Management plans as at 30 June 2006

<b>Final management plans (in preparation)</b>	Region	Submission period
Beeliar Regional Park	Swan	14/11/01-14/02/02
Woodman Point Regional Park	Swan	30/08/02-30/11/02
Rockingham Lakes Regional Park	Swan	27/10/03-27/02/04
Rowley Shoals Marine Park	Kimberley	6/01/04-12/04/04
Montebello/Barrow Islands Marine Conservation Reserves	Pilbara	17/02/04-24/05/04
Jandakot Regional Park	Swan	24/11/04-24/2/05
Proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Area Indicative Management Plan	Pilbara	11/01/05-10/05/05
Proposed St John Brook and Jarrahwood Conservation Parks	South West	4/01/05-11/03/05
Shannon and D'Entrecasteaux National Parks	Warren	21/05/05-31/08/05
Swan Estuary Marine Park and Adjacent Nature Reserves (proposed amendment)	Swan	31/05/05-5/08/05
Kennedy Range National Park and Proposed Additions	Midwest	19/08/05-28/10/05
Dryandra Woodland	Wheatbelt	2/12/05-6/2/06
Cape Range National Park	Pilbara	14/2/06-14/5/06
Lake McLarty Nature Reserve	South West	10/1/06-10/3/06
Wellington National Park and Westralia Conservation Park	South West	To be determined
<b>Draft management plans (in preparation)</b>	Region	
Burrup Peninsula Proposed Conservation Reserve	Pilbara	
Conservation Reserves of the Albany Coast	South Coast	
Dampier Archipelago	Pilbara	
Esperance Coastal Reserves	South Coast	
Proposed Geographe Bay – Leeuwin Naturaliste – Hardy Inlet Marine Park Indicative Management Plan	South West	
Kalbarri National Park	Midwest	
Lane Poole Reserve	Swan and South West	
Millstream-Chichester National Park and Mungaroona Range Nature Reserve	Pilbara	
Montebello/Barrow Islands Marine Conservation Reserves	Pilbara	
Northern Yilgarn Conservation Reserves	Goldfields	
Parks of the Leeuwin-Naturaliste Ridge, Scott National Park and Gingilup Swamps Nature Reserve	South West	
Rowley Shoals Marine Park	Kimberley	
Shoalwater Islands Marine Park Draft Management Plan	Swan	
Shark Bay Terrestrial Reserves and Proposed Reserve Additions	Midwest	
Tuart Forest National Park	South West	
Proposed Walpole and Nornalup Inlets Marine Park Indicative Management Plan	Warren	
Walpole Wilderness Area and Adjacent Parks and Reserves	Warren	
Wheatbelt Region	Wheatbelt	
Yanchep and Neerabup National Parks and Neerabup Nature Reserve	Swan	



# What we do

Area covered by management plans*			
Tenure classification	Area covered by management plan (ha)	Total tenure area (ha)	% covered
National park	1,751,553	5,593,536	31.3
Nature reserve	361,956	10,860,832	3.3
Marine reserve	1,489,461	1,536,551	96.9
Other recreational/conservation reserves	94,110	990,195	9.5
<b>Total CALM-managed estate</b>	<b>3,473,080</b>	<b>18,981,114</b>	<b>18.3</b>

\* Figures exclude (a) some regional park management plan areas and (b) the area covered by the Forest Management Plan except those reserves with specific area management plans.

## Acquisition and administration of protected areas

### Reserve acquisition

The formal process of adding land to the State's system of protected areas continued throughout the financial year, with the aim of eventually achieving a system that is comprehensive, adequate and representative.

CALM's program of buying freehold land for conservation included the purchase of the remaining freehold lots at Bengier Swamp. This completed 35 years' work to incorporate all the swamp land into Bengier Swamp Nature Reserve.

Involvement with other programs and processes led to the purchase of other lands, including land ceded to the State as a condition of subdivision (e.g. addition to Nature Reserve 582, known locally as Lake Eyrie Nature Reserve); land acquired from negotiated exchanges (e.g. adjoining Neerabup National Park); and reserves no longer required by other organisations (e.g. surplus Water Corporation reserves in the wheatbelt).

Work continued on the implementation of tenure changes proposed in the *Forest Management Plan 2004-2013*. Using a systematic approach, proposed boundaries were progressively mapped at a fine scale and referred to a range of organisations including local governments, public utilities, government agencies and persons and bodies concerned with native title.

CALM undertook the necessary work for excisions from the State's conservation and forest estates to accommodate proposals that have a community benefit (e.g. the formalisation of the Eneabba to Dongara Railway through Beekeepers Nature Reserve).

CALM continued its role of providing advice on proposals involving land tenure referred from other organisations such as the Department for Planning and

Infrastructure and the Department of Industry and Resources. CALM advised on issues such as the use of unallocated Crown land for grazing or cropping and the disposal of surplus Crown reserves.

Work continued on the implementation of outstanding tenure recommendations in CALM management plans for regions and specific areas, the most significant being the purchase of several freehold enclaves within D'Entrecasteaux National Park.

### **Leasing activities**

CALM has various leasing arrangements for a wide range of purposes. At the end of the financial year there were 158 formal arrangements in place for uses on lands managed by CALM, including recreation, tourism, accommodation, utilities and sawmills.

The formal arrangements comprised 119 leases, 18 written agreements, four licences, 15 MoU and two sawmill site permits.

CALM entered into 15 formal agreements, which included the renewal of a number of existing arrangements and the establishment of several new leases, including the development and operation of a campground located within Karijini National Park, a tourist facility located at the Cape Naturaliste Lighthouse Precinct, a wildlife care facility at Broome and a geomagnetic observatory to be established on a portion of State forest west of Gingin.

During the year, the Minister for the Environment approved a new schedule of lease rentals that provides for the application of increased rentals across a range of lease categories.

### **Apiary site management**

At the end of the year there were 3,473 current apiary site permits issued on Crown lands within the State. Of these, 1,811 (51 per cent) were on lands managed by CALM – 867 were located on State forest, 116 on timber reserves, 455 on national parks, 250 on nature reserves, 107 on conservation parks and 16 on other lands vested in the Conservation Commission. Fifty permits were cancelled during the year.

During the year, 941 apiary site permits were issued which comprised:

- 121 permits transferred between beekeepers;
- 85 permits from applications to occupy new or previously cancelled sites;
- 715 permits renewals on sites located on a wide range of land tenures; and
- 20 permits relocated to new locations as requested by either CALM or the beekeeper.

At 30 June 2006, there were 158 formal arrangements for recreation, tourism, accommodation, utilities and sawmill activities on CALM-managed lands.





## What we do

Master plans, site development and/or concept plans were prepared for projects around the State.

CALM continued to progress the review of the *Forest Management Regulations 1993* relating to beekeeping on Crown land. Following consultation with the beekeeping industry and the general public, the Minister for the Environment approved the drafting of amendments to the regulations.

The Beekeeping Consultative Committee (BCC), which provides input to CALM on matters relating to the beekeeping industry, met twice during the year and discussed a number of issues including the trading of apiary sites, amendments to the Forest Management Regulations and a feral bee strategy. The BCC is convened by CALM and consists of representatives from the WA Apiarists' Society, Wescobee Limited, Swan Settlers Limited, WA Farmers' Federation, WA Beekeepers' Association, the Pollination Association of WA as well as representatives from the Pastoral Lands Board, Water Corporation and the Pastoralists and Graziers' Association.

Other issues that were addressed during the year were:

- access to pastoral leases for beekeeping purposes;
- access for beekeepers in the Lancelin Naval Bombing Range and Lancelin Army Training Area;
- a strategy for dealing with feral bees on Crown land in WA;
- revised criteria for assessing suitability of new apiary sites on conservation areas; and
- the granting of temporary apiary site permits in emergency situations.

### Park presentation and resource protection

CALM aims to achieve high quality visitor services and facilities that are planned, designed, developed and properly managed in a sustainable way.

Master plans, site development and/or concept plans were prepared for many projects around the State to assist with strategic planning decisions, funding applications and to enable capital works projects to be undertaken according to plan. These projects included plans for safe access to Lennard Gorge in King Leopold Range Conservation Park, protection of nature conservation values at Lake Thetis near Cervantes, the upgrading of day-use areas at Yardie Creek and Oyster Stacks in Cape Range National Park, a Heritage Walktrack at Smiths Block in Cape Le Grand National Park, a new mountain bike park at the Goat Farm in Greenmount, a new campsite on the Munda Biddi Trail near Wellington, the upgrading of the day-use and camping area in Shannon National Park and a new day-use area at Williams Nature Reserve. Design continued on the Pinnacles Desert Interpretive Centre in Nambung National Park. Further planning for visitors began for Shark Bay and Ningaloo marine parks, and continued for Lane Poole Reserve.

Design and/or construction documentation drawings were prepared for construction of many projects such as boardwalks, steps and lookouts, including a new boardwalk to protect vegetation on Cave Hill in the Goldfields; a new toilet for Cabaret Cave in Yanchep National Park; new boardwalks and lookouts for the Cape to Cape Track in Leeuwin-Naturaliste National Park; a new camping hut at Banksia Camp in D'Entrecasteaux National Park; and new sign installations for the proposed new sign standards.

Planning continued for the Walpole Wilderness Discovery Centre sites.

Site planning and detailed design continued on the Walpole Wilderness Discovery Centre sites at the Valley of the Giants, Mt Frankland and Swarbrick.

Planning, training and design advice were provided as needed. Informal training in recreation and tourism planning and design was provided to CALM staff on a project-by-project basis throughout the year. Advice was given on numerous projects associated with CALM and representation occurred on working groups including the Inter-Agency Working Group to develop Visual Landscape Management Guidelines and the Coastwest Technical Assessment Group.

Visual impact assessments, recommendations, guidelines and specialist advice were provided for a number of proposals throughout the year, including telecommunications towers, mining, gravel extraction, infrastructure development, housing and tourism developments. Work proceeded on a review of the database for Visual Landscape Management.

Visual landscape management processes and operational guidelines for a wide range of impact and development types continued to be developed between the Department for Planning and Infrastructure, Main Roads WA, the Department of Environment and CALM.

## Visitor communication and management

### **Interpretive planning**

Communicating with visitors is an integral Parks and Visitor Services function. During the year, CALM staff provided interpretive perspectives into the preparation of management, visitor services and, recreation site development plans and interpretive projects.

Interpretation plans were prepared for the Purnululu National Park World Heritage Area and for major sign products.



## What we do

At 30 June 2006, CALM's Sign Design Studio had completed, or were completing, more than 270 projects.

### **Interpretive design**

The CALM Sign Design Studio continued to meet regional needs for signs and displays in managing visitors to CALM-managed areas. More than 270 projects were completed or in production at the end of the financial year.

Interpretive products of particular note were: interpretive signs for Turquoise Bay (Exmouth); Cape Leeuwin (Augusta); Cape Peron lookout and snorkel trail (Rockingham Lakes Regional Park); fire impact on the Bibbulmun Track and Munda Biddi Trail; Kalbarri entry station and Z Bend lookout; Sappers Bridge (Wellington National Park); Skipjack Point lookout (Shark Bay World Heritage Area); Coalseam National Park; and Darwinia Drive panels (Dryandra).

Trailside signs for interpretive walks were developed for Mitchell River National Park, Echidna Chasm/Piccaninny Creek/Mini Palm (Purnululu National Park), Skipjack Point (Shark Bay World Heritage Area), Kalbarri Coastwalk (Kalbarri National Park) and the proposed Perth Hills National Parks Centre (Mundaring).

Signs detailing Visitor Risk Management, CALM's *Western Shield* wildlife recovery program, dieback information and site rehabilitation continued to be produced to assist the management of these issues. Signs were also been produced as part of the WA Cane Toad Initiative for the Kimberley Region.

### **Community liaison, consultation and advisory services**

Consultation with the South West Aboriginal Land and Sea Council led to ArtSource being contracted to coordinate a workshop, field visit and finally selection of Nyoongar artworks for the Walpole Wilderness Area Wilderness Discovery Centre sites at the Valley of the Giants, Mt Frankland and Swarbrick.

The Sign Design Studio worked closely with external groups such as the Rottne Island Authority to design a snorkel trail at Little Salmon Bay and trailheads for Little Salmon Bay and Parker Point; the Dampier Port Authority for the design and production of the Nesting Ospreys signs; and the WA Speleological Group (Yanchep National Park) on the Dwerta Mia trailside signs.

The Sign Design Studio continued to support the WA Forum Advocating Cultural and Eco Tourism (FACET) with production of the tri-annual newsletter. Advice on signage continued to be given to various local shires across the State, and Friends groups.

### **Guided interpretation programs**

Guided interpretation programs were conducted at more than 30 locations across the State, including the Nearer to Nature program, which provides experiences in

Perth's regional parks and other venues. More than 300,000 participants enjoyed an enriched experience of the environment and its heritage through the program's regular guided activity programs.

Major guided interpretive programs were based at Geikie Gorge National Park in the Kimberley; Monkey Mia in the Midwest; the Valley of the Giants and Leeuwin-Naturaliste National Park in the south-west; and around Perth at Yanchep National Park, Perth Observatory and Penguin Island.

CALM worked with WA universities on nature-based recreation and tourism research.

### **Training and professional development**

Staff contributed to the Graduate Recruit Induction Program; a four-day residential program in Designing Guided Interpretive Experiences for staff and for trainees pursuing the Certificate in Conservation and Land Management; the annual Recreation Planning and Management Course at Point Walter for CALM staff and others that includes the communications strategies of information, interpretation, community involvement, consultation and public participation as a core component of this six-day course. Presentations were made to professional associations in Perth including FACET, the Australasian Regional Association of Zoological Parks and Aquaria and at an Interpretation Association Australia conference in Tasmania. CALM received national recognition at the conference in Tasmania by being jointly awarded, with the Shire of Exmouth, the Interpretation Media Award for the Jurabi Turtle Centre near Exmouth.

### **Nature-based tourism and recreation research**

CALM continued to work closely with WA's major tertiary institutions on nature-based recreation and tourism research. This partnership seeks to use and apply the universities' expertise and knowledge in the social and environmental sciences on various field-based recreation and tourism projects. Students can gain valuable field experience and CALM can benefit from the results of these studies. At the end of the financial year there were 81 research projects listed on the program (that were either completed, in progress or proposed). Completed projects and potential research topics available to honours, masters or PhD students are listed on CALM's NatureBase website.

A Recreation and Tourism Research Reference Group facilitates the coordination of student and projects and comprises academic staff from the five WA universities as well as CALM staff. Dr Sue Moore from Murdoch University's Environmental Science faculty is the chairperson of the Group. The main functions of the Reference Group are to:

- identify potential research studies of relevance and importance to the planning, development, management, monitoring, marketing and financing of sustainable recreation and tourism opportunities in natural areas;



# What we do

In 2005-2006, CALM had 8,230 registered volunteers.

- act as 'research brokers' by finding and allocating these studies to tertiary students and/or faculty members who are interested in pursuing a particular topic or field of inquiry; and to
- assist in disseminating the results of these studies to CALM's regions, districts and specialist units and to other interested parties.

A draft Social Research Strategy was produced that will set the direction and priorities for CALM's social research.

CALM also plays an active role as a member of the Sustainable Tourism Cooperative Research Centre. Several projects that were started and/or completed under the auspices of the Sustainable Tourism Cooperative Research Centre were either proposed by CALM or involved CALM as a key industry stakeholder. These included research into the socio-economic impacts of changes to marine park zoning in Ningaloo Marine Park on coral coast communities; the socio-economic impacts of cruise ship tourism on the Kimberley coast; a review of social data collection methods for Australian protected areas; and a review of pricing and user pays principles applied in Australian protected areas. Major Commonwealth and State funding for the marine environment focused on Ningaloo Marine Park announced this year also included important socio-economic research components.

## Community involvement

CALM's Community Involvement Program continued to remain an effective means of enlisting the support of the community and providing meaningful and interesting opportunities for volunteers to participate in conservation and land management activities. In 2005-2006, 3,882 active volunteers contributed 470,600 hours of support to projects across WA.

Community involvement volunteers				
Year	No. registered	New projects	No. volunteers contributing	No. hours
1998-1999	2,400	19	836	108,630
1999-2000	3,800	12	1,400	121,000
2000-2001	4,499	26	1,600	190,000
2001-2002	5,683	20	2,500	217,000
2002-2003	5,160	32	3,150	264,000
2003-2004	6,100	30	2,700	355,000
2004-2005	7,600	28	4,000	422,000
2005-2006	8,230	6	3,882	470,600

## Community involvement volunteers

CALM continued to recognise and reward its volunteers through an annual reward system, and in December 2005 held its Volunteer of the Year and Outstanding Service Awards function to acknowledge the important support it receives from its volunteers.

Volunteers continued to take part in many ongoing projects such as the Campground Host program, the Bibbulmun Track Foundation (by providing office support and track maintenance), the wildlife rehabilitators program and on projects at the WA Herbarium.

New volunteer projects registered for 2005-2006 were:

- the cane toad community program;
- Marine Turtle Monitoring in the Pilbara;
- the Breaksea Island Restoration project;
- Friends of Lake Powell Nature Reserve;
- Cycle Trail Investigation; and
- maintenance of Tone Settlement walktrails.

During the year the Community Involvement Unit provided the following training courses for CALM volunteers with support from specialist services within CALM and external agencies:

- first aid;
- basic fire awareness;
- basic wildlife rehabilitators' course;
- WILDCARE helpline evaluation and training;
- special topics for wildlife rehabilitators; and
- a regional wildlife rehabilitators' course.

The basic wildlife rehabilitators' course is a popular course for people interested in learning about caring for native wildlife and, in 2005-2006, attracted around 250 people. Sixty also attended the special topics presentations.

Training for Campground Hosts includes risk management, insurance, occupational health and safety, and cross-cultural awareness. The Campground Host program volunteers continued to provide valuable support to CALM staff and members of the travelling public through supervision of campsites in most national and conservation parks throughout WA. Approximately 140 Campground Host, Bibbulmun Track and Friends of Attadale volunteers attended the training days provided for first aid, Campground Host induction and information and basic fire awareness held at CALM's Kensington office.

New volunteer projects registered for 2005-2006 included the cane toad community program.



# What we do

At December 2005 there were 1,215 CALM Bush Ranger cadets, who contributed a total of 268,375 hours to conservation projects.

Many 4WD clubs worked to closely support CALM's field staff to rehabilitate and enhance the natural landscape with on-going projects at Leschenault Conservation Park and at Kadji kadji, Karara, Lochada and Warriedar.

During the year, wildlife rehabilitation volunteers and CALM Bush Rangers supported CALM staff with public displays at a series of events including the Perth 4WD and Adventure Show and the Landcare display at the Royal Agricultural Society Show. A large number of volunteers from various other CALM projects throughout the metropolitan area also supported the Landcare display, volunteering as project supervisors to maintain the display in pristine condition throughout the show.

## CALM Bush Ranger cadets

CALM Bush Rangers has operated as part of the State Government's Cadets WA program since 1998. The program fosters competence and confidence through life skills such as teamwork and leadership and, within the CALM Bush Rangers network, an ethic for conservation and community service.

In the 2005 calendar year, CALM Bush Rangers spent approximately 268,375 volunteer hours in the program on nature conservation projects, assisted by CALM staff and supported by CALM Bush Ranger Instructors.

CALM Bush Ranger cadets		
Year	No. of CALM Bush Ranger cadets	No. of hours
2000-2001	800	105,600
2001-2002	1,100	180,000
2002-2003	960	200,000
2003-2004	945	227,000
2004-2005	1,138	296,400
2005-2006	1,215	268,375

## Liaising and working with Indigenous people

The Indigenous Heritage Unit (IHU) continued to offer quality educational products to primary schools and the community, to increase the level of recognition and knowledge of Aboriginal culture within the wider community.



The IHU also continued to ensure that the perspectives of Aboriginal people were incorporated into CALM's planning processes as standard practice. This was achieved through the development of targeted staff training programs aimed at increasing the level of knowledge about the diversity of Aboriginal cultures in WA. The IHU contributed to the Aboriginal Tourism Development Strategy being developed by Tourism WA, along with other key CALM policies and strategies including:

- the draft Good Neighbour Policy;
- the Draft Acknowledgement of Traditional Custodians Policy; and
- the CALM Corporate Executive Aboriginal Employment Committee.

IHU conducted the following educational presentations in 2005-2006:

- Aboriginal Heritage Training for 36 CALM staff;
- five cross cultural awareness workshops for CALM staff;
- educational programs to 2,328 participants;
- programs to 610 people at community and other special events.

CALM, through the work of the IHU, continued to build relationships with Aboriginal communities, government and community groups, in particular:

- Yirra Yaakin;
- Leeuwin Ocean Explorer;
- South West Aboriginal Land and Sea Council;
- Department of Indigenous Affairs – Heritage Sites;
- Friends of Yongar Reserve; and
- Tourism WA.

## Business management

Providing accurate park information, promoting responsible behaviour by visitors to the estate and providing services to the tourism industry are important CALM functions.

CALM attended a number of consumer events throughout the year where information and brochures were distributed, National Park Passes were sold and queries from the general public were answered. In November 2005, the Tourism and Marketing Unit partnered with the Community Involvement Section to coordinate an interactive, informative display at the Perth 4WD and Adventure Show. The display proved to be very popular, with wildlife provided by volunteer carers attracting thousands of people to the exhibit.

CALM's Indigenous Heritage Unit gave presentations to 36 staff, 2,328 participants of educational programs and 610 people at community and other events.



# What we do

Sales for the Annual All Parks Pass rose 17.8 per cent and sales for the Goldstar Park Pass rose 16.8 per cent.

The Tourism and Marketing Unit also coordinated CALM's presence at the 2006 Perth Caravan and Camping Show held at Ascot Racecourse on 16–20 March, which attracted 33,500 people. The display was located in the tourism marquee at the show and provided information about visitor facilities and services on CALM-managed lands. Strong interest was shown in the northern national parks including Karijini, Millstream-Chichester, Cape Range, Mt Augustus and Kennedy Range. Other popular parks included Fitzgerald River, Cape Le Grand and Cape Arid national parks.

National Park Passes and brochures continued to be distributed and sold through 36 independent retail outlets as well as CALM offices and some national parks. A continuing awareness of the park pass system through renewals, re-sellers and promotional initiatives resulted in steady park pass distribution numbers for Annual All Parks Passes and a substantial increase in the sale of the Annual All Parks Pass by 17.8 per cent and the Goldstar Park Pass by 16.8 per cent.

Breakdown of pass distribution 2005-2006		
Type of pass	Number	Change from previous year
Holiday Park Pass (4 weeks)	7,267	Up 0.3%
Annual Local Park Pass (1 park, 12 months)	6,481	Down 3.1%
Annual All Parks Pass (All parks, 12 months)	5,327	Up 17.8%
Goldstar Park Pass (All parks, 12 months and 12-month LANDSCOPE subscription)	1,461	Up 16.8%

Note: includes sales and passes sent to CALM offices but not yet sold.

CALM partnered with the Tourism Council Western Australia (TCWA) to present informative, half-day 'On Track for Tourism' workshops throughout the State. The workshops were designed to assist tourism operators maximise their business potential, with the CALM presentation focusing on State-wide licensing, local tourist facilities and capital works programs. The workshops presented a great opportunity for CALM to improve communication with, and gain direct feedback from, the local tourism industry.

The workshops were also combined with brief separate training sessions for all regional CALM staff in contact, or involved, with the tourism industry. The sessions were conducted by CALM's licensing staff who provided updated licensing information to help regional staff deal with issues relating to the management of tour operators.

CALM's Marketing and Tourism Unit produced and distributed the bi-monthly *Touring Western Australia* e-newsletter to keep the tourism industry informed about recent CALM news. The newsletter continued to receive positive feedback

and was sent to more than 1,100 stakeholders throughout the tourism and travel industry, other Government agencies and local government.

Tour Operator Alerts are sent weekly, or as required, via the same electronic template design as the e-newsletter and are another effective communication tool that can instantly notify tour operators, visitor centres and a range of other stakeholders about important park information.

CALM's Tourism Industry Reference Group (TIRG) continued to meet quarterly to generate two-way communication between CALM and the nature-based tourism industry. The meetings provide the industry with a regular mechanism to raise issues and have them addressed in a constructive manner. Members of the tourism industry are encouraged to contact representatives on the TIRG to raise issues for consideration at the meetings.

CALM also secured promotional editorial and features on national parks and campsites in numerous publications including the *WA Atlas*, a new RAC publication; *Western Australia Experience Guide*, produced by AAA Tourism; and *Gregory's Essential Touring Atlas*.

Key media or travel industry personnel undergoing familiarisations often seek a waiver of national park entry fees. Aged and infirm groups, education or study groups and groups of people with disabilities accompanied by their carers, may also be eligible for a waiver. In 2005-2006, CALM approved 153 requests for fee waiver entry, totalling \$37,220.71 (based on expected visitor numbers of 13,502 for which entry fees were waived). These visitor numbers are broken up into each region below.

Fees waived – visits by region						
Region	Around Perth	Midwest	Pilbara	Kimberley	Warren	South Coast
No. of visitors	10,664	624	1,211	67	160	1,096

To assist in the management and conservation of WA's protected areas, CALM licenses commercial operations in accordance with Part 7 of the *CALM Regulations 2002*. The issuing of licences helps CALM to monitor and manage visitor access and use of lands and waters vested in the Conservation Commission and the Marine Parks and Reserves Authority.

The first update of CALM's 2004 *Tour Operator Handbook – Terrestrial* began in 2005-2006. The ring-binder format of the revised handbook means that updates can be made easily and cost effectively.

Two-way communication between CALM and the nature-based tourism industry continued through CALM's Tourism Industry Reference Group.



## What we do

At 30 June 2006, CALM had issued 390 commercial tour operators with licences for commercial activities in marine and terrestrial reserves.

In an effort to reduce the cost of administering small credit accounts, and reduce the incidence of defaults on credit accounts, CALM introduced the requirement for operators to apply for credit facilities for payment of entry and camping fees. In 2005-2006, 46 operators were approved to maintain credit with CALM.

As at 30 June 2006, 390 commercial operations licences were in issue for activities in marine and terrestrial reserves – 339 general 'T' class licences and 51 'E' class licences. E class licences apply to operations that must be restricted in number or are in areas that are particularly sensitive – for example whale shark interaction at Ningaloo Marine Park. The number of commercial operations licences was down from 404 licences in issue at the end of 2004-2005.

Accreditation of operators is strongly encouraged by CALM. Accreditation assists the tourism industry in raising the standards of operation and promotes greater awareness of the impact of commercial operations on the conservation estate. Operators that achieve accreditation are eligible to obtain longer-term licences. Three programs are currently recognised by CALM: Eco Certification (with business and environmental components); National Tourism Accreditation Program (NTAP) (business certification with an optional environmental component); and Green Globe 21. At the end of 2005-2006, there were 42 Eco Certified (54 in 2004-2005) and 128 NTAP accredited operators (136 in 2004-2005).

CALM's Online Tour Operator Education Program is a compulsory online test on the general licence conditions applicable to all tour operators designed to encourage awareness of licence conditions and responsibilities on CALM estate. Operators are required to complete this test within three months of gaining a licence. During the year, all licensed tour operators completed the test successfully.

### **Legislation and policy for parks and visitor services**

Following public comment on a paper outlining proposed amendments to the *Forest Management Regulations 1993* relating to the administration and management of apiary sites on Crown land, a review of the regulations began. This is also discussed under the section relating to apiary site management.

The review of Policy Statement No. 18, Recreation, Tourism and Visitor Services, and its associated guidelines was completed following its release for public comment.

## Tracks and trails

Department of Corrective Services prison crews continued to assist CALM in the development and ongoing maintenance of various tracks and trails. Specific projects included:

- Karnet Prison crew completing ongoing maintenance on both the Bibbulmun Track and Munda Biddi Trail throughout the Perth Hills District;
- Bunbury Prison crew working on the development and maintenance of the Munda Biddi Trail within the Wellington District; and
- Walpole Work Camp (from Pardelup Prison) completing maintenance on the Bibbulmun Track within the Frankland District.

CALM signed an MoU with Leave No Trace to promote, through CALM literature and products, responsible outdoor ethics and the seven principles of Leave No Trace:

1. Plan ahead and prepare.
2. Travel and camp on durable surfaces.
3. Dispose of wastes properly.
4. Leave what you find.
5. Minimise campfire impacts.
6. Respect wildlife.
7. Be considerate of other visitors.

## Trails recreation activities

Liaison with the mountain biking community continued through the Mountain Bike Working Group. CALM completed a Draft Mountain Bike Management Guidelines document that was distributed through the working group for initial comment.

A collaboration between CALM, the WA Mountain Biking Association and the Department of Sport and Recreation saw the running of a workshop on trail construction by the International Mountain Biking Association. An experienced trail builder from the United States ran the four-day workshop, which included several days of practical trail construction at the Goat Farm recreation reserve, adjacent to Greenmount National Park.

The Notification of Intention system for group usage on the Bibbulmun Track and Munda Biddi Trail has now been running for almost two years, with the number of notifications received steadily increasing. The overview of trails usage by organised groups provided by this system is helping to improve the long-term management of the trails.

CALM signed an MoU with Leave No Trace to promote responsible outdoor ethics.



The ongoing relationship continued between CALM and the Bibbulmun Track Foundation, which had more than 1,700 members and 350 volunteers at 30 June 2006.

### **Bibbulmun Track**

The allocation of capital funding for maintenance and improvement works along the Bibbulmun Track in 2005-2006 saw the completion of the following works: removal of asbestos and re-cladding of the Mt Wells Hut; the installation of several gates to assist in managing illegal vehicle access to campsites in the Perth hills area; upgrading of eroded sections of track and upgrading of water crossings around Collie; bridge construction near Pemberton; a new boardwalk near Peaceful Bay; new steps at Quaram Beach; the purchase of three new canoes for the Irwin Inlet; and pruning and erosion control works along the south coast near Albany.

Bibbulmun Track maps for the Darling Range (Map 1), Collie (Map 3) and Blackwood (Map 4) were reviewed, updated and reprinted in 2005-2006.

The ongoing relationship between CALM and the Bibbulmun Track Foundation (the Foundation) continued to produce positive results for the track. CALM provides financial support to the Foundation to fund salaries for management of the volunteer maintenance program and the provision of walker information services, including the Bibbulmun Track Foundation's website ([www.bibbulmuntrack.org.au](http://www.bibbulmuntrack.org.au)).

At the end of 2005-2006, the Foundation had more than 1,700 members, and more than 350 volunteers, both in the office and out on the track. The Foundation's website averaged more than 50,000 hits per month, with the website being the primary information source for the track.

The Foundation, with CALM's assistance, ran six volunteer maintenance training days, in the Blackwood, Donnelly, Frankland and South Coast districts. It also successfully ran the fourth annual Bibbulmun Track Team Challenge, with 16 teams competing in October and November.

An analysis of the data collected from the campsite registers has revealed that:

- the average length of a walk was 17.5 days;
- more than 20 per cent of the walkers were from interstate and overseas; and
- 122 people registered as End to End walkers in 2005-2006.

### **Munda Biddi Off-Road Cycle Trail**

Capital funding was provided during 2005-2006 for maintenance and improvement works along the Munda Biddi Trail. This funding enabled the construction of several new water crossings along the trail between Dwellingup and Collie.

CALM successfully applied for funding through the CALM ALCOA Forest Enhancement Program (CAFE) to build new water crossings and to test toilet design options. Lotterywest funding was obtained by the Munda Biddi Trail Foundation to assist in the construction of campsites within Wellington National Park and near Jarrahwood, and the construction of the Nannup to Jarrahwood Railtrail.

Construction was also completed on the Waterous Trail near Waroona, including the construction of a large timber and steel bridge across the Samson Brook.

Construction of Stage 2 of the Munda Biddi Trail, between Collie and Nannup, started in May 2006, and development of alignment options and planning also began for Stage 3 of the trail between Northcliffe and Albany.

The relationship between CALM and the Munda Biddi Trail Foundation continued to strengthen, with CALM contributing financially to support the Foundation in dealing with public enquiries for trail information, including maintaining the Munda Biddi Trail website ([www.mundabiddi.org.au](http://www.mundabiddi.org.au)). The Foundation website averaged more than 4,000 hits per month, with the website being the primary information source for the trail.

CALM and the Foundation worked on the final development of the volunteer maintenance program for the Munda Biddi Trail.

The Foundation ran several successful events on the trail, including *Trek the Trail* in Mundaring and *Try the Trail* in both Dwellingup and Collie. Additionally, the Foundation trained more than 40 ride leaders to assist in managing events on the trail.

Analysis of the data collected from the campsite registers has revealed that the average length of a ride was 3.6 days and more than 20 per cent of cyclists are from interstate and overseas.

## Regional parks

CALM continued its role in coordinating the management of Perth's regional parks. This encompasses:

- managing lands within regional parks owned by the WA Planning Commission that were formerly managed by the Department for Planning and Infrastructure;
- managing lands vested in the Conservation Commission;
- managing reserves previously managed by the Department of Sport and Recreation; and
- preparing management plans for each of the parks and ensuring an integrated management approach to works within the parks.

Construction on Stage 2 and alignment planning of Stage 3 of the Munda Biddi Trail began.



# What we do

Planning for Perth's regional parks included a visitor survey about the demographics, activities and patterns of use of the park's users.

Major achievements in managing the parks over 2005-2006 were as follows:

## Planning works

- the final management plan for Beeliar Regional Park was completed;
- a visitor survey of Perth's regional parks was completed, with the results providing valuable information on the demographics of people using the parks, the activities they undertake, and their patterns of use;
- weed species and rehabilitation plans were completed for Jandakot, Beeliar and Rockingham Lakes regional parks;
- environmental offset planning has been completed for projects impacting on regional park lands including:
  - Thomsons Lake Nature Reserve as part of the Perth Seawater Desalination Integration Project (Beeliar Regional Park);
  - Woodman Point Regional Park as part of the Port Coogee Residential and Marina Estate at Coogee;
  - Beeliar Regional Park (Lot 502) as part of the Cockburn Commercial Park Industrial Subdivision in Bibra Lake;
- a proposed amendment to the Canning River Regional Park Management Plan 1997-2007 was advertised and public submissions were received and analysed;
- the planning, public consultation and design phase for the Canning River Regional Park EcoEducation Centre began;
- a Visitor Management Plan was prepared for the Liege Street Wetland in Canning River Regional Park, in collaboration with the Swan River Trust, City of Canning and Water Corporation;
- advice on conservation and land management issues was provided in relation to a number of large developments adjacent to or impacting on regional parks throughout the Perth metropolitan area, including the South West Metropolitan Railway, the Kennedy Bay residential development and the Cape Peron Tourism Precinct Project;
- liaison and monitoring of on-ground works continued with the Water Corporation regarding the Perth Seawater Desalination Integration Project impacting Beeliar Regional Park and Port Coogee Development impacting Woodman Point and Beeliar regional parks; and
- further work was undertaken on finalising the Woodman Point, Jandakot and Rockingham Lakes regional park management plans.

## Conservation works

Water supplementation and cygnet management were successfully implemented at Thomsons Lake for the second year. Water supplementation ensured the lake retained water into early summer which provided habitat for a range of waterbirds including the cygnets.



Other notable conservation works completed within the regional parks were:

- control of introduced bulrush (*Typha orientalis*), arum lily (*Zantedeschia aethiopica*) and cotton bush (*Gomphocarpus fruticosus*) at Thomsons Lake Nature Reserve (Beeliar Regional Park);
- removal of 2,500m<sup>2</sup> *T. orientalis* from Popeye Lakes, Herdsman Lake Regional Park;
- management of an overpopulation of western grey kangaroos at Thomsons Lake Nature Reserve;
- weed control at Lake Coo loongup to control pampas grass (*Cortaderia selloana*), Japanese pepper (*G. fruticosus*, *Schinus terebinthifolia*), fig (*Ficus carica*) and sharp rush (*Juncus acutus*);
- weed control (predominantly pelargonium (*Pelargonium capitatum*) and Geraldton carnation weed (*Euphorbia terracina*)) and revegetation works (4,000 plants) at Point Peron;
- weed removal and rehabilitation works at Harrisdale Swamp, Jandakot Regional Park;
- removal of infestations of *G. fruticosus* at Churchmans Brook and Wungong Valley in the Darling Range;
- weed control and revegetation works at Brookside Lane (Chidlow Regional Park) and Kell Place (Kalamunda Regional Park) after demolishing old houses;
- control of *E. terracina*, dune onion weed (*Trachyandra divaricate*), bridal creeper (*Asparagus asparagoides*) and buffalo (*Stenotaphrum secundatum*) to protect Threatened Ecological Community 19 - 'Sedgeland in Holocene dune swales'; and
- 17,200 reeds and sedges were planted at specific locations throughout Yellagonga Regional Park and direct seeding of 10,250m<sup>2</sup> was undertaken at various revegetation sites throughout Herdsman Lake Regional Park.

### On-ground park improvements

- construction of an amphitheatre at the Spectacles, within Beeliar Regional Park, for use in cultural tours, run in collaboration with the Town of Kwinana and Medina Aboriginal Cultural Centre;
- the snorkel trail at Point Peron was completed and a lookout platform was also installed with links to surrounding walktrails within Rockingham Lakes Regional Park;
- construction of the Valley Loop walktrail was completed in Kalamunda Regional Park; and
- improvements at John Graham Reserve in Woodman Point Regional Park, including the removal of overhead powerlines and installation of underground power and landscape planting of 40 advanced trees, 1,500 tubestock, mulching of car park areas and renovating 2 ha of lawn area.

Water supplementation was undertaken at Thomsons Lake for the second year to maintain a healthy habitat for cygnets and other waterbirds.



# What we do

Twenty-one community conservation groups received a share of \$50,000 through the Regional Parks Community Grants Scheme.

## **Community involvement**

The Regional Parks Unit continued to administer eight Community Advisory Committees for regional parks (one each for the parks on the Swan Coastal Plain and one for the parks in the Darling Range). In total, the Unit assisted with 43 committee meetings for the year. A meeting was also held between the chairs of the Community Advisory Committees and the Minister for the Environment to discuss regional parks management.

A community workshop was held to assist in the assessment of the applications for the Regional Parks Community Grants Scheme. The scheme was successfully administered for the fourth year. The grants were awarded to assist community volunteer groups in undertaking projects that rehabilitate, conserve, enhance or restore natural areas and values as well as for activities to raise public awareness and appreciation of nature conservation at a local level. A total of \$50,000 was offered, ranging from \$900 to \$5,500. Twenty-one community groups were successful in securing funding for a variety of projects including rehabilitation, weed control, education programs, interpretive signage and administration costs.

Volunteers contributed 12,000 hours working on CALM-managed lands within the regional parks during the year. Volunteer projects primarily related to weed control and rehabilitation.

## **Healthy Parks, Healthy People**

Progress was made with the Healthy Parks, Healthy People (HPPH) initiative particularly with respect to partnerships with external organisations. WA branches of the Heart Foundation, Diabetes Australia, the Cancer Council, the Arthritis Foundation and the Asthma Foundation, and beyondblue: the national depression initiative, the Premier's Physical Activity Taskforce and the Office for Seniors Interests and Volunteering, formally agreed to a partnership with the HPPH initiative. CALM, through the HPPH program, has also developed a relationship with Mentally Healthy WA, a pilot program aimed at improving the mental health of regional Western Australians. A customised health partner package, which included promotional and information material, was prepared to help promote the initiative to potential partners.

The response from the health organisations to a CALM/HPPH partnership was extremely positive with all parties realising the potential of the HPPH program in contributing to the health of all Western Australians and the protection and conservation of the State's natural areas.

The first demonstration of the HPPH partnerships was the launch of National Arthritis Week at Herdsman Lake Regional Park in April 2006, which was a collaboration between CALM and the Arthritis Foundation (WA).

## Other initiatives

### **Memoranda of Understanding**

CALM continued its successful partnership with the Department of Corrective Services when, in July 2005, both agencies re-signed the MoU, which has been in place since 1999. Department of Corrective Services prisoners continued to make a valued contribution to CALM projects and the community through maintenance of the Bibbulmun Track and construction works on the Munda Biddi Trail, as well as a range of projects including weed eradication, tree planting and recreation facility development in many parks and reserves around the State, including Millstream-Chichester and Leeuwin-Naturaliste national parks.

CALM also signed a MoU with *Leave No Trace* to promote and encourage responsible visitor behaviour on CALM-managed land and waters. The MoU will strengthen existing relationship between CALM and *Leave No Trace*. Several collaborative projects have already begun.

### **Visitor risk management**

CALM's Visitor Risk Management (VRM) is an extensive program that involves identifying and managing visitor risks across CALM-managed lands and waters. The death of a State Emergency Services volunteer involved in the rescue of an injured walker in Karijini National Park late in 2003-2004 highlighted the inherent dangers involved in outdoors pursuits.

A review of the effectiveness of CALM's VRM program began in 2004-2005 involving visits to all nine CALM regions and the Regional Parks Unit to assess VRM implementation. A report was subsequently written for discussion by the Visitor Risk Management Steering Committee.

One VRM training course was conducted in Bunbury during the year, involving 22 CALM staff. Three additional staff were trained to present the VRM course, and will be primarily involved in the training of Swan Region staff.

### **Visitor Information and Statistics (VISTAT) Program**

The aim of the VISTAT Program is to provide accurate information on visitor use, needs and expectations and on levels and patterns of use throughout CALM-managed lands and waters. The VISTAT and Visitor Survey databases contained within the Recreation and Tourism Information System (RATIS) provide an effective and efficient means of collating and storing visitor use monitoring data and visitor feedback-form results. CALM continued to upgrade both the RATIS database and the hardware required to monitor visitor use.

Healthy Parks,  
Healthy People  
continued to forge  
partnerships with  
other community  
groups and  
government  
bodies.



# What we do

CALM-managed lands and waters received 11,842,000 visits during 2005-2006.

## Visitor use monitoring

Visitor use was monitored at 255 sites using traffic classifiers and counters, pedestrian counters, observation surveys and ticket sales in national parks, State forest areas and reserves throughout the State. The total number of visits to lands and waters managed by CALM during the year was 11,842,000, an increase from the 10,990,000 visits recorded during 2004-2005. This increase reflected a continuing interest by the public in visiting natural areas managed by CALM despite factors such as various cyclones that affected the northern parks during peak visitation periods, and increased fuel costs.

Total visits to lands and waters managed by CALM		
Year	No. data collection sites	Total no. visits (million)
1998-1999	149	8.7
1999-2000	158	8.9
2000-2001	158	9.7
2001-2002	185	9.8
2002-2003	190	10.2
2003-2004	200	10.92
2004-2005	246	10.99
2005-2006	255	11.84

## Visitor survey program

The Visitor Satisfaction Survey Program continued to provide visitor feedback that was used to assess visitor needs and expectations, as well as satisfaction with recreation and tourism facilities and services provided by CALM.

