



annual report 2004-2005

Department of Conservation and Land Management



DEPARTMENT OF
Conservation
AND LAND MANAGEMENT

Conserving the nature of WA

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MINISTER FOR THE ENVIRONMENT

In accordance with Section 62 of the *Financial Administration and Audit Act 1985*, I submit for your information and presentation to Parliament the annual report of the Department of Conservation and Land Management.



Keiran McNamara
**EXECUTIVE
DIRECTOR**
31 August 2005

Executive Director's review

This has been a milestone year for the Department of Conservation and Land Management (CALM) in its quest to conserve the nature of Western Australia.

It has been 20 years since the *Conservation and Land Management Act 1984* came into effect, in March 1985, and there have been many advances for conservation and forest management in WA since 1985. One of the most striking examples is the development and management of WA's conservation reserve system – marine parks, for example, were still a relatively new concept worldwide in the 1980s and there were none in WA until 1987.

There was significant progress in this area in 2004-2005 with the establishment of new marine parks, national parks and other conservation reserves – in fact nearly 900,000 hectares were added to the State's conservation reserve system.

Legislative processes were completed for the creation of 36 new national parks and nature reserves and 10 new conservation parks promised under the State Government's *Protecting our old-growth forests* policy.

There were also four new marine reserves created and two existing marine parks, including Ningaloo, were extended significantly. This represented a 50 per cent increase in the number of marine conservation reserves and a 25 per cent increase in their total area.

Another significant achievement was the release of the findings of one of the largest biological surveys undertaken in Australia. A Biodiversity Survey of the Western Australian Agricultural Zone was the culmination of the work of many scientists and presented major advances in how we understand and manage Wheatbelt ecosystems, particularly in the face of increasing salinity. More importantly it underlined how much more there is to know about WA's biodiversity and the knowledge gaps that remain.

CALM's work in managing the State's natural assets includes research to fill these gaps and adapt future management practices. Looking to the future led to the release of the discussion paper, *Towards a Biodiversity Conservation Strategy for WA*, for public input during the year. Prepared by CALM, the discussion paper presents a 100-year vision and proposed strategies for the next 25 years for comment.

Public participation and consultation continued to be a cornerstone of CALM's operations and strategies, and a number of community initiatives were released

during 2004-2005, from the Bushland Benefits scheme, which encourages landowners to manage their native bushland for wildlife, to the Healthy Parks, Healthy People initiative to foster an appreciation within the community of the health benefits gained from visiting parks and other natural areas.

As usual CALM staff continued to rise to meet all challenges and achieve admirable goals. As an organisation we were proud to receive two awards in the year. The Perth Observatory was awarded a 2004 Accessible Communities Award in the category of small State Government business. Our commitment to improving employment and training opportunities for Indigenous people was also recognised at the national Diversity@work awards in October 2004 when CALM's Mentored Aboriginal Training and Employment Scheme (MATES) won the category of Employment and Inclusion of Indigenous Australians – the third award for the MATES program.

I was proud as Executive Director to see the expertise and dedication of CALM staff in tackling the potentially devastating bushfires in the Perth hills area during January. This was one of the hardest challenges as an organisation that we have had to face and required the skill and commitment from CALM officers across the board from all divisions, and from metropolitan and regional offices – in all, 670 CALM staff were involved. The risk to CALM officers in responding to such incidents was highlighted by a fire at Yanchep National Park early in January when a fallen tree that was burnt by the fire seriously injured a CALM park employee. It is a tribute to the knowledge of our people and our risk management procedures that these kinds of accidents are few and far between.

Once again, volunteers played an important role in CALM's activities throughout the year. A highlight was the tremendous response from volunteers in April and June, when CALM staff carried out very successful rescues after long-finned pilot whales and false killer whales stranded in two separate incidents in the State's south-west. The collaboration between volunteers, other agencies and CALM resulted in two of the most successful whale rescues ever undertaken in Australia. These events also showed how much we have learned as a Department in whale stranding rescues and marine mammal management.

The 20-year milestone has been an opportunity to review what has been done, and to set goals for the coming years. The past year has shown us that as a Department we are well placed to face future challenges.

Keiran McNamara

Keiran McNamara
Executive Director
31 August 2005

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 (WA) 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.