The national parks and other recreation areas surveyed represent a broad range of recreation settings based on visitor use levels, access to the site and presence of facilities. The survey provides feedback from visitors regarding the management of these areas, their overall level of satisfaction during their visit, the main purpose of their visit and the activities undertaken during their visit. The information collected aids in the planning and management of these recreation areas for site planning and design, visitor communications, business and marketing plans and performance evaluation.

## World Heritage

CALM progressed the World Heritage nomination process for the Ningaloo Reef-North West Cape area. The Minister for the Environment released a map with a suggested boundary for community consultation and obtained public submissions on its appropriateness in 2005-2006.

## Road classification system

CALM continued to progress the development of its new road classification and asset management system that was developed in 2003-2004, based on the ROMAN Pavement Management system. The ROMAN system is currently used by the majority of local government authorities in WA.

The engineering firm OPUS International Consultants Limited was engaged through a competitive tendering process to carry out a field assessment and collect and record information on sealed and unsealed roads and associated road assets in the Swan, South West and South Coast regions. The assessment followed on from data collection undertaken in the previous year in the Warren Region by engineering firm Cardno BSD Pty Ltd, and was done in accordance with the new classification. In particular, the consultant was required to categorise and describe nominated CALM roads, bridges and associated assets and to identify the location and nature of any risks to road users that would not otherwise be identified by the ROMAN inventory process.

The 4WD Association and Track Care WA supported CALM by completing a number of track stabilisation and clean-up projects.

## Involvement with the WA 4WD Association and Track Care WA

CALM continued to work with the WA 4WD Association and member clubs and with Track Care WA to promote the responsible use of the public conservation estate by four-wheel drivers and other motorised recreation users. Both of these peak bodies also actively supported CALM by completing a number of track stabilisation and clean-up projects and other environmental care initiatives.

## Regional services

### Goldfields

- Recreation site upgrades at Burra and Victoria rocks were completed with the installation of hybrid toilet systems, interpretive shelters and information. Fabrication of the Cave Hill boardwalk and viewing platform was started by Conservation Employees from Perth Hills work centre.
- Continued Main Roads WA funding upgraded the 37-km access road into the Lorna Glen homestead for all-weather access.
- The region continued to establish effective and meaningful liaison with Indigenous groups such as the Goldfields Land and Sea and Ngaanyatjarra councils, through the development of joint management agreements that resulted in operational works in the Gibson Desert, Wiluna and Sandstone areas starting.
- Two Aboriginal trainees completed their Certificate IV in Conservation and Land Management and progressed to assistant reserves officer positions. Two additional trainees were employed and successfully completed their Certificate II studies.



# What we do

Significant improvements to visitor facilities were made to Mitchell River, Purnululu and Mirima national parks.

- The Interim Management Guidelines for the Goldfields Woodlands National Park were completed and planning started in Goongarrie National Park and surrounding conservation reserves.
- The region continues to develop, and be part of, an expanding community involvement program, and remained involved in community-based initiatives such as the Golden Quest Discovery Trail.
- The region continued to engage volunteer Campground Hosts and caretakers to assist in managing homesteads on ex-pastoral stations now managed by CALM.
- Conservation Volunteers Australia volunteers continued to be involved on conservation projects in the rangelands.

## Kimberley

- Visitors to the Kimberley Region are regularly exposed to a variety of natural risk areas and a considerable focus has been put on rectifying risks faced by visitors in the region's national parks. Comprehensive assessments of all visitor sites were undertaken, improved orientation and interpretive signage erected, and many of the park-based staff were trained in recognising and reducing visitor risk. Formal Visitor Risk Management (VRM) guidelines were developed and implemented throughout all Kimberley parks. The implementation of the VRM guidelines ensures that all identified risks are identified and, where possible rectified in a timely manner, so visitors have safe experiences.
- Visitor facilities and staff living quarters in the Mitchell River National Park were significantly upgraded. Improvements include the provision of 20 new fire rings in the campground, the delineation of individual camping pods, new interpretive signage in the day-use area and along the walktrails, and the replacement of the toilets at the King Edward Campground. A review of helicopter flights paths was completed, in consultation with Heliworks staff, the Kandimal community and CALM staff, with the new alignments reducing some of the noise impact over the campground areas. The staff accommodation and office facilities in the park have also been improved.
- The Telegraph Hill walktrail, in Parry Lagoons Nature Reserve, was resurfaced and additional interpretive signage and seats installed. The bird hide was also refurbished with new shade cloth.
- The visitor facilities in Mirima National Park received an overdue upgrade, with recyclable plastic steps replacing the old timber steps, new entry signs and shade shelters erected.
- Works to improve the visitor facilities and safety continued in the World Heritage-listed Purnululu National Park. After significant consultation with traditional owners regarding the location and alignments of existing walktrails, some modifications were undertaken to reduce risk, improve visitor experience and address cultural concerns expressed by local Aboriginal groups.

A magpaper was produced, providing extensive information about the park, including its history, flora and fauna and joint management arrangements.

- The successful Campground Host program was expanded in the Kimberley with volunteer hosts assisting the rangers for the first time at Windjana Gorge National Park and the King Leopold Range Conservation Park.
- The Lillimoolooru Ruins and Grotto in Windjana Gorge National Park were added to the State Heritage List because they represented the frontier conflict that accompanied the region's pastoral settlement in the 1880s and 1890s, and particularly for its association with the Bunaba warrior Jandamarra (Pigeon).
- A new merchandise venture selling quality souvenirs (shirts and caps) and drinks was established at Geikie Gorge National Park, employing local Bunaba members. A joint funding arrangement between CALM and Bunaba led to a new Indigenous trainee undertaking land management work at Geikie Gorge National Park and Leopold Downs Station.
- The signing of the Ord Stage 2 agreement resulted in a new Miriuwung Gajerrong Regional Park Council being formed to facilitate the management planning and on-ground management of six proposed new conservation reserves.

A report on tourism opportunities on rangeland conservation properties in the Gascoyne Murchison area was prepared by the Sustainable Tourism Cooperative Research Centre.

## Midwest

- Campground/homestead Hosts were placed at Francois Peron and Kennedy Range national parks, Coalseam Conservation Park, Hamelin Pool telegraph station and Mt Augustus tourist resort.
- The Sustainable Tourism Cooperative Research Centre prepared a report on tourism opportunities on rangeland conservation properties within the Gascoyne Murchison area.
- A Recreation and Tourism Master Plan was prepared for the Burringurrah Conservation Area, incorporating Mt Augustus National Park.
- A three-year volunteer program was established with the Subaru 4WD Club to assist with management of Lochada, Karara, Kadji Kadji and Warriedar.
- Construction works began on the Pinnacles Desert Interpretive Centre.
- A walktrail was established at Mt Lesueur in Lesueur National Park.
- The three-year Coastal Assessment and Restoration project began in partnership with Curtin University, with Northern Agricultural Catchment Council funding.
- Community education programs were conducted, and monitoring of baseline water quality and human usage undertaken, in Jurien Bay Marine Park.
- Interpretive signage for the Skipjack Point lookouts and the Wanamalu and Monkey Mia walktrails was completed with Natural Heritage Trust and Lotterywest funding.





# What we do

New staff offices were established and a new 'Homestead' Campground completed at Millstream-Chichester National Park.

- 'Wonderfully Wild' holiday activity programs were conducted at Monkey Mia.
- Professional development programs for teachers to promote education about the World Heritage Area were held at Shark Bay.
- Planning for a new Shark Bay Terrestrial Reserves Management Plan continued.

In Kalbarri National Park:

- Construction of a viewing deck to protect fragile dunes on the Island Rock to Natural Bridge walktrail was completed, with assistance from Kalbarri CALM Bush Rangers and Coastwest funding.
- The park hosted a Greencorp group for six months to carry out extensive rehabilitation of disused tracks at Red Bluff, upgrading of the river walktrail at Ross Graham, post-flood trail restoration on the Loop walk and other works.
- Four rock lookouts and a sealed path were constructed at Red Bluff.
- Two ladders were installed on the Z Bend river walktrail to enhance visitor safety.
- New interpretive panels were installed at Z Bend and five trailhead sites on the coastal walk.
- An assessment of recreation opportunities along the Murchison River gorge, including lands recently acquired from Murchison House pastoral lease, was undertaken.
- Outdoors WA reported on visitor risks and recreation opportunities along 110 km of the Murchison River gorge.

## Pilbara

- New staff offices were established at the Millstream-Chichester National Park, Exmouth and Coral Bay.
- The new 'Homestead' Campground at Millstream-Chichester National Park was completed, with site bays established and a toilet and camp kitchen being constructed.
- A DVD, *An ancient land and living culture*, was released, which highlighted the progress of joint management at Millstream-Chichester National Park. The DVD was circulated initially to the park council, then to Members of Parliament and heads of agencies, and has been shown to regional leaders in Karratha.
- Community relations with the Martu continued to develop with CALM staff and the Martu undertaking joint projects at Rudall River National Park. The Western Desert Lands Aboriginal Corporation expressed strong support for the joint management work with CALM at Barlee Range.
- The Savannah campground lease in the Karijini National Park was signed by the Gumala Aboriginal Corporation, following extensive consultation.



- At 30 June 2006, the implementation of the Karijini National Park Visitor Risk Management program was 75 per cent complete with all the safety information and trailhead signs installed, except at Joffre Gorge. The old cliff risk signs and gorge risk signs are being replaced by newly formatted signs. Fifty-two safety anchors were installed and load tested in gorges for climbing and rescue operations. Additional balustrades were installed at Joffre and Knox Gorge lookouts.
- A 1:100,000 base map of Karijini National Park was released. The map, developed as part of a pilot project between Geoscience Australia and CALM with contributions from the Department of Land Information, includes information on the trail classification system at Karijini (based on the Australian Standard for trails), a safety checklist, and information on park roads and facilities as well as traditional owners.
- Five park councils were established and/or maintained across the region. The Region has progressed employment of Aboriginal staff, with 11 Aboriginal trainees now working in the Region supported by a program coordinator and training officer.
- A marine and coastal communications plan was drafted for the Pilbara Coast, including Ningaloo, and work was done on developing a consistent colour, style and product design for signage installed along the Ningaloo coast.

Eleven Aboriginal trainees are now employed in the Pilbara Region, who are supported by a program coordinator and a training officer.

## South Coast

- The trial of safety devices for rock-based fishers at the Salmon Holes, Torndirrup National Park, which is being undertaken in conjunction with the Nathan Drew Memorial Trust, was extended for a further six months.
- Ongoing Visitor Risk Management improvement works were undertaken, including machine works on sand dunes damaged by severe weather and sea conditions at Lucky Bay, Cape Le Grand National Park; the installation of signs alerting visitors to open mine pit hazards at Brockway Timber Reserve; and the removal of unsafe access to Cocklebiddy Cave and Toolinna Cove in the Nuytsland Nature Reserve.
- Continued Indigenous liaison with the Great Southern Development Commission (GSDC), Department of Indigenous Affairs (DIA) and Gnowangerup Aboriginal Corporation to plan and promote a Mountain Discovery Centre at the Stirling Range National Park.
- Five Nyoongar Land Management Trainees completed their Certificate IV in Conservation and Land Management as part of the Albany Traineeship Program.
- Consultation continued with the Esperance Nyoongar Claimant group to progress implementation of the Demonstration Park Council at Cape Le Grand National Park and to implement the provisions of the MoU between CALM and the Goldfields Land and Sea Council.



## What we do

Visitor risk management was the South West Region's highest priority in 2005-2006 and monitoring and geotechnical inspections were carried out.

- Detailed project planning began for an Indigenous Cultural Heritage Trail at Smith's Block in Cape Le Grand National Park.
- Under the provisions of a signed MoU, the region assumed management of Esperance Shire Reserve 518 for a five-year period.
- Cocklebidy Cave, Nuytsland Nature Reserve, was temporarily closed for safety reasons and a complete geotechnical survey of the site was undertaken to aid future planning.
- Most of the site works associated with Stage 2 of Skippy Rock redevelopment, Stokes National Park, were completed, along with project planning for the construction of a staircase at Skippy Rock Surf Beach.
- In conjunction with the Shire of Dundas, a detailed project plan to upgrade the Norseman Information Shelter was completed.
- Drainage and road improvements were completed in Woody Lake Nature Reserve.

### South West

- Visitor risk management remained the region's highest priority, with particular emphasis on mitigating risk in the karst and cliff areas of Leeuwin-Naturaliste National Park. Geotechnical inspections were completed at high visitation cliff and cave sites in Leeuwin-Naturaliste National Park (Giants and Brides Caves; Gracetown Crag; Bob's Hollow and Huzzas cliffs). Formal quarterly and annual reviews to monitor progress on achieving risk mitigation targets were completed.
- EcoEducation programs continued at Wellington Discovery Forest and the Margaret River Eco Discovery Centre but, although still popular among schools, experienced a decline in the number of visits due to increases in the cost of transport and excursions. EcoEducation staff conducted 115 excursions and six professional development days. New programs were developed for both centres, including a senior *Western Shield* program and an overhaul of the Biology and Geography programs, in line with the Curriculum Council's new courses of study. Community volunteers, including CALM Bush Rangers Units, increased their involvement in developing facilities and conducting restoration work for the EcoEducation program. Long-term relationships continued with several schools in the Bunbury and Warren/Blackwood education districts.
- An expansion of the visitor interpretation program continued with the production of interpretive signs for Leeuwin-Naturaliste, Wellington and Blackwood River national parks. Participant numbers for holiday activity programs in Bramley and Leeuwin-Naturaliste national parks continued to increase and the program expanded to include marine themes, relevant to the proposed Capes marine park.

- Maintenance of existing facilities across the region was a major activity, in particular timber stairways, buildings, decks and lookouts were oiled.
- There were several instances of significant vandalism to park facilities, including four toilet blocks, with a combined value of more than \$300,000, burnt down (three at Leschenault Peninsula Conservation Park and one at Golden Valley Tree Park).

#### In Wellington National Park:

- A retaining wall along the river and a deck structure to allow safe access to the water for swimmers and canoeists were completed at the Honeymoon Pool day-use area; the site access road and parking bays were sealed; and universal access pathways from the parking area to the deck were under construction.
- The major road upgrade program continued, in conjunction with Collie and Dardanup shires, with the second coat sealing of Lennard Drive and 1 km of River Road north.
- A universal access toilet block was constructed at Wellington Dam.

#### In Leeuwin-Naturaliste National Park:

- The Cape to Cape Track continued to be maintained and promoted by an enthusiastic group of volunteers, The Friends of Cape to Cape Track. Hard surfacing began on the track passing between Cape Naturaliste to Sugarloaf Rock with the aim of providing access for people with disabilities.
- This year 750 metres of track were sealed with hotmix, 150 metres of timber boardwalk constructed and 300 metres of track prepared for sealing. The project has wide community support and is jointly funded by CALM and grants from the Australian Tourism Development Program, Coastwest, and Lotterywest.
- An environmentally friendly toilet facility was constructed at Windmills, a popular surfing spot.
- Work on a replacement for the old stairway and lookout at Sugarloaf Rock neared completion.
- At Hamelin Bay, a rock wall designed to prevent further erosion of the fore dune and protect the boat ramp car park was constructed to allow for further works.

#### In Blackwood River National Park:

- A universal access walkway and lookout was constructed near the confluence of the Blackwood River and Chapman Brook. The new structure protects the river bank from further erosion and provides visitors with picturesque views of the river and surrounding forest.

A universal access walkway and lookout was constructed in Blackwood River National Park to protect the river bank and improve visitor access.



Restoration work was undertaken in Yanchep National Park to rehabilitate areas burnt by the January 2005 wildfire.

### Swan Region

- Stage 1 of the Cabaret Cave redevelopment at Yanchep National Park was completed. This included the construction of a new toilet block, upgrading of the entrance of the cave with new paths and walls and repairing the entry road to the cave with additional works including lighting, revegetation and fencing. A new car park was constructed at Cabaret Cave providing more than 50 standard bays, disabled parking bays and coach parking facilities.
- The construction of the northern boardwalk on Penguin Island provided increased universal access over the island and linked the existing lookouts in the north and west.
- Reconstruction of barbecues at Buchanan Bay on Garden Island was completed.
- The degraded and prominent McNess Centre pathway at Yanchep National Park was rebuilt with a new limestone-look concrete path providing an attractive and safe surface leading down to Loch McNess.
- After the January 2005 fire in Yanchep National Park, much effort has been put into the restoration of the park, in particular the boardwalks and viewing platform on the pathway around Loch McNess, the growing and re-establishment of local plants, the removal of dangerous overhead tree limbs, and weed control.
- Stage 2 of the Perth Hills National Parks Centre near Mundaring was completed with extensive renovation and outfitting of a relocated building, development of visitor interpretation displays and the procurement of stock items.
- The Beraking Hut on the Bibbulmun Track near Mundaring Weir was rebuilt after it was burnt in the January 2005 Perth Hills wildfire. Other works associated with the wildfire include the reinstatement of sections of the Bibbulmun Track and Munda Biddi Trail, repairs to Carinyah Campsite, bridges and crossings and a major bridge over the Canning River.
- Stage 1 of major roadworks began in Fred Jacoby Park as part of the implementation of the Master Development Plan for the park. Work included development of a new access road and car parking facilities.
- Stage 1 of upgrade work began at the Goat Farm west of Greenmount National Park to develop a mountain bike park. New trails were developed and old or poorly located tracks and trails rehabilitated as part of work done in conjunction with the Perth mountain bike community.
- A magpaper, *A guide to the Perth hills*, was produced for visitors to the area's parks and forests.
- The Eagleview Walktrail in John Forrest National Park was resurfaced to deal with erosion and visitor safety issues.

- The recreation site at Oakley Dam near Dwellingup was upgraded to include a new car park and upgraded walktrails and visitor facilities. Visitor safety issues were also addressed as part of the works.
- Stage I of the development of a trails master plan for the Perth Hills was completed with the development of an inventory of more than 90 tracks and trails in the Perth Hills District.
- The Perth Hills District played a key role in the development of guidelines for management of mountain biking on land managed by CALM. This work involved close liaison with the Perth mountain bike community and included a trail construction workshop run by an expert from the International Mountain Bike Association.
- The Icy Creek Educational Facility near Lane Poole Reserve was upgraded with repairs to sleeping huts, a kitchen, gazebo and the installation of a new power generation plant.
- Nearer to Nature interpretation programs were successfully delivered across the metropolitan area via three components: customised group bookings, seasonal activity programs and marine education programs. Attendance figures for the year totalled 16,975.
- Nearer to Nature's marine education program continued to provide schools with curriculum-linked marine education activities at Marmion and Shoalwater Islands Marine Parks. More than 2,000 school students took part in this program.
- 129 seasonal activity programs were offered at 10 sites across the metropolitan area to broaden opportunities and to raise awareness of local natural heritage areas. More than 3,200 people took part in these activities in natural environments around Perth managed by CALM.
- Customised group programs benefited from increased marketing initiatives and produced a 23 per cent increase in revenue. Customised bookings were delivered to corporate, community, partner, university, youth and school groups and attracted more than 3,500 participants. Repeat business from corporate clients was a reflection of the success of the programs.
- Guided interpretation programs continued to be popular at Yanchep National Park and Penguin Island.

CALM's Nearer to Nature program delivered programs to 16,975 people in 2005-2006.

## Warren

- A 150-metre wooden boardwalk leading from the car park to the beach at Conspicuous Cliff Beach, which was burnt by a wildfire in 2003, was replaced. The replacement boardwalk was designed to be sympathetic to the coastal environment.



## What we do

The Percy Marshall Field Study Centre at Tutanning Nature Reserve was refurbished in association with the Friends of Tutanning Group.

- The popular coastal 4WD campsite Banksia Camp in D'Entrecasteaux National Park was renovated, including the construction of a new hut to replace a dilapidated fisherman's shack. The new hut was designed to replicate the experience of sheltering from wild weather on the south coast.
- Renovation work to alleviate conservation issues relating to a popular walktrail to the summit through a Threatened Ecological Community on Mt Lindesay near Denmark was completed in partnership with Greenskills.
- More than 2,000 cyclists joined The Great WA Bike Ride, an organised cycling event, between Albany and Perth. Around 3,200 people, including cyclists and support crews, 15 semi-trailers, and a dozen other trucks and support vehicles spent the night in Shannon National Park campsite on 21 March 2006.
- Work began on the three Wilderness Discovery Centre projects. Car parks and walktrails were constructed at Swarbrick Forest and Mt Frankland. Sculptural works were commissioned for Swarbrick forest and engineers and architects engaged for an interpretive centre at the Valley of the Giants and a wilderness lookout at Mt Frankland.

### Wheatbelt Region

- The Darwinia Drive trail at Dryandra was completed with the construction and installation of five interpretation shelters, signs, picnic facilities and bollards.
- An orientation bay featuring a stone wall, constructed with local ironstone, information shelter and bollards were installed near the main entrance of Dryandra Woodland on Dryandra Road.
- In association with the Friends of Tutanning Group, the refurbishment of the research building (Percy Marshall Field Study Centre) at Tutanning Nature Reserve was completed. The facility was re-opened on 8 October 2006 by Percy Marshall and attended by the Marshall Family, conservation groups, CALM staff and community members.
- Barna Mia, CALM's nocturnal animal visitor centre located in Dryandra Woodland, continued to provide a unique experience for visitors to Dryandra Woodland and the Heartlands region of WA. Key achievements at the centre included: relocation of the kitchen to increase the display area; re-rendering of external walls and repair of internal walls; refurbishment of ablutions; installation of an external information shelter; improved display and merchandise cabinets; successful management of animal/people interactions; increased visitation from 2,120 visitors in 2004-2005 to 2,305 in 2005-2006.
- Planning and consultation stages for the proposed capital works at the Williams Nature Reserve, including public consultation and an Indigenous site visit, were completed. A partnership was established with the Shire of Williams to complete future works.



# What we do

- The redevelopment of sites at Lake Dumbleyung was completed with the construction of local stone retaining wall, pathways and a lookout barrier. Installation of new interpretation mounts and signs began.
- Construction of new day use facilities at Frog Rock Nature Reserve was completed. Works included upgrading of the access road and construction of day use parking.
- The site development at Dingo Rock Nature Reserve in Merredin District has been completed, including construction of a new access road and loop car park.

New day use facilities at Frog Rock Nature Reserve were completed.

Perth Observatory astronomers played a crucial role in detecting an Earth-like planet orbiting a distant star.

## Astronomical Services – Service 5

### Highlights

- Discovery of an Earth-like planet by Perth Observatory astronomers.
- Publication of this discovery in the prestigious science journal *Nature*.
- Entry on the WA Register of Heritage Places.
- Observation of Comet Tempel I during its collision with 'Deep Impact' spacecraft
- Formal opening of 'Real Astronomy Experience' internet telescope

### Outcome achieved by

Astronomical information and services provided for the benefit of the community.

### Service description

Through the Perth Observatory, providing public information and awareness directly beneficial to the WA community, and contributing to scientific research in astronomy by cooperating with national and international institutions in the acquisition, analysis, interpretation and dissemination of information.

The highlight of the Perth Observatory's activities, and one of the State's most important scientific discoveries, for 2005-2006 was the detection of an Earth-like planet orbiting a distant star. Perth Observatory astronomers played the crucial role of detecting the signal from the planet during observations undertaken as part of their involvement in the PLANET (Probing Lensing Anomalies NETWORK) group. This group has been using the gravitational lensing effect (where a star's brightness is enhanced by the passage of a faint foreground star in front of it) in order to search for planets and objects of cosmological interest. Three other groups involving 73 collaborators affiliated with 32 institutions across 12 countries – France, United Kingdom, Poland, Denmark, Germany, Austria, Chile, Australia, New Zealand, United States of America, South Africa and Japan – were involved in the observations.

The planet discovered has a mass only four times that of the Earth and is therefore the lowest mass extra-solar planet detected so far. However, the planet is probably much colder than Earth and may be more similar in composition to Pluto. Such was the importance of this discovery that it was published in the most prestigious of all scientific journals *Nature* (the citation rate of a publication in *Nature* is at least five times that of the main international astronomy journals).



Furthermore, the discovery engendered a massive amount of popular interest and was published by more than 150 news outlets worldwide, ranging from local and interstate newspapers to major international publications such as *National Geographic News*, *The Independent* (UK), and *CBC News* (Canada), all the way to regional newspapers like the *Calcutta Telegraph* and the *Jackson Hole Star Tribune*, from Jackson Hole, Wyoming.

Another high-profile event involving the Perth Observatory in both scientific and outreach activities was the observation of Comet Tempel 1 during its collision with 'Deep Impact' spacecraft in July 2005. Observations of the effects on the comet were acquired over six nights following the impact. This event also stimulated great public interest and in response, a live radio broadcast was conducted from the Perth Observatory on the night of the impact, and special Comet Tempel viewing sessions were run in the following nights.

A significant development in the history of Perth Observatory occurred on 19 July, 2005, when it was entered on the Register of WA Heritage Places. This was not only due to the recognition of its rarity and historical importance, but also because of its ongoing educational, scientific and social values.

A new avenue for direct astronomy information and education provision at Perth Observatory, the Real Astronomy Experience (RAE) Internet Telescope, was formally opened by the Minister for the Environment in December 2005. The RAE, the first of two internet telescopes committed to the Perth Observatory, is a collaboration with the University of California, Berkeley, and the Lawrence Hall of Science, USA, in a project that provided \$90,000 worth of equipment so that students around the world can make astronomical observations with telescopes via the internet. The telescope has been accessed by many students in the USA and Japan, as well as in Perth.

This telescope system is considered to be one of the most powerful robotic telescope systems in the world. The crucial component of the system is the software developed by the Perth Observatory, the details of which are in preparation for refereed scientific publication. This has enabled the telescope to acquire images in response to requests from real-time users (mainly museums) all over the world and requests submitted to a queue. It can also operate under local control in Bickley. This software is the basis of a forthcoming refereed scientific publication.

Public outreach continued to be a major focus of the Perth Observatory's activities in 2005-2006. One unique event, the 'Astronomical Comedy Night', was conducted under the stars in February 2006. The event featured local comedy acts and star viewing with the Perth Observatory's telescopes, and was attended by 180 people.

The observation of Comet Tempel 1 during its collision with 'Deep Impact' spacecraft was a high profile event.

Star viewing nights at the observatory attracted 7,032 visitors.

Another presentation of astronomy to the public involved an astronomy display at 'Perth's Biggest Office Party'. This display was conducted in the Perth central business district and was attended by more than 1,000 people.

The regular star viewing nights and day-time guided tours continued to be well attended, attracting 7,032 visitors during the year. This meant the average cost of Astronomical Services per tour visitor in 2005-2006 was \$47.64. A new type of star viewing session, an extended viewing night (one two hour and one 30-minute viewing session with refreshments), was successfully trialled on three occasions.

Star viewing was also provided to rural and metropolitan schools and communities with the Perth Observatory's Astronomy Filled Night Program. The highlight of this program was a nine-night tour of the north-west. Twenty-four field nights were held, which attracted 1,244 people and 48 lectures and presentations were held that were attended by 1,768 people. These lectures included the majority of a multi-disciplinary first-year unit, a second-year unit and an Honours-year university unit.

Public awareness of the Perth Observatory remained high. In 2005-2006 the number of people who visited, telephoned for information (14,670), attended talks, or attended an astronomy field night, totalled 28,361 (29,146 in 2004-2005). Perth Observatory staff also informed the public of astronomical events in 51 radio and seven television interviews and 107 newspaper articles.

Customer satisfaction remained high as in previous years, with 98 per cent satisfied with their visit, and 97 per cent satisfied with the educational quality of the services in which they participated.

Volunteers assisted permanent staff in many activities, notably hosting the Star Viewing Nights, archiving observation data and manning displays. Volunteer assistance totalled the equivalent 0.6 full-time positions in 2005-2006 and continued to make an important contribution to the Perth Observatory output.

All of these achievements could not have been accomplished without the dedicated effort and hard work of all the Perth Observatory's staff, both permanent and volunteer.

# General information

## Corporate Services

### **Financial Services Branch**

During 2005-2006, Financial Services Branch continued to coordinate the processing of revenue and expenditure and recording of assets. The Branch also managed CALM's fleet of heavy and light vehicles and produced a range of management and statutory reports. Special projects were also undertaken, including recording an extensive financial revaluation of the Department's buildings, revising CALM's accounting manual and implementing an automated reporting system for corporate card purchases.

### **Information Management Branch**

Corporate Information Section continued to support CALM's compliance with the State Records Act 2000 and the department's Recordkeeping Plan. An Electronic Document and Records Management System (EDRMS) was installed in February, replacing the existing records management system, and progressive implementation began across the Department concurrently with the corporate keyword classification system. The Section's award winning Recordkeeping Awareness Training package continued to be adopted across State Government.

The Geographic Information Services Section provided support for regional operations throughout CALM, including atlases and digital spatial data depicting the cadastre, orthophotos and georeferenced versions of the department's operations maps. In addition, the Section provided training and support in desktop geographic information systems (GIS). A major upgrade to desktop GIS application software was coordinated throughout the department, and work continued to integrate the department's on-line GIS system EcoBase with other corporate applications.

The Section continued to provide GIS support for the processes involved in the establishment of the National Reserves System. Hydrological modelling was carried out for Natural Diversity Recovery Catchments, and assistance was provided for the Road Classification Project, and for the development of the State Wetlands Database, the Fauna Distribution Information System and the Terrestrial and Marine Management System. Remote sensing technology was employed for a variety of projects including vegetation monitoring over rangelands and Millstream-Chichester National Park, and monitoring for wandoo decline.

Other significant activities included contribution to the production of an Emergency Services Directory for the Northern Wheatbelt, and participation in the Department of Land Information's Shared Land Information Platform (SLIP)

An Electronic Document and Records Management System was installed to replace the existing records management system.

Fifty two salaried staff were promoted through advertised vacancies, 16 were reclassified into higher level positions and three were promoted through criteria progression.

project with contribution to the Natural Resource Management, Emergency Management and Register of Interest focus areas.

Information Services Section continued to pursue the objectives identified in CALM's Information Technology and Telecommunications Strategic Plan. Key focus areas included the standardisation, integration and operational management of infrastructure, including the completion of a major project to upgrade of the department's wide area data communications network and information technology infrastructure, and provide a standard environment for regional information management.

The Section also began implementation of the Information Technology Infrastructure Library (ITIL) framework with initial emphasis on incident, problem and change management processes. Other initiatives included the enhancement of the customer service area and information systems management, with the aim of improving system accessibility and security, and business continuity for CALM.

### **People Services Branch**

Workforce Services and Planning Section successfully upgraded CALM's Human Resources Integrated Management System (HRIMS). This resulted in improvements to system navigation, employee hire and payroll processing.

New pay rates for Conservation employees and Rangers were implemented early in the financial year with some backdated to 1 January 2005.

Following the introduction of new General Agreements in 2004-2005, the sick leave of all employees was converted to personal leave.

In preparation for the transition to the Office of Shared Services, significant progress was made in HRMIS data cleansing and system maintenance.

Improvements in the availability of electronic/online information and activities continued. Links to human resources information (pay rates, policies, vacancies, etc) have been established in the HRMIS Webkiosk. This enabled higher duties allowance applications to be submitted online, and the process began of registering all job description forms electronically and placing them in an archive that can be accessed online.

An updated selection panel training program began in early 2006.

Fifty two salaried staff achieved career advancement through promotion via advertised vacancies. Sixteen salaried staff were reclassified into higher-level positions while three achieved advancement through criteria progression.

The Risk Management Section is responsible for developing and implementing risk management policies and procedures in regard to occupational safety and health; corporate health and fitness; workers' compensation; injury management; general liability and the corporate insurance portfolio.

Organisational Learning and Development Section saw 23 recruits graduate in May 2006 after completion of 12 weeks competency-based training delivered over a two-year period. Training programs cover a range of nature conservation and park management initiatives and are nationally recognised by the Training Accreditation Council. All the graduating officers have achieved permanent appointments with CALM.

Twenty-two employees were awarded scholarships from six internal scholarship programs that promote continuous learning in a range of academic disciplines including science, business, leadership and management.

Eighteen employees successfully completed one of the three tiers of Leadership and Organisational Development Programs during 2005-2006. The programs are designed to provide employees with the necessary tools to address areas of leadership, change management and project management and are run in conjunction with Murdoch University.

Ten employees successfully completed the nationally recognised Diploma of Business course. The course is administered by CALM and TAFE. Twenty six employees were enrolled in the course in 2005-2006.

CALM continued to make significant progress with the Aboriginal employment strategy, the Mentored Aboriginal Training and Employment Strategy (MATES). A partnership with the Federal Department of Employment and Workplace Relations was extended, which will see 40 Aboriginal trainees graduate from the Training Package over a six-year period. Eight graduated with the Certificate II in Conservation and Land Management, five graduated with the Certificate III in Conservation and Land Management and three graduated with Certificate IV in Conservation and Land Management at the Graduation and Awards Ceremony conducted in May 2006. The three graduates from the Certificate IV studies have been appointed as Reserve Officers with CALM in either Katanning or Kalgoorlie. There were 38 trainees employed by CALM at the end of 2005-2006.

A further six Aboriginal cadets were sponsored by CALM while undertaking tertiary studies. This program is part of the National Indigenous Cadetship Program that provides funds for the student during their 40 weeks of academic study, and placement with CALM for the remaining 12 weeks while on semester breaks and between academic years.

Twenty three graduate recruits completed their 12-week competency-based training in 2005-2006.

At 30 June 2006  
CALM-managed  
lands and waters  
totalled  
26,339,492 ha, an  
increase of  
902,351 ha from  
last financial year.

CALM initiated the inaugural International Exchange Program with the United States Bureau of Land Management (BLM) and National Parks Service. Four BLM employees began a five-month placement with the department in March 2006. CALM staff have yet to be exchanged with the BLM.

No major industrial relations disputes arose during 2005-2006. Agreement on common conditions of employment for fire suppression was reached with the major unions. The significant outcome was improved conditions, including the introduction of a 10-hour break between shifts. A number of grievances and disciplinary cases were managed during the year by the Employment Relations Branch.

Achievements in the areas of equal opportunity employment and diversity management, and disability services are included in the Statutory information section of this report.

## CALM-managed lands and waters

### **Total estate**

As at 30 June 2006, the total area under CALM's care was 26,339,492 ha, representing an increase of 902,351 ha during 2005-2006. The biggest single increase was the addition of 575,554 ha in the category of miscellaneous reserves, as a result of the transfer from the Director General of the Department of Agriculture to the Executive Director of CALM of Reserve 28538 for the purpose of Regeneration of Eroded Areas in the Ord River Dam Catchment Area. The transfer of the management of the reserve, which adjoins the western boundary of the Punululu National Park, followed its successful regeneration.

The terrestrial area (that is, not including marine reserves) was approximately 9.78 per cent of the land area of WA. The table opposite provides a summary of all tenure classifications.

### **National parks**

National parks are for wildlife and landscape conservation, scientific study, preservation of features of archaeological, historic or scientific interest, and enjoyment by the public.

The area of the 97 national parks at 30 June 2006 was 5,593,536 ha, an increase of 2,446 ha for the year. The major addition was Gull Rock (2,104 ha) near Albany.

### **Conservation parks**

Conservation parks have the same purpose as national parks, but they do not have the same national or international significance.

The area of conservation parks at 30 June 2006 was 843,155 ha, an increase of 161,448 ha. Notable additions were an area of 147,292 ha situated about 200 km north west of Kalgoorlie and another of 10,758 ha, about 15 km south of Three Springs.

NOTE: The 2004-2005 Annual Report stated the Swan Region contained 84,494 ha of conservation parks. This figure was overstated by 63,487 ha. The corrected 2004-2005 figure has been used in the calculation of this year's figures.

### Nature reserves

Nature reserves are for wildlife and landscape conservation, scientific study, and preservation of features of archaeological, historic or scientific interest. Recreation that does not harm natural ecosystems is allowed.

The area of nature reserves at 30 June 2006 was 10,860,832 ha, representing a net increase of 4,303 ha for the year.

Notable additions were an area of about 800 ha, situated about 35 km south west of Three Springs and an area recalculation of Beekeepers Nature Reserve, resulting in an increase of about 1,990 ha.

The area of nature reserves increased by 4,303 ha, including the addition of an 800-ha area south-west of Three Springs.

CALM-managed lands and waters (ha) by region as at 30 June 2006

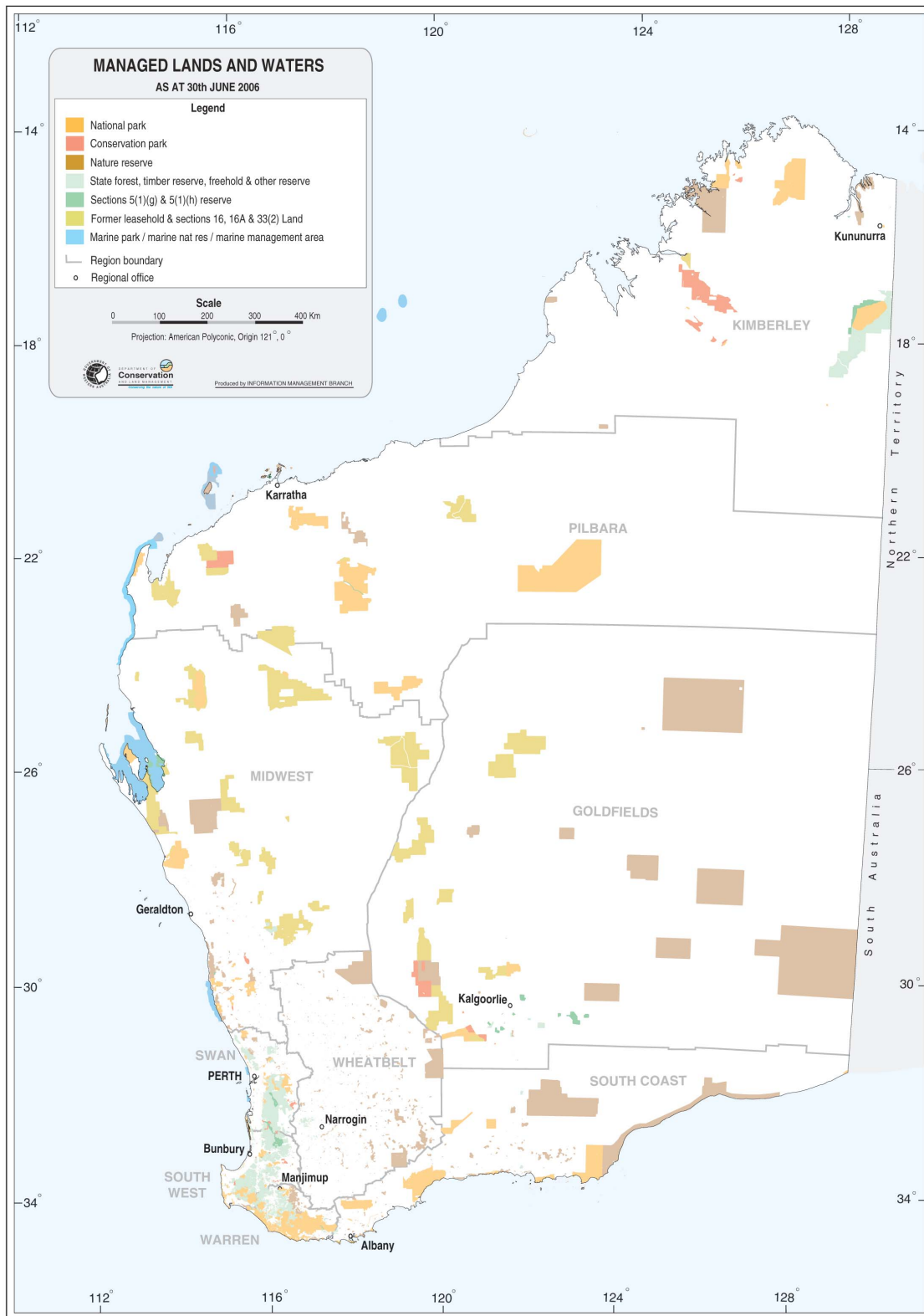
Tenure classification	Goldfields	Kimberley	Midwest	Pilbara	South Coast	South West	Swan	Warren	Wheatbelt	Total
National park	151,009	829,773	505,139	2,393,701	893,978	141,159	117,122	560,363	1,292	5,593,536
Conservation park	182,817	460,232	14,508	149,348	-	13,560	21,055	76	1,559	843,155
Nature reserve	6,304,226	809,610	738,644	250,595	1,559,508	12,883	52,736	86,742	1,045,888	10,860,832
Marine park	-	87,807	868,860	288,108	-	-	16,391	-	-	1,261,166
Marine nature reserve	-	-	132,000	-	-	-	-	-	-	132,000
Marine management area	-	-	-	143,385	-	-	-	-	-	143,385
State forest	781	-	-	-	4,055	545,288	463,842	262,587	28,066	1,304,619
Timber reserve	28,574	-	26,338	-	5,231	26,484	28,501	8,216	-	123,344
Sections 5(1)(g) & 5(1)(h) reserve	81,593	80,599	1,824	8,131	<1	31,014	27,447	1,513	1,367	233,488
Miscellaneous reserve	<1	575,612	515	1,779	3,766	129	5,946	247	15	588,009
Freehold (Exec Dir)	-	<1	<1	<1	-	20,839	85	4,658	1	25,583
Former leasehold	1,601,190	35,625	2,671,117	783,651	-	-	-	-	-	5,091,583
Section 33(2) managed land	28,514	-	90,139	-	-	-	-	-	-	118,653
Sections 16 & 16A managed land	215	4,840	7,020	-	-	121	7,903	40	-	20,139
<b>Totals</b>	<b>8,378,919</b>	<b>2,308,544</b>	<b>5,056,104</b>	<b>4,018,698</b>	<b>2,466,538</b>	<b>791,477</b>	<b>741,028</b>	<b>924,442</b>	<b>1,078,188</b>	<b>26,339,492</b>

Source: Information Management Branch





# What we do





### **State forest**

State forests are managed for multiple purposes, including water catchment protection, recreation, timber production on a sustained yield basis, and conservation. Provision is also made for public utilities and mineral production, where these activities are approved by Government. Within State forests, designated areas are managed for specific purposes, such as conservation or optimum yield of exotic plantings.

The area of State forest at 30 June 2006 was 1,304,619 ha, a decrease for the year of 12 ha.