CALM manages more than 25 million hectares, including more than nine per cent of WA's land area.

- 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.

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 25 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.

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 all activities in State forests and timber reserves are consistent with the protection of nature conservation, community, recreation, cultural, catchment and physical values.

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.

CALM is headed by an Executive Director and has seven divisions, each headed by a director.

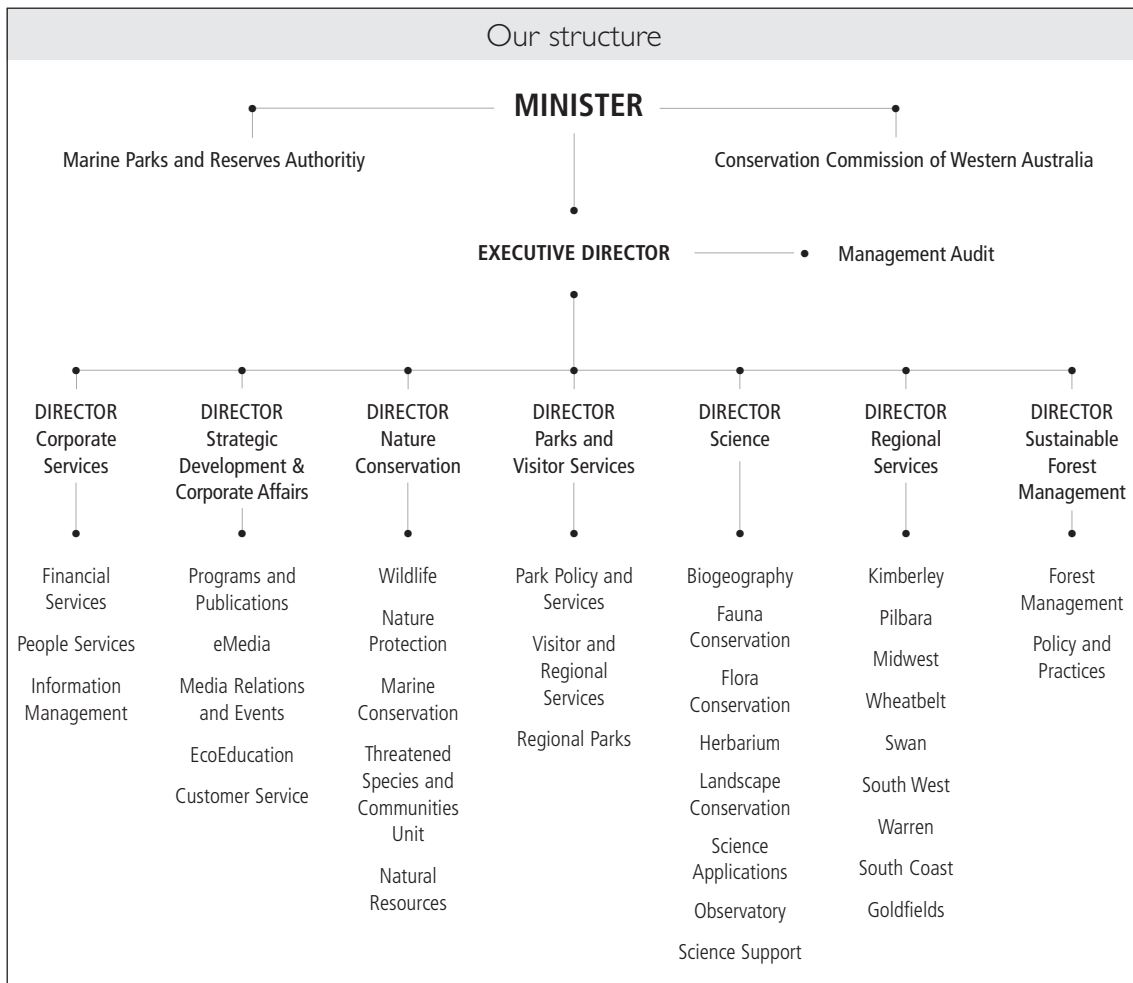
- Recreational facilities in national, conservation and marine parks, reserves and State forests will be well maintained and kept clean.