### **Timber reserves**

Timber reserves declared under the CALM Act are managed on the same basis as State forests. The category can be transitional: as reserves are evaluated they may be changed to a more appropriate tenure, for example State forest or nature reserve.

The area of timber reserves at 30 June 2006 was 123,344 ha, a decrease of 2 ha.

### **Marine parks and marine nature reserves**

Marine parks are managed for conservation and recreation, with areas zoned for commercial fishing on a sustained yield basis. Marine nature reserves are managed for the conservation of marine and terrestrial flora and fauna and their habitats. Fishing and collecting are not permitted.

The area of marine parks at 30 June 2006 was approximately 1,261,166 ha, an increase of 133 ha. This change corrects a long-standing omission in previous totals.

The area of marine nature reserves at 30 June 2006 was approximately 132,000 ha. There were no changes during the year.

### **Marine management areas**

Marine management areas provide a formal integrated management framework over areas that have high conservation value and intensive multiple use, selected primarily on the basis of their biological and recreational values and their existing or future commercial activities.

The area of marine management areas at 30 June 2006 was approximately 143,385 ha. There were no changes during the year.

Marine nature reserves are managed for the conservation of marine and terrestrial flora and fauna and their habitats.

## National parks vested in the Conservation Commission of WA as at 30 June 2006

	(ha)		(ha)		(ha)
Alexander Morrison	8,500	<i>Greater Preston</i>	12,665	Porongurup	2,621
Avon Valley	4,366	Greenmount	202	Purnululu	239,723
Badjingarra	13,108	<i>Gull Rock</i>	2,104	Rudall River	1,283,706
<i>Blackwood River</i>	20,477	Hassell	1,265	Scott	3,273
Boorabbin	26,000	<i>Helena</i>	12,255	Serpentine	4,357
<i>Boorara Gardner</i>	11,008	Hilliger	16,962	Shannon	52,598
<i>Boyndaminup</i>	5,439	<i>Jane</i>	6,863	Sir James Mitchell	247
<i>Bramley</i>	3,892	John Forrest	2,678	Stirling Range	115,920
Brockman	52	Kalamunda	375	Stokes	9,726
<i>Canning</i>	2,492	Kalbarri	183,004	Tathra	4,322
Cape Arid	279,446	Karijini	627,442	Torndirrup	3,936
Cape Le Grand	31,801	Kennedy Range	141,660	Tuart Forest	2,049
Cape Range	47,655	<i>Lake Muir</i>	9,625	<i>Tunnel Creek</i>	91
Collier Range	235,162	<i>Lawley River</i>	17,572	<i>Un-named</i>	1,571
D'Entrecasteaux	116,686	Leeuwin-Naturaliste	19,092	<i>Un-named</i>	79
<i>Dalgarup</i>	2,377	<i>Lesmurdie Falls</i>	56	Walpole-Nornalup	19,447
Drovers Cave	2,681	Lesueur	27,235	Walyunga	1,812
Drysdale River	448,264	Millstream-Chichester	199,736	<i>Wandoo</i>	46,493
<i>Easter</i>	2,985	<i>Milyeannup</i>	18,692	Warren	2,982
<i>Eucla</i>	3,560	<i>Mirima</i>	2,068	Watheroo	44,474
Fitzgerald River	329,882	<i>Mitchell River</i>	115,325	<i>Waychinicup</i>	3,982
<i>Forest Grove</i>	1,379	Moore River	17,254	Wellington	16,790
Francois Peron	52,587	Mt Augustus	9,168	West Cape Howe	3,517
Frank Hann	67,550	Mt Frankland	37,359	<i>Whicher</i>	6,343
Geikie Gorge	3,136	<i>Mt Frankland North</i>	22,053	William Bay	1,734
Gloucester	876	<i>Mt Frankland South</i>	42,283	Wiltshire-Butler	11,645
<i>Goldfields Woodlands</i>	64,612	<i>Mt Lindsay</i>	39,541	Windjana Gorge	2,134
Goongarrie	60,397	<i>Mt Roe</i>	127,726	Wolfe Creek Crater	1,460
Gooseberry Hill	33	<i>Mundaring</i>	4,617	Yalgorup	13,090
<i>Greater Beedelup</i>	19,379	Nambung	18,400	Yanchep	2,876
<i>Greater Dordagup</i>	6,408	Neerabup	943	<i>Yelverton</i>	729
<i>Greater Hawke</i>	14,004	Peak Charles	39,959		
<i>Greater Kingston</i>	21,092	<i>Pickering Brook</i>	6,344	<b>TOTAL</b>	<b>5,593,536</b>

*Names shown in italics are unofficial.*

Marine reserves vested in the Marine Parks and Reserves Authority as at 30 June 2006			
	(ha)		(ha)
Barrow Island Marine Park	4,169	Ningaloo Marine Park	263,313
Barrow Island Marine Management Area	116,616	Rowley Shoals Marine Park	87,807
Hamelin Pool Marine Nature Reserve	132,000	Shark Bay Marine Park	748,735
Jurien Bay Marine Park	82,376	Shoalwater Islands Marine Park	6,545
Marmion Marine Park	9,500	Swan Estuary Marine Park	346
Montebello Islands Marine Park	58,375		
Muiron Islands Marine Management Area	26,769	<b>Total</b>	<b>1,536,551</b>

### Section 5(1)(g) and 5(1)(h) reserves

Within the meaning of the CALM Act (as amended), lands categorised as sections 5(1)(g) and 5(1)(h) reserve are lands reserved under the *Land Act 1933* and the *Land Administration Act 1997* respectively, for which care, control and management is issued to the Conservation Commission. Unlike national parks, conservation parks and nature reserves, they are not automatically vested in the Conservation Commission. Immediately before the commencement of the CALM Act, some were vested in, or were under the control of, the National Parks Authority but not as a national park, for example Matilda Bay Reserve. Predominantly they have conservation/recreation purposes.

The area of sections 5(1)(g) and 5(1)(h) reserves at 30 June 2006 was 233,488 ha. This represents an increase for the year of 140 ha.

### Miscellaneous reserves

There are some remaining reserves managed by CALM, which do not fall within any of the above discrete categories. The purposes of reserves within this category are varied and may include settlements and CALM offices.

The area of miscellaneous reserves at 30 June 2006 was 588,009 ha, representing an increase of 575,403 ha for the year.

### Other land

The area of freehold land held by the Executive Director at 30 June 2006 was 25,583 ha, a net decrease of 430 ha for the year. Softwood forests occupy the major portion of freehold land held by the Executive Director.

The area of former pastoral lease land being held under an interim management arrangement prior to formal reservation was 5,091,583 ha representing an increase of about 218,340 ha (see 'Conservation land acquisitions' section for specific references).

Eighteen parcels of land with high conservation value were bought during the year for addition to the conservation reserve system.

Crown land placed under the management of CALM under section 33(2) of the CALM Act as at 30 June 2006 totalled 118,653 ha. Of this, 406 ha comprised unvested Crown reserves. The remainder was land proposed for addition to the conservation estate, which was managed accordingly under an interim arrangement.

Areas currently managed under section 16A of the CALM Act by agreement between the lessees and CALM totalled 12,075 ha, an increase during the year of 4,840 ha due to the addition of part of Anna Plains Pastoral Lease.

The area of freehold land managed by CALM under section 16 of the CALM Act at 30 June 2006 was 8,064 ha. Most of this land fell within regional parks and was managed by agreement between CALM and the WA Planning Commission.

Under a Memorandum of Understanding with the Department for Planning and Infrastructure, CALM also has limited responsibility for the management of fire preparedness, feral animal control and weed control on unallocated Crown land (UCL) and unmanaged reserves (UMR) outside the metropolitan area and townsites. The area of UCL and UMR for which CALM has these limited management responsibilities is 89,151,000 ha.

### **Conservation land acquisitions**

CALM purchased 18 parcels of land of high conservation value covering a combined area of about 220,700 ha during the year for future addition to the conservation reserve system. Priorities for purchase are those areas containing ecosystems that are not adequately represented in the existing conservation reserve system, those areas containing threatened ecological communities, and additions to existing reserves that would greatly improve the diversity or facilitate the management of those reserves.

The purchases were funded from a number of sources: CALM's annual capital allocation for conservation land acquisitions; the National Reserve System component of the Commonwealth Government's Natural Heritage Trust; environmental offset funds; funding from the Gascoyne-Murchison Strategy carried over from previous years; and a special appropriation from the Department of Treasury and Finance. The total expenditure from all funding sources for 2005-2006 was more than \$4.19 million.

With funds allocated under the Gascoyne-Murchison Strategy, the Woolgorong Pastoral Lease within the Shire of Murchison, and parts of the Tamala and Murchison House Pastoral Leases north of Kalbarri, were acquired for conservation. The acquired parts of the Tamala and Murchison House leases link the existing Zuytdorp Nature Reserve. Parts of the Murchison House lease purchased also rationalised the boundary of the Kalbarri National Park along the

Murchison River. The area of pastoral lease land acquired during the year totalled more than 218,340 ha.

Seven freehold enclaves within the D'Entrecasteaux National Park were bought during the year, in accordance with a recommendation in the management plan for those additions to be made to the national park. These acquisitions were a result of a commitment in the Government's environment policy and a special appropriation of funds was allocated by the Department of Treasury and Finance for the purchases.

Environmental offset funds received in connection with a transmission line and road developments in the Midwest Region were used to buy three parcels of remnant vegetation in this region during the year. One 40-ha parcel located within the Shire of Carnamah adjoins an existing nature reserve and will add to the viability of the reserve. A further parcel, covering 16 ha, within the Shire of Irwin, has links to the proposed Arrowsmith Lake Nature Reserve, an Environmental Protection Authority Red Book recommendation. The third parcel, comprising more than four ha, is surrounded by Watheroo National Park and the purchase removed what was an enclave of private property inside the national park.

Other purchases finalised during the year included a 52-ha parcel of bushland and wetlands in the Shire of Harvey; four ha for addition to the Bengier Swamp Nature Reserve; more than 200 ha in the Moresby Range; about 530 ha near Moora; and 48 ha north of Albany supporting an occurrence of the Declared Rare Flora species, *Banksia goodii*.

CALM gratefully acknowledges the contribution made by the Commonwealth Government through the National Reserve System component of the Natural Heritage Trust, which assisted with a number of the land purchases. In 2005-2006 this contribution amounted to \$178,250. A further \$60,000 was received during the year towards the purchase of land near Eneabba, which was bought with Biodiversity Adjustment Scheme funds in the previous year. The support of the Commonwealth Government continued to help with progress towards the establishment of a comprehensive, adequate and representative system of terrestrial conservation reserves in WA.

## Fire management services

### Fire season 2005-2006

The 2005-2006 fire season in the southern half of WA was drier than the long-term average and continued the extended run of drought years that has prevailed since 1998. Atypically the first half of the fire season (mid-October to mid-March) was the wettest since 1959-1960. This was reflected in the Soil Dryness Index

The Commonwealth Government provided \$178,250, through the Natural Heritage Trust, for land purchases.

CALM staff attended and monitored wildfires over 2,687,516 ha throughout the State during 2005-2006.

(SDI), an indicator of the seasonal dryness of soil and large dead branch material and deep ground litter. Subsequently the SDI for many locations in the south of the State was well below normal levels during October to March. From March, the southern half of WA experienced a significant rainfall deficit with parts of the south-west recording unprecedented low rainfall during autumn and early winter.

The total area of wildfires attended and monitored by CALM forces throughout the State was 2,687,516 ha.

Of the 480 wildfires throughout the State that were attended and monitored by CALM, 51 per cent were deliberately lit or caused by arson; 20 per cent were caused by lightning; 10 per cent were accidental fires; eight per cent escaped from private property burns; and 10 per cent had an unknown cause or other causes. Seven wildfires were the result of escapes from CALM prescribed burns, which represents less than two per cent of all wildfire numbers.

CALM attended 399 wildfires in the south-west, nine of which burned more than 100 ha. The total area of wildfires that were attended by CALM forces in the south-west was 21,905 ha (see page 135 for details).

### **Major fires for 2005-2006 fire season**

CALM and Forest Products Commission fire fighting resources, supported by local government volunteer bushfire brigades, Fire and Emergency Services Authority (FESA) and emergency support agencies were heavily involved in the suppression of a wildfire in the Murray Valley that burned through 11,500 ha of jarrah and wandoo forests from 22-24 January 2006. Suspected to have been deliberately lit, the fire started 30 km south of Dwellingup and threatened the townsites of Waroona and Yarloop as well as Alcoa's Wagerup refinery and infrastructure on 24 January 2006. The fire burnt through parts of Lane Poole Reserve in the Murray River valley and significant areas of young trees that were planted as part of a minesite rehabilitation program and were vulnerable to fire.

Two other large bushfires occurred in the Swan Coastal District: at Moore River State forest and Moore River National Park. The first occurred near Ledge Point, adjacent to Moore River State forest on 1 January 2006 and burned 2,366 ha. The second occurred adjacent to the Brand Highway in Moore River National Park on 17 March 2006 and burnt 1,022 ha before it moved into an area of low fuel, which resulted from recent prescribed burning, and was able to be contained.

There were numerous lightning-caused fires within the South Coast region during the months of November and December 2005 and February 2006, resulting in several large, intense wildfires that burned onto CALM-managed lands, including one in the reserve known unofficially as Twenty Five Miles Rocks (14,000 ha);

three fires in Nuytsland Nature Reserve (17,747 ha; 24,480 ha; and 21,000 ha); and one in Stirling Range National Park (2,389 ha).

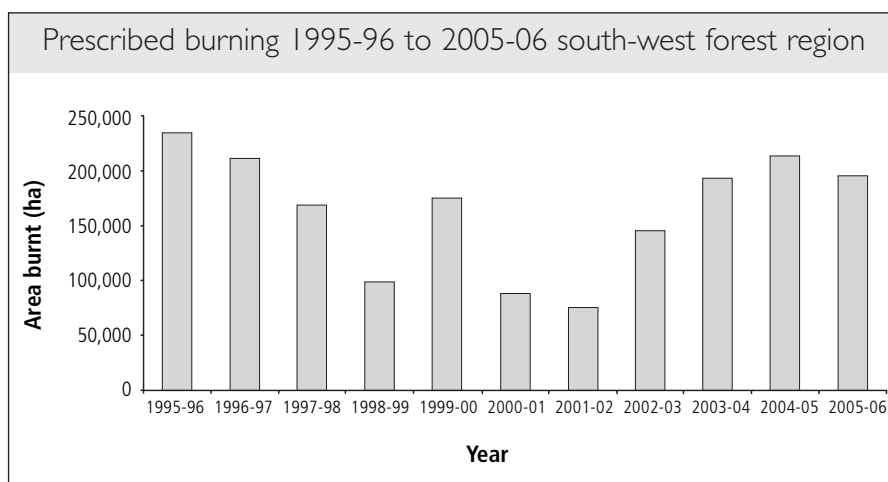
## Prescribed burning

Each year CALM plans and carries out prescribed burning on the lands it manages in the south-west for three primary purposes: to protect and conserve biodiversity values and community assets; to reduce the occurrence and impacts of large, intense wildfires; and to regenerate and protect forest ecosystems following harvesting operations or other disturbances. In many cases these outcomes are all achieved by a prescribed burn.

In order to achieve these objectives, CALM's Master Burn Planning process identified 322,212 ha in 227 burning units in the south-west forest region that were suitable for prescribed burning during the 2005-2006 burning seasons. Of this area, about 25,000 ha were for native hardwood silvicultural purposes and forest regeneration following timber harvest operations. This range of burning opportunities provided the flexibility required to take advantage of favourable burning conditions as they changed throughout the south-west during the season.

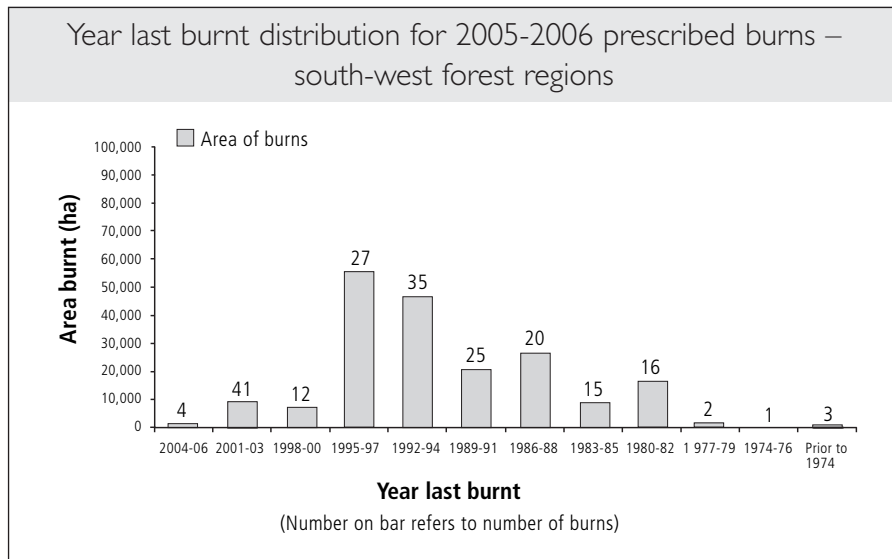
In the south-west regions, the prescribed burn program in 2005-2006 achieved a total of 194,105 ha, including 4,974 ha that were burnt under pine plantation. Approximately 41 per cent of burns were undertaken in the spring-early summer period (September to December 2005); 21 per cent in summer (January to March 2006); 36 per cent in autumn (April to June 2006); and two per cent in winter (July and August 2005). The chart below shows the achievement of prescribed burning in the south-west forest regions from 1995-1996 to 2005-2006. The decline in the burning during the period from 1998 to 2003 is a reflection of the impacts of drought and unfavourable burning conditions. The annual achievements for the past three years have been close to the nominal target of 200,000 ha per year.

In 2005-2006 the prescribed burn program achieved 194,105 ha, close to the nominal target of 200,000 ha per year.



Additional funding provided six extra full-time fire officers to assist with fire prevention, prescribed burning and fire suppression operations.

The chart below shows the year of last burn of the vegetation/fuel within all the prescribed burns conducted in the south-west regions in 2005-2006. Approximately 62 per cent of the burns contained fuels that had not been previously burnt for more than 10 years.



In addition to the burn programs achieved in the south-west regions, 254,424 ha of prescribed burning was undertaken by CALM in the South Coast, Midwest, Kimberley, Wheatbelt and Pilbara regions. Many of these burns were open-edge burns and aerially ignited wind driven burns that create protective buffers that are intended to limit the spread of wildfires from burning out entire reserves and protect nearby community assets. The burns were carried out on CALM-managed lands as well as on unallocated Crown land (UCL) and unmanaged reserves (UMR) within these regions.

### Additional fire management resources

The State Government continued to increase CALM's funding in 2005-2006 to enhance CALM's fire preparedness and its capacity to deal with major bushfires across the State.

The Government had previously increased funding for CALM's fire management services throughout the State by \$24.3 million over four years, beginning in 2003-2004, with significant increases through to 2008-2009. During 2005-2006 these additional funds provided six extra full-time fire officers and additional operating budgets for fire prevention, prescribed burning works, and fire suppression operations. These funds were also used to significantly augment aerial prescribed burning activities in the Wheatbelt, Goldfields, Pilbara, South Coast and Kimberley regions.



### **Aerial water bombing operations**

CALM contracted eight fixed-wing water bomber aircraft during the peak summer months of the 2005-2006 fire season to provide rapid suppression capability in the South Coast and south-west forest regions, as well as in the Perth outer metropolitan area. Pairs of Dromader aircraft were based at Manjimup and Albany. An Air Tractor 602 and Air Tractor 802 were based at Bunbury, and two Air Tractor 802 aircraft were based in Perth. These resources provided an aerial rapid-attack capability to assist ground crews. In addition to the fixed-wing aircraft, four light helicopters (helitankers) were contracted by FESA to provide coverage for the Perth urban and urban-rural interface areas. The fixed-wing aircraft and helitankers were used successfully in combination on several bushfires that threatened residential areas in the outer metropolitan area of Perth.

The eight fixed-wing aircraft attended 174 wildfires in the south-west, stretching from Moore River National Park to Two Peoples Bay Nature Reserve. These aircraft dropped 595 loads and flew 365 operational hours. This compares with 1,976 loads and 888 hours in 2004-2005.

### **Fire training**

CALM's Fire Management Services training staff conducted 36 formal fire training courses, involving 443 participants. In addition, district and regional staff delivered seven local fire training programs (which attracted 64 participants) to CALM personnel. These comprised both formal and informal training.

The formal courses conducted in 2005-2006 included Advanced Incident Leadership; Incident Control System; Logistics Management; Operations Management; Prescribed Burning; Fireline Construction using Machines; Fire Fighting Level 1 and Level 2; Fire Operations Level 1; Wildfire Suppression Level 3; Fire Management in CALM; Fire Weather; Resource Unit Management; Situation Unit Management; Incident Mapping, Management Support Unit Management; Ground Support Unit Management; Communications Planning (new); Information Services Unit Management; Australasian Interagency Incident Management System (AIIMS) Awareness (new); and Catering Unit Management (new).

Training was also provided for aerial operations personnel including fire detection pilots, aerial suppression support staff, air attack supervisors, helitorch operators, incendiary machine supervisors and incendiary machine bombardiers.

Participants were predominantly from CALM, but also included staff from the Forest Products Commission, FESA, shire personnel, contract employees, and cadets in the CALM Bush Rangers program. CALM also delivered training programs to interstate fire and land management agency staff on incident leadership, prescribed burning, aerial suppression and aerial observation.

CALM contracted eight fixed-wing aircraft in 2005-2006 that attended 174 wildfires in the south-west.

CALM's fleet of nine fire spotter aircraft flew 3,314 hours within pre-determined circuits in the south-west forest.

The development and promotion of common fire training programs and course materials continued between agencies within WA, and with other States and Territories.

### Fire detection

CALM provided an effective fire detection system in the south-west regions, based on the combination of nine single-engine aircraft and 13 fixed lookout towers. CALM's fleet of nine aircraft (American Scout) flew a total of 3,314 hours for aerial surveillance within pre-determined circuits in the south-west forest regions at schedules that varied according to the fire danger levels and the fire activity. In addition, the aircraft flew 106 hours in support of aerial suppression operations. The aircraft were flown by three permanent senior pilots and 10 seasonal pilots.

### Fire preparedness on unallocated Crown land

From 1 July 2003 onwards, responsibility for the coordination and on-ground management of fire preparedness works on non-metropolitan, non-townsite unallocated Crown land (UCL) and unmanaged reserves (UMR) was transferred from the Department of Land Administration (DOLA) to CALM. This Crown land consists of approximately 89.1 million ha of UCL and UMR.

Fire risk management on UCL and UMR prior to 30 June 2003 had been coordinated and implemented by FESA on behalf of DOLA. Responsibility for the suppression of fires on UCL and UMR remains with the local government volunteer bushfire brigades and town brigades.

During 2005-2006, CALM conducted fire risk assessments on UCL/UMR lands and identified fire preparedness works and priorities throughout the State.

Fire prevention works completed on UCL/UMR in 2005–2006				
CALM region	Firebreak/access upgrade and maintenance (km)	Scrub rolling/slashing and vegetation modification (km)	Open-edge burning (km)	Block burning (ha)
South Coast	78	56	-	22,500
Goldfields	300	-	70	2,000
Midwest	398	9	20	-
Kimberley	-	-	-	-
South West	10	-	-	-
<b>Total</b>	<b>786</b>	<b>65</b>	<b>90</b>	<b>24,500</b>

The fire mitigation programs conducted on the rural UCL and UMR lands included the maintenance of strategic firebreaks; prescribed burning of buffer zones adjacent to high community and conservation values; and scrub rolling and mechanical fuel modification on perimeter of reserves adjacent to high value or high risk areas.

### **Fire EcoEducation program**

An EcoEducation program initiated in April 2005 continued during the year to educate secondary school students and teachers about the impact of fire on biodiversity, the interrelationships of fire, flora and fauna and the role of science and fire in sustainable biodiversity management and community protection. This program has three components: professional development for teachers; resources for use in school; and excursions to an area where the impact of prescribed burns can be compared to the impact of a wildfire.

Two successful professional learning days were held at The Hills Forest Discovery Centre. The aim of these days was to help develop a greater understanding of the complexity of fire management and the importance of fire management to protect biodiversity. Teachers were provided with resources to use in their classrooms and were encouraged to bring their students to participate in the Fire for Life excursion.

### **Radio communications services**

CALM has an extensive radio communications network (1,300 radios) providing communications throughout the State. Radio Communications Services (RCS) coordinated the service programs, technical advice and training assistance for CALM and FPC. Highlights during the year included:

- The VHF radios in Esperance and Narrogin districts were replaced, along with the HF base at Broome. Repeater equipment at 10 sites was also replaced. This is in line with the eight-year replacement program where currently 69 per cent of radios are less than four-years-old.
- The Jurien and Geraldton VHF repeater system was linked via Mount Lesueur and Mount Adams. This system now provides coastal coverage of more than 400 km from Lancelin to Kalbarri.
- Radio communications into the Mundaring office were improved through a relay, which was provided for VHF and radio telephone (RT) signals transmission via the Bickley Lookout Tower.
- All regions, districts and specialist sections were provided with radio service programs, and RCS staff attended fires in the Perth Hills, Swan Coastal, Esperance and Albany districts.

Two professional learning days were held for teachers to gain an understanding of the complexity of fire management and its importance to biodiversity.

The amount of prescribed burning undertaken in 2005-2006 in the south-west regions was 25 per cent more than the 10-year rolling average.

1. Prescribed burning in south-west regions				
Region	10-year rolling average (ha)	Actual 2005-2006 (ha)	Difference (ha)	%
Swan	49,148	73,386	24,239	+49
South West	47,501	56,148	8,647	+18
Warren	59,011	64,571	5,560	+9
<b>Total</b>	<b>155,660</b>	<b>194,105</b>	<b>38,445</b>	<b>+25</b>

These statistics compare the 2005-2006 prescribed burning achievements with the 10-year rolling average for prescribed burning.

The prescribed burning achieved within the south-west forests regions was above the 10-year rolling average primarily due to deployment of significant resources during periods of favourable fuel moisture and weather conditions during the spring/early summer and autumn months.

The total area achieved (194,105 ha) was close to the nominal annual program of 200,000 ha.

2. Fire suppression in south-west regions		
Region	Priority 1 and 2 (%) Standard	Priority 1 and 2 (%) 2005-2006
Swan	95	88
South West	95	91
Warren	95	92
CALM average (1 year)	-	91
CALM average (5 years)	-	93.5

Note: only includes records where CALM was first attack agency.

The percentage of all forest wildfires that are attacked with effective suppression forces before these fires exceed five ha in Priority 1 and Priority 2 areas, under 95 percentile weather conditions. The percentage standard to be exceeded is 95 per cent of all forest fires requiring suppression by direct attack.

**Definition:**

*The 95 percentile weather conditions* are days when forest fire danger is below 'very high' and 'extreme' as calculated in CALM's Forest Fire Behaviour Tables (1998). Fire fighters work safely and effectively under these conditions in standard forest fuels.

**Priority 1 and Priority 2** areas are those sites in the south-west forest regions where community values (human life, assets) and environmental values are rated at very high, and considered vulnerable to severe impact from wildfire

Area of prescribed burns for all CALM regions 2003-2004 to 2005-2006			
	2003-2004	2004-2005	2005-2006
<b>INDIGENOUS VEGETATION - HAND BURNING (HA)</b>			
State forest	1,749	7,349	5,819
National parks	13,914	11,355	55,873
Nature reserves	680	4,070	5,485
Other Crown land and private property*	1,952	7,047	2,538
<b>Total</b>	<b>18,295</b>	<b>29,821</b>	<b>69,715</b>
<b>INDIGENOUS VEGETATION – AERIAL BURNING (HA)</b>			
State forest	53,956	63,068	66,475
National parks	90,969	101,209	104,411
Nature reserves	1,415	64,785	66,314
Other Crown land and private property*	31,887	99,877	112,287
<b>Total</b>	<b>178,227</b>	<b>328,939</b>	<b>349,487</b>
<b>INDIGENOUS VEGETATION – SILVICULTURE BURNING (HA)</b>			
Jarrah dominant forests	18,236	22,186	15,321
Karri, karri-marri dominant forests	1,301	641	497
Other forest	-	-	11
<b>Total</b>	<b>19,537</b>	<b>22,827</b>	<b>15,829</b>
<b>SOFTWOOD PLANTATION – BURNING (HA)</b>			
Strategic protection	14,965	19,008	10,381
Second rotation clearing burns	881	625	554
Logging debris removal	-	2,050	-
Silvicultural	-	-	2,563
<b>Total</b>	<b>15,846</b>	<b>21,683</b>	<b>13,498</b>
<b>Grand total</b>	<b>231,905</b>	<b>403,270</b>	<b>448,529</b>

For data specific to south-west forest regions see page 136  
 \* Includes other Crown land, other CALM reserves, and private property

Note: The relative area of CALM-managed estate in various land tenure has changed over the reported period with the creation of new national parks on lands that were previously State forest.

## Wildfires attended and monitored by CALM in all regions 2003-2004 to 2005-2006 Number and area by land category and number and percentage by cause

Land category						
	Number *			Area burnt (ha) **		
	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006
All CALM regions						
State forest						
- native hardwood	128	93	134	4,519	22,642	7,486
- softwood plantation	49	46	79	90	629	160
National parks	71	97	60	50,852	970,127	40,124
Nature reserves	28	44	33	8,717	115,845	49,217
Other CALM reserves	24	38	66	75,079	689,205	35,356
Other Crown lands	41	14	15	559,024	11,288	254,670
Private property	109	164	66	19,246	678,947	8,040
Unallocated Crown land	12	32	27	82,559	1,344,267	2,292,464
<b>Total</b>	<b>462</b>	<b>528</b>	<b>480</b>	<b>800,086</b>	<b>3,832,950</b>	<b>2,687,516</b>
Cause						
	Number *			Percentage		
	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006
All CALM regions						
Deliberately/illegally lit	240	196	244	52	37	51
Escapes - CALM burns	14	8	7	3	1	1
Escapes - non CALM burning	31	19	37	7	4	8
Accidental - timber industry	2	1	2	0	0	0
Accidental - other industries	21	24	17	4	5	4
Accidental - recreationists	17	23	29	4	4	6
Lightning	52	169	94	11	32	20
Unknown	59	64	33	13	12	7
Other causes	26	24	17	6	5	3
<b>Total</b>	<b>462</b>	<b>528</b>	<b>480</b>	<b>100</b>	<b>100</b>	<b>100</b>

\* Number of wildfires originating in the tenure type/fire cause

\*\* Area (ha) burnt by wildfires in the tenure type

Area and number of wildfires attended and monitored by CALM for all regions 2005-2006

Region		State forest hardwood native	State forest softwood plantation	National parks	Nature reserves	Other CALM reserves	Other Crown lands	Private property	Unallocated Crown land	Total
<b>SOUTH-WEST FOREST REGIONS</b>										
Swan	Area (ha) *	7,185	78	277	1,160	3,079	1,971	1,919	483	16,151
	Number**	59	67	22	10	43	8	21	8	238
South West	Area (ha)*	104	82	1,479	-	72	127	98	28	1,990
	Number**	63	12	16	1	14	1	23	7	137
Warren	Area*	97	-	3,609	-	1	-	57	-	3,765
	Number**	11	-	7	1	1	-	4	-	24
Sub Total	Area (ha)*	7,386	160	5,365	1,160	3,152	2,099	2,074	511	21,905
	Number**	133	79	45	12	58	9	48	15	399
<b>OTHER REGIONS</b>										
Kimberley	Area (ha)*	-	-	31,012	4,300	32,030	250,000	1,000	2,200,000	2,518,342
	Number**	-	-	7	1	4	1	-	1	14
Pilbara	Area (ha)*	-	-	1,061	-	100	-	-	12,650	13,811
	Number**	-	-	4	-	1	-	-	2	7
Midwest	Area (ha)*	-	-	184	281	74	-	2,077	-	2,616
	Number**	-	-	2	2	3	1	11	-	19
Goldfields	Area (ha)*	100	-	-	28,200	-	2,571	-	17,450	48,321
	Number**	1	-	-	9	-	3	-	4	17
Wheatbelt	Area (ha)*	-	-	-	261	-	-	333	-	594
	Number**	-	-	-	3	-	-	2	-	5
South Coast	Area (ha)*	-	-	2,502	15,015	-	-	2,556	61,853	81,926
	Number**	-	-	3	6	-	-	5	5	19
Sub Total	Area (ha)*	100	-	34,759	48,057	32,204	252,571	5,967	2,291,953	2,665,611
	Number**	1	-	16	21	8	5	18	12	81
<b>Grand Total (all regions)</b>	<b>Area (ha)* Number**</b>	<b>7,486 134</b>	<b>160 79</b>	<b>40,124 61</b>	<b>49,217 33</b>	<b>35,356 66</b>	<b>254,670 14</b>	<b>8,040 66</b>	<b>2,292,464 27</b>	<b>2,687,516 480</b>

\* Area (ha) burnt by wildfires in the tenure type

\*\* Number of wildfires originating in the tenure type

Area prescribed burnt within south-west forest regions for 2005-2006						
Dominant purpose	Region	Area (ha)				Year of last fire *
		Winter	Spring	Summer	Autumn	
Community/ strategic protection	Swan	-	11,772	-	19,627	1977 - 1998
	South West	-	19,825	1,340	7,903	1984 - 1998
	Warren	-	10,281	9,052	7,451	1970 - 1999
Biodiversity conservation	Swan	-	1,838	-	490	1992 - 2004
	South West	-	2,931	-	3,431	1978 - 1992
	Warren	-	16	28,602	6,239	1982 - 2005
Hardwood silviculture	Swan	-	2,305	-	3,468	1980 - 1996
	South West	-	4,600	-	6,339	1987 - 1995
	Warren	-	662	318	700	1969 - 2001
Plantation silviculture/ protection**	Swan	3,979	1,060	-	1,322	1980 - 2005
	South West	-	4,574	-	-	1988 - 1999
	Warren	-	-	-	-	-
Tourism and recreation/ protection	Swan	34	14,616	-	12,875	1980 - 1997
	South West	-	4,757	-	448	1983 - 1994
	Warren	-	431	493	326	1971 - 1994
Grand Total by season (ha)		4,013	79,668	39,805	70,619	
Seasonal %		2	41	21	36	
<b>Grand Total (ha)</b>		<b>194,105</b>				

\* Range of vegetation/fuel ages as at July 2005

\*\* Includes 4,974 hectares of under pine burning operations for 2005-2006

Number of prescribed burns conducted within south-west forest regions in each season for various purposes in 2005-2006											
Dominant purpose	Region	Winter		Summer		Autumn		Winter		Total number of burns	Number of escapes
		Aerial	Hand	Aerial	Hand	Aerial	Hand	Aerial	Hand		
Community/ strategic protection	Swan	-	-	5	5	-	-	6	7	23	2
	South West	-	-	8	1	1	-	2	-	12	1
	Warren	-	-	1	3	6	3	4	12	29	-
Biodiversity conservation	Swan	-	-	1	-	-	-	-	2	3	-
	South West	-	-	3	1	-	-	2	-	6	-
	Warren	-	-	-	1	8	-	4	3	16	3
Hardwood silviculture	Swan	-	-	2	-	-	-	3	-	5	-
	South West	-	-	2	1	-	-	4	1	8	-
	Warren	-	-	-	5	-	6	-	13	24	1
Plantation silviculture/ protection	Swan	-	36	-	6	-	-	-	5	47	-
	South West	-	-	3	1	-	-	-	-	4	-
	Warren	-	-	-	-	-	-	-	-	-	-
Tourism and recreation/ protection	Swan	-	1	4	5	-	-	3	1	14	-
	South West	-	-	3	1	-	-	1	-	5	-
	Warren	-	-	1	1	1	1	-	1	5	-
<b>Total</b>		-	<b>37</b>	<b>33</b>	<b>31</b>	<b>16</b>	<b>10</b>	<b>29</b>	<b>45</b>	<b>201</b>	<b>7</b>



## Public Sector Standards and Code of Conduct Compliance Statement

In the Administration of the Department of Conservation and Land Management, I have complied with the Public Sector Standards in Human Resource Management, the WA Public Sector Code of Ethics and the Code of Conduct.

CALM has adopted guidelines and processes supporting the public sector standards in human resource management. I am pleased to say there were no breach findings made against any standard for the reporting period 2005-2006.

Policies and supporting procedures are in the People Services Manual, which, like the Code of Conduct is accessible to most staff on-line via CALM's intranet. Hard copy or CD-ROM versions can be made available to those staff in remote areas that have difficulty accessing the intranet at present.

Individual managers are responsible for ensuring compliance with CALM policies and the Code of Conduct, with the Manager, People Services Branch undertakes a monitoring and advisory role. In addition, staff in the Workforce Services and Planning section monitor all transactions for recruitment, selection and appointment, secondment, transfer, temporary deployment, redeployment, performance management and grievance resolution to ensure current Departmental policy is adhered to. Staff in the Employee Relations section are responsible for termination and disciplinary cases.

Management Audit Branch, in accordance with CALM's policy, has undertaken an annual system review with a complete compliance audit on three of the standards. The audit identified that:

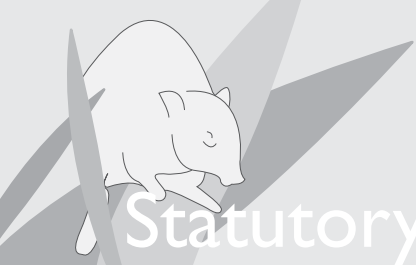
- CALM's policies and procedures identified with and reflected the standards requirements;
- compliance with the standards was satisfactory; and
- there was no evidence of non-compliance with any standards.

A complete review of CALM's Code of Conduct was undertaken in 2005-2006 with the revised Code to be presented to Departmental personnel in 2006-2007.



**John Byrne**  
**Reporting Officer**  
**31 August 2006**

CALM guidelines and processes ensure compliance with public sector standards in human resource management.



Amendments to be made to the CALM Act will enable a Department of Environment and Conservation to be formed from the amalgamation of CALM and the Department of Environment.

## Legislation

### Acts administered

- *Conservation and Land Management Act 1984*
- *Sandalwood Act 1929*
- *Wildlife Conservation Act 1950*
- *Reserves (National Parks and Conservation Parks) Act 2004*
- *Reserves (National Parks, Conservation Parks and Other Reserves) Act 2004*
- *Reserves (National Parks, Conservation Parks, Nature Reserves and Other Reserves) Act 2004*

The CALM Act established the Department in March 1985. The Conservation Commission of WA and the Marine Parks and Reserves Authority are statutory bodies established under the Act. Both are responsible to the Minister for the Environment. Their functions and proceedings are described in separate annual reports to the Minister.

### Forthcoming amendments to Acts administered

On 27 June 2006 notice of proclamation of the commencement of the *Machinery of Government (Miscellaneous Amendments) Act 2006* was published in the *Government Gazette* (Special, pp. 2347-48). This Act was proclaimed to commence on 1 July 2006 and it includes amendments to the CALM Act, the Sandalwood Act and the Wildlife Conservation Act.

Some of the amendments to be made to the CALM Act on 1 July 2006 will enable a Department of Environment and Conservation to be formed from the amalgamation of CALM and the Department of Environment. Two notices of actions taken under the *Public Sector Management Act 1994* in respect of putting this amalgamation into effect on 1 July 2006 were published in the same issue of the *Gazette* as the proclamation cited.

### Other relevant Acts

Contracting for timber harvesting and construction of associated roads is carried out by the Forest Products Commission under the *Forest Products Act 2000* in areas of State forest and timber reserves where timber harvesting is permitted, including areas subject to Agreement Acts, and plantations on CALM Act section 131 land.

The requirements for mining with respect to land and waters managed by CALM are prescribed in the *Mining Act 1978* (Mining Act) and similarly, for some development projects, in relevant Agreement Acts. The requirements of the

*Environmental Protection Act 1986* also need to be satisfied with such projects on CALM-managed land.

The following mining and petroleum Acts generally prevail over the CALM Act: *Mining Act*; *Petroleum Act 1967*; *Petroleum Pipelines Act 1969*; *Petroleum (Submerged Lands) Act 1982* (except in marine nature reserves and certain zones in marine parks, which are protected from petroleum drilling and production).

Agreement Acts that involve clearing CALM-managed land or require access to forest resources also include specific responsibilities for CALM. Bauxite and coal operations predominantly require permission to be given by CALM for the relevant companies to harvest timber before mining.

The Agreements Acts that affect CALM responsibilities include: *Alumina Refinery Agreement Act 1961*; *Alumina Refinery (Worsley) Agreement Act 1973*; *Collie Coal (Griffin) Agreement Act 1979*; *Collie Coal (Western Collieries) Agreement Act 1979*; *Dardanup Pine Log Sawmill Agreement Act 1992*; *Silicon (Kemerton) Agreement Act 1987*; *Wesply (Dardanup) Agreement Authorization Act 1975*; *Wood Chipping Industry Agreement Act 1969*; *Wood Processing (Wesbeam) Agreement Act 2002*; *Wood Processing (WESFI) Agreement Act 2000*.

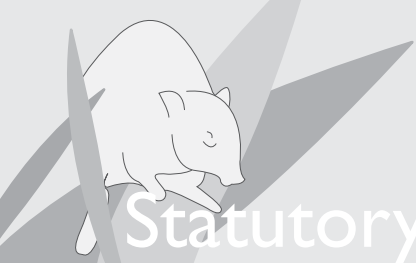
The *Mineral Sands (Eneabba) Agreement Act 1975* affects CALM's management of the land involved in that project.

Management of the Barrow Island Nature Reserve is affected by the *Barrow Island Act 2003*.

The *Bush Fires Act 1954* has important requirements for CALM with respect to fires on the land that it manages.

Other State Acts that have relevance to CALM's operations or role as an employer include: *Aboriginal Heritage Act 1972*; *Aerial Spraying Control Act 1966*; *Agriculture and Related Resources Protection Act 1976*; *Agriculture Protection Board Act 1950*; *Animal Welfare Act 2002*; *Beekeepers Act 1963*; *Civil Liability Act 2002*; *Control of Vehicles (Off-road Areas) Act 1978*; *Country Areas Water Supply Act 1947*; *Criminal Investigation (Identifying People) Act 2002*; *Dividing Fences Act 1961*; *Electricity Corporation Act 2005*; *Electronic Transactions Act 2003*; *Emergency Management Act 2005*; *Energy Operators (Powers) Act 1979*; *Environmental Protection Act 1986*; *Equal Opportunity Act 1984*; *Explosives and Dangerous Goods Act 1961*; *Financial Administration and Audit Act 1985*; *Fines, Penalties and Infringement Notices Enforcement Act 1994*; *Fish Resources Management Act 1994*; *Freedom of Information Act 1992*; *Government Employees' Housing Act 1964*; *Government Financial Responsibility Act 2000*; *Health Act 1911*; *Heritage of Western*

Marine nature reserves and certain zones in marine parks are protected from petroleum drilling and production.