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 2005)

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

Regional Manager, Kimberley G MacKay BEd (Env Sc), B App Sci (Parks and Wildlife)	Manager, WA Threatened Species and Communities Unit J Blyth* BSc (Hons)
Regional Manager, Pilbara I Walker B App Sci (BRM)	Manager, Marine Conservation Branch C J Simpson B App Sci (Biol), G Dip Nat Res, PhD
Regional Manager, Midwest K Gillen BSc (Hons)	Manager, Natural Resources Branch K J Wallace Dip Ed, BSc (Hons)
Regional Manager, Wheatbelt B H Bone B App Sc (Nat Res), Dip Mgmt	Manager, Nature Protection Branch D Mell* B App Sci
Regional Manager, Swan A Sands B App Sc, Grad Dip Nat Res	Manager, Wildlife Branch K Atkins* BSc (Hons), PhD
Regional Manager, South West R Chandler BSc For	Manager, Fire Management Services R Sneeuwjagt BSc, MSc
Regional Manager, Warren P Keppel Cert For Mgmt	Manager, Forest Management Branch M Rayner BSc For (Hons), PhD
Regional Manager, South Coast J R Watston BSc, Grad Dip Rec, PhD	Manager, Financial Services Branch M J Neilson BA, MAcc, CPA
Regional Manager, Goldfields I G Kealley BSc For	Manager, Information Management Branch C J Pearce BSc (Hons), PhD
Program Leader, Fauna Conservation K D Morris BSc, MSc	Manager, Management Audit Branch M Brabazon
Program Leader, Herbarium N G Marchant BSc (Hons), PhD	Manager, People Services Branch M Bolitho BA, MIR, FAHRI*
Program Leader, Science Applications I J Abbott BSc (Hons), PhD, DSc	Manager, Regional Parks T Bowra BSc
Program Leader, Landscape Conservation L McCaw BSc For, PhD	Manager, Park Policy and Services C B Ingram B App Sci
Government Astronomer J Biggs BSc (Hons), PhD	Manager, Visitor and Regional Services T Shea* BA, G Dip Nat Res
Program Leader, Science Support M M Byrne BSc (Hons), PhD	Manager, Publications and eMedia C Bailey
Program Leader, Biogeography N L McKenzie BSc (Hons), MSc	Principal Media Relations Officer N Higgs
Program Leader, Flora Conservation D J Coates BSc (Hons), PhD	*Acting

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

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 121) 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 nine local offices. 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 11 million visits (2004-2005 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:

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.

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 Conservation Branch provides policy, strategic and scientific 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 sets and implements the legislative compliance standards, coordinates the legislative compliance function across CALM services and the protection of CALM-managed lands and waters from invasive species. It provides policy, strategic planning and advice for the protection of nature from unlawful activities, wildlife conflict and emergencies, dieback, weeds and feral animals, evaluates mining and development proposals affecting CALM-managed lands and waters and advises on rehabilitation of CALM-managed lands and waters.

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.

Threatened Species and Communities Unit coordinates and assists with CALM programs for threatened species and communities, including preparation and implementation of recovery plans.

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

Wildlife Branch develops policies and provides information and advice on wildlife protection and management throughout the State, administers wildlife licences and permits, enforces the *Wildlife Conservation Act 1950* and Regulations, maintains and manages databases on wildlife resources and conservation status, and ensures compliance with legislation and licence conditions.



During the year, there were 10.9 million visits to national parks and other reserves managed by CALM.

Highlights of 2004-2005

A world-class parks system

The three pieces of legislation to create the new national parks and many of the other conservation reserves promised by the State Government under the *Protecting our old-growth forests* policy were passed through Parliament during 2004-2005.

This resulted in 36 new national parks and nature reserves and 10 new conservation parks for WA – adding half a million hectares to the conservation estate, including 180,000 ha of old-growth forest.

The creation of these new conservation reserves was the culmination of an extensive community consultation that began in 2001. As part of this commitment, the State Government released in September 2004 a new policy to protect the State's wilderness. The policy is an integral part of the creation of the Walpole Wilderness Area in the forests between Walpole and Denmark. Prepared by CALM, the policy outlines the identification of wilderness areas as well as management strategies and activities that are permitted in these areas on land vested in the Conservation Commission and set aside for conservation purposes. The policy adopts the Australian Heritage Commission's National Wilderness Inventory as the basis for determining wilderness quality.