# Statutory information

Sanctuary, special purpose and general use zones were established for the Jurien Bay Marine Park.

*Australia Act 1990; Industrial Relations Act 1979; Land Administration Act 1997; Local Government Act 1995; Long Service Leave Act 1958; Metropolitan Water Supply, Sewerage and Drainage Act 1909; Minimum Conditions of Employment Act 1993; Misuse of Drugs Act 1981; Occupational Safety and Health Act 1984; Occupiers' Liability Act 1985; Pearling Act 1990; Planning and Development Act 2005; Public Interest Disclosure Act 2003; Public Sector Management Act 1994; Public Works Act 1902; Reserves (Dampier to Bunbury Natural Gas Pipeline Corridor) Act 2003; Rights in Water and Irrigation Act 1914; Soil and Land Conservation Act 1945; State Records Act 2000; State Superannuation Act 2000; State Supply Commission Act 1991; Swan River Trust Act 1988; Titles (Validation) and Native Title (Effect of Past Acts) Act 1995; Transfer of Land Act 1893; Volunteers (Protection from Liability) Act 2002; Water Agencies (Powers) Act 1984; Water and Rivers Commission Act 1995; Water Corporation Act 1995; Water Services Licensing Act 1995; Waterways Conservation Act 1976; Workers' Compensation and Injury Management Act 1981.*

Commonwealth Acts relevant to CALM's activities include: *Australian Heritage Council Act 2003; Environment Protection and Biodiversity Conservation Act 1999; Native Title Act 1993; Natural Heritage Trust of Australia Act 1997; Natural Resources Management (Financial Assistance) Act 1992; Regional Forest Agreements Act 2002; Trade Practices Act 1974; Workplace Relations Act 1996.*

## Regulations administered

- *Conservation and Land Management Regulations 2002*
- *Forest Management Regulations 1993*<sup>1</sup>
- *Sandalwood Regulations 1993*
- *Wildlife Conservation Regulations 1970*
- *Wildlife Conservation (Reptiles and Amphibians) Regulations 2002*

## Other subsidiary legislation administered

During the year subsidiary legislation applicable to classified areas, public firewood areas, restricted areas, specially protected fauna and rare flora was made and published in the Government Gazette.

## Classified areas

The *Jurien Bay Marine Park (Classified Waters) Notice 2005* (Gazette 21 October 2005, pp. 4742-54) was made by the Minister under section 62(1a) of the CALM Act. This notice establishes the sanctuary, special purpose and general use zones

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<sup>1</sup> Some of the regulations in the Forest Management Regulations 1993 are deemed to have been made under the Forest Products Act 2000 administered by the Forest Products Commission (section 51,

described in the approved management plan for the Jurien Bay Marine Park, as classified areas for the purposes of the plan and section 13B of the CALM Act.

## Public firewood areas

Under regulation 98 of the *Forest Management Regulations 1993* the Executive Director made three orders applicable to public firewood areas: the *Public Firewood Areas Order (No. 2) 2005* (*Gazette* 28 October 2005, pp. 4840-41); the *Public Firewood Areas Order (No. 3) 2005* (*Gazette* 8 December 2005, pp. 5876-77); and the *Public Firewood Areas Order 2006* (*Gazette* 13 April 2006, pp. 1551-53). These orders set aside areas of State forest for the purpose of public firewood collection and designate them as areas to which a fee applies to firewood collection under regulation 100 of the *Forest Management Regulations*.

## Restricted areas

Under regulation 5 of the *Conservation and Land Management Regulations 2002* (CALM Regulations) the Executive Director made the *Conservation and Land Management (Saxon Ranger Dive Wreck Restricted Area) Notice 2005* (*Gazette* 8 November 2005, pp. 5525-27). This notice establishes a restricted area in the waters surrounding the 'Saxon Ranger' dive wreck in the Shoalwater Islands Marine Park; enables regulation 28 (cleaning etc. fish), regulation 60 (anchoring of vessels) and regulation 61 (operation of vessels) of the CALM Regulations to apply to the restricted area; and prescribes prohibited activities in the restricted area.

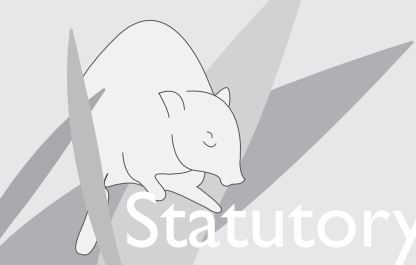
## Specially protected fauna

The *Wildlife Conservation (Specially Protected Fauna) Notice 2006* was made by the Minister under section 14(2)(ba) of the *Wildlife Conservation Act 1950* (*Gazette* 23 June 2006, pp. 2161-69). This notice declares specified fauna to be fauna in need of special protection in the following categories: fauna that is rare or is likely to become extinct (199 taxa); fauna presumed to be extinct (18 taxa); birds protected under an international agreement (30 taxa); and other specially protected fauna (11 taxa).

## Rare flora

The *Wildlife Conservation (Rare Flora) Notice 2006* was made by the Minister under section 23F(2) of the *Wildlife Conservation Act 1950* (*Gazette* 23 June 2006, pp. 2169-74). This notice declares specified flora to be rare flora in the following categories: extant taxa (372); and taxa presumed to be extinct (14). A correction to a typographical error in a species name in this notice was subsequently published (*Gazette* 30 June 2006, p. 2359).

A restricted area was established in waters surrounding the Saxon Ranger dive wreck in the Shoalwater Islands Marine Park.



# Statutory information

CALM's responsibilities take into account international agreements on migratory birds and trade in endangered species.

## Changes to legislation administered

### **Changes to the Conservation and Land Management Act 1984**

The CALM Act was amended once during the year. A minor amendment was made in respect of its timber sharefarming provisions when a reference to section 20 of the repealed *Town Planning and Development Act 1928* in section 34B(7) of the CALM Act was deleted and reference to section 136 of the *Planning and Development Act 2005* was inserted instead under the *Planning and Development (Consequential and Transitional Provisions) Act 2005*.

## Changes to subsidiary legislation

### **Specially protected fauna**

*The Wildlife Conservation (Specially Protected Fauna) Notice 2005* was revoked by the *Wildlife Conservation (Specially Protected Fauna) Notice 2006* (*Gazette* 23 June 2006, pp. 2161-69).

### **Rare flora**

*The Wildlife Conservation (Rare Flora) Notice 2005* was revoked by the *Wildlife Conservation (Rare Flora) Notice 2006* (*Gazette* 23 June 2006, pp. 2169-74).

## International agreements

International agreements relevant to CALM's responsibilities: Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention; 2 February 1971); Convention for the Protection of the World Cultural and Natural Heritage (World Heritage Convention; 23 November 1972); Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES; 3 March 1973); Agreement between the Government of Japan and the Government of Australia for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment (JAMBA; 6 February 1974); Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention; 23 June 1979); Agreement between the Government of the People's Republic of China and the Government of Australia for the Protection of Migratory Birds and their Environment (CAMBA; 20 October 1986); Convention on Biological Diversity (Rio Convention; 5 June 1992).

## Disability services

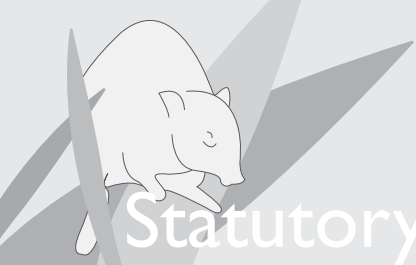
CALM continued to be a leading proponent of the universal access philosophy, based on the principles of equal opportunity and equity. The department's ongoing program of improving access, facilities, and services, to ensure they meet the needs of customers and staff, continued under its Disability Services Plan.

Key access improvement works undertaken during 2005-2006 included:

- Site redevelopments at Burra Rock and Victoria Rock Recreation Sites in the Goldfields. These included toilets accessible by people with disabilities.
- Development of new interpretation nodes and day use sites on the Lesueur Scenic Drive in Lesueur National Park, with access from parking areas along graded walking tracks to lookouts, picnic tables and interpretive nodes.
- The planning and design completion of a new interpretive experience at the Pinnacles Desert in Nambung National Park. Access for people with disabilities has been integrated into the parking, path network, building and access to a lookout over the Pinnacles Desert. Assisted wheelchair access will be possible on the desert area if desired.
- Completion of a major day use site at Castle Rock in the Porongurup National Park. Access is designed from a parking area to picnic facilities, an interpretive shelter and toilet block.
- Design work for a new boardwalk with wheelchair access at Yanchep National Park to replace one destroyed in the 2005 fires.
- Major redevelopment of the facilities outside Cabaret Cave in Yanchep National Park. A new larger parking area has been provided with better path access to a new toilet and changing facility. New paths to the cave entrance have also been provided. All new developments allow access for people with disabilities.
- An upgrade of 3.5 km of the Cape to Cape Walk Track in Leeuwin-Naturaliste National Park along the Leeuwin Naturaliste coastline has been designed to ensure a wider variety of people can enjoy the experience. This 'Access for More' track is wider at even gradients and has been sealed with new boardwalks (at locations to protect fragile areas), seats, signs and lookouts at strategic locations. Parking areas and interpretive displays support the northern trailhead.
- Improvements were made at Blackwood Views to parking areas, paths, picnic facilities with a new deck overlooking the Blackwood River to provide safer and more sustainable access.
- A redeveloped campsite at Banksia Camp in D'Entrecasteaux National Park to provide better access to sites, with hardened camping bays and accessible toilets.
- A major redevelopment of Circular Pool in Walpole-Nornalup National Park to provide a newly sealed parking area, accessible toilet and ramped paths to two lookouts (one over the pool and the other over the rapids) with seats.

The ongoing program of improving access, facilities and services aims to ensure they meet the needs of customers and staff under CALM's Disability Services Plan.





## Statutory information

There were 36 Indigenous trainees and six Indigenous cadets in the MATES program.

The implementation of CALM's Disability Services Plan is monitored by the department's Disability Services Planning Committee, comprised of representatives from Parks and Visitor Services, Regional Services, Corporate Services and Strategic Development and Corporate Affairs divisions. The current plan expires at the end of 2006 and the committee progressed work on the development of a new Disability Access and Inclusion Plan during 2005-2006.

CALM was invited by the Disability Services Commission to participate in the 'You're Welcome Access Initiative', which aims to get public sector organisations and businesses working collaboratively to provide and promote accessible facilities and services for all members of the community including people with disabilities.

CALM continued to email disability employment agencies details of all advertised vacancies.

## EEO and diversity management

CALM has a comprehensive EEO and Diversity Management Plan 2003-2006 that contains strategies which provide for effective management of CALM's diverse workforce and affirms its commitment to provide an inclusive culture and work environment that is free from discrimination and harassment. Some of the noteworthy initiatives carried out this year have included:

- the inaugural graduation of three Indigenous trainees who are a part of CALM's Mentored Aboriginal Training and Employment Scheme (MATES);
- school-based trainees being recruited into administration traineeships;
- EEO and diversity awareness and best practice training conducted throughout CALM;
- celebration of Harmony Week concluding with 'Walking Together', an Indigenous guided tour around Herdsman Lake;
- increased participation of schools with high numbers of Indigenous students in CALM's Bush Rangers program;
- a former CALM Bush Ranger cadet now enrolled in a science degree and being supported financially by a CALM scholarship;
- engagement of tutors for employees who are upgrading their numeracy, English literature and language skills;
- 36 Indigenous trainees and six Indigenous cadets in the MATES program;



- ongoing selection panel training for staff with awareness on cross cultural difference in relation to performance at interview;
- establishment of a database of employees who are fluent in languages other than English, who are willing to act as translators when required;
- completion of the Workplace Discrimination and Sexual Harassment online training course by 388 employees, with 107 currently enrolled;
- a review of CALM's Code of Conduct and Good Working Relations policy and procedure;
- ongoing training in EEO and Diversity, Code of Conduct and ethics to Graduate Recruits, Indigenous trainees and Public Sector Training Package participants;
- continued encouragement of women to participate in leadership forums and workshops; and
- initial drafting of a new EEO and Diversity Management Plan by CALM's EEO and Diversity Management Committee.

CALM established a database of employees fluent in languages other than English to act as translators when required.

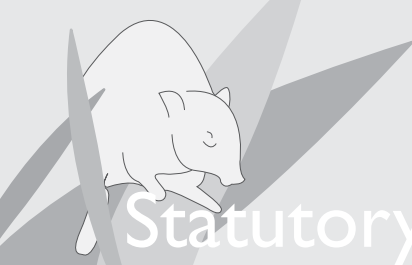
## Electoral Act 1907

In accordance with the requirements of section 175ZE of the Western Australian Electoral Act, CALM incurred the following expenditures in the financial year ended 30 June 2005.

Media advertising organisations: \$455,035.20 (Media Decisions WA); \$358,821.90 (Marketforce Productions); \$3,900 (Channel 9); \$3,110.91 (AAA Tourism); \$3,440.91 (Australia's South West Inc); \$3,230.00 (Eye Zone); \$2,600.35 (Aussie Drawcard Pty Ltd); \$2,272.73 (Countrywide Publications); \$1,500.00 (Community Newspaper Group); \$1,409.10 (Albany Advertiser); \$1,100 (Cooks Tours Pty Ltd); \$363.64 (Group Link); \$250 (Downunder Travel Bulletin); \$250 (Vita Magazine); \$50 (WA Newspapers).

There was no expenditure in the advertising agencies, market research, direct mail and polling areas by the Department.

Total expenditure was \$837,334.74.



A review of CALM's diesel-powered energy systems in the Pilbara found that converting to hybrid power would save about 11 per cent of CALM's total energy consumption.

## Energy Smart

In accordance with the State Government's Energy Smart Policy, CALM committed to achieve a 12 per cent reduction in non-transport related energy use by 2006-2007.

The target reduction for 2005-2006 was nine per cent from the 2001-2002 baseline data.

CALM purchased 10 per cent of the electricity it used from Western Power's South West Interconnected System as 'Green Power'.

During the year the following initiatives have been undertaken:

- Energy systems in the Kimberley were replaced with hybrid renewable energy systems and further improvements to this system were planned for the next financial year. The estimated future energy savings of this project is five per cent of CALM's total energy consumption.
- A consultant was engaged to review CALM's diesel-powered energy systems in the Pilbara with a view to replacing them with hybrid renewable energy systems. The review revealed that the energy reduction from converting to hybrid power would be in the vicinity of 11 per cent of CALM's total energy consumption. A feasibility study has begun.
- Research for alternative energy sources at Penguin and Garden islands, as well as Cape Arid National Park, was conducted.

Energy Smart Government policy			
Performance indicators	Baseline data	2005-2006 actuals <sup>1</sup>	Variation%
Energy consumption (GJ)	24,379	22,388	-8.2
Energy cost (\$)	937,958	827,533	-11.8
Greenhouse gas emissions (tonnes of CO <sub>2</sub> )	4,325	3,892	-10.0
<b>Performance Indicators by end use category</b>			
<i>Office - Combined services</i>			
MJ/sqm	1,521	1,289	-15.3
<i>Parks and wildlife facilities</i>			
Total GL	8,342	7,073	-15.2

<sup>1</sup> Some figures may vary slightly as final accounts are received.

## External funding, grants and sponsorships

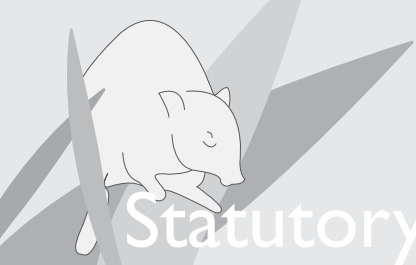
This section focuses primarily on revenue to CALM from grant programs administered by Australian or State Government agencies, and other significant support such as sponsorships, partnerships and donations. Other operating revenues (including licence fees and national parks entrance fees) are detailed elsewhere in this report.

Grants or funding programs provide a major source of financial support for CALM. Australian Government funding from the Department of the Environment and Heritage (DEH) continued through the four major Natural Heritage Trust (NHT) programs – Landcare, Bushcare, Rivercare and Coastcare. This year, the majority of NHT funding was delivered to CALM through the Swan Catchment Council, the Northern Agricultural and South West Catchments Councils, and the South Coast Regional Initiative Planning Team. In addition, projects continued under the Cooperative Research Centre (CRC) for Plant Based Management of Dryland Salinity, the Bushfire CRC, and the CRC for Tropical Savannas Management. Significant support is also received from other Australian Government sources, which include the Australian Biological Resources Study, the Department of Education, Science and Training, the Department of Employment and Workplace Relations, and the Rural Industries Research and Development Corporation. The Bushfire Mitigation Program, administered by the Department of Transport and Regional Services, continued to provide significant funding to CALM for the construction, maintenance and signage of effective fire trail networks throughout the State.

The marked increase in funding this year is attributed to the start of a suite of significant projects. They include the 'Back from the Brink' Threatened Species and Communities project in the Northern Agricultural Region (NHT); Cane Toad Management Initiative (NHT Strategic Reserve); Ecological Sustainable Rangeland Management project (NHT); Introduced Predator Control in the south-west of WA project (Invasive Animals CRC); Purnululu National Park World Heritage projects (DEH); Rubber Vine Control project (Department of Agriculture, Fisheries and Forestry; and the provision of two water bombers for fire suppression (Department of Transport and Regional Services).

Australian Government funding for CALM programs in 2005-2006 totalled \$8.02 million.

Australian Government funding	
Year	Amount (million \$)
1995-1996	4.80
1996-1997	5.14
1997-1998	8.67
1998-1999	9.71
1999-2000	7.55
2000-2001	11.96
2001-2002	7.71
2002-2003	3.12
2003-2004	4.91
2004-2005	4.74
2005-2006	8.02



## Statutory information

CALM's Mentored Aboriginal Training and Employment Scheme (MATES) attracted BHP Billiton Iron Ore as a major sponsor.

The figures in the Australian Government funding table include several programs and/or projects for which CALM is a joint proponent. The figures in the table may differ from Australian Government funding amounts shown in the financial statements. The table figures are prepared on the basis of approved program or project funding which will not necessarily reflect the timing of actual funding receipts.

Support from the State Government continued, with recurrent funding being provided through programs that included the State Salinity Strategy (\$4.65 million), *Western Shield* (\$1.475 million), Main Roads WA (\$2 million), and the State Cane Toad Initiative (\$1.4 million). Other State support included funding from Coastwest, the Recreational Boating Facilities Scheme, and the Regional Airports Development Scheme, all of which are administered by the Department for Planning and Infrastructure. Projects included a community manta ray monitoring and education program at Coral Bay, the construction of a wooden stairway to access the surf beach at Skippy Rock, further upgrades to Mt Hart airstrip, and Nornalup Inlet boat launching facilities.

The WA Millennium Seed Bank Flora Conservation Project continued to receive funding. This project was established in September 2001 between CALM, the Botanic Gardens and Parks Authority and the Royal Botanic Gardens, Kew, United Kingdom. The Royal Botanic Gardens is funding the project for up to 10 years, with total funds estimated to be about \$1.2 million. It involves the collection and storage of seed from more than 1,400 rare or threatened WA plant taxa.

The Friends of the Cape to Cape Track, in partnership with CALM, continued to attract funding. Since their incorporation in 1998, the Friends have worked tirelessly with CALM and the long-held vision to seal a 3.7 km long section of the track from Cape Naturaliste Lighthouse to Sugarloaf Rock (to Australian Standards for wheelchair access) is now well advanced. The Friends group now has 250 members and this year was awarded grants totalling about \$200,000 from the Australian Tourism Development Fund, Lotterywest and Coastwest.

CALM's Mentored Aboriginal Training and Employment Scheme (MATES) received a significant boost to its funding from BHP Billiton Iron Ore with a grant of \$337,000, as well as continued support from the Chamber of Commerce and Industry (WA), the Department of Employment and Workplace Relations, and the Department of Education and Training. The Fremantle Football Club also provided a small donation to the program.

Other valued support through corporate sponsorship included Pilbara Iron (soil-water status study for the Pilbara Biological Survey, Monitoring of marine turtles in the Dampier Archipelago); Portman Mining (malleefowl feral predator control, conservation of *Tetratheca paynterae*); Robe River Iron Associates (research projects in the Pilbara Region); Tiwest (*Western Shield* in Nambung National Park, conservation works across the Perth and Swan Coastal District); SITA Environmental Solutions (Kalgoorlie Arboretum waste management); Straits Resources (Pilbara Biological Survey); Western Power (Albany aerial fire suppression aircraft activities); and Wind over Water Foundation (cat research).

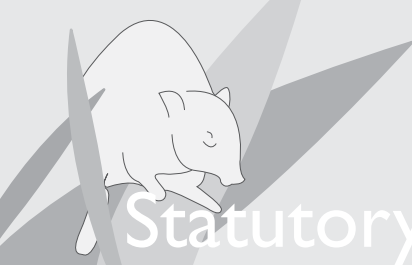
The BankWest *LANDSCOPE* Visa card raised about \$9,000 for the conservation of endangered species and ecological communities. Projects supported by this funding included the ecology of the tree-stem trapdoor spider, *Aganippe castellum*, in the eastern WA wheatbelt, and the captive breeding of the central rock-rat, *Zyzomys pedunculatus*.

CALM was actively involved with the Conservation Volunteers Australia (CVA) and Green Corps programs, which give volunteers and young people the opportunity to participate in projects designed to preserve and restore Australia's natural environment and heritage. Projects included rehabilitation works in Beeliar Regional Park and maintenance works in the West Cape Howe National Park.

Many other community organisations assist CALM in its conservation effort. They included Calligraphica Design (expert design of the Perth Observatory website), Friends of the Western Swamp Tortoise (funding for recovery actions), Friends of the Attadale Foreshore (rehabilitation works at Alfred Cove Nature Reserve), The Men of Trees Rockingham Branch (restoration work at Lake Cooalongup in the Rockingham Lakes Regional Park), and the WA Speleological Group (interpretive signage for Boomerang Gorge in the Yanchep National Park).

Other support included cash donations through means such as CALM's collection boxes, community fund raising activities and direct donations, donations of goods, help with relocating animals, and participation in biological surveys. They included Kalgoorlie Consolidated Gold Mines donation of conveyor belting for track stabilisation and a generous donation of \$5,000 from Dr Fay Lewis towards the construction of Gilbert's potoroo cross-fostering pens.

Community-based conservation groups and corporate organisations provide valued support in CALM's work to conserve the nature of WA.



Improvements in safety and health programs were reflected in the downward trend in lost time injury frequency rate.

## Occupational safety and health

The benefit of a safe working environment is well recognised within CALM, as is the link between safety, health and fitness in minimising injury to workers and reducing costs. The effectiveness of the safety and health and injury management program was reflected in the downward trend in the Lost Time Injury (LTI) frequency rate and the average working days lost as a result of workplace injury (see indicators below).

The increase in the workers' compensation premium was in anticipation of increased claim costs due to recent changes to the *Workers Compensation and Injury Management Act 1981*.

Performance indicators		
	2004-2005	2005-2006
Lost time injury frequency rate*	9	4
All injury frequency rate*	44	37
Number of lost time incidents	24	24
Average days lost (per LTI)	23	11
Annual workers' compensation contribution (Premium)	\$484,145	\$1,132,434

\* Lost time and all injury frequency rates are calculated using an Australian Standards formula, based on the total number of incidents for the 12-month period, multiplied by 1,000,000 and divided by the total number of hours worked in that period.

## Record keeping

The *State Records Act 2000* requires every Government agency to have a record keeping plan, to provide an accurate reflection of the record keeping program within the agency. This plan must be complied with by the agency and its officers, and reviewed periodically, or when there is any significant change to the agency's functions.

Key details of CALM's record keeping system for 2005-2006 were as follows:

- Implementation of a new electronic document and records management system (EDRMS) throughout CALM began during the year. Evaluation of the system is ongoing and a full evaluation is planned once Stage 1 is completed.
- The online record keeping awareness training (RAT) course is included in CALM's employee induction training and is a mandatory requirement for staff. EDRMS user training is being conducted as the system is rolled out across the Department.

- A review of the efficiency and effectiveness of the record keeping training program is planned for 2007.
- The RAT course outlines the record keeping roles and responsibilities for government employees in regard to compliance with the requirements of the State Records Act and CALM's record keeping plan.

CALM is committed to ensuring that the Department's services meet the different needs of WA's diverse community.

## Substantive equality

CALM is committed to continuous improvement and to eliminating any barriers that may exist to equal access to, and participation in, the services provided to the community by the Department. CALM is also committed to ensuring that the services provided meet the different needs of the State's diverse community.

With the assistance of staff from the Substantive Equality Unit, CALM's Corporate Executive identified the Parks and Visitor Services area as the initial focus for implementing the Policy Framework for Substantive Equality. The aim is to ensure different cultural groups are provided with appropriate opportunities for use and enjoyment of parks.

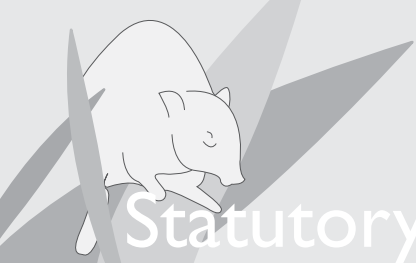
## Waste paper recycling

CALM follows the State Government's policy to recycle all waste paper generated by government metropolitan agencies and uses the whole of State Government contract administered by the Department of Treasury and Finance for waste paper recycling.

The primary objectives of the contract are to:

- improve waste management and recycling practices within the public sector;
- maximise the volume of waste paper collected from all metropolitan agencies for recycling;
- reduced the volume of waste paper going to the landfill; and
- help foster recycling within the community.

During 2005-2006, CALM provided 5.34 tonnes of paper for recycling under the contract.



## Publications produced in 2005-2006

### General

- A treasure trove of *LANDSCOPE* (brochure)
- Annual research activity report, Science Division 2004-2005
- Arbor Day 2006 (poster)
- Beeliar Regional Park Management Plan 2006 (report)
- CALM Annual Report 2004-2005 (report)
- CALM Bush Rangers Annual Report 2004 (report)
- CALM Business Support Workshop (report)
- Cape Range National Park Draft Management Plan 2006 (report)
- Conservation News (newsletter, 12 issues)
- Conservation reserves of the Albany coast (brochure)
- Department of Environment and Conservation (booklet)
- Equal Employment Opportunity (posters)
- Goldfields, land of surprises (magpaper)
- Good Neighbour Policy - Draft (booklet)
- Jurien Bay Management Plan 2005-2015 (report)
- Lake McLarty Management Plan 2005 (report)
- LANDSCOPE* (magazine, 4 issues)
- LANDSCOPE* Expeditions turtle tagging (flyer)
- Marine Parks and Reserves Authority Annual Report 2004-2005 (report)
- Mentored Aboriginal Training and Employment Scheme (brochure)
- North West *LANDSCOPE* Compendium (book)
- Northern Yilgarn (Mt Manning Range) Have Your Say (brochure)
- Shark Bay World Heritage Property (strategic plan)
- Subscribe to *LANDSCOPE* magazine (brochure)
- The Turquoise Coast (book)
- Urban Antics (book)
- WA Naturally catalogue (newsletter)
- WA Naturally (newsletter, 6 issues)
- Walpole Wilderness Area Have Your Say (booklet)
- Wellington National Park and Westralia Conservation Park Draft Management Plan 2005 (report)



World Heritage Area: Strategic plan for Shark Bay (report)

Your land, its future (brochure)

## Nature Conservation

Advances in plant conservation biology (leaflet)

Advances in plant conservation biology (symposium papers and abstracts)

Best practice for scaring birds in orchards (booklet)

Best practice for scaring birds in orchards (brochure)

Best practice for scaring birds in orchards (leaflet)

Birds of the Kimberley Bush Book (book)

Bugs in the backyard Bush Book (book)

Buntine Marchagee Catchment News (newsletter, 3 issues)

Buntine-Marchagee Catchment landholder survey (newsletter)

Burru Peninsula Conservation Reserve Draft Management Plan (report)

Cane toads (poster)

Declared rare and poorly known flora (brochure)

Declared rare flora of the Katanning District (book)

Ecoplan News (newsletter, 4 issues)

EcoEducation News South West (newsletter, 4 issues)

EcoEducation News WA (newsletter, 4 issues)

EcoEducation programs for primary school students 2006 (brochure)

EcoEducation programs for secondary school students 2006 (brochure)

EcoEducation: Geography excursion and Aboriginal cultural excursion (flyer)

EcoEducation: Fire for life (flyer)

EcoEducation: Be a nature conservation officer for a night/Hills Forest camp (flyer)

EcoEducation: Win a Back from the Brink excursion (flyer)

EcoEducation: Biology excursion and threatened species (flyer)

EcoEducation: Be a nature conservation officer for a night/Shark Bay camp (flyer)

EcoEducation: Geography excursion (flyer)

EcoEducation: Biology excursion (flyer)

EcoEducation: Margaret River Discovery Centre/EcoEducation opportunities (flyer)

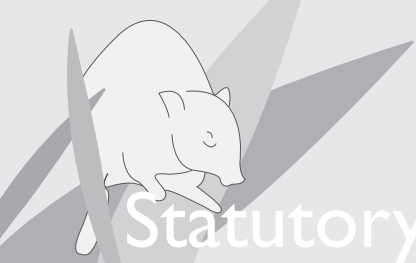
EcoEducation: Wellington Discovery Forest/EcoEducation opportunities (flyer)

EcoEducation: Professional learning (flyer)

EcoEducation: Celebrating World Environment Day and Arbor Day (flyer)

EcoEducation: Threatened animals and ecosystems (flyer)

EcoEducation: Professional learning – discover curriculum opportunities (flyer)



# Statutory information

EcoEducation: Opportunities for secondary schools (flyer)  
EcoEducation: EcoEducation resources (flyer)  
EcoEducation: Tenth birthday celebrations  
Fire, the force of life. Volume 2 (booklet)  
Fire and balga grass trees (poster)  
Giving biodiversity a helping hand (brochure)  
Grand spider orchid (leaflet)  
Hazardous animals of the North West Bush Book (book)  
Lake Bryde Recovery Catchment (newsletter)  
Land for Wildlife (brochure)  
Living with quendas (brochure)  
Living with possums (brochure)  
Managing fire (brochure)  
Marine Science Program (brochure)  
Merriden District display (posters)  
Nuytsia (book)  
Partnerships in nature conservation (report)  
Subscribe to *LANDSCOPE* magazine (brochure)  
Successful translocation of the critically endangered *Corrigin grevillea* (poster)  
Surveying wandoo crown decline  
Threatened species: school program (leaflet)  
Threatened shrubland community of massive limestone ridges (brochure)  
WA Cane Toad Initiative (newsletter, 3 issues)  
WA Threatened Species Community (newsletter)  
Western Wildlife (newsletter, 4 issues)  
Wildlife Note 17: The use of fire in small remnants (brochure)

## Parks and Visitor Services

A guide to the Perth Hills (newspaper)  
2005 WA Tourism Awards – Bibbulmun Track  
2005 WA Tourism Awards – Yanchep National Park  
2005 WA Tourism Awards – Tour Operator Handbook  
A guide to the Perth hills (magpaper)  
Barna Mia (brochure)  
Coastal parks to Albany's east (brochure)  
Coral Bay Boating in Ningaloo Marine Park (brochure)

Dryandra Woodland (brochure)

Esperance National Park (brochure)

Experiencing whale sharks in Ningaloo Marine Park (brochure)

Family Walks in Perth Outdoors (book)

Fees and charges. A visitor's guide (brochure)

Francois Peron National Park (brochure)

Healthy Parks, Healthy People (brochure)

Healthy Parks, Healthy People (strategic plan)

Healthy Parks, Healthy People (partnership package)

Healthy Parks, Healthy People (bookmark)

Indigenous Heritage Unit (brochure)

Kalbarri National Park (brochure, plus one reprint)

Karijini National Park (brochure, and one reprint)

Karijini Calling (children's magpaper)

Leseuer National Park (brochure)

Monkey Mia Activity Pack (children's activity book)

Monkey Mia Magic (brochure) (two reprints)

More Family Walks in Perth Outdoors (book)

Munda Bididi Messenger winter 05 (newsletter)

Munda Bididi Messenger spring 05 (newsletter)

Munda Bididi Messenger summer 06 (newsletter)

Munda Bididi Trail information (brochure)

Nambung National Park (brochure)

Nearer to Nature, winter and spring 2005 (booklet)

Nearer to Nature, summer and autumn 2006 (booklet)

Nearer to Nature, winter and spring 2006 (booklet)

Nearer to Nature Discovery Club (client card)

Ningaloo Marine Park sanctuary zones and Muiron Island Marine Management Area (leaflet)

Perth Hills National Parks Centre (poster)

Parks of the Coral Coast (brochure)

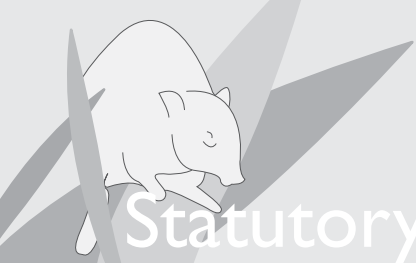
Pilbara (posters)

Pilbara marine information (postcards)

Purnululu National Park (magpaper)

Purnululu National Park (brochure)

St John Brook Conservation Park (brochure)



## Statutory information

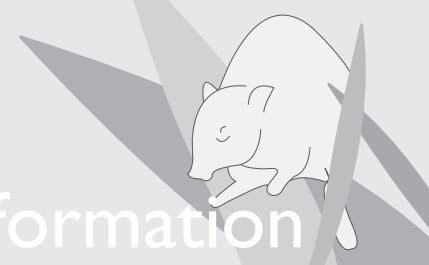
Shannon National Park (brochure)  
Shark Bay Marine Park and Hamelin Pool Nature Reserve (brochure)  
Stirling Range and the Porongurups (brochure)  
Summer in the tingles (brochure)  
Summer in the tingles (posters)  
Tell us about your experience in national parks (brochure)  
Tuart Forest National Park (brochure)  
Valley of the Giants Tree Top Walk fact sheet (leaflet)  
Valley of the Giants Tree Top Walk – Spring Activity Program (brochure)  
Valley of the Giants Tree Top Walk – Summer Activity Program (brochure)  
Valley of the Giants Tree Top Walk – Easter holiday activity program (brochure)  
Watching whales (brochure)  
Whale shark experience (poster)  
Whale shark experience pass (ticket book)  
Whale watching (log book) (two reprints)  
Yanchep National Park (brochure)  
Your guide to Jurien Bay Marine Park (brochure)

### Sustainable Forest Management

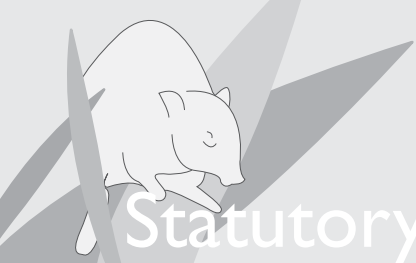
Authority to remove firewood (docket book)  
Ecological forestry and eucalypt forests of Australia's South West (report)  
Managing forest mosaics in the South West of WA (booklet)  
Managing timber production in WA's South West forests (brochure)  
Wandoo Recovery Group Bulletin 3 (newsletter)

### Scientific publications

1. Abbott I (2005) Distinguished scientist retires. *Conservation News* **Nov.** p 2.
2. Abbott I (2005) Epizootic disease associated with mammalian faunal collapse in Western Australia, 1875-1925 (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct.** p 15.
3. Abbott I (2005) Epizootic disease associated with mammalian faunal collapse in Western Australia, 1875-1925 (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4-8 July 2005*. Australian Mammal Society, Perth. p 34.
4. Adkins SW, Ainsley PJ, Bellairs SM, Coates DJ, Bell LC (eds) (2005) *Proceedings of the Fifth Australian Workshop on Native Seed Biology: 21-23 June 2004, Brisbane, Queensland*. Australian Centre for Minerals Extension and Research, Kenmore. p 278.



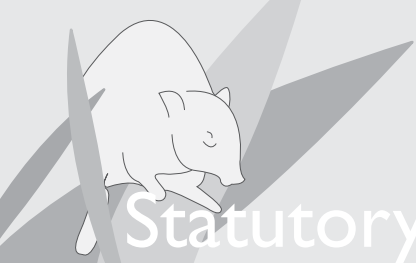
5. Arkeveld S (2005) Western Australian Herbarium fungi index. Department of Conservation and Land Management, Kensington, WA. p 42.
6. Aubret F, Bonnet X, Pearson D, Shine R (2005) How can blind tiger snakes (*Notechis scutatus*) forage successfully? *Australian Journal of Zoology* **53**, p 283-288.
7. Barrett B (2005) The secret life of the western ground parrot. *LANDSCOPE* **21(1)**. p 27–31.
8. Barrett B (2005) Western ground parrot in Cape Arid National Park. *Western Australian Bird Notes* **115**. p 14.
9. Barrett B (2005) Western ground parrots: two years on. *Western Australian Bird Notes* **116**. p 1–3.
10. Barrett B (2005) Wild with delight. *LANDSCOPE* **21(2)**. p 43.
11. Beaulieu J-P, Bennett DP, Fouqué P, Williams A, Dominik M, Jørgensen UG et al. [Martin R] (2006) Discovery of a cool planet of 5.5 Earth masses through gravitational microlensing. *Nature* **439**. p 437–440.
12. Beaulieu J-P, Cassan A, Kubas D, Albrow M, Bennett D, Brilliant S et al. [Martin R, Williams A] (2005) PLANET III: searching for Earth-mass planets via microlensing from Dome C? *EAS Publications Series* **14**. p 297–302.
13. Biggs J (2005) *Astronomical Almanac 2006*. Perth Observatory, Bickley.
14. Bougher NL (2005) Using native fungi for conserving and restoring biodiverse vegetation in the Australian wheatbelt region. *Australasian Plant Conservation* **14**. p 3–5.
15. Bougher NL, Hart R, Weaver J (2005) PUBF fungi reports 2004: feedback fungi packages to community groups: report for LotteryWest.
16. Bougher NL, Hart R, Weaver J (2005) PUBF fungi reports 2004: fungi surveys and community participation in Perth bushlands. Perth Urban Bushland Fungi Project, Perth, v 1.
17. Bougher NL, Hart R, Weaver J (2005) PUBF fungi surveys for CALM regional parks, community grant 2005. Perth Urban Bushland Fungi Project, Perth. p 40.
18. Bougher NL, Hart R, Weaver J (2005) Regional parks fungi report 2005: consultancy report for the WA Dept. Conservation and Land Management (CALM).
19. Bougher NL (2005) Fungal partners (ABSTRACT). In *Proceedings of the 23rd Biennial Conference of the Association of Societies for Growing Australian Plants: October 2005, Perth, WA*.
20. Bougher NL (2005) Fungi survey: Bold Park 2005: report for the Botanic Gardens and Parks Authority. Perth Urban Bushland Fungi Project, Perth.
21. Bougher NL (2005) Fungibank: using native fungi in wheatbelt bush revegetation (ABSTRACT). In *Proceedings of the Australasian Mycological Conference May 2005, Gowrie Park, Tasmania*.



## Statutory information

22. Bougher NL (2005) IMC8 fungus of the month, August 2005: *Panaeolopsis nirimpii*, conehead fungus.  
[www.rbg.vic.gov.au/research\\_and\\_conservation/fungi?mysource\\_RBG\\_remote\\_page\\_action=fetch\\_url&mysource\\_RBG\\_remote\\_page\\_url=http%3A%2F%2Fwww3.rbg.vic.gov.au%2Fdbpages%2Ffungi%2Ffactsheets%2Fhighlight.php%3Fid%3D55%26what%3Dimc](http://www.rbg.vic.gov.au/research_and_conservation/fungi?mysource_RBG_remote_page_action=fetch_url&mysource_RBG_remote_page_url=http%3A%2F%2Fwww3.rbg.vic.gov.au%2Fdbpages%2Ffungi%2Ffactsheets%2Fhighlight.php%3Fid%3D55%26what%3Dimc). 1-2.
23. Bougher NL (2005) Perth urban bushland fungi (ABSTRACT). In *Proceedings of the Fungimap Third National Conference. May 2005, Gowrie Park, Tasmania*.
24. Bougher NL (2005) Perth Urban Bushland Fungi Project (ABSTRACT). In *Proceedings of the Fungi Conference. 5th Nov. 2005, Brisbane, Queensland*.
25. Bougher NL (2005) Using native fungi in bush revegetation: WA wheatbelt (ABSTRACT). In *Proceedings of the Fungi Conference, 5th Nov 2005, Brisbane, Queensland*.
26. Bougher NL, Hart R, Zappia R, Weaver J (2006) PUBF fungi reports 2005: fungi surveys and community participation in Perth bushlands, 2005. Perth Urban Bushland Fungi Project, Perth. p 165.
27. Bullen RD, McKenzie NL (2005) Seasonal range variation of *Tadarida australis* (Chiroptera: Molossidae) in Western Australia: the impact of enthalpy. *Australian Journal of Zoology* **53**. p 145–156.
28. Burbidge A (2006) Endangered: Masked booby. *LANDSCOPE* **21(3)**. p 23.
29. Burbidge A, Mather S (eds) (2005) Western Australian bird notes: quarterly newsletter of Birds Australia Western Australia Inc. - No. 114, June 2005. p 40.
30. Burbidge A, Mather S (eds) (2005) Western Australian bird notes: quarterly newsletter of Birds Australia Western Australia Inc. - No. 115, September 2005. p 36.
31. Burbidge A, Mather S (eds) (2005) Western Australian bird notes: quarterly newsletter of Birds Australia Western Australia Inc. - No. 116, December 2005. p 32.
32. Burbidge A, Mather S (eds) (2005) Western Australian bird notes: quarterly newsletter of Birds Australia Western Australia Inc. - No. 117, March 2006. p 32.
33. Burbidge A, McKenzie N, van Leeuwen S, Gibson L, Doughty P, Guthrie N, Durrant B, Pearson D (2006) Between rock and a hard place: rich biological patterns amongst ancient red rocks. *LANDSCOPE* **21(3)**. p 13–19.
34. Burbidge A, Morris K (2005) Introduced animal eradications for nature conservation on Western Australian islands: a review (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*, Australian Mammal Society, Perth. p 27.

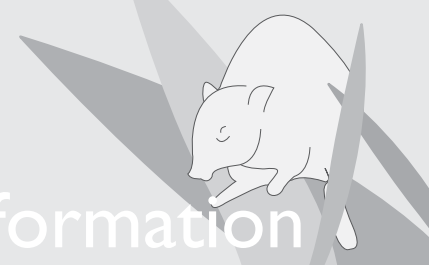
35. Burbidge AA, Thomas N (2005) Barrow Island Nature Reserve rock-wallaby survey, August 2005. Department of Conservation and Land Management, Perth. p 16.
36. Burrows N (2005) Bushfire diversity can promote biodiversity. *Western Wildlife: Newsletter of the Land for Wildlife Scheme* **9(3)**. p 8–9.
37. Burrows N (2005) Effets de la diversité des feux sur un hotspot de la biodiversité en Australie. *Forêt Méditerranéenne* **26**. p 243–250.
38. Burrows N (2005) Synthèse des connaissances sur les impacts du feu sur le biote des écosystèmes de type forêt méditerranéenne dans le Sud-Oest australien. *Forêt Méditerranéenne* **26**. p 207–216.
39. Burrows N, Hamilton T (2006) Field trip report: Queen Victoria Springs and Plumridge Lakes nature reserves, 7–14 May 2006. Department of Conservation and Land Management, Kensington, WA. 5 p.
40. Burrows ND, Ward B, Robinson A, Behn G (2006) Fuel dynamics and fire behaviour in spinifex grasslands of the western desert. In *Bushfire Conference 2006: Brisbane, 6–9 June 2006: Life in a Fire-Prone Environment: Translating Science into Practice*. Southeast Queensland Fire and Biodiversity Consortium, Brisbane. p 1–7.
41. Byrne M (2005) The influence of the past in the present: phylogeography in the ancient Australian landscape. In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25-27 October 2005* Department of Conservation and Land Management, Perth. p 7.
42. Byrne M, Grayling P (2005) Genetic and taxonomic status of Eucalyptus absita populations: BankWest LANDSCOPE Visa Card grant report. Department of Conservation and Land Management, Kensington, WA. 2 p.
43. CALM, Botanic Garden and Parks Authority, Royal Botanic Gardens Kew (2005) The Millennium Seed Bank: a collaborative partnership (POSTER ABSTRACT). In: *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25-27 October 2005* p. 31. Department of Conservation and Land Management, Perth.
44. CALM Science Division (2005) ForestCheck: report of progress, 2004–2005. Department of Conservation and Land Management, Perth, 155 p.
45. Cancilla D, Johnson B (2005) Status and ecology of Pseudomys shortridgei in Western Australia (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct**, 17.
46. Cancilla D, Johnson B (2005) Status and ecology of the heath mouse Pseudomys shortridgei in Western Australia (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 11.



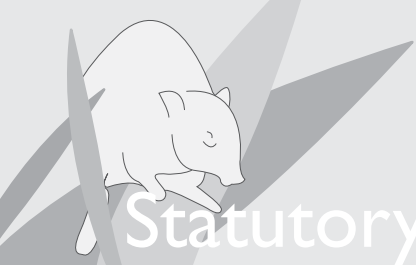
## Statutory information

47. Chapman A (ed) (2005) *Nuytsia*. - Vol. 15, no. 3 (2005). 331–530. Department of Conservation and Land Management, Kensington, WA.
48. Chapman A (2006) *Perth plants: a field guide to the bushland and coastal flora of Kings Park and Bold Park, Perth, Western Australia*: authors, Russell Barrett and Eng Pin Tay (BOOK REVIEW). *For People & Plants* **52**. p 25.
49. Coates D, Crawford A, Dixon K, McArthur S, Monks L, Rokich D et al. (2005) *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth, 48 p.
50. Coates D, McKenna S (2005) Dieback threatens more than 3000 species and subspecies. *Conservation News* **Dec**, 2.
51. Coates DJ, Sampson JF (2005) Plant mating systems in conservation and assessing population persistence. In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 8.
52. Coates DJ, Byrne M, Elliott C, Sampson J, Yates C (2005) Gene flow and outcrossing in a fragmented landscape: implications for seed sourcing from small remnants. In *Proceedings of the Fifth Australian Workshop on Native Seed Biology: 21–23 June 2004, Brisbane, Queensland* (eds SW Adkins, PJ Ainsley, SM Bellairs, DJ Coates, LC Bell), pp. 37–44. Australian Centre for Mining Environmental Research, Kenmore.
53. Cochrane A (2005) Determination of response of rare and poorly known Western Australian native species to salinity and waterlogging: Project 023191. Department of Conservation and Land Management, Perth. 22 p.
54. Cochrane A (2005) Threatened Flora Seed Centre (POSTER ABSTRACT). In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005* p. 24. Department of Conservation and Land Management, Perth.
55. Cochrane A, Barrett S (2005) A safe haven for threatened plants. *LANDSCOPE* **21(2)**. p 24–29.
56. Cochrane A, Crawford A, Monks L (2005) The significance of ex situ conservation to plant recovery in southern Western Australia. In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 14.
57. Cochrane JA, Friend JA, Hill SJE (2005) Endozoochory and the Australian bluebell: consumption of *Sollya fusiformis* seed by mammals at Two Peoples Bay Nature Reserve, Western Australia (POSTER ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct**. p 38.

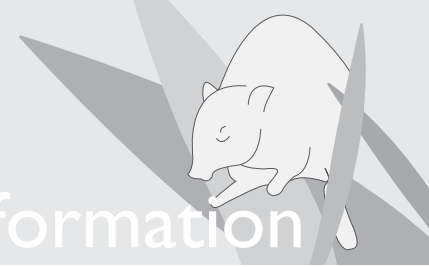




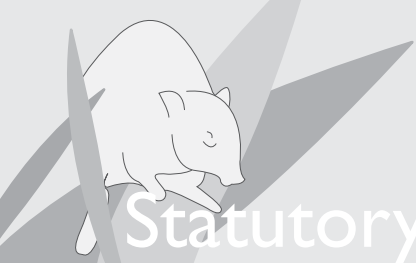
58. Cochrane JA, Friend JA, Hill SJE (2005) Endozoochory and the native bluebell: consumption of *Sollya fusiformis* seed by mammals at Two Peoples Bay Nature Reserve, Western Australia (POSTER ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005* p. 28. Australian Mammal Society, Perth.
59. Cochrane JA, Yates CJ (2005) Conservation biology of a critically endangered shrub, *Cyphanthera odgersii* (F.Muell.) Haegi subspecies *occidentalis* Haegi (Solanaceae). In *Proceedings of the Fifth Australian Workshop on Native Seed Biology: 21–23 June 2004, Brisbane, Queensland* (eds SW Adkins, PJ Ainsley, SM Bellairs, DJ Coates, LC Bell). Australian Centre for Mining Environmental Research, Kenmore. p 173–181.
60. Cranfield RJ (2005) Two new species of *Brachyloma* (Epacridaceae), from the South West Botanical Province of Western Australia. *Nuytsia* **15**. p 331–336.
61. Crawford AD, Cochrane JA, Steadman KJ, Plummer JA, Probert RJ (2005) Successful storage of seed from threatened west Australian plants (POSTER ABSTRACT). In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 26.
62. Crayn DM, Hislop M, Heslewood MM (2005) Additions to *Lissanthe* (Styphelioideae: Ericaceae) in Western Australia: *L. synandra* sp. nov. and *L. pleurandroides* comb. nov. *Australian Systematic Botany* **18**. p 555–561.
63. D'Souza NK, Colquhoun IJ, Shearer BL, Hardy GE St J (2005) Assessing the potential for biological control of *Phytophthora cinnamomi* by fifteen native Western Australian jarrah-forest legume species. *Australasian Plant Pathology* **34**. p 533–540.
64. De Tores P, Guthrie N, Jackson J, Bertram I (2005) The western ringtail possum: a resilient species or another taxon on the decline? *Western Wildlife: Newsletter of the Land for Wildlife Scheme* **9(3)**. p 4–5.
65. De Tores P, Marlow N, Algar D (2005) A proposal to expand Western Shield: an integrated approach to best practice vertebrate pest control for positive conservation outcomes at a landscape and local scale. Department of Conservation and Land Management, Woodvale, WA. 25 p.
66. De Tores P, Rosier S, Guthrie N, Jackson J, Bertram I (2005) The western ringtail possum. Part 2. *Western Wildlife: Newsletter of the Land for Wildlife Scheme* **9(4)**, 1. p 4–5.
67. Eberhard SM, Halse SA, Humphreys WF (2005) Stygofauna in the Pilbara region, north-west Western Australia: a review. *Journal of the Royal Society of Western Australia* **88**. p 167–176.



68. Eberhard SM, Halse SA, Scanlon MD, Cocking JS, Barron HJ (2005) Assessment and conservation of aquatic life in the subsurface of the Pilbara region, Western Australia. In *Symposium on World Subterranean Biodiversity: held on 8–10 December, 2004, University Claude Bernard of Lyon I, CNRS, Villeurbanne, France: Proceedings* (ed J Gilbert). Equipe Hydrobiologie et Ecologie Souterraines, Villeurbanne. p 61–68.
69. Eberhard S, Leys R, Adams M (2005) Conservation of subterranean biodiversity in Western Australia: using molecular genetics to define spatial and temporal relationships in two species of cave-dwelling Amphipoda. *Subterranean Biology* **3**. p 13–27.
70. Ellery JA, McComb JA, Shearer B, Paap T, Hardy G St J (2005) In vitro growth of *Quambalaria pitereka* isolates isolated from *Corymbia calophylla* and *C. ficifolia* in south Western Australia. In *Australasian Plant Pathology Society: Innovations for Sustainable Plant Health: 15th Biennial Conference, Geelong, 26–29 September 2005: Conference Handbook*. p 116.
71. Elliott CP, Byrne M (2005) Isolation and characterization of microsatellites in the woody shrub *Calothamnus quadrifidus* (Myrtaceae). *Molecular Ecology Notes* **5**. p 757–759.
72. Finston T, Johnson M, Humphreys W, Eberhard S, Halse S (2005) Haplotype diversity in *Pilbarus millsii*, a widespread groundwater species of amphipod from the Pilbara, Western Australia. In *Symposium on World Subterranean Biodiversity: held on 8–10 December, 2004, University Claude Bernard of Lyon I, CNRS, Villeurbanne, France: Proceedings* (ed J Gilbert), 69–71. Equipe Hydrobiologie et Ecologie Souterraines, Villeurbanne.
73. Franks AJ, Hobbs RJ, Yates CJ (2005) Developing a general framework of rare plant population responses to habitat fragmentation (POSTER ABSTRACT). In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 28.
74. Friend JA (2005) Gilbert's potoroo recovery: measuring predisposition to oxalosis in wild potoroos: final report, BankWest LANDSCOPE Conservation Visa Card. Department of Conservation and Land Management, Perth. 6 p.
75. Friend JA, Collins P (2005) Male die-off in the dibbler: no evidence in mainland populations (POSTER ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct**. p 39.
76. Friend JA, Collins P (2005) Male die-off in the dibbler: no evidence in mainland populations (POSTER ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 30.

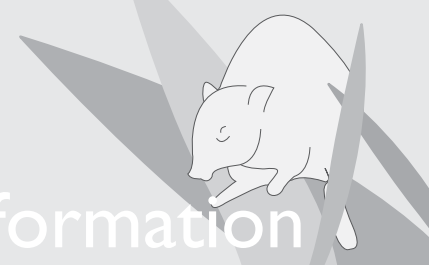


77. Friend JA, Hill SJE, Button TA (2005) Trial translocation of Gilbert's potoroo to Bald Island, Western Australia (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct.** p 20.
78. Friend JA, Hill SJE, Button TA (2005) Trial translocation of Gilbert's potoroo to Bald Island, Western Australia (ABSTRACT). In: *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 9.
79. Friend T (2005) How to keep a numbat happy. *Wildlife Australia* **42(2)**. p 12–15.
80. Friend T, Hill S, Button T (2005) Bald Island getaway for Gilbert's potoroos. *LANDSCOPE* **21(1)**. p 48-54.
81. George N, Byrne M, Yan G (2005) Genetic diversity and feed quality variation in *Acacia saligna*, implications for using the species in dryland salinity management. In: *International Salinity Forum: Managing Saline Soils and Water: Science, Technology and Social Issues: April 25–27, Riverside Convention Center, Riverside, California*. ISF, Riverside. p 191–194.
82. Gibson L, McKenzie N (2005) Species composition of small ground dwelling mammals in the Pilbara region of Western Australia (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct.** p 20–21.
83. Gibson L, McKenzie N (2005) Species composition of small ground dwelling mammals in the Pilbara region of Western Australia (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 43.
84. Gibson N (2005) A new species of *Isopogon* (Proteaceae) from southwest Western Australia. *Muelleria* **21**. p 97–99.
85. Gibson N, Keighery GJ, Lyons MN, Keighery BJ (2005) Threatened plant communities of Western Australia. 2, the seasonal clay-based wetland communities of the south west. *Pacific Conservation Biology* **11**. p 287–301.
86. Grieg T (2006) Perth Observatory astrometry manual. Perth Observatory, Bickley.
87. Halse SA (2005) Surface water ostracods from the Pilbara region, northwestern Australia: biogeography and habitat preferences (ABSTRACT). *Berliner Paläobiologische Abhandlungen* **6**. p 41–42.
88. Halse SA, Massenbauer T (2005) Incorporating research results into wetlands management: lessons from recovery catchments in saline landscapes. *Hydrobiologia* **552**. p 33–44.
89. Halse SA, Pearson GB, Hassell C, Collins P, Scanlon MD, Minton CDT (2005) Mandora Marsh, north-western Australia, an arid zone wetland maintaining continental populations of waterbirds. *Emu* **105**. p 115–125.

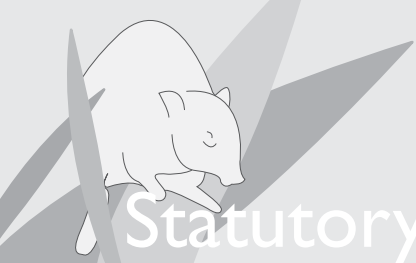


## Statutory information

90. Halse S, Pinder A, Powling J, McRae J (2006) Wetlands of the Pilbara. *LANDSCOPE* **21(3)**, 24–29.
91. Hamilton NA, Withnell B (2006) Assessment of feral cat abundance and control options at Fortescue Metals Group Limited: August/September 2005. Department of Conservation and Land Management, Woodvale, WA. 24 p.
92. Hanold D, Gowanlock D, Stukely MJC, Habili N, Randles JW (2006) Mundulla yellows disease of eucalypts: descriptors and preliminary studies on distribution and etiology. *Australasian Plant Pathology* **35**. p 199–215.
93. Hayward MW, de Tores PJ, Augee ML, Banks PB (2005) Mortality and survivorship of the quokka (*Setonix brachyurus*) (Macropodidae: Marsupialia), in the northern jarrah forest of Western Australia. *Wildlife Research* **32**. p 715–722.
94. Hayward MW, de Tores PJ, Banks PB (2005) Habitat use of the quokka, *Setonix brachyurus* (Macropodidae: Marsupialia) in the northern jarrah forest of Australia. *Journal of Mammalogy* **86**. p 683–688.
95. Hayward MW, de Tores PJ, Dillon MJ, Fox BJ, Banks PB (2005) Using faecal pellet counts along transects to estimate quokka (*Setonix brachyurus*) population density. *Wildlife Research* **32**. p 503–507.
96. Hetherington C, Mills HR, Algar D, Bencini R (2005) Capsule consumption by feral cats (*Felis catus*) and non-target species in the field (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct**. p 22–23.
97. Hetherington C, Mills HR, Algar D, Bencini R (2005) Capsule consumption by feral cats (*Felis catus*) and non-target species in the field (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 16.
98. Hill S (2005) Historical occurrence of a wart-like syndrome affecting western barred bandicoots (POSTER ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct**. p 40.
99. Hill S (2005) Historical occurrence of a wart-like syndrome affecting western barred bandicoots (POSTER ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 31.
100. Hoffman H, Bougher NL (2005) Recognising edible mushrooms. *GardenNote* **47**.
101. Honkoop P, Pearson G, Lavaleye M, Piersma T (2005) Intertidal benthic community structure: role of sediment characteristics. In *The Long Mud: Benthos and Shorebirds of the Foreshore of Eighty-Mile Beach, Western Australia* 151–162. Royal Netherlands Institute for Sea Research, Texel.



102. Hopper SD, Gioia P (2005) Scaling up: floristic hotspots and their uses for conservation. In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 6.
103. Huisman J, Parker C (2005) How to collect and document marine plants. Western Australian Herbarium, Kensington, WA. 18 p.
104. Huisman J, Parker C (2006) The menace below: invasive seaweeds. *LANDSCOPE* **21(4)**. p 22–29.
105. Jayasekera AU, McComb JA, Hardy GE St J, Shearer B (2005) Inhibition of *Phytophthora cinnamomi* chlamydospore by *Acacia pulchella*. In *Australasian Plant Pathology Society: Innovations for Sustainable Plant Health: 15th Biennial Conference, Geelong, 26–29 September 2005: Conference Handbook*. p 188.
106. Johnson B, Reaveley A, Morris, K (2006) Julimar: turning full circle. *LANDSCOPE* **21(4)**. p 56–61.
107. Keighery BJ, Keighery GJ, Hyder-Griffiths BM, Pryde J, Hoskins M (2005) Muchea limestones of the Kemerton Silica Sands Project area. Report 2, extent of Muchea limestone community mosaic in the Kemerton silica sands area and the Gwalia Nature Reserve. Department of Environment, Perth. 9 p.
108. Keighery GJ (2005) Flora of Nullilla Nature Reserve. Department of Conservation and Land Management, Perth. 7 p.
109. Keighery GJ (2005) New and noteworthy plant species recognised as naturalised in Western Australia. *Nuytsia* 15. p 523–527.
110. Keighery GJ (2005) A new species of *Amblysperma* (Asteraceae: Mutisieae). *Compositae Newsletter* **42**. p 26–31.
111. Keighery GJ (2006) Documenting kwongan diversity: species, communities and conservation. In *Kwongan Colloquium: Native Plant Life on the Western Australian Sandplains* University of Western Australia, School of Plant Biology, Crawley. 26 digital slides.
112. Keighery GJ (2006) Wheatbelt biological survey. *Western Wildlife: Newsletter of the Land for Wildlife Scheme* **10(1)**. p 3–5.
113. Keighery GJ, Alford JJ, Trudgen ME, Muir WR (2006) Floristics of the Shark Bay world heritage site, Western Australia: vegetation and flora of 34 small islands. *Western Australian Naturalist* **25**. p 111–134.
114. Keighery GJ, Gibson N (2005) The Flinders Expedition in Western Australia: Robert Brown, the plants and their influence on W.A. botany. In *Matthew Flinders and his Scientific Gentlemen: the Expedition of HMS Investigator to Australia, 1801–05* (eds J Wege, A George, J Gathe, K Lemson, K Napier). Western Australian Museum, Welshpool. p 105–113

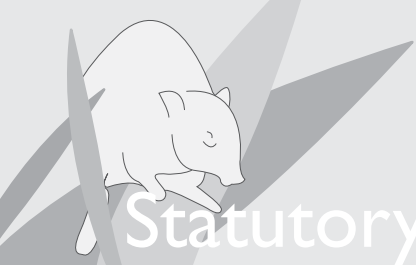


## Statutory information

115. Keighery GJ, Gibson N, Patrick S, Lyons M, van Leeuwen S (2005) Biological survey and priorities for flora conservation. In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 6.
116. Keighery GJ, Muir W (2005) Reinstatement of *Burchardia congesta* (Colchicaceae). *Nuytsia* **15**. p 347–353.
117. Lavaley M, Honkoop P, Marsh L, Pearson G, Piersma T, de Goeij P (2005) Atlas of macrozoobenthic fauna. In *The Long Mud: Benthos and Shorebirds of the Foreshore of Eighty-Mile Beach, Western Australia* 73–149. Royal Netherlands Institute for Sea Research, Texel.
118. Macfarlane TD (2005) The role and relevance of taxonomy in flora conservation. In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 9.
119. Martin P, Ansemil EM, Painer A, Timm T, Wetzel MJ (2005) A global assessment of the oligochaetous clitellate diversity in freshwater: poster presented at workshop: A Global Assessment of Animal Diversity in Freshwater (POSTER), held at Elewijt, Belgium, 13–15 Oct, 2005.
120. Martin R (2006) Supernova 2006bc in NGC 2397. *International Astronomical Union, Circular* **CBET 449**.
121. McCarren KL, McComb JA, Shearer B, Hardy GE St J (2005) The role of chlamydospores of *Phytophthora cinnamomi*: a review. *Australasian Plant Pathology* **34**. p 333–338.
122. McCarren KL, McComb JA, Shearer B, O'Brien P, Hardy GE St J (2005) Transformation of *Phytophthora cinnamomi* with the green fluorescent protein (GFP) for studies on survival. In: *Australasian Plant Pathology Society: Innovations for Sustainable Plant Health: 15th Biennial Conference, Geelong, 26–29 September 2005: Conference Handbook*. p 115.
123. McCaw L (2006) Farewell to 72 years service. *Conservation News* **Jun**. p 6.
124. McKenzie NL, Burbidge AA, Baynes A, Brereton R, Dickman CR, Gordon GG et al. (2005) Regional patterns in the attrition of Australia's mammal fauna (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct**. p 25.
125. McKenzie NL, Burbidge AA, Baynes A, Brereton R, Dickman CR, Gordon GG et al. (2005) Regional patterns in the attrition of Australia's mammal fauna (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 8.



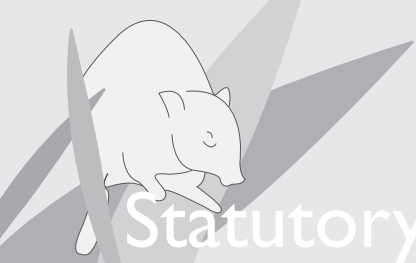
126. Millar M (2005) Risk assessment for *Acacia saligna* forestry (POSTER ABSTRACT). In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 31.
127. Monks L, Coates D (2005) Assessing translocation success for the critically endangered *Lambertia orbifolia* subsp. *orbifolia*. In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 16–17.
128. Morris KD, Johnson B, York M (2005) The impact of using Probaits for fox control on chuditch (*Dasyurus geoffroii*) in the wild: final report. Department of Conservation and Land Management, Perth. 8 p.
129. Muir G, Wilson G, Manning J, van Heurck P (2005) Discovering Walpole's spineless wonders: the Nuyts Wilderness Invertebrates Fire Research Project. *LANDSCOPE* **21(1)**. p 56–61.
130. Neaves L, Prince R, Zanger K, Cooper D (2005) Genetic variation in the western grey kangaroo (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct**. p 27.
131. Neaves L, Prince R, Zanger K, Cooper D (2005) Genetic variation in the western grey kangaroo (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 37.
132. Nicolle D, Byrne M, Whalen M (2005) A taxonomic revision and morphological variation within *Eucalyptus* series *Subulatae* subseries *Oleaginae* (Myrtaceae), including the oil mallee complex, of south-western Australia. *Australian Systematic Botany* **18**. p 525–553.
133. Orchard AE, Lepschi BJ, Hislop M (2005) New taxa, a new record and a rediscovery in Western Australian *Haloragis* (Haloragaceae). *Nuytsia* **15**. p 431–443.
134. Paap T, McComb JA, Shearer B, Burgess T, Hardy GE St J (2005) Canker disease in *Corymbia calophylla* (marri) in the south west of Western Australia (ABSTRACT). In *Australasian Plant Pathology Society: Innovations for Sustainable Plant Health: 15th Biennial Conference, Geelong, 26–29th September 2005: Conference Handbook*. p 66.
135. Paine DR, Williams MR, Roberts JD (2005) No short-term impact of honey bees on the reproductive success of an Australian native bee. *Apidologie* **36**. p 613–621.
136. Patrick SJ (2005) Peer review of four surveys conducted in the Mt Gibson area: Muir Environmental (1995), Bennett Environmental Consulting (2000), Armstrong and Associates (2004), ATA Environmental (2004). Department of Conservation and Land Management, Kensington, WA. 20 p.



137. Pearson DJ (2005) Snakes of Western Australia Bush Book, Department of Conservation and Land Management, Kensington, WA. 72 p.
138. Pearson DJ, O'Neill J, Rodda K (2005) Mulgaras and mining: research and management to mitigate impacts (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct.** p 30.
139. Pearson DJ, O'Neill J, Rodda K (2005) Mulgaras and mining: research and management to mitigate impacts (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 25.
140. Pearson G (2005) Prologue. In *The Long Mud: Benthos and Shorebirds of the Foreshore of Eighty-Mile Beach, Western Australia* 5. Royal Netherlands Institute for Sea Research, Texel.
141. Pearson G, Mann M, Piersma T (2005) Methods, organization and logistics. In *The Long Mud: Benthos and Shorebirds of the Foreshore of Eighty-Mile Beach, Western Australia*. Royal Netherlands Institute for Sea Research, Texel. p 9–20.
142. Pearson G, Piersma T, Hickey R (2005) Managing the unique marine biodiversity at Eighty-Mile Beach. In *The Long Mud: Benthos and Shorebirds of the Foreshore of Eighty-Mile Beach, Western Australia*. Royal Netherlands Institute for Sea Research, Texel, p 207–213.
143. Piersma T, Pearson G (2005) Introduction. In *The Long Mud: Benthos and Shorebirds of the Foreshore of Eighty-Mile Beach, Western Australia*. Royal Netherlands Institute for Sea Research, Texel, p 4–8.
144. Piersma T, Pearson GB, Hickey R, Lavaleye M (eds) (2005) The long mud: benthos and shorebirds of the foreshore of Eighty-Mile Beach, Western Australia. NIOZ report 2005/2, Royal Netherlands Institute for Sea Research, Texel. 218 p.
145. Pinder AM, Halse SA, Lyons ML, McRae JM (2005) Aquatic communities of salt lakes in the Western Australian wheatbelt (ABSTRACT). In *ISSLR 9th Conference, Perth 2005, September 26–30, 2005: Program and Abstracts* (ed J John). International Society for Salt Lake Research, Perth. p 41–42.
146. Ponder WF, Clark SA, Eberhard S, Studdert JB (2005) A radiation of hydrobiid snails in the caves and streams at Precipitous Bluff, southwest Tasmania, Australia (Mollusca: Caenogastropoda: Rissooidea: Hydrobiidae s.l.). *Zootaxa* 1074. p 1–66.
147. Reeves J, De Deckker P, Halse S (2005) Groundwater ostracods from the arid Pilbara, northwestern Australia: distribution and water chemistry (ABSTRACT). *Berliner Paläobiologische Abhandlungen* **6.** p 98–99.
148. Richardson J (2005) Endangered: Western ringtail possum. *LANDSCOPE* **21(1).** p 55.



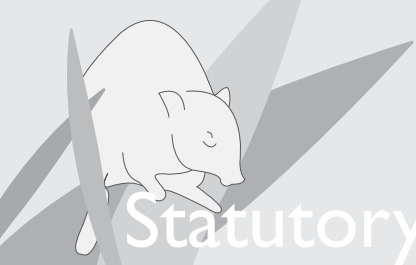
149. Robinson RM (2005) Volume loss in thinned karri (*Eucalyptus diversicolor*) regrowth infected by *Armillaria luteobubalina* in Western Australia. In *Root and Butt Rots of Forest Trees: Proceedings of the 11th International Conference on Root and Butt Rots* (eds M Manka, P Lakomy). August Cieszkowski Agricultural University, Poznan, Poland. p 1–8.
150. Robinson RM (2006) Varying fire regimes to promote fungal diversity across the landscape. *Australasian Plant Conservation* **14(4)**. p 16–17.
151. Rye BL (2005) A taxonomic review of *Dicrastylis* sect. *Corymbosae* (Lamiaceae: Chloantheae) incorporating *Mallophora* as a new synonym. *Nuytsia* **15**. p 445–455.
152. Rye BL, Hislop M (2005) A taxonomic update of *Petrophile* sect. *Arthrostigma* (Proteaceae). *Nuytsia* **15**. p 457–483.
153. Rye BL, Trudgen ME (2005) A new heterocarpidic fruit type for the Myrtaceae, with dehiscent and indehiscent loculi, in two genera from Western Australia. *Nuytsia* **15**. p 485–493.
154. Scanlon M, Cocking J, McRae J, Barron H (2006) Beasts of the underworld. *LANDSCOPE* **21(3)**. p 51–55.
155. Shearer BL, Crane CE (2003) The influence of soil from a topographic gradient in the Fitzgerald River National Park on mortality of *Banksia baxteri* following infection by *Phytophthora cinnamomi* (POSTER ABSTRACT). In *Phytophthora in Forests and Natural Ecosystems: 2nd International IUFRO Working Party 7.02.09 Meeting, Albany, W. Australia, 30 Sept–5 Oct 2001*. p 268.
156. Shearer BL, Crane CE (2005) The influence of soil from a topographic gradient in the Fitzgerald River National Park on mortality of *Banksia baxteri* following infection by *Phytophthora cinnamomi* (POSTER ABSTRACT). In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*, Department of Conservation and Land Management, Perth. p 35.
157. Shearer B, Crane C, Barrett S, Cochrane A (2005) *Phytophthora cinnamomi*: a major threatening process to flora biodiversity conservation in south western Australia. In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*, Department of Conservation and Land Management, Perth. p 18.
158. Shearer BL, Crane CE, Cochrane A (2005) Susceptibility to *Phytophthora cinnamomi* and phosphite effectiveness in the genus *Lambertia*. Department of Conservation and Land Management. 13 p.
159. Shearer BL, Fairman RG, Grant MJ (2006) Effective concentration of phosphite in controlling *Phytophthora cinnamomi* following stem injection of *Banksia* species and *Eucalyptus marginata*. *Forest Pathology* **36**. p 119–135.



## Statutory information

160. Spooner A (2005) Procedures for updating the Florabase descriptive database (Descat): user's guide. - Version 2.2, November 2005. Department of Conservation and Land Management, Kensington, WA. 19 p.
161. Spooner A (2005) To examine the pioneer botanical collections of Australian plants held in European herbaria: the Winston Churchill Memorial Trust of Australia: report. Department of Conservation and Land Management, Kensington, WA. 27 p.
162. Spooner A (2005) Type specimen imaging in Europe: Churchill Fellowship: preliminary report for the WA Herbarium. Department of Conservation and Land Management, Kensington, WA. 27 p.
163. Spooner A (2006) Procedures for updating the plant of the month webpage: user's guide. - Version 1.2, Jan 2006. Department of Conservation and Land Management, Kensington, WA. 8 p.
164. Start AN, Moro D, Adams M, Bencini R (2006) Dunnarts from Boullanger Island: new evidence and a reassessment of a taxonomic issue with resource implications. *Australian Mammalogy* **28**. p 51–58.
165. Stead-Richardson EJ, Bradshaw SD, Friend JA (2005) Monitoring reproduction and stress in the critically endangered marsupial Gilbert's potoroo (*Potorous gilbertii*: Potoroidae): non-invasive faecal steroid analysis (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct**. p 34.
166. Stead-Richardson EJ, Bradshaw SD, Friend JA (2005) Monitoring reproduction and stress in the critically endangered marsupial Gilbert's potoroo (*Potorous gilbertii*: Potoroidae): non-invasive faecal steroid analysis (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 13.
167. Stewart A, Bencini R, Bradshaw D, Friend T (2005) Population dynamics of an endangered marsupial (*Parantechinus apicalis*) and feral house mice (*Mus domesticus*) on the Jurien Bay island in Western Australia (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct**. p 34–35.
168. Stewart A, Bencini R, Bradshaw D, Friend T (2005) Population dynamics of an endangered marsupial (*Parantechinus apicalis*) and feral house mice (*Mus domesticus*) on the Jurien Bay islands in Western Australia (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 15.
169. Stone L (2005) Introducing perennial species to mitigate salinity: what are the potential risks and benefits to biodiversity? In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 19.

170. Strehlow K, Davis J, Sim L, Chambers J, Halse S, Hamilton D et al. (2005) Temporal changes between ecological regimes in a range of primary and secondary salinised wetlands. *Hydrobiologia* **552**. p 17–31.
171. Stukely M (2005) Report on mass plant deaths near Bluff Knoll, Stirling Range National Park. Department of Conservation and Land Management, Kensington, WA. 2 p.
172. Stukely M, Webster J, Ciampini, J (2005) Vegetation health service: annual report 2004–2005. Department of Conservation and Land Management, Kensington, WA. 9 p.
173. Stukely M, Wills A (2005) Observations of marri and jarrah crown decline near North Bannister. Department of Conservation and Land Management, Kensington, WA. 5 p.
174. Tauss C (2005) Surveying Western Australia's land edge 2: reference transects in coastal vegetation at Kalbarri, Mandurah and Albany, Western Australia. Western Australian Herbarium, Perth. 192 p.
175. Thomas N, Marlow N, Friend T (2005) Reintroduction of the boodie (Bettongia lesueur) into Dryandra Woodland (ABSTRACT). *Newsletter of the Australian Mammal Society* **Oct**. p 35.
176. Thomas N, Marlow N, Friend T (2005) Reintroduction of the boodie (Bettongia lesueur) into Dryandra Woodland (ABSTRACT). In *Australian Mammal Society: 51st Scientific Meeting Program and Abstracts, Albany, Western Australia, 4–8 July 2005*. Australian Mammal Society, Perth. p 9.
177. Trudgen ME, Rye BL (2005) Astus, a new Western Australian genus of Myrtaceae with heterocarpidic fruits. *Nuytsia* **15**. p 495–512.
178. Wardell-Johnson G, Burrows N, Li S (2006) Emergent patterns in the mosaic of patch burning vary with the fire environment and landscape context on south-western Australia. In *Bushfire Conference 2006: Brisbane, 6–9 June 2006: Life in a Fire-Prone Environment: Translating Science into Practice*. Southeast Queensland Fire and Biodiversity Consortium, Brisbane. p 1–6.
179. Wardell-Johnson G, Pullar D, van Neil K, Burrows N (2005) Towards a landscape conservation culture: anticipating change in the tingle mosaic, south-western Australia. *Australasian Plant Conservation* **14(2)**. p 6–8.
180. Warren K, Swan R, Bodetti T, Friend T, Hill S, Timms P (2005) Ocular Chlamydiales infections of western barred bandicoots (*Perameles bougainville*) in Western Australia. *Journal of Zoo and Wildlife Medicine* **36**. p 100–102.
181. Wayne AF (2005) The ecology of the koomal (*Trichosurus vulpecula hypoleucus*) and ngwayir (*Pseudocheirus occidentalis*) in the jarrah forests of south-western Australia. Thesis (PhD) - Australian National University. 280 p.



## Statutory information

182. Wayne AF, Cowling A, Lindenmayer DB, Ward CG, Vellios CV, Donnelly CF et al. (2006) The abundance of a threatened arboreal marsupial in relation to anthropogenic disturbances at local and landscape scales in Mediterranean-type forests in south-western Australia. *Biological Conservation* **127**. p 463–476.
183. Wayne AF, Cowling A, Rooney JF, Ward CG, Vellios CV, Lindenmayer DB et al. (2005) A comparison of survey methods for arboreal possums in jarrah forest, Western Australia. *Wildlife Research* **32**. p 701–714.
184. Wayne AF, Cowling A, Rooney JF, Ward CG, Wheeler IB, Lindenmayer DB et al. (2005) Factors affecting the detection of possums by spotlighting in Western Australia. *Wildlife Research* **32**. p 689–700.
185. Wayne AF, Rooney JF, Ward CG, Vellios CV, Lindenmayer DB (2005) The life history of *Pseudocheirus occidentalis* (Pseudocheiridae) in the jarrah forest of south-western Australia. *Australian Journal of Zoology* **53**.p 325–337.
186. Wayne AF, Ward CG, Rooney JF, Vellios CV, Lindenmayer DB (2005) The life history of *Trichosurus vulpecula hypoleucus* (Phalangeridae) in the jarrah forest of south-western Australia. *Australian Journal of Zoology* **53**. p 265–278.
187. Wege JA (2005) Blooming spectacular. *LANDSCOPE* **21(1)**. p 39–44.
188. Wege JA (2005) *Stylidium validum* (Stylidiaceae): a new trigger plant from southern Western Australia. *Journal of the Royal Society of Western Australia* **88**. p 13–16.
189. Western Australian Herbarium (2005) Woodland watch. Supplement 1, 2002 survey of wheatbelt woodlands. Western Australian Herbarium, Perth. 31 p.
190. Western Australian Herbarium (2005) Woodland watch. Supplement 2, 2003 survey of wheatbelt woodlands. Western Australian Herbarium, Perth. 29 p.
191. Western Australian Herbarium (2005) Woodland watch. Supplement 3, 2004 survey of wheatbelt woodlands. Western Australian Herbarium, Perth. 45 p.
192. Wheeler MA, Byrne M (2006) Congruence between phylogeographic patterns in cpDNA variation in *Eucalyptus marginata* (Myrtaceae) and geomorphology of the Darling Plateau, south-west of Western Australia. *Australian Journal of Botany* **54**. p 17–26.
193. Williams AAE (2006) Butterfly observations on Mauritius Island, with notes on three recently introduced lycaenids, *Leptomyrina phidias* (Fabricius), *Petrelaea sichela reticulum* (Mabille) and *Chilades pandava* (Horsfield) (Lepidoptera: Lycaenidae). *Newsletter of the Western Australian Insect Study Society* **Feb**. p 5–10.

194. Williams AAE, Algar D (2006) First record of *Euchrysops cnejus* (Fabricius) (Lepidoptera: Lycaenidae) on Christmas Island, Indian Ocean. *Australian Entomologist* **33**. p 111–112.
195. Williams AAE, Powell RJ (2006) The butterflies (Lepidoptera) of Middle, Woody, Sandy Hook and Goose islands in the Recherche Archipelago, Western Australia. *Australian Entomologist* **33**. 39–48.
196. Williams AAE, Williams M (2005) Endangered or extinct?: Kalgoorlie's arid bronze azure. *LANDSCOPE* **21(2)**. p 19–23.
197. Williams AAE, Williams MR, Swann G (2006) Records of butterflies (Lepidoptera) from the Kimberley region of Western Australia. *Victorian Entomologist* **36**. p 9–16.
198. Wittkuhn R, Hamilton T, McCaw L (2006) Fire interval sequences to aid in site selection for biodiversity studies: mapping the fire regime. In: *Bushfire Conference 2006: Brisbane, 6–9 June 2006: Life in a Fire-Prone Environment: Translating Science into Practice*. Southeast Queensland Fire and Biodiversity Consortium, Brisbane. p 1–6.
199. Wittkuhn R, Hamilton T, McCaw L, Metcalfe F, Carpenter C (2005) Learning from the past: the many uses of fire history mapping (POSTER). In *Australasian Fire Authorities Council and Bushfire CRC Innovation and Technology Conference Proceedings, Auckland, NZ, 5-7 Oct 2005*.
200. Wright LJ (ed) (2005) Science communications. - July 2005–October 2005. Department of Conservation and Land Management, Woodvale, WA. 8 p.
201. Wright LJ (ed) (2005) Science communications. - March 2005–May 2005. Department of Conservation and Land Management, Perth. 4 p.
202. Wright LJ (ed) (2006) Science communications. - November 2005–February 2006. Department of Conservation and Land Management, Woodvale, WA. 6 p.
203. Yates C, Gibson N, Dillon R, Clarke V (2005) Patterns of biodiversity in banded ironstone ranges: comparing the environment of four endemic *Tetratheca* taxa (POSTER ABSTRACT). In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 41.
204. Yates CJ, Ladd PG, Coates D, McArthur S (2005) Hierarchies of cause: understanding rarity in an endemic shrub with a highly restricted distribution. In *Advances in Plant Conservation Biology: Implications for Flora Management and Restoration: Symposium Program and Abstracts, Perth, Western Australia, 25–27 October 2005*. Department of Conservation and Land Management, Perth. p 5.



# Performance indicators

I certify that the performance indicators are based on proper records, are relevant and appropriate for assisting users to assess the Department of Conservation and Land Management's performance and fairly represent the performance of the Department of Conservation and Land Management for the financial year ended 30 June 2006.

**John Byrne**  
**Reporting Officer**  
**15 August 2006**

CALM's performance in 2005-2006 is reported in two parts: the first reports on operational effectiveness in achieving the two desired outcomes approved for the Department, and the second reports on the Department's efficiency in providing its five services. Key effectiveness targets for the two desired outcomes and key efficiency targets for the five services are approved by Parliament each year in the separately published Budget Statements for the State.

## I Key effectiveness indicators for Outcomes

1.1 Conservation of biodiversity (the variety of life forms: the different plants, animals and microorganisms, the genes they contain, and the ecosystems they form).

### 1.1.1 Threatened species management

A management system is in place to identify, protect and recover flora and fauna that is threatened with extinction or otherwise in need of special protection.

***Performance indicator: The identification and management of wildlife taxa that are threatened or requiring special conservation attention.***

Note: Threatened taxa conservation in WA involves two phases:

- i) the identification and listing in appropriate categories as determined by the level of threat and the level of available knowledge; and
- ii) management to enable threatened taxa to be de-listed, or re-listed in less threatened categories, and to obtain the necessary information for poorly known taxa to categorise them properly.

Indicators (a) and (b) below address these two phases.

- a) The number of the State's wildlife taxa identified and listed as either threatened or requiring special conservation attention, compared to previous years.

## Note

As from 1998-1999 the measure relates to actual listing changes to the declared lists of specially protected fauna and flora made by the Minister for the Environment and the lists of priority fauna and flora prepared by CALM. Recommendations made by the Threatened Species Scientific Committee, but not yet declared by the Minister, are not included.

## Measure

As shown in the table and graphs in this section, at 30 June 2006 there were 3,057 taxa (2,632 flora and 425 fauna) declared to be threatened (including presumed extinct) or specially protected, or included on CALM's priority flora and fauna lists. This represents an increase of 4.1 per cent in the number of taxa listed as having special conservation status compared to 2004-2005.

Twelve flora were added to the list of declared rare flora, one taxon was deleted from the list, and two taxa were synonymised into one, resulting in a net increase of 10 taxa on the list. In addition to the changes between the Priority Flora List and the list of declared rare flora, 132 flora were added to the Priority Flora List, and 13 flora deleted from this list.

No taxa were added to, or deleted from, the list of threatened fauna, and three taxa were added to the Priority Fauna List.

## Notes

Migratory bird species listed under Schedule 3 of the fauna notice are not included in the numbers of taxa requiring special protection as most are not WA species.

A taxon (plural taxa) is a term for any classificatory group of organisms, including species, subspecies and varieties. The indicator refers to the number of the State's wildlife taxa that are either:

- declared to be specially protected by the Minister for the Environment under the *Wildlife Conservation Act 1950*, that is, taxa that are considered to be either rare, likely to become extinct, or otherwise in need of special protection; or
- listed by CALM as priority flora or fauna, that is, taxa that are either poorly known but potentially in need of special protection based on the information available (Priorities 1 to 3), or rare but not currently threatened and in need of monitoring (Priority 4), or dependent on on-going conservation actions (Conservation Dependent – Priority 5).

There was a 4.1 per cent increase in the number of taxa listed as having special conservation status compared to 2004-2005.

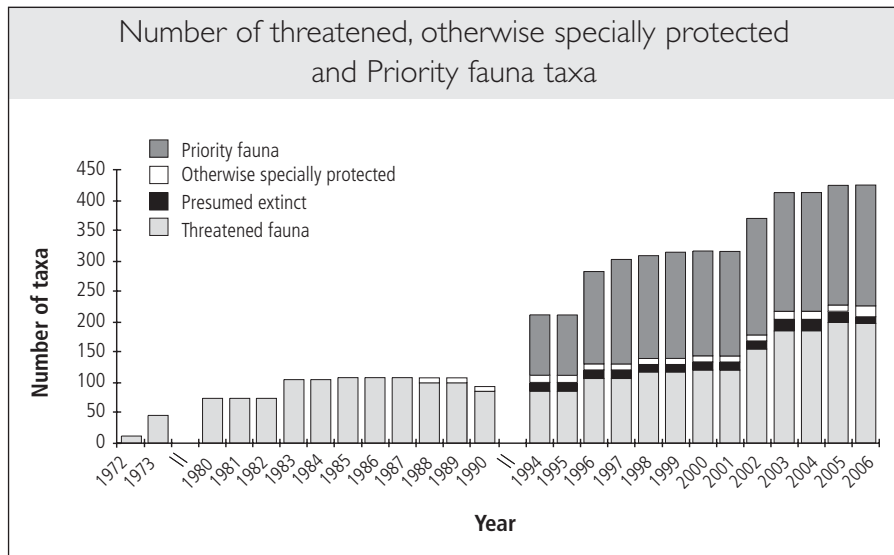
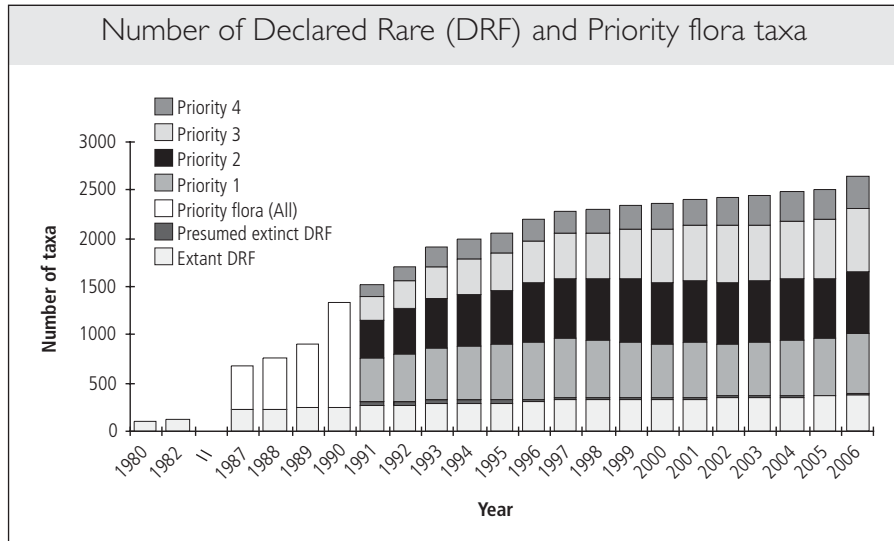




# Performance indicators

The increase in the number of taxa listed reflects CALM's maintenance of an enhanced knowledge base of the State's wildlife.

The increase in the number of taxa listed mainly reflects CALM's maintenance of an enhanced knowledge base of the State's wildlife through taxonomic revision, curation of collections, databasing of information, and field investigations, and does not in itself represent a change in the conservation status of the State's wildlife.



b) The recovery of threatened taxa as a consequence of specific management actions as demonstrated through case examples.

### Note

Given the probabilistic nature of the categories of threat, and the long-term nature of threatened taxa recovery, significant management actions may need to occur before a taxon moves from one category to a lower risk category. The measure of such movements thus will occur over long time periods.



## Measure

- i) *Acacia cochlocarpa* subsp. *cochlocarpa* is a sprawling shrub to 0.7 m tall and several metres wide. James Drummond made the first known collection of *A. cochlocarpa* and Meissner subsequently named the species in 1855. Maslin and Cowan formally split the species into two subspecies in 1994. Despite extensive surveys only two populations of less than 100 plants were known when the species was listed as Declared Rare Flora in 1997. Due to the small population sizes, restricted distribution and threats from road maintenance activities, inappropriate fire regimes and insect damage, the subspecies was ranked as Critically Endangered in 1998.

In 1998 a translocation program for the subspecies began with the sowing of 1,500 seeds at a nature reserve a few kilometres away from the known populations. An Interim Recovery Plan for this subspecies recommended continuation of the translocation program for the subspecies. Subsequent planting of seedlings took place at the original translocation site as well as at a second site in the same nature reserve. By the end of the financial year a further three plantings were undertaken, totalling 779 seedlings. At the most recent monitoring in June 2006, 484 (62 per cent) of the seedlings and 56 (68 per cent) of the seed that germinated were surviving.

The aims of the translocations were to establish a new population and to experimentally test translocation techniques. Although experimental treatments were implemented in the first year, due to the limited germination, none of the treatments could be statistically tested. In 1999 planting of seedlings was undertaken and experimental treatments tested included the need for summer watering and seedling age at planting. At the most recent monitoring in June 2006, survival results show little difference between seedling age at planting or whether water was given over the first summer (survival ranged from 83 per cent for two-year-olds with no summer watering, up to 88 per cent for one-year-olds with summer watering). The need for herbivore exclusion was investigated for seedlings planted in 2000. Survival results in 2006 show double the number of plants survive if they are fenced (64 per cent compared to 32 per cent). For the final planting in 2005 no treatments were tested due to low plant numbers. All of the plants from the first three years of planting have now flowered and produced viable seed which means the translocation has now met several of the short-term success criteria (that is survival, growth and reproduction).

Translocation has resulted in the number of plants of this subspecies increasing from 132 to 675 individuals – a five-fold increase (refer to the graph on page 178). In addition there are now two populations located on land reserved for conservation. This management action appears to have significantly improved the long-term future of this subspecies, and meets criteria for success as proposed in the Interim Recovery Plan (increase in the number of individuals and/or number of populations of the subspecies).

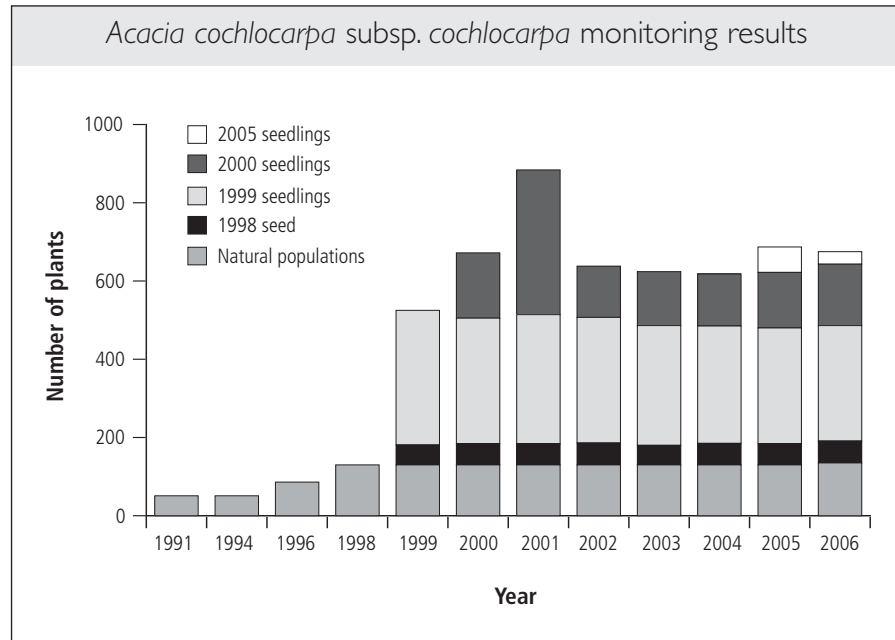
Translocation has led to a five-fold increase in the number of *Acacia cochlocarpa* subsp. *cochlocarpa* plants.



# Performance indicators

Previously listed as threatened, the woylie was removed from the list in 1996 following encouraging results from fox baiting and translocations.

The graph below shows the results of monitoring of natural and established plants of *Acacia cochlocarpa* subsp. *cochlocarpa*.

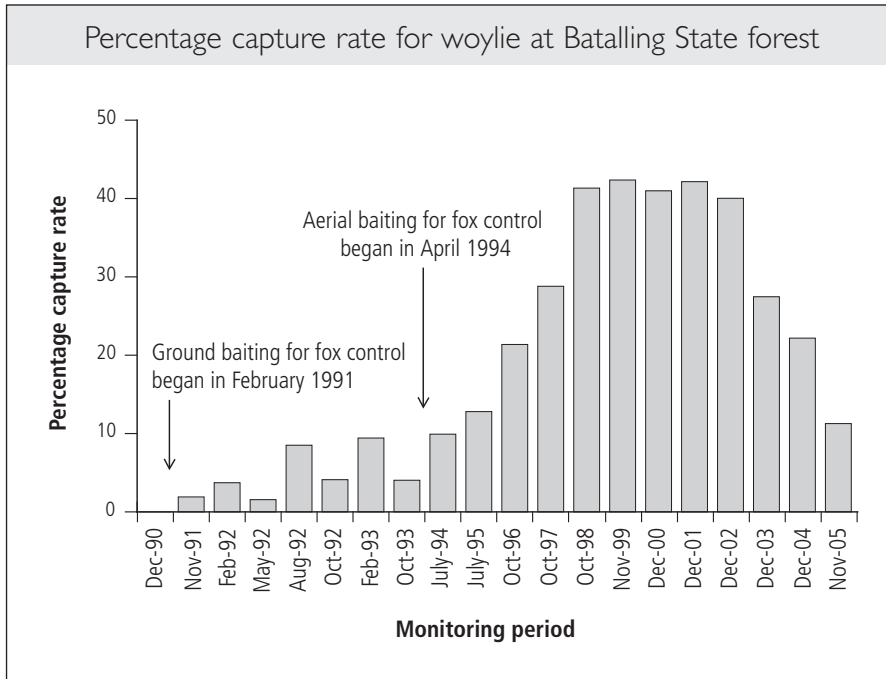


ii) Medium-sized mammals in the south-west of the State have generally declined in their population size and range due to loss of habitat and predation by foxes. Fox control under the *Western Shield* program can assist the recovery of these species in areas where animals still occur. In other areas where species have become locally extinct, translocation programs in conjunction with fox control to remove this threatening process may be implemented to re-establish the species in secure conservation reserves and State forest.

The figure shows the recovery of woylies at Batalling State forest block, following their reintroduction into the 2,456.7 ha main block in 1983. A rapid recovery of woylies was observed following the implementation of regular fox baiting, as reported in the 1999-2000 Annual Report. Although there is an apparent decline in percentage capture rate for woylies at the site since December 2002, the percentage capture rate is still greater than 7.5 per cent which was set as a success criterion in the recovery plan for the species. The population has in fact maintained a percentage capture rate of greater than 7.5 per cent for more than 12 years. A decline in percentage capture rate for woylies has also been observed at other monitoring sites and there is currently a research project investigating possible causes.

The woylie was previously listed as threatened but was removed from the list in 1996 following encouraging results from fox baiting and translocations. The woylie is now regarded as Conservation Dependent – that is, dependent on the ongoing fox control provided through *Western Shield* program.

This example is typical of the type of response achievable with properly planned habitat management and fauna translocations. Further examples of monitoring from other regions have been presented in previous annual reports.



The table below shows the number of flora and fauna taxa in each of the conservation categories, and target estimates, for each reporting year.

Year	Threatened		Presumed extinct		Specially protected		Priority listed	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
2000-01	500	454	34	35	11	11	2230	2230
2001-02	472	502	30	29	11	11	2780	2260
2002-03	538	538	28	28	11	11	2380	2280
2003-04	549	538	28	32	11	11	2300	2325
2004-05	560	561	33	32	11	11	2340	2333
2005-06	573	571	32	32	11	11	2370	2443
2006-07	580		32		11		2500	



# Performance indicators

The management programs for red and western grey kangaroo harvesting were first published in 1973.

## 1.1.2 Wildlife utilisation

Species such as kangaroos, crocodiles and a number of flora species (excluding timber) are commercially utilised and must be managed to ensure the use is sustainable.

*Performance indicator: Example population levels of harvested wildlife.*

### Notes

The management of flora is based on the non-destruction of the harvested plants and is therefore sustainable. Limited harvesting of breeding crocodiles, eggs and hatchlings occurs from the wild. Kangaroo harvesting, however, involves the taking of larger numbers of animals from the wild, and must, therefore, be managed in a manner that does not threaten the wild populations.

The management programs for red and western grey kangaroo harvesting were first published in 1973. These programs outline the basis of sustainable harvesting using population estimates and harvest quotas.

From 1981 to 1993, triennial aerial surveys were undertaken for red and western grey kangaroos over the pastoral region of WA to estimate the populations of these species. Since 1995 the surveys have been done annually, each covering one third (approximately 330,000km<sup>2</sup>) of the pastoral region.

Annual population estimates of red kangaroos, which occur in all three survey areas, are calculated from the survey data, with the estimates for the areas not surveyed in the current year being extrapolated using population trend information. Western grey kangaroo populations are only recalculated when the southern pastoral region, where this species mainly occurs, is surveyed.

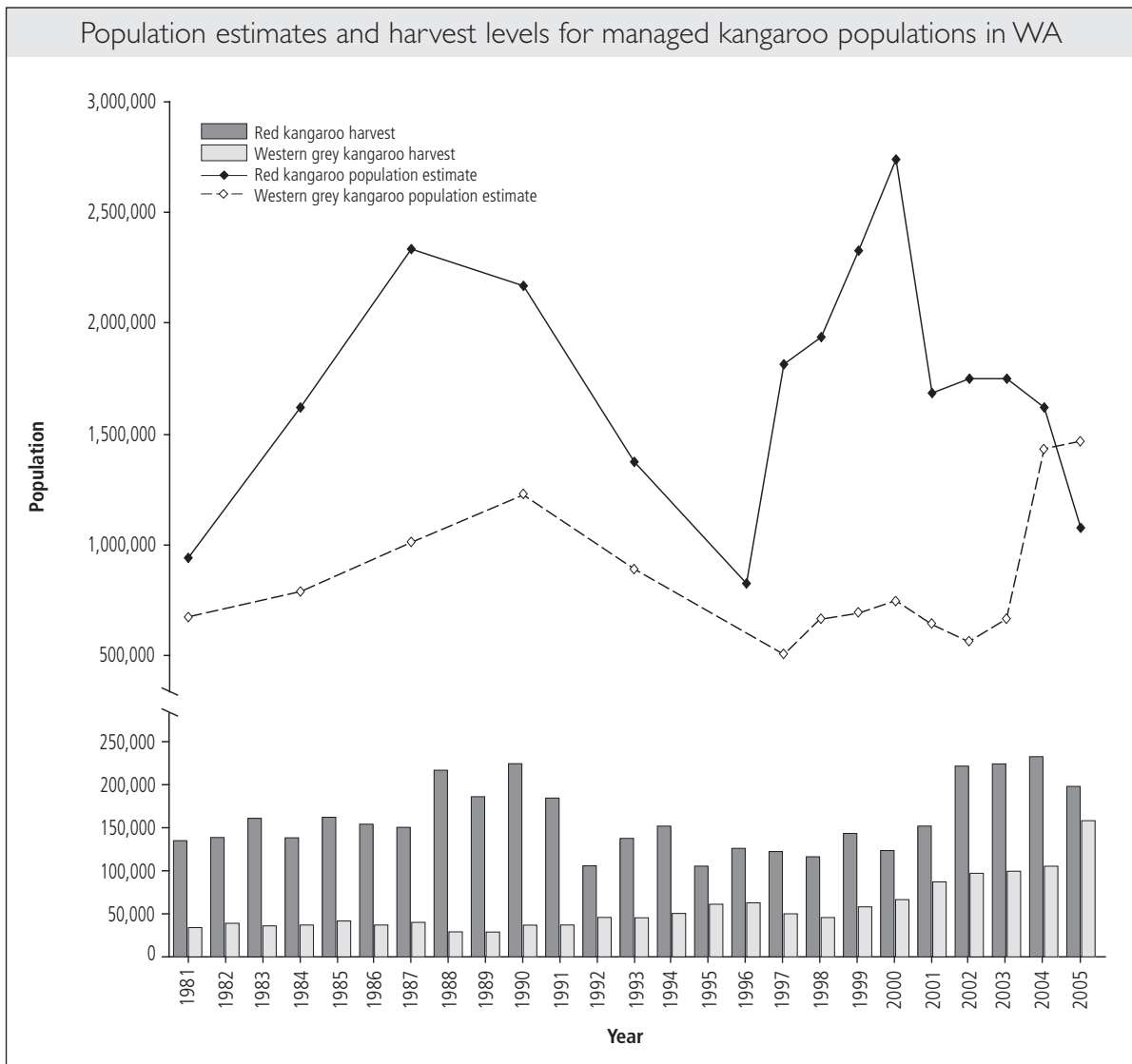
Surveys of western grey kangaroos have also occurred in the south-west forest areas since 2004, to provide a more accurate population estimate for this species.

Sustainable harvest quotas have been determined from historical monitoring, and are set at a maximum of around 20 per cent of the population estimate for red kangaroos, and 15 per cent for western grey kangaroos, with the actual quota based on:

- current population trends;
- seasonal conditions;
- review of previous harvests;
- the proportion of the habitat and population not subject to harvesting;
- current land use practice and trends in land use; and
- significance of the take outside the commercial quota.

## Measure

The graph illustrates the management of harvest levels that allow for the maintenance of kangaroo populations in areas where commercial harvesting occurs.



## Notes

Harvest levels are recorded for the previous calendar year as the quota for harvest is set on a calendar year basis, and delays occur in receiving harvest reports. The quota is set the previous year based on that year's population estimates.

Since 1998 population estimates for kangaroos have been corrected for temperature. This gives a more realistic estimate of kangaroo numbers. Previous years' population data have also been recalculated using the temperature correction.

Variations in the populations of the kangaroo species mainly reflect rangeland condition.

The variations observable in the populations of the kangaroo species mainly reflect rangeland condition, primarily as determined by rainfall, rather than the level of harvest permitted. As a natural feature of kangaroo population data, these fluctuations are taken into account over the longer term in setting sustainable harvest levels.

The addition of the survey of the south-west forest areas for western grey kangaroos accounts for the large increase in population estimate for this species since 2004.

Harvest levels, expressed as a percentage of the previous year's population estimate (on which the quota was based), for red and western grey kangaroos are presented below against the projected (target) estimates. Variation in the harvest percentage occurs due to seasonal conditions affecting harvest access and kangaroo numbers. Total harvest is, however, regulated through the quota allocation.

Year	Red kangaroo		Western grey kangaroo	
	Target level %	Harvest level %	Target level %	Harvest level %
2000-01	6.0	5.4	10.0	10.0
2001-02	5.0	5.5	9.0	11.6
2002-03	7.0	12.5	10.7	14.3
2003-04	12.0	12.5	14.0	17.6
2004-05	12.5	13.3	15.0	15.8
2005-06	15.4	12.2	10.5	11.0
2006-07	16.1		13.2	

### 1.1.3 Compliance with forest management standards

*Performance indicator: Satisfaction of the sustainable forest management standards of the Conservation Commission of WA.*

#### Note

The Conservation Commission adopted compliance with the Ministerial Conditions, Commitments and operational guidelines for the Forest Management Plan 1994-2003 as its standards for sustainable forest management pending finalisation of a new forest management plan. The Forest Management Plan 2004-2013 came into effect on 1 January 2004 and replaced the Forest Management Plan 1994-2003 and its Ministerial Conditions. CALM has a statutory requirement to manage State forest and timber reserves and regulate access to State forest and timber reserves by the Forest Products Commission and its contractors, and to ensure that operational guidelines and standards are met. Compliance is measured

through a field audit process that samples active and completed forest coupes in both jarrah and karri, in a range of rainfall zones that have or are being harvested by a range of contractors. The audits are conducted at least annually.

CALM conducted a field audit during the year, which forms the basis for compliance testing for the key effectiveness indicator. The audit tested compliance with operational standards set in the Forest Management Plan 2004-2013, the Manual of Management Guidelines for Timber Harvesting in WA and in a number of commitments carried forward from the previous plan.

CALM conducted a field audit during the year, which forms the basis for compliance testing for the key effectiveness indicator.

## Measures

### Compliance with the requirement to protect the integrity of management boundaries during harvesting.

The breach of a management boundary is considered an incident. Incidents are categorised as minor if a machine has crossed the informal reserve boundary with minimal soil disturbance or major if the crossing results in soil and vegetation disturbance or tree removal. The approved removal of trees from within zones for reasons of safety is not considered an incident. Compliance is presented in the following table.

	Stream zone			Diverse ecotype zone			Other management boundaries		
	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006	2003-2004	2004-2005	2005-2006
Length assessed (metres)	14,058	11,355	17,791	1,702	1079	2,456	5,345	7,470	7,291
No. of minor incidents	19	13	7	0	2	1	5	0	2
Length of minor incidents (metres)	144	133	101	0	13	5	45	0	9
No. of major incidents	8	0	3	0	0	2	0	1	0
Length of major incidents (metres)	112	0	22	0	0	5	0	120	0
Percentage of edge protected intact	98%	99%	99%	100%	99%	99%	99%	98%	100%

### Compliance with the requirement for phased logging in second order catchments

In all second order catchments in the intermediate and low rainfall zones of the jarrah forest subject to timber harvesting, there is a requirement to retain at least 30 per cent of each second order catchment at a basal area greater than 15 m<sup>2</sup>/ha for a period of at least 15 years after harvesting of the remainder of the catchment. The requirements were complied with for all areas sampled in 2003-2004, 2004-2005 and 2005-2006.

The average karri clear fell area size in 2005 was 8.4 ha, well below the maximum allowed of 40 ha.

### **Compliance with the requirements for catchments of high salt risk**

Within each catchment identified as having a high salt risk, there is a requirement to retain as unharvested an area of forest on rivers and streams additional to the FMP requirement for stream zone informal reserves. One coupe was harvested in each of 2002-2003 and 2003-2004 in a catchment identified as high salt risk and the increased area of unharvested forest was retained in accordance with the requirements. In 2004-2005 no coupes were harvested in a catchment identified as having a high salt risk. In 2006 a portion of a coupe was harvested in a high salt risk catchment, however, this was not sampled in this audit but will be included in the audit for 2006-2007.

### **Compliance with the requirement for the retention of habitat elements**

The requirements are the identification and marking of five primary habitat trees per hectare on all areas harvested and an additional six to eight secondary habitat trees per hectare in all jarrah forest cut to release regeneration (gap) or create regeneration (shelterwood) or in a selective cut in dieback-affected areas. There is also a requirement for the identification and marking of at least one example of ground habitat per hectare. The average number of habitat trees per hectare in areas sampled in 2004-2005 was 14.7 and in 2005-2006 it was 16. One of the 11 coupes sampled had less than the minimum required number of primary and secondary habitat trees. The average number of ground habitats per hectare was 0.5 in 2003-2004, 0.7 in 2004-2005, and 1.2 in 2005-2006. Only one coupe out of nine sampled was significantly below the required minimum number of ground habitat per hectare.

### **Compliance with the limit on the size of karri clear fell area**

The requirement is that the maximum size of a clear fell area in karri be 40 ha in two-tiered forest and 20 ha in regrowth forest. All areas sampled complied. The largest clear fell area recorded in 2003 was 41.4 ha, in 2004 it was 32.0 ha and in 2005 32.6 ha. The average clear fell area size was 12.4 ha in 2003, 7.9 ha in 2004, and 8.4 ha in 2005.

### **Compliance with pre-harvest, harvesting and post-harvest checks**

Prior to the start of any harvesting operation on State forest, checks must be made and documented on a wide range of factors that may be affected by the harvesting. Approval of the documentation by CALM signifies formal approval for an area to be harvested. In 2003-2004, 2004-2005 and 2005-2006 all coupes sampled complied with the pre-harvest check requirement.



During the harvesting operation a general inspection is required as often as considered necessary, and at the completion of harvesting an inspection and certification is required. In 2004-2005 and 2005-2006 all coupes sampled had documented evidence of inspections and certification.

### **Compliance with specifications for coupe demarcation**

Management boundaries, including those of the coupe, any fauna habitat zone and informal reserve, must be identified and demarcated prior to the start of tree felling. Ninety-nine per cent of boundaries assessed were marked correctly in 2003-2004, 100 per cent in 2004-2005 and 100 per cent in 2005-2006.

### **Compliance with requirements for the protection of soil**

When the extraction of logs is completed in any block, and prior to machinery leaving the site, interceptor banks and drains must be constructed across all extraction tracks and firebreaks with exposed soil to minimise the risk of erosion. Seventy-nine per cent of assessed track complied with the requirement in 2003-2004, 94 per cent in 2004-2005 and 97 per cent in 2005-2006.

### **Compliance with requirements for the protection of threatened flora**

Field searches are conducted along proposed road alignments, log landing and gravel pit sites to identify threatened flora before clearing operations begin. Located populations of threatened flora are demarcated and protected from disturbing activity or if that is not possible, approval to 'take' is sought. In 2003-2004 all 13 sampled coupes had records of searches, in 2004-2005 all 10 coupes sampled had records of searches and in 2005-2006 all 11 coupes sampled had records of searches.

### **Compliance with requirements for the protection of threatened fauna**

Areas planned for harvesting are assessed in a desktop procedure with a system (Fauna Distribution Information System) that identifies the probability of habitats of threatened fauna occurring. Databases containing records of known habitats, populations and sightings are also consulted. The desktop procedure is yet to be formally approved. All coupes sampled in 2003-2004, 2004-2005 and 2005-2006 had evidence of the procedure being implemented.

### **Summary of compliance**

The target for compliance with forest management standards is 95 per cent. The achievement for each measure for 2004-2005 and 2005-2006 is summarised in the table on page 186.

The target for compliance with forest management standards is 95 per cent – the figure achieved in 2005-2006 was 97 per cent.



# Performance indicators

Compliance with individual measures (%)		
Measure	2004-2005	2005-2006
Protect management boundaries in harvesting	99	100
Phased logging in second order catchments	100	100
Requirements for catchments of high salt-risk	100	NA
Retention of habitat trees	100	91
Retention of ground habitat	44	66
Size of karri clear fell areas	100	100
Pre-harvest planning checklists	100	100
Complete harvesting inspection report	100	100
Complete a post harvest inspection and certification report	100	100
Specifications for coupe demarcation	100	100
Requirements for the protection of soil	94	97
Requirements for the protection of threatened flora	100	100
Requirements for the protection of threatened fauna	100	100
Average compliance	95.1	96.2

## 1.2 Community understanding, enjoyment and appreciation of parks, wildlife and the natural environment and involvement in their management.

### 1.2.1 Visitor satisfaction with Visitor Services parks and visit overall

*Performance indicator: The extent to which visitors are satisfied with their visit overall to recreation areas managed by CALM.*

#### Notes

As a result of the review of CALM's visitor survey program in 2004-2005, a more user friendly and appealing survey form was distributed to visitors to parks across the State during 2005-2006. The methodology for distribution of survey forms to visitors has also improved. This was achieved by using CALM's campground hosts and other volunteers to distribute and collect completed forms from respondents, in addition to CALM staff conducting this task and reply paid envelopes already in place previously.

This survey program enhances the rigour of measuring the overall level of visitor satisfaction to CALM-managed recreation areas as well as providing for a benchmark Visitor Satisfaction Index (VSI) and the collection of other information

useful for planning and management purposes. The survey was conducted on an ongoing basis across a broad range of parks, reserves and forest areas to account for the geographic spread of these areas and associated seasonal variation in visitor patterns across the State.

Respondents to the 2005-06 survey program displayed the following characteristics:

- 44 per cent of respondents were from WA, 39 per cent from interstate and the remaining 17 per cent from overseas;
- the majority of respondents surveyed were visiting with family and/or friends as opposed to travelling on their own, with an organised group or on a tour;
- the largest proportion of respondents were in the 40-59 year age bracket, being 37 per cent of visitors, followed by the 60 and over and the 25-39 year age brackets, which comprised 26 and 24 per cent of respondents respectively; and
- 73 per cent of respondents overall were first time visitors to the recreation areas surveyed.

Approximately 8,492 surveys were distributed throughout the year to visitors to 27 parks/recreation sites across the State with 2,533 or 30 per cent completed surveys returned. One recreation site from the 2004-2005 survey had the forms processed in 2005-2006, as these arrived after the end of May 2005 deadline set for data entry, analysis and reporting requirements for the year. The late completed forms received from this site were not included in the response rate, as the number of forms given out was already taken into account in 2004-2005. However, the total number of parks surveyed was 28 with this site included. At a 95 per cent confidence level, the survey responses reported have a standard error within the range of  $\pm 1.63$  per cent.

A large number of forms was received after the deadline for data entry and analysis and therefore could not be included in these figures.

## Measures

As part of the survey program, a benchmark Visitor Satisfaction Index has been adopted in order to compare visitor satisfaction levels each year. This benchmark has been set at 6.1 on a rating scale from 1 (extremely dissatisfied) to 7 (extremely satisfied). The 2005-2006 index averaged from visitor responses to the survey at the selected parks, reserves and forest areas around the State was 6.2, which is above the benchmark of 6.1. This is illustrated in the **Visitor satisfaction** graph, along with the results from the previous years of the survey program.

Seventy three per cent of respondents to CALM's visitor survey program were first time visitors to the recreation area surveyed.



# Performance indicators



Expressed as a percentage, an index figure of 6.2 equates to 86.6 per cent. This exceeds the target figure of 85 per cent in the 2005-2006 Budget Statements. The survey also asked visitors to rate the condition and management of the site they visited, the activities in which they participated and their overall experience at the site. All these factors contribute to the visitors' overall experience during their visit. The **Visitor experience ratings** graph indicates that the attractiveness of the area, professionalism and knowledge of CALM staff, the enjoyment derived from leisure activities and the condition and management of facilities received the highest ratings from visitors' responses to this part of the survey. These were also the highest ratings given from responses to the surveys conducted last year.



## 1.2.2 The extent to which the public has shown interest/support for CALM-managed recreation areas, facilities and services

The ongoing commitment and level of involvement by volunteers indicated public support for the CALM's management programs and CALM's ability to balance competing land uses to aid public enjoyment and protect conservation values.

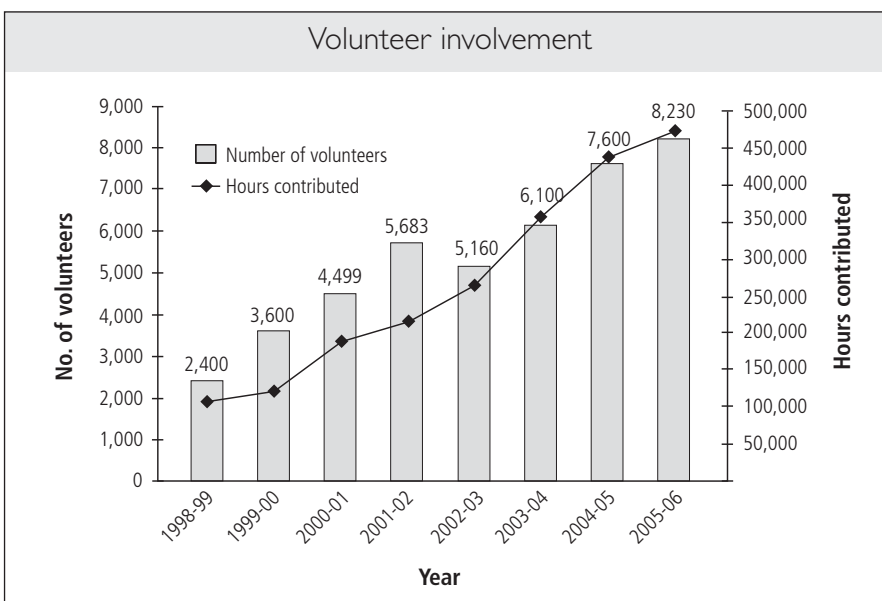
### Measures

As illustrated in the Volunteer Involvement graph, the number of volunteer hours spent on various nature conservation and visitor services projects during 2005-2006 totalled 469,900 hours, an increase of six per cent on last year's figure of 444,000. This year the Kununurra-based Toadbuster community program aimed at halting the movement of cane toads into WA provided a substantial contribution to the total volunteer hours.

The number of registered volunteers on the database at the end of 2005-2006 was 8,230 of whom 3,882 contributed to various projects during the year. At the time of compiling these figures a number of incorporated groups and project leaders had yet to submit their annual returns.

The program continued to provide community members with an opportunity to view the management practices and constraints CALM operates under and provides volunteers with enjoyable and fulfilling positions in areas of their interest.

The number of volunteer hours spent on nature conservation and visitor services projects during 2005-2006 totalled 469,900.





# Performance indicators

The number of visits to CALM-managed lands and waters for 2005-2006 totalled 11.8 million.

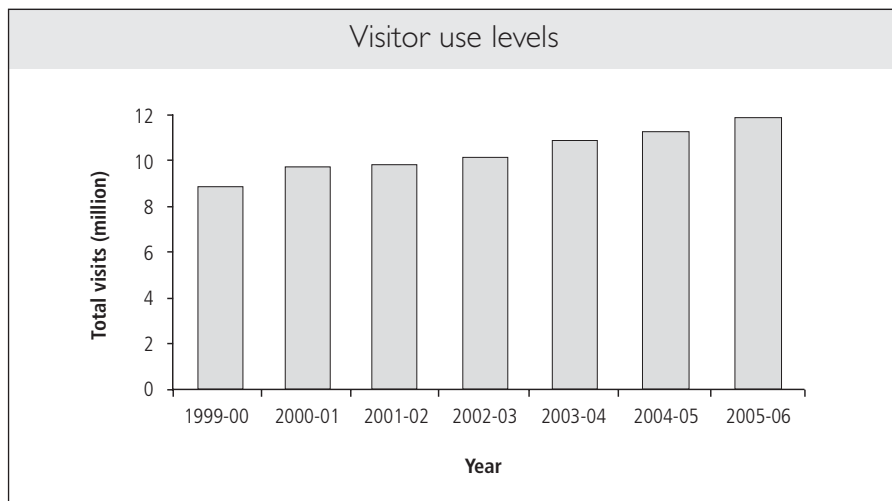
## 1.2.3 The number of visits to recreation areas managed by CALM

### Note

The number of visits to recreation areas is based on data from CALM's Visitor Information and Statistics (VISTAT) Program.

### Measures

Data from VISTAT indicate that the number of visits to CALM-managed lands and waters for 2005-2006 totalled 11,842,000. As illustrated in the Visitor use levels graph, this figure comprised both recorded numbers of visits from traffic counter devices, surveys and other data sources, as well as estimated numbers of visits based on field observation. This figure represents a substantial increase of 7.8 per cent on the 10,990,000 visits in 2004-2005.



This increase in visits is higher than forecast and reflects a strong and continuing interest by the public in visiting natural areas managed by CALM, despite factors such as cyclones and floods limiting visitation to some recreation areas, and increased fuel costs.

To compare long-term trends in visitor use levels and patterns, Cape Le Grand, Nambung and Purnululu national parks have been selected as they represent protected areas with low, medium and high levels of visitation.

National parks	2002-2003	2003-2004	2004-2005	2005-2006
Cape Le Grand	105,000	110,000	117,000	125,000
Nambung	206,000	212,000	223,000	259,000
Purnululu	21,000	23,000	22,000	24,000

As indicated in the table above, all parks have experienced an increase in visitor numbers over the previous 12 months.

During 2005-2006, 7,066 people visited the Perth Observatory.

## 1.2.4 Customer satisfaction with the services provided by the Perth Observatory

*Performance indicator: The level of customer satisfaction with the services provided by the Perth Observatory.*

### Note

During 2005-2006, 7,066 people visited the Perth Observatory, 3,192 people used the recorded information line, 13,210 telephoned and 518 emailed seeking information.

Seven hundred customer survey questionnaires were distributed: 640 to Observatory star viewing night and day visitors between July 2005 and May 2006, and 60 to customers of Perth Observatory services such as lectures and natural lighting consultancies.

At a 95 per cent confidence level the survey responses reported below have a standard error within the range  $\pm 3.4$  per cent.

### Measure

The table Overall satisfaction with Perth Observatory shows the combined analysis of 382 (55 per cent) responses to the visitors' survey question 'How satisfied were you with the services provided by Perth Observatory?' The responses indicate levels of satisfaction consistent across all types of visits and services.

Overall satisfaction with Perth Observatory									
Response	1997-98 %	1998-99 %	1999-00 %	2000-01 %	2001-02 %	2002-03 %	2003-04 %	2004-05 %	2005-06 %
Very satisfied	68.7	71.3	75.1	72.8	64.5	67.9	78.7	73.8	71.2
Satisfied	29.9	26.4	23.9	25.3	31.3	26.5	19.3	24.0	27.0
Neither satisfied or dissatisfied	1.2	2.3	0.8	1.9	3.4	3.0	1.4	2.2	1.6
Dissatisfied	0.2	0.0	0.0	0.0	0.7	1.1	0.3	0.0	0.3
Very dissatisfied	0.0	0.0	0.2	0.0	0.0	1.5	0.3	0.0	0.0



# Performance indicators

Survey responses showed that 97 per cent of visitors to Perth Observatory agreed or strongly agreed that the visit increased their knowledge of astronomy.

## 1.2.5 The extent to which visitors perceive the information presented during their tour of the Perth Observatory increased their knowledge and awareness of astronomy.

### Note

This indicator relates to the educational role of the Perth Observatory in meeting the demand by the community for information on astronomy and measures the extent to which that demand is met.

### Measure

The Increased knowledge and awareness of astronomy table illustrates visitors' perception as measured by the visitors' survey described above. The analysis of the 347 (54 per cent) responses to the question 'To what extent do you agree that the information presented on the tour increased your knowledge of and awareness of astronomy?' indicates levels of satisfaction consistent across all types of visits.

Increased knowledge and awareness of astronomy									
Response	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
	%	%	%	%	%	%	%	%	%
Strongly agree	45.4	52.6	54.9	57.6	42.0	45.0	59.4	60.8	59.7
Agree	50.9	45.5	43.9	38.9	53.4	49.8	38.5	35.9	37.5
Neither agree or disagree	3.5	1.9	1.2	3.5	4.6	4.4	2.1	3.3	2.6
Disagree	0.2	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.3
Strongly disagree	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

## 1.2.6 Research findings published in internationally recognised journals.

### Note

One of the aims of Perth Observatory is to further scientific research in astronomy. One method of measuring the contribution to scientific research is to determine the number of articles published in internationally recognised scientific journals. The publishers of these journals independently evaluate articles submitted to ensure they meet appropriate standards and criteria. Publication in these journals evidences that the Perth Observatory is adding to scientific knowledge and therefore furthering scientific research.

### Measure

During 2005-2006, the Perth Observatory had one (four in 2004-2005) article published in internationally recognised journals. This is three less than the target number in the 2005-2006 Budget Statements. This decrease reflects the inherent



fluctuation in the number of papers associated with the ongoing, protracted and complex nature of the research output, the external collaboration required, the relatively small number of papers involved each year, and a retirement which effectively reduced the number of scientific staff by 25 per cent. However, the sole paper published documented the discovery of an Earth-like planet, in the prestigious scientific publication *Nature*, which has a citation rate five times higher than that of the main international astronomy journals.

There were 11 (19 in 2004-2005) other papers related to scientific data on astronomical objects also published as articles in educational journals, popular magazines, newsletters or internal reports.

The Perth Observatory had 11 papers related to scientific data published as articles.

## 2 Key efficiency indicators for Services

### 2.1 Nature Conservation – Service I

#### 2.1.1 Wildlife and habitat management – cost per hectare managed

##### Note

This measure is the target and actual accrual basis gross total cost (excluding revenues) per hectare of managing nature conservation on CALM-managed lands and waters. The measure provides an indicative comparison between years and against projected targets. Cost variations occur with acquisition of new lands and implementation of new management programs.

Land management cost per hectare		
Year	Target \$ per ha	Actual \$ per ha
2000-2001	1.98	2.03
2001-2002	2.63	2.28
2002-2003	2.58	2.77
2003-2004	2.58	2.76
2004-2005	2.72	3.08
2005-2006	2.83	3.30
2006-2007	3.31	

The cost per hectare for managing State forest was \$29.59.

## 2.2 Sustainable Forest Management – Service 2

### 2.2.1 Average cost per hectare of managing State forest and timber reserves

#### Note

The figure used is the accrual basis average gross cost per hectare of managing State forest and timber reserves in accordance with the relevant management plan. The area managed is less than the area of gazetted State forest and timber reserve because areas of State forest and timber reserve proposed to become part of the formal conservation reserve system in the *Forest Management Plan 2004-2013* are being managed as if the land category change had already occurred. The area managed totalled 1,297,800 ha.

#### Measure

The cost per hectare managed was \$29.59, a decrease on the target cost of \$29.75 in the 2005-2006 Budget Statements.

2002-2003: \$19.75 actual cost per ha
2003-2004: \$27.50 actual cost per ha
2004-2005: \$31.52 actual cost per ha
2005-2006: \$29.59 actual cost per ha

## 2.3 Performance of statutory functions by the Conservation Commission of WA – Service 3

### 2.3.1 The average cost per management plan/significant policy submitted for the Conservation Commission's consideration

#### Note

The figure used is the accrual basis average cost of consideration by the Conservation Commission of draft management plans approved for release; final management plans submitted to the Minister; significant CALM policies commented on and/or significant submissions made to third parties on other matters relevant to its functions; and audits conducted.

#### Measure

The average cost per management plan/significant policy considered or audit conducted by the Conservation Commission was \$11,192, a decrease on the target cost of \$16,000 in the 2005-2006 Budget Statements.

Year	Average cost per management plan/significant policy/audit \$	Target cost per management plan/significant policy/audit \$	Variation from target cost per management plan/significant policy/audit \$
2004-2005	11,828	15,568	3,740
2005-2006	11,192	16,000	4,808



## 2.4 Parks and Visitor Services – Service 4

### 2.4.1 Cost per visit

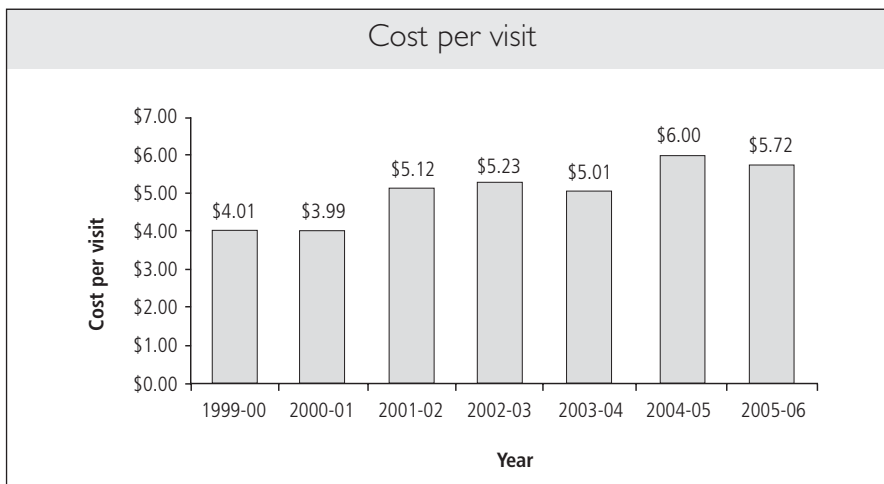
#### Note

The accrual basis total cost (excluding revenues) of Parks and Visitor Services, expressed as a cost per recorded visit to CALM-managed lands and waters.

#### Measure

The 2005-2006 gross cost per visit was \$5.72, a decrease compared to the figure of \$6.00 reported for the 2004-2005 financial year but still above the target figure of \$5.33. The decrease was primarily due to the substantial increase in the number of visits to CALM-managed lands and waters in 2005-2006. The figure remains above the target figure because of the ongoing capital investment in park infrastructure.

The cost per visit decreased during 2005-2006 because of the substantial increase in visitors to CALM-managed lands and waters.



### 2.4.2 Ratio of total cost of services to operating revenues

#### Note

The accrual basis total cost of provided Parks and Visitor Services, expressed as a ratio of operating revenue from those services.

#### Measure

With total expenditure of \$67,729,000 and operating revenue of \$14,529,000 the 2005-2006 ratio was 4.66:1, a decrease of 0.04 on the ratio of 4.70:1 recorded in 2004-2005.

During 2005-2006 the Perth Observatory responded to 19,968 enquiries.

## 2.5 Astronomical Services – Service 5

### 2.5.1 Cost per tour visitor

#### Note

The Perth Observatory conducts an on-site educational program through guided tours for school and community groups, tourists and the general public. This indicator shows the average accrual gross cost per tour visitor based on 2005-2006 tour participation totalling 7,066 (2004-2005 6,886). This total comprised 5,454 night visitors and 1,612 day visitors.

This is 1,968 less than the target attendance of 9,000 in the 2005-2006 Budget Statements and reflects the lack of 'high-profile' celestial events this year, a staff shortage, and the reluctance of schoolteachers to undertake excursions owing to general legal concerns.

#### Measure

The cost per visitor in 2005-2006 was \$43.07 (2004-2005 \$47.35), an increase of \$11.07 on the target cost of \$32.00 in the 2005-2006 Budget Statements. This measure increased owing to reduced visitation while operating costs that entail substantial overheads remained fixed.

### 2.5.2 Cost per enquiry

#### Note

This indicator shows the average accrual gross cost relating to the Perth Observatory receiving and responding to enquiries about astronomical information by way of the information line, telephone calls and attendance at astronomy talks and field nights.

#### Measure

During 2005-2006, 3,192 people used the recorded information line, 13,210 telephoned, 518 emailed and 3,048 participated in field nights, talks and student consultations. The total of 19,968 was 32 higher than the target of 20,000.

Based on a total of 19,968 enquiries in 2005-2006, the cost per enquiry was \$22.38 (22,333 enquiries \$22.88 in 2004-2005). This is a decrease of \$0.07 on the target cost of \$22.45 in the 2005-2006 Budget Statements. This measure decreased owing to the sustained increase in use of information services while operating costs that entail substantial overheads remained fixed.

### 2.5.3 Cost of research activities per refereed research paper

#### Note

This indicator shows the average accrual gross cost of the Perth Observatory's research activities expressed as an average per refereed scientific research paper.

#### Measure

In 2005-2006 the average cost per paper of the research activities supporting the one refereed research paper was \$421,853 (four papers at \$121,405 in 2004-2005), an increase of \$294,853 on the target cost of \$127,000 in the 2005-2006 Budget Statements. This increase reflects the ongoing, protracted and complex nature of the research output, the external collaboration required, and the relatively small number of papers involved each year. However, in 2005-2006 the sole paper was published in *Nature*, a publication with a high impact and wide citation.

Perth Observatory had a paper published in the prestigious publication *Nature*, during the year.

### 2.5.4 Cost of research activities per 1,000 head of WA population

#### Note

This indicator shows the accrual gross cost of the Perth Observatory's research activities expressed as an average cost per 1,000 head of WA population.

#### Measure

The cost of research activities per 1,000 head of WA population was \$210 in 2005-2006 (\$240 in 2004-2005) an increase of \$2 on the target cost of \$208 in the 2005-2006 Budget Statements.



## AUDITOR GENERAL

### INDEPENDENT AUDIT OPINION

To the Parliament of Western Australia

#### DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT FINANCIAL STATEMENTS AND PERFORMANCE INDICATORS FOR THE YEAR ENDED 30 JUNE 2006

##### **Audit Opinion**

In my opinion,

- (i) the financial statements are based on proper accounts and present fairly the financial position of the Department of Conservation and Land Management at 30 June 2006 and its financial performance and cash flows for the year ended on that date. They are in accordance with applicable Accounting Standards and other mandatory professional reporting requirements in Australia and the Treasurer's Instructions;
- (ii) the controls exercised by the Department provide reasonable assurance that the receipt, expenditure and investment of moneys, the acquisition and disposal of property, and the incurring of liabilities have been in accordance with legislative provisions; and
- (iii) the key effectiveness and efficiency performance indicators of the Department are relevant and appropriate to help users assess the Department's performance and fairly represent the indicated performance for the year ended 30 June 2006.

##### **Scope**

The Executive Director is responsible for keeping proper accounts and maintaining adequate systems of internal control, for preparing the financial statements and performance indicators, and complying with the Financial Administration and Audit Act 1985 (the Act) and other relevant written law.

The financial statements consist of the Income Statement, Balance Sheet, Statement of Changes in Equity, Cash Flow Statement, Schedule of Income and Expenses by Service, Summary of Consolidated Fund Appropriations and Revenue Estimates, and the Notes to the Financial Statements.

The performance indicators consist of key indicators of effectiveness and efficiency.

##### **Summary of my Role**

As required by the Act, I have independently audited the accounts, financial statements and performance indicators to express an opinion on the financial statements, controls and performance indicators. This was done by testing selected samples of the evidence. Further information on my audit approach is provided in my audit practice statement. Refer "<http://www.audit.wa.gov.au/pubs/Audit-Practice-Statement.pdf>".

An audit does not guarantee that every amount and disclosure in the financial statements and performance indicators is error free. The term "reasonable assurance" recognises that an audit does not examine all evidence and every transaction. However, my audit procedures should identify errors or omissions significant enough to adversely affect the decisions of users of the financial statements and performance indicators.

D D R PEARSON  
AUDITOR GENERAL  
25 September 2006

# Financial statements



The accompanying financial statements of the Department of Conservation and Land Management (CALM) have been prepared in compliance with the provisions of the *Financial Administration and Audit Act 1985* from proper accounts and records to present fairly the financial transactions for the financial year ending 30 June 2006 and the financial position as at 30 June 2006.

At the date of signing I am not aware of any circumstances that would render the particulars included in the financial statements misleading or inaccurate.



**John Byrne**  
**REPORTING OFFICER**  
15 August 2006

# Financial statements

Department of Conservation and Land Management Income Statement for the year ended 30 June 2006			
	Note	2006 \$'000	2005 \$'000
<b>COST OF SERVICES</b>			
<b>Expenses</b>			
Employee benefits expense	4	91,013	86,886
Supplies and services	5	54,283	53,481
Depreciation and amortisation expense	6	13,977	14,397
Accommodation expenses	7	1,974	2,029
Grants and subsidies	8	1,347	584
Capital user charge	9	15,640	13,418
Other expenses	10	15,010	15,905
<b>Total cost of services</b>		<b>193,244</b>	<b>186,700</b>
<b>Income</b>			
<b>Revenue</b>			
User charges and fees	11	30,983	28,721
Commonwealth grants and contributions	12	8,006	4,490
Other grants and contributions	13	4,567	3,446
Interest revenue		1,735	1,513
Other revenue	15	6,413	6,676
<b>Total revenue</b>		<b>51,704</b>	<b>44,846</b>
<b>Gains</b>			
Gain on disposal of non-current asset	14	1,425	603
<b>Total income other than from State Government</b>		<b>53,129</b>	<b>45,449</b>
<b>NET COST OF SERVICES</b>		<b>140,115</b>	<b>141,251</b>
<b>INCOME FROM STATE GOVERNMENT</b>		16	
Service appropriation		147,551	141,596
Liabilities assumed by the Treasurer		1,053	1,398
Assets assumed (transferred)		5	12,774
Resources received free of charge		916	1,368
<b>Total income from State Government</b>		<b>149,525</b>	<b>157,136</b>
<b>SURPLUS/DEFICIT FOR THE PERIOD</b>		<b>9,410</b>	<b>15,885</b>

The Income Statement should be read in conjunction with the accompanying notes



# Financial statements

Department of Conservation and Land Management			
Balance Sheet			
as at 30 June 2006			
	Note	2006 \$'000	2005 \$'000
<b>ASSETS</b>			
<b>Current assets</b>			
Cash and cash equivalents	30	42,027	36,844
Restricted cash and cash equivalents	17	1	4
Inventories	18	351	480
Receivables	19	9,187	7,472
Amounts receivable for services	20	6,706	4,214
Other current assets	21	1,188	945
Non-current assets classified as held for sale	22	6	675
<b>Total current assets</b>		<b>59,466</b>	<b>50,634</b>
<b>Non-current assets</b>			
Restricted cash and cash equivalents	17	333	0
Inventories	18	1,404	1,919
Amounts receivable for services	20	39,241	30,608
Property, plant and equipment	23	2,676,885	2,361,876
<b>Total non-current assets</b>		<b>2,717,863</b>	<b>2,394,403</b>
<b>TOTAL ASSETS</b>		<b>2,777,329</b>	<b>2,445,037</b>
<b>LIABILITIES</b>			
<b>Current liabilities</b>			
Payables	26	8,116	5,125
Provisions	27	14,812	14,475
Other current liabilities	28	3,070	2,542
<b>Total current liabilities</b>		<b>25,998</b>	<b>22,142</b>
<b>Non-current liabilities</b>			
Provisions	27	6,734	6,501
<b>Total non-current liabilities</b>		<b>6,734</b>	<b>6,501</b>
<b>TOTAL LIABILITIES</b>		<b>32,732</b>	<b>28,643</b>
<b>Net assets</b>		<b>2,744,597</b>	<b>2,416,394</b>
<b>Equity</b>			
Contributed equity	29	10,626	0
Reserves	29	2,500,952	2,192,785
Accumulated surplus/(deficiency)		233,019	223,609
<b>Total equity</b>		<b>2,744,597</b>	<b>2,416,394</b>
<b>TOTAL LIABILITIES AND EQUITY</b>		<b>2,777,329</b>	<b>2,445,037</b>

The Balance Sheet should be read in conjunction with the accompanying notes.

# Financial statements

Department of Conservation and Land Management Statement of Changes in Equity for the year ended 30 June 2006			
	Note	2006 \$'000	2005 \$'000
<b>Balance of equity at start of period</b>	42	<b>2,416,394</b>	<b>2,370,060</b>
<b>CONTRIBUTED EQUITY</b>	<b>29</b>		
Balance at start of period		0	15,015
Capital contribution		10,983	13,660
Other contributions by owners		499	8,077
Distributions to owners		(856)	(235,975)
Transfer to accumulated surplus		0	199,223
<b>Balance at end of period</b>		<b>10,626</b>	<b>0</b>
<b>RESERVES</b>	<b>29</b>		
<b>Asset revaluation reserve</b>			
Balance at start of period		2,192,785	2,160,643
Gains/(losses) from asset revaluation		308,167	32,142
<b>Balance at end of period</b>		<b>2,500,952</b>	<b>2,192,785</b>
<b>ACCUMULATED SURPLUS (RETAINED EARNINGS)</b>	<b>29</b>		
Balance at start of period		223,609	406,947
Change in accounting policy or correction of prior period errors			
Restated balance at start of period		223,609	406,947
Surplus/(deficit) or profit/(loss) for the period		9,410	15,885
Gain/(losses) recognised directly in equity			
Transfer from contributed equity		0	(199,223)
<b>Balance at end of period</b>		<b>233,019</b>	<b>223,609</b>
<b>Balance of equity at end of period</b>		<b>2,744,597</b>	<b>2,416,394</b>
<b>Total income and expense for the period</b>		<b>9,410</b>	<b>15,885</b>

The Statement of Changes in Equity should be read in conjunction with the accompanying notes.

# Financial statements

Department of Conservation and Land Management Cash Flow Statement for the year ended 30 June 2006			
	Note	2006 \$'000	2005 \$'000
<b>CASH FLOWS FROM STATE GOVERNMENT</b>			
Service appropriation		132,212	128,581
Capital contributions		10,983	13,660
Holding account drawdowns		4,214	4,214
Non-retained revenue distributed to owner		0	(654)
<b>Net cash provided by State Government</b>		<b>147,409</b>	<b>145,801</b>
<b>Utilised as follows:</b>			
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
<b>Payments</b>			
Employee benefits		(88,380)	(87,184)
Supplies and services		(50,219)	(52,412)
Capital user charge		(16,617)	(12,237)
Accommodation		(1,895)	(2,137)
Grants and subsidies		(1,347)	(644)
GST payments on purchases		(8,121)	(8,006)
Other payments		(15,442)	(15,774)
<b>Receipts</b>			
User charges and fees		30,931	29,820
Commonwealth grants and contributions		6,898	4,554
Interest received		1,735	1,513
GST receipts on sales		3,611	3,117
GST receipts from taxation authority		4,699	4,479
Other receipts		10,747	9,905
<b>Net cash provided by/(used in) operating activities</b>	<b>30</b>	<b>(123,400)</b>	<b>(125,006)</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Proceeds from sale of non-current physical assets		1,670	1,101
Purchase of non-current physical assets		(20,166)	(19,899)
<b>Net cash provided by/(used in) investing activities</b>		<b>(18,496)</b>	<b>(18,798)</b>
Net increase/(decrease) in cash and cash equivalents		5,513	1,997
Cash and cash equivalents at the beginning of the period		36,848	34,851
<b>CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD</b>	<b>30</b>	<b>42,361</b>	<b>36,848</b>

The Cash Flow Statement should be read in conjunction with the accompanying notes.

# Financial statements

## Department of Conservation and Land Management Schedule of Income and Expenses by Service for the year ended 30 June 2006

	Nature Conservation		Sustainable Forest Management		Performance of statutory functions by the Conservation Commission of WA		Parks and Visitor Services		Astronomical Services		Total	
	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
<b>COST OF SERVICES</b>												
<b>Expenses</b>												
Employee benefits expense	42,988	40,245	19,035	19,330	554	530	27,763	26,072	673	709	91,013	86,886
Supplies and services	27,375	23,666	9,016	10,875	162	127	17,534	18,612	196	201	54,283	53,481
Depreciation and amortisation expense	2,909	3,552	2,629	2,312	22	22	8,318	8,330	99	181	13,977	14,397
Accommodation expenses	941	964	161	203	17	26	836	817	19	19	1,974	2,029
Grants and subsidies	1,247	399	0	0	0	0	100	185	0	0	1,347	584
Capital user charge	3,907	3,218	2,612	2,319	10	10	8,951	7,711	160	160	15,640	13,418
Other expenses	5,748	5,767	4,957	5,853	52	42	4,227	4,218	26	25	15,010	15,905
<b>Total cost of service</b>	<b>85,115</b>	<b>77,811</b>	<b>38,410</b>	<b>40,892</b>	<b>817</b>	<b>757</b>	<b>67,729</b>	<b>65,945</b>	<b>1,173</b>	<b>1,295</b>	<b>193,244</b>	<b>186,700</b>
<b>Income</b>												
User charges and fees	7,619	5,283	11,670	12,148	0	0	11,549	11,156	145	134	30,983	28,721
Commonwealth grants and contributions	6,565	3,270	1,009	656	0	0	432	564	0	0	8,006	4,490
Other grants and contributions	1,996	1,145	23	0	0	0	2,548	2,301	0	0	4,567	3,446
Interest revenue	1,250	1,169	120	53	0	0	365	291	0	0	1,735	1,513
Other revenue	2,355	2,389	1,981	2,162	0	0	2,077	2,125	0	0	6,413	6,676
Gain on disposal of non-current assets	557	605	584	(2)	0	0	284	0	0	0	1,425	603
<b>Total income other than income from State Government</b>	<b>20,342</b>	<b>13,861</b>	<b>15,387</b>	<b>15,017</b>	<b>0</b>	<b>0</b>	<b>17,255</b>	<b>16,437</b>	<b>145</b>	<b>134</b>	<b>53,129</b>	<b>45,449</b>
<b>NET COST OF SERVICES</b>	<b>64,773</b>	<b>63,950</b>	<b>23,023</b>	<b>25,875</b>	<b>817</b>	<b>757</b>	<b>50,474</b>	<b>49,508</b>	<b>1,028</b>	<b>1,161</b>	<b>140,115</b>	<b>141,251</b>
<b>INCOME FROM STATE GOVERNMENT</b>												
Service appropriation	66,059	63,477	30,186	28,747	806	789	49,398	47,424	1,102	1,159	147,551	141,596
Liabilities assumed by the Treasurer	538	662	178	290	4	3	325	435	8	8	1,053	1,398
Assets assumed (transferred)	2	3,821	0	2,547	0	0	3	6,406	0	0	5	12,774
Resources received free of charge	396	591	235	368	5	1	272	406	8	2	916	1,368
<b>Total income from State Government</b>	<b>66,995</b>	<b>68,551</b>	<b>30,599</b>	<b>31,952</b>	<b>815</b>	<b>793</b>	<b>49,998</b>	<b>54,671</b>	<b>1,118</b>	<b>1,169</b>	<b>149,525</b>	<b>157,136</b>
<b>Surplus/deficit for the period</b>	<b>2,222</b>	<b>4,601</b>	<b>7,576</b>	<b>6,077</b>	<b>(2)</b>	<b>36</b>	<b>(476)</b>	<b>5,163</b>	<b>90</b>	<b>8</b>	<b>9,410</b>	<b>15,885</b>

The Schedule of Income and Expenses by Service should be read in conjunction with the accompanying notes.

Department of Conservation and Land Management  
Summary of Consolidated Fund Appropriations and Revenue Estimates  
for the year ended 30 June 2006

	2006 Estimate \$'000	2006 Actual \$'000	Variance \$'000	2006 Actual \$'000	2005 Actual \$'000	Variance \$'000
<b>DELIVERY OF SERVICES</b>						
Item 67 net amount appropriated to deliver services	138,329	147,318	8,989	147,318	141,370	5,948
Amount authorised by other statutes						
- Salaries and Allowances Act 1975	233	233	0	233	226	7
<b>Total appropriations provided to deliver services</b>	<b>138,562</b>	<b>147,551</b>	<b>8,989</b>	<b>147,551</b>	<b>141,596</b>	<b>5,955</b>
<b>CAPITAL</b>						
Item 147 Capital Contribution	11,700	10,983	(717)	10,983	13,660	(2,677)
<b>GRAND TOTAL</b>	<b>150,262</b>	<b>158,534</b>	<b>8,272</b>	<b>158,534</b>	<b>155,256</b>	<b>3,278</b>
<b>Details of expenses by services</b>						
Nature Conservation	75,969	85,115	9,146	85,115	77,811	7,304
Sustainable Forest Management	36,928	38,410	1,482	38,410	40,892	(2,482)
Performance of statutory functions by the Conservation Commission of Western Australia	800	817	17	817	757	60
Parks and Visitor Services	59,704	67,729	8,025	67,729	65,945	1,784
Astronomical Services	1,245	1,173	(72)	1,173	1,295	(122)
<b>Total cost of services</b>	<b>174,646</b>	<b>193,244</b>	<b>18,598</b>	<b>193,244</b>	<b>186,700</b>	<b>6,544</b>
Less total income	(39,319)	(53,129)	(13,810)	(53,129)	(45,449)	(7,680)
<b>Net cost of services</b>	<b>135,327</b>	<b>140,115</b>	<b>4,788</b>	<b>140,115</b>	<b>141,251</b>	<b>(1,136)</b>
Adjustments (1)	3,235	7,436	4,201	7,436	345	7,091
<b>Total appropriations provided to deliver services</b>	<b>138,562</b>	<b>147,551</b>	<b>8,989</b>	<b>147,551</b>	<b>141,596</b>	<b>5,955</b>
<b>Capital expenditure</b>						
Purchase of non-current physical assets	22,623	20,166	(2,457)	20,166	19,899	267
Adjustment for other funding sources	(10,923)	(9,183)	1,740	(9,183)	(6,239)	(2,944)
<b>Capital contribution (appropriation)</b>	<b>11,700</b>	<b>10,983</b>	<b>(717)</b>	<b>10,983</b>	<b>13,660</b>	<b>(2,677)</b>
<b>DETAIL OF REVENUE ESTIMATES</b>						
Income disclosed as Administered Income	140	110	(30)	110	121	(11)

(1) Adjustments comprise movements in cash balances and other accrual items such as receivables, payables and superannuation.

Note 35, Explanatory statement, provides details of any significant variations between estimates and actual results for 2006 and between the actual results for 2005 and 2006.

## 1. CALM mission and funding

In partnership with the community, the Department of Conservation and Land Management (CALM) conserves WA's biodiversity, and manages the lands and waters entrusted to CALM, for their intrinsic values and for the appreciation and benefit of present and future generations.

In 2005-2006 CALM was predominantly funded by Parliamentary appropriations supplemented by fees received for the provision of services to the public.

## 2. First time adoption of Australian equivalents to International Financial Reporting Standards

### General

These are CALM's first published financial statements prepared under Australian equivalents to International Financial Reporting Standards (AIFRS).

Accounting Standard AASB 1 First-time Adoption of Australian Equivalents to International Financial Reporting Standards has been applied in preparing these financial statements. Until 30 June 2005, the financial statements were prepared under the previous Australian Generally Accepted Accounting Principles (AGAAP).

The Australian Accounting Standards Board (AASB) adopted the Standards of the International Accounting Standards Board (IASB) for application to reporting periods beginning on or after 1 January 2005 by issuing AIFRS which comprise a Framework for the Preparation and Presentation of Financial Statements, Australian Accounting Standards and the Urgent Issues Group (UIG) Interpretations.

In accordance with the option provided by AASB 1 paragraph 36A and exercised by Treasurer's Instruction (TI) 1101 Application of Australian Accounting Standards and Other Pronouncements, financial instrument information prepared under AASB 132 and AASB 139 will apply from 1 July 2005 and consequently comparative information for financial instruments is presented on the previous AGAAP basis. For CALM there is no difference for financial instrument information reported under AGAAP or AIFRS. All other comparative information has been prepared under the AIFRS basis.

### Early adoption of standards

CALM cannot adopt an Australian Accounting Standard or UIG Interpretation unless specifically permitted by TI 1101 Application of Australian Accounting Standards and Other Pronouncements. This TI requires the early adoption of revised AASB 119 Employee Benefits as issued in December 2004, AASB 2004-3 Amendments to Australian Accounting Standards and 2005-3 Amendments to Australian Accounting Standards [AASB 119]; AASB 2005-4 Amendments to Australian Accounting Standard [AASB 139, AASB 132, AASB 1, AASB 1023 and AASB 1038] and AASB 2005-6 Amendments to Australian Accounting Standards [AASB 3] to the annual reporting period beginning 1 July 2005. AASB 2005-4 amends AASB Financial Instruments: Recognition and Measurement so that

the ability to designate financial assets and financial liabilities at fair value is restricted. AASB 2005-6 excludes business combinations involving common control from the scope of AASB 3 Business Combinations.

Reconciliations explaining the transition to AIFRS as at 1 July 2004 and 30 June 2005 are provided at note 42, Reconciliations explaining the transition to AIFRS.

### 3. Summary of significant accounting policies

#### **(a) General statement**

The financial statements constitute a general purpose financial report which has been prepared in accordance with the Australian Accounting Standards, the Framework, Statements of Accounting Concepts and other authoritative pronouncements of the Australian Accounting Standards Board as applied by the Treasurer's Instructions. Several of these are modified by the Treasurer's Instructions to vary application, disclosure, format and wording. For example, AASB 116 requires land and buildings to be measured at cost or fair value; TI 954 mandates the fair value option.

The *Financial Administration and Audit Act 1985* and the Treasurer's Instructions are legislative provisions governing the preparation of financial statements and take precedence over the Accounting Standards, the Framework, Statements of Accounting Concepts and other authoritative pronouncements of the Australian Accounting Standards Board.

Where modification is required and has a material or significant financial effect on the reported results, details of that modification and the resulting financial effect are disclosed in the notes to the financial statements.

#### **(b) Basis of preparation**

The financial statements have been prepared in accordance with the accrual basis of accounting using the historical cost convention, modified by the revaluation of land and buildings which have been measured at fair value.

The accounting policies adopted in the preparation of the financial statements have been consistently applied throughout all periods presented unless otherwise stated.

The financial statements are presented in Australian dollars and all values are rounded to the nearest thousand dollars (\$'000).

#### **(c) Reporting entity**

CALM administers assets, liabilities, income and expenses on behalf of Government which are not controlled by, nor integral to the function of CALM. These administered balances and transactions are not recognised in the principal financial statements of CALM but schedules are prepared using the same basis as the financial statements and are presented at note 40, Administered expenses and income, and note 41, Administered assets and liabilities.

**(d) Contributed equity**

UIG Interpretation 1038 Contributions by Owners Made to Wholly-Owned Public Sector Entities requires transfers in the nature of equity contributions to be designated by the Government (the owner) as contributions by owners (at the time of, or prior to transfer) before such transfers can be recognised as equity contributions. Capital contributions (appropriations) have been designated as contributions by owners by TI 955 Contributions by Owners made to Wholly Owned Public Sector Entities and have been credited directly to Contributed Equity.

Transfer of net assets to/from other agencies are designated as contributions by owners where the transfers are non-discretionary and non reciprocal. See note 29, Equity.

**(e) Income**

**Revenue**

Revenue is measured at the fair value of consideration received or receivable. Revenue is recognised for the major business activities as follows:

*Sale of goods*

Revenue is recognised from the sale of goods and disposal of other assets when the significant risks and rewards of ownership control transfer to the purchaser.

*Rendering of services*

Revenue is recognised upon delivery of the service to the client or by reference to the stage of completion.

*Interest*

Revenue is recognised as the interest accrues.

*Service appropriations*

Service appropriations are recognised as revenues in the period in which CALM gains control of the appropriated funds. CALM gains control of appropriated funds at the time those funds are deposited into CALM's bank account or credited to the holding account held at the Department of Treasury and Finance. See note 16, Income from State Government, for further detail.

*Net appropriation determination*

The Treasurer may make a determination providing for prescribed revenues to be retained for services under the control of CALM. In accordance with the determination specified in the 2005-2006 Budget Statements, CALM retained \$53.129 million in 2006 (\$45.449 million in 2005) from the following:

- proceeds from fees and charges;
- sale of goods;
- Commonwealth specific purpose grants and contributions;
- sale of property, plant and equipment; and
- other departmental revenue.





### ***Grants, donations, gifts and other non-reciprocal contributions***

Revenue is recognised at fair value when the Department obtains control over the assets comprising the contributions which is usually when cash is received.

Other non-reciprocal contributions that are not contributions by owners are recognised at their fair value. Contributions of services are only recognised when a fair value can be reliably determined and the services would be purchased if not donated.

### **Gains**

Gains may be realised or unrealised and are usually recognised on a net basis. These include gains arising on the disposal of non-current assets and some revaluations of non-current assets.

## **(f) Property, plant and equipment**

### ***Capitalisation/expensing of assets***

Items of property, plant and equipment costing more than \$1,000 are recognised as assets and the cost of utilising assets is expensed (depreciated) over their useful lives. Items of property, plant and equipment costing less than \$1,000 are immediately expensed direct to the Income Statement (other than where they form part of a group of similar items which are significant in total).

### ***Initial recognition and measurement***

All items of property, plant and equipment are initially recognised at cost.

For items of property, plant and equipment acquired at no cost or for nominal consideration, the cost is their fair value at the date of acquisition.

### ***Subsequent measurement***

After recognition as an asset, CALM uses the revaluation model for the measurement of land and buildings and the cost model for all other property, plant and equipment. Land and buildings are carried at fair value less accumulated depreciation on buildings and accumulated impairment losses. All other items of property, plant and equipment are carried at historical cost less accumulated depreciation and accumulated impairment losses.

Where market evidence is available, the fair value of land and buildings is determined on the basis of current market buying values determined by reference to recent market transactions. When buildings are revalued by reference to recent market transactions, the accumulated depreciation is eliminated against the gross carrying amount of the asset and the net amount restated to the revalued amount.

Where market evidence is not available, the fair value of land and buildings is determined on the basis of existing use. This normally applies where buildings are specialised or where land use is restricted. Fair value for existing use assets is determined by reference to the cost of replacing the remaining future economic benefits embodied in the asset, ie. the depreciated replacement cost. Where the fair value of

buildings is dependent on using the depreciated replacement cost, the gross carrying amount and the accumulated depreciation are restated proportionately.

The revaluation of land and buildings is an independent valuation provided on an annual basis by the Department of Land Information (Valuation Services). The building valuation has not been taken up this year.

The most significant assumptions in estimating fair value are made in assessing whether to apply the existing use basis to assets. Professional judgment by the valuer is required where the evidence does not provide a clear distinction between market type assets and existing use assets.

Refer to note 23, Property, plant and equipment, for further information on revaluations.

### ***Depreciation***

All non-current assets having a limited useful life are systematically depreciated over their estimated useful lives in a manner that reflects the consumption of their future economic benefits.

Land is not depreciated. Depreciation on other assets is calculated using the straight-line method, using rates which are reviewed annually. Estimated useful lives for each class of depreciable asset are:

Buildings	20-40 years
Furniture	10 years
Office equipment	6-7 years
Computer equipment	4 years
Aircraft	5-6 years
Boats	5 years
Plant and machinery	4-10 years
Heavy fleet vehicles	5 years
Parks and visitor facilities	10-20 years

### **(g) Impairment of assets**

Property, plant and equipment are reviewed for indications of impairment at each reporting date. The risk of impairment is generally limited to circumstances where an asset's depreciation is materially understated or where the replacement cost is falling.

See note 25, Impairment of assets, for the outcome of impairment reviews and testing. See also note 3(o), Receivables, and note 19, Receivables, for impairment of receivables.

### **(h) Non-current assets classified as held for sale**

Non-current assets held for sale are recognised at the lower of carrying amount and fair value less costs to sell and are presented separately in the Balance Sheet. Assets classified as held for sale are not depreciated or amortised.



Most land holdings are Crown land vested in CALM by the Government. The Department for Planning and Infrastructure (DPI) is the only agency with the power to sell Crown land. CALM transfers Crown land to DPI when the land becomes available for sale.

**(i) Leases**

CALM holds operating leases for buildings, office equipment and motor vehicles. Lease payments are expensed on a straight line basis over the lease term as this represents the pattern of benefits derived from the leased assets.

**(j) Financial instruments**

CALM has two categories of financial instrument:

- loans and receivables (cash and receivables); and
- non-trading financial liabilities (payables).

Initial recognition and measurement of financial instruments is at fair value which normally equates to the transaction cost or the face value. Subsequent measurement is at amortised cost using the effective interest method.

The fair value of short-term receivables and payables is the transaction cost or the face value because there is no interest rate applicable and subsequent measurement is not required as the effect of discounting is not material.

**(k) Cash and cash equivalents**

For the purpose of the Cash Flow Statement, cash includes restricted cash and cash equivalents. These are comprised of cash on hand and short-term deposits with original maturities of three months or less that are readily convertible to a known amount of cash and which are subject to insignificant risk of changes in value.

**(l) Accrued salaries**

The accrued salaries suspense account (refer note 17, Restricted cash and cash equivalents) consists of amounts paid annually into a suspense account over a period of 10 financial years to meet the additional cash outflow in each eleventh year when 27 pay days occur instead of the normal 26. No interest is received on this account.

Accrued salaries (refer note 28, Other liabilities) represent the amount due to staff but unpaid at the end of the financial year, as the pay date for the last pay period for that financial year does not coincide with the end of the financial year. Accrued salaries are settled within a fortnight of the financial year end. CALM considers the carrying amount of accrued salaries to be equivalent to its net fair value.

**(m) Amounts receivable for services (Holding Account)**

CALM receives appropriation funding on an accrual basis that recognises the full annual cash and non-cash cost of services. The appropriations are paid partly in cash and partly as an asset (Holding Account receivable) that may be accessible on the emergence of the cash funding requirement to cover items such as leave entitlements and asset replacement.

See also note 16, Income from State Government, and note 20, Amounts receivable for services.

**(n) Inventories**

Inventories are measured at the lower of cost and net realisable value. Costs are assigned by the method most appropriate to each particular class of inventory.

See note 18, Inventories.

**(o) Receivables**

Receivables are recognised and carried at original invoice amount less an allowance for uncollectible amounts (i.e. impairment). The collectability of receivables is reviewed on an ongoing basis and any receivables identified as uncollectible are written-off. The allowance for uncollectible amounts (doubtful debts) is raised when there is objective evidence that CALM will not be able to collect the debts. The carrying amount is equivalent to fair value as it is due for settlement within 30 days. See note 36, Financial Instruments, and note 19, Receivables.

**(p) Payables**

Payables are recognised when CALM becomes obliged to make future payments as a result of a purchase of assets or services. The carrying amount is equivalent to fair value, as they are generally settled within 30 days. See note 36, Financial Instruments, and note 26, Payables.

**(q) Provisions**

Provisions are liabilities of uncertain timing and amount and are recognised where there is a present legal, equitable or constructive obligation as a result of a past event and when the outflow of economic benefits is probable and can be measured reliably. Provisions are reviewed at each balance sheet reporting date. See note 27, Provisions.

***(i) Provisions – employee benefits***

*Annual leave and long service leave*

The liability for annual and long service leave expected to be settled within 12 months after the end of the reporting date is recognised and measured at the undiscounted amounts expected to be paid when the liabilities are settled. Annual and long service leave expected to be settled more than 12 months after the end of the reporting date is measured at the present value of amounts expected to be paid when the liabilities are settled. Leave liabilities are in respect of services provided by employees up to the reporting date.



When assessing expected future payments consideration is given to expected future wage and salary levels including non-salary components such as employer superannuation contributions. In addition, the long service leave liability also considers the experience of employee departures and periods of service.

The expected future payments are discounted using market yields at the reporting date on national government bonds with terms to maturity that match, as closely as possible, the estimated future cash outflows.

All annual leave and unconditional long service leave provisions are classified as current liabilities as CALM does not have an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.

#### *Sick leave*

Liabilities for sick leave are recognised when it is probable that sick leave paid in the future will be greater than the entitlement that will accrue in the future.

Past history indicates that on average, sick leave taken each reporting period is less than the entitlement accrued. This is expected to continue in future periods. Accordingly, it is unlikely that existing accumulated entitlements will be used by employees and no liability for unused sick leave entitlements is recognised. As sick leave is non-vesting, an expense is recognised in the income statement for this leave as it is taken.

#### *Superannuation*

The Government Employees Superannuation Board (GESB) administers the following superannuation schemes.

Employees may contribute to the Pension Scheme, a defined benefit pension scheme now closed to new members or the Gold State Superannuation Scheme (GSS), a defined benefit lump sum scheme also closed to new members. CALM has no liabilities for superannuation charges under the Pension or the GSS Schemes as the liability has been assumed by the Treasurer.

Employees who are not members of either the Pension or the GSS Schemes become non-contributory members of the West State Superannuation Scheme (WSS), an accumulation fund. CALM makes concurrent contributions to GESB on behalf of employees in compliance with the Commonwealth Government's Superannuation Guarantee (Administration) Act 1992. These contributions extinguish the liability for superannuation charges in respect of the WSS Scheme.

The GESB makes all benefit payments in respect of the Pension and GSS Schemes, and is recouped by the Treasurer for the employer's share. See also note 3(r), Superannuation expense.

**(ii) Provisions – other**

*Employment on-costs*

Employment on-costs, including workers' compensation insurance, are not employee benefits and are recognised separately as liabilities and expenses when the employment to which they relate has occurred. Employment on-costs are included as part of 'Other expenses' and are not included as part of CALM's 'Employee benefits expense'.

The related liability is included in 'Employment on-costs provision'. See note 10, Other Expenses, and note 27, Provisions.

**(r) Superannuation expense**

The following elements are included in calculating the superannuation expense in the Income Statement:

- (a) defined benefit plans – Change in the unfunded employer's liability (i.e. current service cost and actuarial gains and losses) assumed by the Treasurer in respect of current employees who are members of the Pension Scheme and current employees who accrued a benefit on transfer from that Scheme to the Gold State Superannuation Scheme (GSS); and
- (b) defined contribution plans – Employer contributions paid to the West State Superannuation Scheme (WSS), and the equivalent of employer contributions to the GSS.

Defined benefit plans – in order to reflect the true cost of services, the movements (i.e. current service cost and, actuarial gains and losses) in the liabilities in respect of the Pension Scheme and the GSS Scheme transfer benefits are recognised as expenses directly in the Income Statement. As these liabilities are assumed by the Treasurer (refer 3(q)(i)), a revenue titled 'Liabilities assumed by the Treasurer' equivalent to the expense is recognised under Income from State Government in the Income Statement. See note 16, Income from State Government.

Defined contribution plans – in order to reflect CALM's true cost of services, CALM is funded for the equivalent of employer contributions in respect of the GSS Scheme (excluding transfer benefits). These contributions were paid to the GESB during the year and placed in a trust account administered by the GESB on behalf of the Treasurer.

**(s) Resources received free of charge or for nominal cost**

Resources received free of charge or for nominal cost that can be reliably measured are recognised as revenues and as assets or expenses as appropriate, at fair value.

**(t) Comparative figures**

Comparative figures have been restated on the AIFRS basis except for financial instruments information, which has been prepared under the previous AGAAP Australian Accounting Standard AAS 33 Presentation and Disclosure of Financial Instruments. The transition date to AIFRS for financial instruments is 1 July 2005 in accordance with the exemption allowed under AASB 1, paragraph 36A and Treasurer's Instruction 1101.



#### **(u) Intangible assets**

##### ***Research and development***

Research costs are expensed as incurred. Development costs incurred for an individual project are carried forward when the future recoverability can reasonably be regarded as assured. Other development costs are expensed as incurred.

#### **(v) Future impact of Australian Accounting Standards not yet operative**

CALM cannot early adopt an Australian Accounting Standard or UIG Interpretation unless specifically permitted by TI 1101 'Application of Australian Accounting Standard and Other Pronouncements'. As referred in Note 2, TI 1101 has only mandated the early adoption of revised AASB 119, AASB 2004-3, AASB 2005-3, AASB 2005-4 and AASB 2005-6. Consequently, CALM has not applied the following Australian Accounting Standards and UIG Interpretations that have been issued but are not yet effective. These will be applied from their application date:

1. AASB 7 'Financial Instruments: Disclosures' (including consequential amendments in AASB 2005-10 'Amendments to Australian Accounting Standards [AASB 132, AASB 101, AASB 114, AASB 117, AASB 133, AASB 139, AASB 1, AASB 4, AASB 1023 and AASB 1038]'). This Standard requires new disclosures in relation to financial instruments. The Standard is required to be applied to annual reporting periods beginning on or after 1 January 2007. The Standard is considered to result in increased disclosures of an entity's risks, enhanced disclosure about components of financial position and performance, and changes to the way of presenting financial statements, but otherwise there is no financial impact.
2. AASB 2005-9 'Amendments to Australian Accounting Standards [AASB 4, AASB 1023, AASB 139 and AASB 132]' (Financial guarantee contracts). The amendment deals with the treatment of financial guarantee contracts, credit insurance contracts, letters of credit or credit derivative default contracts as either an 'insurance contract' under AASB 4 'Insurance Contracts' or as a 'financial guarantee contract' under AASB 139 'Financial Instruments: Recognition and Measurement'. CALM does not undertake these types of transactions resulting in no financial impact when the Standard is first applied. The Standard is required to be applied to annual reporting periods beginning on or after 1 January 2006.
3. UIG Interpretation 4 'Determining whether an Arrangement Contains a Lease'. This Interpretation deals with arrangements that comprise a transaction or a series of linked transactions that may not involve a legal form or a lease but by their nature are deemed to be leases for the purposes of applying AASB 117 'Leases'. At reporting date, CALM has not entered into any arrangements as specified in the Interpretation resulting in no impact when the Interpretation is first applied. The Interpretation is required to be applied to annual reporting periods beginning on or after 1 January 2006.

The following amendments are not applicable to CALM as they will have no impact:

AASB	Affected
<u>Amendment</u>	<u>Standards</u>
2005-1	AASB 139 (cash flow hedge accounting of forecast intragroup transactions)
2005-5	'Amendments to Australian Accounting Standards [AASB 1 and AASB 139]'
2006-1	AASB 121 (Net investment in foreign operations)
UIG 5	'Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds'.
UIG 6	'Liabilities arising from Participating in a Specific Market – Waste Electrical and Electronic Equipment'.
UIG 7	'Applying the Restatement Approach under AASB 129 Financial Reporting in Hyperinflationary Economies'.

	2006 \$'000	2005 \$'000
<b>4. Employee benefits expense</b>		
Wages and salaries (a)	72,948	68,184
Superannuation – defined contribution plans (b)	7,129	7,103
Superannuation – defined benefit plans (c)(d)	1,053	1,398
Long service leave (e)	2,091	2,670
Annual leave (e)	7,792	7,531
	91,013	86,886

(a) Includes the value of the fringe benefits to the employee plus the fringe benefits tax component.

(b) Defined contribution plans include West State and Gold State (contributions paid).

(c) Defined benefit plans include Pension scheme and Gold State (pre-transfer benefit).

(d) An equivalent notional income is also recognised (see note 16, Income from State Government).

(e) Includes a superannuation contribution component.

Note that the superannuation-defined benefit plans expense in respect of the Pension scheme and the pre-transfer benefit of the Gold State Superannuation scheme (and the equivalent notional income) for the 2004-05 comparatives have not been restated to comply with AASB 119 'Employee Benefits' methodology as there is no material difference.

Employment on-costs such as workers' compensation insurance are included at note 10, Other Expenses. The employment on-costs liability is included at note 27, Provisions. Superannuation contributions accrued as part of the provision for leave are employee benefits and are not included in employment on-costs.



	2006 \$'000	2005 \$'000
<b>5. Supplies and services</b>		
Communications	2,466	2,645
Consultants and contractors	4,548	4,921
Services and contracts	22,419	20,282
Materials	12,317	14,742
Repairs and maintenance	3,274	2,709
Travel	2,965	3,112
GEHA rental expense	1,987	1,717
Other	4,307	3,353
	54,283	53,481
<b>6. Depreciation and amortisation expense</b>		
<u>Depreciation</u>		
Plant, equipment and vehicles	11,417	10,542
Buildings	2,560	3,679
Total depreciation	13,977	14,221
<u>Impairment</u>		
Goodwill	0	176
Total impairment	0	176
Total depreciation and impairment	13,977	14,397
<b>7. Accommodation expenses</b>		
Lease rentals	883	803
Electricity, power and water	1,091	1,226
Other accommodation expenses	0	0
	1,974	2,029

	2006 \$'000	2005 \$'000
<b>8. Grants and subsidies</b>		
<u>Recurrent</u>		
Stop the Toad Foundation	500	0
Conservation Council of WA Inc	162	100
Department of Agriculture and Food	75	0
Shire of Bunbury	0	100
Shire of Kalamunda	0	50
City of Wanneroo	0	50
Bibbulmun Track Foundation	50	50
Murdoch University	36	0
Rod Lawrence	35	0
B & P Bowden	35	0
City of Joondalup	0	35
National Trust of Australia WA	25	0
Margaret River Conservation Farming Club	25	0
Northern Agricultural Catchments Council	25	0
Urban Bushland Council WA	23	20
A Schmidt	20	0
Men of the Trees	18	0
City of Mandurah	15	0
J McDowall	15	0
B & M Wood	15	0
E & D Wajon	12	0
World Wide Fund for Nature	0	11
Green Skills Inc	0	10
Friends of North Lake	10	0
TG & VM Medlen	10	0
G & L Raynel	10	0
GL Collins	10	0
L & P Guest	10	0
Various grants under \$10,000	211	158
	1,347	584
<b>9. Capital user charge</b>	15,640	13,418

The Government applies a levy for the use of its capital for the delivery of services. It is applied at eight per cent per annum on the net assets of CALM, excluding exempt assets, and is paid to the Department of Treasury and Finance quarterly.

	2006 \$'000	2005 \$'000
<b>10. Other expenses</b>		
Employment on-costs (a)	643	473
Operating lease – motor vehicle	8,578	8,360
Other lease, rental and hire expenses	5,789	7,072
	15,010	15,905

(a) Includes workers' compensation insurance and other employment on-costs. The on-costs liability associated with the recognition of annual and long service leave liability is included at note 27, Provisions.

#### 11. User charges and fees

User charges	8,772	8,371
Fees	22,211	20,350
	30,983	28,721

#### 12. Commonwealth grants and contributions

Capital	186	0
Recurrent	7,820	4,490
	8,006	4,490

At 30 June 2006 \$5,956,966 relates to outstanding commitments, while at 30 June 2005 \$2,755,133 related to outstanding commitments.

#### 13. Other grants and contributions

Capital	1,322	1,335
Recurrent	3,245	2,111
	4,567	3,446

At 30 June 2006 \$4,157,688 relates to outstanding commitments, while at 30 June 2005 \$1,757,246 related to outstanding commitments.

#### 14. Net gain/(loss) on disposal of non-current assets

##### Costs of disposal of non-current assets

Plant, property, equipment and vehicles	66	176
Land	184	331
<u>Proceeds from disposal of non-current assets</u>		
Plant, property, equipment and vehicles	1,040	665
Land	635	445
Net gain/(loss)	1,425	603

	2006 \$'000	2005 \$'000
<b>15. Other revenues</b>		
Publications revenue	486	459
Mining compensation revenue	4,288	4,284
Nursery revenue	0	32
Other revenues	1,639	1,901
	6,413	6,676

### 16. Income from State Government

Appropriation revenue received during the year:		
Service appropriations (a)	147,318	141,370
<i>Salaries and Allowances Act 1975</i>	233	226
Total appropriations	147,551	141,596

The following liabilities have been assumed by the Treasurer during the financial year:

- Superannuation (b)	1,053	1,398
Total liabilities assumed by the Treasurer	1,053	1,398

Initial recognition of assets not previously recognised in the financial statements: (c)

- Plant, equipment and vehicles	5	37
- Buildings	0	12,737
Total assets not previously recognised	5	12,774

Resources received free of charge (d)

Determined on the basis of the following estimates provided by agencies:

- Department of Land Information	700	1,146
- State Solicitor's Office	127	135
- Department for Planning and Infrastructure	2	3
- Department of Treasury and Finance	87	84
Total resources received free of charge	916	1,368
	149,525	157,136

- (a) Service appropriations are accrual amounts reflecting the full cost of services delivered. The appropriation revenue comprises a cash component and a receivable (asset). The receivable (holding account) comprises the depreciation expense for the year and any agreed increase in leave liability during the year.
- (b) The assumption of the superannuation liability by the Treasurer is a notional income to match the notional superannuation expense reported in respect of current employees who are members of the Pension Scheme and current employees who have a transfer benefit entitlement under the Gold State Superannuation Scheme. (The notional superannuation expense is disclosed at note 4, Employee Benefits Expense).
- (c) Where assets have been discovered or have not been previously recognised in the financial statements, CALM recognises the corresponding credit as revenue. During 2004-2005 a major audit of buildings on CALM landholdings across the State was undertaken by the Department of Land Information (Valuation Services). Buildings that were not previously identified on CALM's asset register were recognised in CALM's financial statements.
- (d) Where assets or services have been received free of charge or for nominal cost, CALM recognises revenues (except where the contributions of assets or services are in the nature of contributions by owners in which case CALM shall make a direct adjustment to equity) equivalent to the fair value of the assets and/or the fair value of those services that can be reliably determined and which would have been purchased if not donated.

## 17. Restricted cash and cash equivalents

### Current

Cash amounts in suspense account

	2006 \$'000	2005 \$'000
	1	4
	1	4
<hr/>		
	333	0
	333	0

### Non-current

Accrued salaries suspense account (a)

- (a) Amount held in the suspense account is only to be used for the purpose of meeting the 27th pay in a financial year that occurs every 11 years.

	2006 \$'000	2005 \$'000
<b>18. Inventories</b>		
<u>Current</u>		
Inventories held for resale:		
Publications	256	412
Souvenirs	95	68
	351	480
<u>Non-current</u>		
Publications	1,376	1,647
Impairment of inventories	(352)	
Souvenirs	380	272
	1,404	1,919
See also note 3(n), Inventories.	1,755	2,399
<b>19. Receivables</b>		
<u>Current</u>		
Receivables	7,474	5,916
Allowance for impairment of receivables	(157)	(382)
GST receivable	1,474	1,596
Earned revenue	396	342
	9,187	7,472
<b>20. Amounts receivable for services</b>		
Current	6,706	4,214
Non-current	39,241	30,608
	45,947	34,822

Represents the non-cash component of service appropriations. See note 3(m), Amounts receivable for services (Holding Account). It is restricted in that it can only be used for asset replacement or payment of leave liability.

**21. Other assets**

<u>Current</u>		
Prepayments	1,188	945
	1,188	945

	2006 \$'000	2005 \$'000
<b>22. Non-current assets classified as held for sale</b>		
<u>Opening balance</u>		
Plant, equipment and vehicles	675	104
Less write-down from cost to fair value less selling costs	0	0
	675	104
<u>Assets reclassified as held for sale</u>		
Plant, equipment and vehicles	6	675
Less write-down from cost to fair value less selling costs	0	0
	6	675
<u>Total assets classified as held for sale</u>		
Plant, equipment and vehicles	681	779
Less write-down from cost to fair value less selling costs	0	0
	681	779
<u>Less assets sold</u>		
Plant, equipment and vehicles	675	104
Less write-down from cost to fair value less selling costs	0	0
	675	104
<u>Closing balance</u>		
Plant, equipment and vehicles	6	675
Write-down from cost to fair value less selling costs	0	0
	6	675

A vehicle and two fire units are to be sold by auction in July 2006. A copier is to be auctioned in October 2006.

See also note 3 (h), Non-current assets classified as held for sale, and note 14, Net gain/(loss) on disposal of non-current assets.

	2006 \$'000	2005 \$'000
<b>23. Property, plant and equipment</b>		
<u>Land</u>		
At fair value (a)	2,525,375	2,214,673
At cost	0	0
	2,525,375	2,214,673
<u>Buildings</u>		
At fair value (a)	62,299	61,378
Accumulated depreciation	(6,489)	(3,943)
Accumulated impairment losses	0	0
	55,810	57,435
<u>Plant and equipment</u>		
At cost	138,803	127,965
Accumulated depreciation	(61,034)	(52,644)
Accumulated impairment losses	0	0
	77,769	75,321
<u>Vehicles</u>		
At cost	20,248	18,713
Accumulated depreciation	(12,834)	(12,492)
Accumulated impairment losses	0	0
	7,414	6,221
Assets under construction	10,517	8,226
	2,676,885	2,361,876

(a) Land and buildings were revalued at 1 July 2005 by the Department of Land Information (Valuation Services). The land valuation was recognised at 30 June 2006. In undertaking the revaluation, fair value of land was determined by reference to market values for land valued at \$ 1,360,889,450. For the remaining balance fair value of land was determined by reference to existing use.





Department of Conservation and Land Management  
Notes to the financial statements for the year ended 30 June 2006

Reconciliations of the carrying amounts of property, plant, equipment and vehicles and assets under construction at the beginning and end of the reporting period are set out below:

2006						
	Land	Buildings	Plant and equipment	Vehicles	Assets under construction	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Carrying amount at start of year	2,214,673	57,435	75,321	6,221	8,226	2,361,876
Additions	2,388	942	11,851	3,280	2,291	20,752
Assets not previously identified			5			5
Transfers (a)	331		(13)			318
Classified as held for sale			(6)			(6)
Disposals	(184)	(7)	(58)	(1)		(250)
Revaluation increments	308,167					308,167
Depreciation		(2,560)	(9,331)	(2,086)		(13,977)
Carrying amount at end of year	2,525,375	55,810	77,769	7,414	10,517	2,676,885

2005						
	Land	Buildings	Plant and equipment	Vehicles	Assets under construction	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Carrying amount at start of year	2,188,828	35,017	69,246	5,514	5,923	2,304,528
Additions	2,503	1,291	10,994	2,667	2,303	19,758
Assets not previously identified		12,737	37			12,774
Transfers (a)	8,077					8,077
Classified as held for sale	(580)	(95)				(675)
Disposals	(331)	(108)	(53)	(9)		(501)
Revaluation increments	16,176	15,966				32,142
Depreciation		(3,679)	(8,591)	(1,951)		(14,221)
Write-off of assets		(1)	(5)			(6)
Asset class reclassified		(3,693)	3,693			0
Carrying amount at end of year	2,214,673	57,435	75,321	6,221	8,226	2,361,876

(a) The Department for Planning and Infrastructure (DPI) is the only agency with the power to sell Crown land. The land is transferred to DPI for sale and CALM accounts for the transfer as a distribution to owner (DTO).

	2006 \$'000	2005 \$'000
<b>24. Intangible assets</b>		
Goodwill	0	225
Impairment change	0	(225)
	0	0

## 25. Impairment of assets

There were no indications of material impairment to property, plant and equipment at 30 June 2006.

CALM held no goodwill or intangible assets.

## 26. Payables

### Current

Trade payables	8,116	5,125
	8,116	5,125

See also note 3(p), Payables, and note 36, Financial Instruments.

## 27. Provisions

### Current

Employee benefits provision		
Annual leave (a)	7,669	7,206
Long service leave (b)	7,040	7,152
	14,709	14,358

### Other provisions

Employment on-costs (c)	103	117
	103	117
	14,812	14,475

### Non-current

Employee benefits provision		
Long service leave (b)	6,687	6,448
	6,687	6,448

### Other provisions

Employment on-costs (c)	47	53
	47	53
	6,734	6,501



Department of Conservation and Land Management  
Notes to the financial statements for the year ended 30 June 2006

	2006 \$'000	2005 \$'000
(a) Annual leave liabilities have been classified as current as there is not an unconditional right to defer settlement for at least 12 months after reporting date. Assessments indicate that actual settlement of the liabilities will occur as follows:		
Within 12 months of reporting date	7,669	7,206
	<u>7,669</u>	<u>7,206</u>

(b) Long service leave liabilities have been classified as current where there is no unconditional right to defer settlement for at least 12 months after reporting date. Assessments indicate that actual settlement of the liabilities will occur as follows:		
Within 12 months of reporting date	7,040	7,152
More than 12 months after reporting date	6,687	6,448
	<u>13,727</u>	<u>13,600</u>

(c) The settlement of annual and long service leave liabilities gives rise to the payment of employment on-costs including workers' compensation insurance. The provision is the present value of expected future payments. The associated expense apart from the unwinding of the discount (finance cost), is included in note 10, Other expenses.

## 28. Other liabilities

### Current

Accrued expenditure	1,433	981
Accrued salaries and wages	1,367	253
Accrued superannuation	19	112
Accrued capital user charge	217	1,195
Unearned revenue	34	1
	<u>3,070</u>	<u>2,542</u>

## 29. Equity

Equity represents the residual interest in the net assets of CALM. The Government holds the equity interest in CALM on behalf of the community. The asset revaluation reserve represents that portion of equity resulting from the revaluation of non-current assets.

	2006 \$'000	2005 \$'000
<b>Contributed equity</b>		
Balance at the start of the year	0	15,015
<b>Contributions by owners</b>		
Capital contribution (a)	10,983	13,660
Transfer of net assets from other agencies (b)		
Land transfers from WA Planning Commission	499	8,077
Total contributions by owners	11,482	21,737
<b>Distributions to owners</b>		
Transfer of net assets to other agencies (c)		
Land to Forest Products Commission	(148)	(235,975)
Land and buildings transferred to Department for Planning and Infrastructure	(695)	0
Plant and equipment to Forest Products Commission	(13)	0
	(856)	(235,975)
Transfer to accumulated surplus	0	199,223
Balance at the end of the year	10,626	0

(a) Capital contributions (appropriations) and non-discretionary (non-reciprocal) transfers of net assets from other State government agencies have been designated as contributions by owners in Treasurer's Instruction TI 955 Contributions by Owners Made to Wholly Owned Public Sector Entities and are credited directly to equity.

(b) UIG Interpretation I038 Contributions by Owners Made to Wholly-Owned Public Sector Entities requires where the transferee accounts for a transfer as a contribution by owner, the transferor must account for the transfer as a distribution to owners. Consequently, non discretionary (non-reciprocal) transfers of net assets to other State Government agencies are distributed to owners are debited directly to equity.

(c) TI 955 requires non-reciprocal transfers of net assets to Government to be accounted for as distribution to owners.

Reserves

Asset revaluation reserve:

Balance at the start of the year	2,192,785	2,160,643
Net revaluation increments/(decrements):		
Land	308,167	16,176
Buildings	0	15,966
Balance at the end of the year	2,500,952	2,192,785

**Accumulated surplus/(deficiency) (Retained earnings)**

Balance at the start of the year	223,609	406,947
Result for the period	9,410	15,885
Transfer from contributed equity	0	(199,223)
Balance at the end of the year	223,019	223,609

### 30. Notes to the Statement of Cash Flows

#### Reconciliation of cash

Cash at the end of the financial year as shown in the Cash Flow Statement is reconciled to the related items in the Balance Sheet as follows:

	2006 \$'000	2005 \$'000
Cash	42,027	36,844
Restricted cash and cash equivalents (see note 17)	334	4
	42,361	36,848
<u>Reconciliation of net cost of services to net cash flows provided by/(used in) operating activities</u>		
Net cost of services	(140,115)	(141,251)
Non-cash items:		
Depreciation and amortisation expense	13,977	14,397
Superannuation expense	1,053	1,398
Resources received free of charge	916	1,368
Net (gain)/loss on sale of property, plant and equipment	(1,425)	(603)
<u>(Increase)/decrease in assets:</u>		
Current receivables (b)	(1,373)	801
Inventories	644	132
Prepayments	(242)	(208)
Other current assets	(279)	422
<u>Increase/(decrease) in liabilities:</u>		
Current payables (b)	2,153	(478)
Provisions	571	2,248
Other current liabilities	530	(2,822)
Net GST receipts/(payments) (a)	190	(410)
Net cash provided by/(used in) operating activities	(123,400)	(125,006)

(a) This is the net GST paid/received, i.e. cash transactions.

(b) Note that Australian Taxation Office (ATO) receivable/payable in respect of GST and receivable/payable in respect of the sale/purchase of non-current assets are not included in these items as they do not form part of the reconciling items.

	2006 \$'000	2005 \$'000
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### 31. Resources provided free of charge

During the year the following resources were provided to other agencies free of charge for functions outside the normal operation of CALM:

Department of Agriculture and Food – office accommodation	5	0
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### 32. Commitments

#### (a) Non-cancellable operating lease commitments

Commitments in relation to leases contracted for at the reporting date but not recognised in the financial statements are payable as follows:

Within 1 year	4,445	5,283
Later than 1 year and not later than 5 years	3,332	24,082
Later than 5 years	118	7,151
	7,895	36,516

CALM's fleet leases account for the majority of the non cancellable operating lease commitments. The lease term varies depending on the vehicle. The lease payments are fixed for the term of the lease and are payable monthly. There is no option to renew the lease at the end of the lease term.

The 2006 figures are lower than 2005 due to the removal of a replacement vehicle assumption in the 2006 calculation.

#### (b) Capital expenditure commitments

Capital expenditure commitments, being contracted capital expenditure additional to the amounts reported in the financial statements are payable as follows:

Within one year	3,841	1,335
The capital commitments include amounts for:		
Buildings	1,721	924
Plants and equipment	2,120	411
	3,841	1,335

### 33. Contingent liabilities and contingent assets

#### Contingent liabilities

In addition to the liabilities incorporated in the financial statements, CALM has the following contingent liabilities:

#### (a) Litigation in progress

CALM has various pending litigation that may affect the financial position to the value of \$200,000, all of which is fire related. CALM has denied liability and any legal claim will be defended.

#### (b) Native title claims

CALM's land is subject to a number of native title claims that have yet to be assessed by the National Native Title Tribunal. The financial effect should these claims be successful cannot be estimated at this time.

### 34. Events occurring after the balance sheet date

As from 1 July 2006 CALM and the Department of Environment will amalgamate to form the Department of Environment and Conservation.

### 35. Explanatory statement

Significant variations between estimates and actual results for income and expense as presented in the financial statement titled Summary of Consolidated Fund Appropriations and Income Estimates are shown below. Significant variations are considered to be those greater than 10 per cent or \$3 million.

#### (i) Significant variances between estimate and actual for 2006 - Total appropriation to deliver services:

	2006 Estimate	2006 Actual	Variance
	\$'000	\$'000	\$'000
<b>Total appropriations provided to deliver services</b>	138,562	147,551	8,989

There was a significant variance in the total appropriation provided to CALM in 2006 which was \$8.989M greater than the estimate and this was due principally to the funding of wildfire suppression costs of \$6.7M. There were also significant offsetting variances in the following service expenditures and total income:

#### Details of expenses by services

- Nature Conservation	75,969	85,115	9,146
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The increased expenditure in this service above the estimate relates principally to additional externally funded specific purpose projects \$3.2M, wildfire suppression expenditure \$1.3M, cane toad initiative \$1.0M, capital user charges \$0.6M, additional recoupable works \$0.6M and payroll accrual provision for pay increase arrears \$0.5M.

- Parks and Visitor Services	59,704	67,729	8,025
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The increased expenditure in this service above the estimate relates principally to maintenance of parks and visitor facilities \$2.0M, capital user charge \$1.3M, wildfire suppression expenditure \$1.2M, depreciation charges \$0.8M and payroll accrual provision for pay increase arrears \$0.3M.

<b>Total income</b>	<b>39,319</b>	<b>53,129</b>	<b>13,810</b>
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Additional revenues for 2006 were principally attributable to increased externally funded specific purpose projects funded by the Commonwealth Government, other State Government agencies and private donors \$8.3M and gain on the disposal of non current assets \$1.4M.

#### (ii) Significant variances between actuals for 2005 and 2006 - Total appropriation to deliver services:

	2006 Actual	2005 Actual	Variance
	\$'000	\$'000	\$'000
<b>Total appropriations provided to deliver services</b>	147,551	141,596	5,955

There was a significant variance in the total appropriation provided to CALM in 2006 which was \$5.9M greater than the 2005 actual and this was due principally to; increased funding for fire management \$4.4M, capital user charges \$4.4M, depreciation expense \$2.3M, cane toad initiative \$1.9M, marine parks \$1.5M, payroll and cost escalation \$1.4M, reduced funding requirement for wildfire suppression -\$5.9M, transfer of appropriation to Department of Agriculture for salinity strategy -\$3.3M and a reduction in the appropriation of -\$1.1M was applied in respect of cost savings forecast from whole of government procurement reform. There were also a significant variance in the following service expenditures:

	2006 Actual \$'000	2005 Actual \$'000	Variance \$'000
<b>Details of expenses by services</b>			
- Nature Conservation	85,115	77,811	7,304

The increased expenditure in this service in 2006 above the 2005 actual relates principally to an overall increase in employee benefits expense \$2.7M, salinity strategy expenditure \$1.5M, grants and subsidies payments \$0.8M and capital user charges \$0.7M.

**(iii) Significant variances between estimate and actual - Capital contribution:**

No significant variances.

**(iv) Significant variances between actual and prior year actual - Capital contribution:**

<b>Capital contribution (appropriation)</b>	10,983	13,660	(2,677)
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The capital contribution reduced in 2006 by \$2.677M due to; completion of funding provided under the Protecting our old-growth forests policy for the establishment of new national parks - \$2.05M, conclusion of funding provided for the purchase of land for inclusion within the D'Entrecasteaux National Park -\$1.507M, finalisation of capital development of the Leschenault Peninsula Conservation Park - \$0.5M, completion of project to maintain water levels in the Yanchep caves - \$0.37M and an adjustment of funding provided for the Gnaragara Park development - \$0.3M. Offsetting these reductions in the capital contribution were increases provided for; parks improvement program \$0.95M, Ningaloo Marine Park capital infrastructure \$0.6M and construction of an environmental education centre in the Canning River Regional Park \$0.5M.

**v) Significant variances between estimate and actual for 2006, and actuals for 2005 and 2006**

	2006 Estimate \$'000	2006 Actual \$'000	Variance \$'000
<b>- Administered income:</b>			
<b>Income disclosed as administered income</b>	140	110	(30)

Actual revenue for 2006 was under budget due to less than expected revenue received from the sale of kangaroo royalty tags.

There was no significant variation in the actuals for 2005 and 2006.



### 36. Financial instruments

#### (a) Financial risk management objectives and policies

Financial instruments held by CALM are cash, receivables and payables. CALM has limited exposure to financial risks. CALM's overall risk management program focuses on managing the risks identified below.

##### *Credit risk*

CALM trades only with recognised, creditworthy third parties. In addition, receivable balances are monitored on an ongoing basis with the result that CALM's exposure to bad debts is minimal. There are no significant concentrations of credit risk. At 30 June 2006, 18 per cent was owed by State and Federal Governments, while at 30 June 2005 17 per cent was owed by State and Federal Governments.

##### *Liquidity risk*

CALM has appropriate procedures to manage cash flows including drawdowns of appropriations by monitoring forecast cash flows to ensure that sufficient funds are available to meet its commitments.

##### *Cash flow interest rate risk*

CALM is not exposed to interest rate risk because CALM has no borrowings.

#### (b) Financial Instrument disclosures

Financial instrument information for the year ended 2005 was prepared under the previous AGAAP Australian Accounting Standard AAS33 Presentation and Disclosure of Financial Instruments. Financial instrument information from 1 July 2005 has been prepared under AASB 132 Financial Instruments: Presentation and AASB 139 Financial Instruments: Recognition and Measurement. See also note 3(t), Comparative figures.

##### *Interest rate risk exposure*

The following table details CALM's exposure to interest rate risk as at the reporting date:

Fixed Interest Rate Maturity							
	Weighted average effective interest rate	Variable interest rate	Less than 1 year	1 to 5 years	More than 5 years	Non-interest bearing	Total
<b>2006</b>	%	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Financial assets							
Cash assets	5.49	42,027	-	-	-	-	42,027
Restricted cash assets		1	-	-	-	-	1
Receivables		-	-	-	-	9,187	9,187
Amounts receivable for services		-	-	-	-	45,947	45,947
		42,028	-	-	-	55,134	97,162
Financial liabilities							
Payables		-	-	-	-	8,116	8,116
		-	-	-	-	8,116	8,116
<b>2005</b>							
Financial assets							
Cash assets	5.31	36,844	-	-	-	-	36,844
Restricted cash assets		4	-	-	-	-	4
Receivables		-	-	-	-	7,472	7,472
Amounts receivable for services		-	-	-	-	34,822	34,822
		36,848	-	-	-	42,294	79,142
Financial liabilities							
Payables		-	-	-	-	5,125	5,125
		-	-	-	-	5,125	5,125

*Fair values*

The carrying amount of financial assets and financial liabilities recorded in the financial statements are not materially different from their net fair values.

**37. Remuneration of senior officers**

*Remuneration*

The number of senior officers, whose total of fees, salaries, superannuation, non-monetary benefits and other benefits for the financial year, fall within the following bands are:

\$	2006 \$'000	2005 \$'000
110,001 – 120,000	0	1
120,001 – 130,000	3	4
130,001 – 140,000	3	3
140,001 – 150,000	1	0
250,001 – 260,000	0	1
270,001 – 280,000	1	0
	1,185	1,289

The total remuneration of senior officers is:

The total remuneration includes the superannuation expense incurred by CALM in respect of senior officers.

No senior officers are members of the Pension Scheme.

**38. Remuneration of Auditor**

Remuneration payable to the Auditor General for the financial year is as follows:

Auditing the accounts, financial statements and performance indicators	115	100
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The expense is included at note 5, Supplies and services.

**39. Supplementary financial information**

Write-offs

During the financial year losses of public moneys and public and other property:

Irrecoverable amounts	29	119
General (includes thefts reported to Police, lost property and stock taking deficiencies)	22	6
	51	125



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	2006 \$'000	2005 \$'000
Public moneys and public and other property, due to the State were written off under the authority of:		
The Accountable Officer	16	10
The Minister	35	41
Executive Council	0	74
	51	125

**Research expenditure**

Research expenditure of \$8,664,370 for 2006 and \$8,316,165 for 2005 was incurred. This expenditure is included in the Income Statement under the relevant component categories for cost of services.

**Litigation settlement**

Litigation settlement of \$238,247 for 2006 and nil for 2005 was incurred. This expenditure is included within 'Other' in supplies and services at Note 5.

**Software expenditure**

Software expenditure of \$1,438,632 for 2006 and \$557,282 for 2005 was incurred. This expenditure is included within 'Materials' in supplies and services at Note 5.

**40. Administered expenses and income**

**Expenses**

Receipts paid into Consolidated fund	119	112
<b>Total administered expenses</b>	119	112

**Income**

For transfer:		
Fauna licences	99	110
Revenue from regulatory fines	11	11
<b>Total administered income</b>	110	121

**41. Administered assets and liabilities**

Current assets		
Cash assets	0	9
<b>Total administered current assets</b>	0	9

Current liabilities		
Payables	0	9
<b>Total administered current liabilities</b>	0	9

#### 42. Reconciliations explaining the transition to Australian equivalents to international Financial Reporting Standards (AIRFS)

Reconciliation of Equity at the date of transition to AIRFS: 1 July 2004 (AASB 1.39(a)(i))					
Note	Previous GAAP 1 July 2004	Adjustments Reclassification AASB 5 42.1a	Depreciation AASB 108 42.4a	Total adjustments \$000	AIFRS 1 July 2004 \$000
<b>ASSETS</b>					
<b>Current assets</b>					
(1) Cash and cash equivalents	32,207			0	32,207
Restricted cash and cash equivalents	2,644			0	2,644
Inventories	511			0	511
Receivables	8,323			0	8,323
(2) Amounts receivable for services	4,214			0	4,214
(3) Other current assets	737			0	737
(4) Non-current assets classified as held for sale	0	104		104	104
<b>Total current assets</b>	<b>48,636</b>	<b>104</b>	<b>0</b>	<b>104</b>	<b>48,740</b>
<b>Non-current assets</b>					
Inventories	2,020			0	2,020
(2) Amounts receivable for services	21,807			0	21,807
Property, plant and equipment	2,304,528	(104)	22,952	22,848	2,327,376
Intangible assets	176		(176)	(176)	0
<b>Total non-current assets</b>	<b>2,328,531</b>	<b>(104)</b>	<b>22,776</b>	<b>22,672</b>	<b>2,351,203</b>
<b>TOTAL ASSETS</b>	<b>2,377,167</b>	<b>0</b>	<b>22,776</b>	<b>22,776</b>	<b>2,399,943</b>
<b>LIABILITIES</b>					
<b>Current liabilities</b>					
Payables	5,794			0	5,794
Provisions	12,797			0	12,797
(5) Other current liabilities	5,362			0	5,362
<b>Total current liabilities</b>	<b>23,953</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>23,953</b>
<b>Non-current liabilities</b>					
Provisions	5,930			0	5,930
<b>Total non-current liabilities</b>	<b>5,930</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,930</b>
<b>TOTAL LIABILITIES</b>	<b>29,883</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>29,883</b>
<b>Net assets</b>	<b>2,347,284</b>	<b>0</b>	<b>22,776</b>	<b>22,776</b>	<b>2,370,060</b>
<b>Equity</b>					
Contributed equity	(220,306)			0	(220,306)
Reserves	2,160,643			0	2,160,643
Accumulated surplus/(deficiency)	406,947		22,776	22,776	429,723
(4) Amounts recognised directly to equity relating to non-current assets classified as held for sale	0			0	0
<b>Total equity</b>	<b>2,347,284</b>	<b>0</b>	<b>22,776</b>	<b>22,776</b>	<b>2,370,060</b>

(1) Equivalent AGAAP line item 'Cash Assets' (AIFRS Cash and Cash Equivalents)

(2) Equivalent AGAAP line item 'Amounts receivable for outputs' (AIFRS Amounts receivable for services)

(3) Equivalent AGAAP line item 'Other Assets' (AIFRS Other current assets)

(4) New AIFRS category

(5) Equivalent AGAAP line item 'Other liabilities' (AIFRS Other current liabilities)



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Reconciliation of Equity at the end of the last reporting period under previous AGAAP:  
30 June 2005 (AASB 1.39(a)(ii))

Note	Previous GAAP 30 June 2005	Adjustments Reclassification Depreciation AASB 5 42.1b	Total adjustments \$000	AIFRS 30 June 2005 \$000
<b>Current assets</b>				
(1) Cash and cash equivalents	36,844		0	36,844
Restricted cash and cash equivalents	4		0	4
Inventories	480		0	480
Receivables	7,472		0	7,472
(2) Amounts receivable for services	4,214		0	4,214
(3) Other current assets	945		0	945
(4) Non-current assets classified as held for sale	0	675	675	675
<b>Total current assets</b>	<b>49,959</b>	<b>675</b>	<b>675</b>	<b>50,634</b>
<b>Non-Current Assets</b>				
Inventories	1,919		0	1,919
(2) Amounts receivable for services	30,608		0	30,608
Property, plant and equipment	2,362,551	(675)	(675)	2,361,876
Intangible assets	0		0	0
<b>Total non-current assets</b>	<b>2,395,078</b>	<b>(675)</b>	<b>(675)</b>	<b>2,394,403</b>
<b>TOTAL ASSETS</b>	<b>2,445,037</b>	<b>0</b>	<b>0</b>	<b>2,445,037</b>
<b>LIABILITIES</b>				
<b>Current liabilities</b>				
Payables	5,125		0	5,125
Provisions	14,475		0	14,475
(5) Other current liabilities	2,542		0	2,542
<b>Total current liabilities</b>	<b>22,142</b>	<b>0</b>	<b>0</b>	<b>22,142</b>
<b>Non-current liabilities</b>				
Provisions	6,501		0	6,501
<b>Total non-current liabilities</b>	<b>6,501</b>	<b>0</b>	<b>0</b>	<b>6,501</b>
<b>TOTAL LIABILITIES</b>	<b>28,643</b>	<b>0</b>	<b>0</b>	<b>28,643</b>
<b>Net assets</b>	<b>2,416,394</b>	<b>0</b>	<b>0</b>	<b>2,416,394</b>
<b>Equity</b>				
Contributed equity	0		0	0
Reserves	2,192,785		0	2,192,785
Accumulated surplus/(deficit)	223,609		0	223,609
(4) Amounts recognised directly to equity relating to non-current assets classified as held for sale	0		0	0
<b>Total equity</b>	<b>2,416,394</b>	<b>0</b>	<b>0</b>	<b>2,416,394</b>

(1) Equivalent AGAAP line item 'Cash Assets' (AIFRS Cash and Cash Equivalents)

(2) Equivalent AGAAP line item 'Amounts receivable for outputs' (AIFRS Amounts receivable for services)

(3) Equivalent AGAAP line item 'Other Assets' (AIFRS Other current assets)

(4) New AIFRS category


(5) Equivalent AGAAP line item 'Other liabilities' (AIFRS Other current liabilities)

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Reconciliation of Income Statement (Profit or Loss) for the year ended 30 June 2005 (AASB 1.39(b))					
Note	Previous GAAP 1 June 2005	Net gains on disposal AASB 116 42.3	Adjustments AASB 119 42.2a	Total adjustments \$000	AIFRS 30 June 2005 \$000
<b>COST OF SERVICES</b>					
<b>Expenses</b>					
(1) Employee benefits expense	87,359		(473)	(473)	86,886
Supplies and services	53,481			0	53,481
Depreciation and amortisation expense	14,397			0	14,397
Accommodation expenses	2,029			0	2,029
Grants and subsidies	584			0	584
Capital user charge	13,418			0	13,418
(2) Carrying amount of non-current assets disposed of	507	(507)		(507)	0
(2) Loss on disposal of non-current assets				0	0
(3) Loss on disposal of other assets				0	0
(4) Other expenses	15,432		473	473	15,905
<b>Total cost of services</b>	<b>187,207</b>	<b>(507)</b>	<b>0</b>	<b>(507)</b>	<b>186,700</b>
<b>Income</b>					
<b>Revenue</b>					
User charges and fees	28,721			0	28,721
Commonwealth grants and contributions	4,490			0	4,490
Other grants and contributions	3,446			0	3,446
Interest revenue	1,513			0	1,513
(5) Other revenues	6,676			0	6,676
					0
<b>Gains</b>					0
(2) Proceeds from disposal of non-current assets	1,110	(1,110)		(1,110)	0
(2) Gain on disposal of non-current assets		603		603	603
(3) Gain on disposal of other assets				0	0
Other gains				0	0
				0	0
<b>Total income other than income from State Government</b>	<b>45,956</b>	<b>(507)</b>	<b>0</b>	<b>(507)</b>	<b>45,449</b>
<b>NET COST OF SERVICES</b>	<b>(141,251)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>(141,251)</b>
<b>INCOME FROM STATE GOVERNMENT</b>					
Service appropriation	141,596			0	141,596
Liabilities assumed by the Treasurer	1,398			0	1,398
Assets assumed (transferred)	0			0	0
Initial recognition of assets not previously recognised	12,774			0	12,774
Resources received free of charge	1,368			0	1,368
<b>Total income from State Government</b>	<b>157,136</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>157,136</b>
<b>Surplus/(deficit) for the period</b>	<b>15,885</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15,885</b>

See Statement of Changes in Equity

- (1) Equivalent AGAAP line item 'Employee expenses' (AIFRS Employee benefits expense)  
(2) Disposals are treated on the net basis under AIFRS  
(3) New AIFRS category  
(4) Equivalent AGAAP line item 'Other expenses from ordinary activities' (AIFRS Other expenses)  
(5) Equivalent AGAAP line item 'Other revenues from ordinary activities' (AIFRS Other revenue)  
(6) Equivalent AGAAP line item 'Change in net assets' (AIFRS Surplus/(deficit))



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Reconciliation of Cash Flow Statement for the year ended 30 June 2005 (AASB 1.40)				
Note	GAAP 30 June 2005	AASB 119 42.2b	Total adjustments \$000	AIFRS 30 June 2005 \$000
<b>CASH FLOWS FROM STATE GOVERNMENT</b>				
Service appropriation	128,581		0	128,581
Capital contributions	13,660		0	13,660
Holding account drawdowns	4,214		0	4,214
Non-retained revenue distributed to owner	(654)		0	(654)
<b>Net cash provided by State Government</b>	<b>145,801</b>	<b>0</b>	<b>0</b>	<b>145,801</b>
<b>Utilised as follows:</b>				
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>				
<b>Payments</b>				
(1) Employee benefits	(87,657)	473	473	(87,184)
Supplies and services	(52,412)		0	(52,412)
Capital User Charge	(12,237)		0	(12,237)
Accommodation	(2,137)		0	(2,137)
Grants and subsidies	(644)		0	(644)
GST payments on purchases	(8,006)		0	(8,006)
Other payments	(15,301)	(473)	(473)	(15,774)
<b>Receipts</b>				
User charges and fees	29,820		0	29,820
Commonwealth grants and contributions	4,554		0	4,554
Interest received	1,513		0	1,513
GST receipts on sales	3,117		0	3,117
GST receipts from taxation authority	4,479		0	4,479
Other receipts	9,905		0	9,905
<b>Net cash provided by/(used in) operating activities</b>	<b>(125,006)</b>	<b>0</b>	<b>0</b>	<b>(125,006)</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>				
Proceeds from sale of non-current physical assets	1,101		0	1,101
Purchase of non-current physical assets	(19,899)		0	(19,899)
<b>Net cash provided by/(used in) investing activities</b>	<b>(18,798)</b>	<b>0</b>	<b>0</b>	<b>(18,798)</b>
Net increase/(decrease) in cash and cash equivalents	1,997			1,997
Cash and cash equivalents at beginning of period	34,851			34,851
<b>CASH AND CASH EQUIVALENT ASSETS AT END OF PERIOD</b>	<b>36,848</b>	<b>0</b>	<b>0</b>	<b>36,848</b>

(1) Equivalent AGAAP line item 'Employee costs' (IFRS Employee benefits)

## Notes to the Reconciliations

### *42.1 Non-current assets held for sale (AASB 5)*

AASB 5 requires non-current assets available for sale to be disclosed as a separate class of asset on the balance sheet. Assets classified as non-current assets classified as held for sale are not depreciated and are measured at the lower of carrying amount (prior to reclassification) and fair value less selling costs.

The Department has identified items of property, plant and equipment that are required to be classified as non-current assets classified as held for sale and has made the following adjustments:

#### *42.1a Adjustments to opening Balance Sheet (1 July 2004)*

CALM has transferred \$104,000 relating to land from property, plant and equipment to non-current assets classified as held for sale.

#### *42.1b Adjustments to 30 June 2005 Balance Sheet*

CALM has transferred \$675,000 relating to land and buildings from property, plant and equipment to non-current assets classified as held for sale.

### *42.2 Employee Benefits (AASB 119 and AASB 101)*

AASB 101 requires that a liability must be classified as current where the entity does not have an unconditional right to defer settlement of the liability for at least 12 months beyond the reporting date. Consequently, all annual leave and long service leave entitlements (unconditional long service leave) must now be classified as current. Non-vested long service leave liability will be non-current to the extent that it does not become unconditional within 12 months from reporting date.

Employment on-costs are not included in employee benefits under AGAAP or AIFRS. However, under AGAAP employee benefits and on-costs are disclosed together on the face of the Income Statement as Employee costs. Under AIFRS employee benefits will be the equivalent item disclosed on the face. On-costs are transferred to other expenses.

#### *42.2a Adjustment to the Income Statement for the period ended 30 June 2005*

Employment on-costs expense has been reclassified from employee benefits expense to other expense (\$473,000).

#### *42.2b Adjustment to the Cash Flow Statements for the period ended 30 June 2005*

Employment on-costs payments have been reclassified from employee benefits payments to other payments (\$473,000).

### *42.3 Net gain on disposal of non-current assets (AASB 116)*

Under AGAAP the disposal of non-current assets is disclosed on the gross basis. That is, the proceeds of disposal are revenue and the carrying amounts of assets disposed of are expense. The disposal of non-current assets is disclosed on the net basis (gains or losses) under AIFRS.

#### *Adjustments to the Income Statement for the period ended 30 June 2005*

The carrying amounts of assets disposed of was previously recognised as expense. This has been derecognised (\$507,000).





The proceeds of disposal of non-current assets was previously recognised as income. This has been derecognised (\$1,100,000).

A gain on the disposal of non-current assets of \$603,000 has been recognised as income.

#### ***42.4 Error (AASB 108)***

Initial recognition of assets not previously recognised were treated as revenue under the previous AGAAP. Under AASB 108 such recognition is treated as an error. Errors are accounted for by adjustment to the opening balance of the earliest period presented in the financial statements.

#### ***42.4a Adjustments to opening Balance Sheet (1 July 2004)***

Within the building class there was a mix of valuation and cost. Buildings have been valued to fair value with an effective date of 1 July 2004, this has resulted in an increment of \$22,954.

Yardie Creek Boat Tour business (goodwill) has been internally assessed to have a nil value.

Within the plant and equipment class there was a mix of valuation and cost. The plant and equipment at valuation has been written down by 2.