The implementation of the *Protecting our old-growth forests* policy was underpinned by the allocation of additional funding to CALM. Since 2001, the State Government has provided an additional \$50 million for park facilities to CALM. This funding has gone towards new picnic sites, campgrounds, boardwalks, improved access for people with disabilities and interpretive information.

The importance of visitor facilities within conservation reserves was highlighted by the release of an independent study by the Cooperative Research Centre for Sustainable Tourism that showed that national parks and other conservation areas such as marine parks were major economic drivers in rural and regional WA. During the year, there were 10.9 million visits to national parks and other reserves managed by CALM.

To support visitor access to conservation reserves CALM launched the new initiative Healthy Parks, Healthy People, which encourages people to get out and enjoy parks and promotes the physical, mental and social health benefits of spending time in natural areas. Initially focused in regional parks and other CALM-managed areas close to the Perth metropolitan area, the initiative aims to increase community awareness, visitation and support of conservation reserves and waterways by demonstrating the link between healthy parks and healthy people.

The findings of the largest and most comprehensive biological survey of WA's agricultural zone were published during the year.

Biodiversity protection

The findings of the largest and most comprehensive biological survey of WA's agricultural zone were published during the year. A Biodiversity Survey of the WA Agricultural Zone presented major advances in understanding the region's biodiversity.

This was a major milestone in the State's biological survey program that began in the early 1970s. The systematic survey was undertaken by CALM and the WA Museum in collaboration with The University of Western Australia (UWA) and the University of Adelaide. It was part of the State Salinity Strategy and aimed to determine the threat of secondary salination to terrestrial and aquatic biodiversity as well as increase understanding of the biological richness of the 250,000 km² area.

The survey was conducted over four years and involved the sampling of more than 1,000 terrestrial and wetland sites across the Wheatbelt by multidisciplinary teams of scientists. The results highlighted a number of important findings for biodiversity management. Before the survey began in 1996, only 11 species of threatened flora occurring in the region were known to have at least one population at threat from salinity. The survey revealed that in fact some 450 flowering plant, and 400 spider, scorpion and aquatic invertebrate species were at risk from salinity. The survey also found 25 new invertebrate species and six new plants. Overall some 30 per cent of aquatic and 50 per cent of terrestrial species found have not formally been described by science, indicating the significant knowledge gaps that remain about WA's biodiversity.

A discussion paper to begin the preparation of a strategy to conserve the State's biodiversity was also released in December 2004. Towards a Biodiversity Conservation Strategy for WA proposed a number of strategic directions and initiatives for public comment. Prepared by CALM after earlier public consultation on proposals for new biodiversity conservation legislation in 2002 and the preparation of WA's Biodiversity Audit, the discussion paper presented a 100-year vision and proposed strategies for the next 25 years.

December also saw the unveiling of a new bushland conservation scheme that provides economic incentives for landholders to manage privately owned areas of remnant vegetation and wetlands for nature conservation. The \$1 million Bushland Benefits scheme is a tender system through which landowners can bid for funds to manage their native bushland.



The year in summary

WA's Cane Toad Initiative was launched to prevent the westward spread of the cane toad into the State.

It complements CALM's *Land for Wildlife* scheme, which during 2004-2005 reached the milestone of having more than 1,000,000 ha registered, including more than 400,000 ha of vegetation, of which more than half was specifically managed as wildlife habitat.

CALM's nature conservation staff were also kept busy during 2004-2005 with a number of translocations of native animals including the bilby, quenda, tammar wallaby, woylie, western ringtail possum and dibbler translocated to locations around the south-west under the wildlife recovery program *Western Shield*. A trial translocation of the critically endangered Gilbert's potoroo was also undertaken to Bald Island and proved to be a great success, paving the way for a future translocation of this species to the island.

WA's Cane Toad Initiative was launched in December 2004 by the State Government to prevent the westward spread of the cane toad (*Bufo marinus*) into the State. Jointly managed by CALM and the Department of Agriculture, the initiative was funded by an initial budget of \$600,000 and involved consultation and on-ground work in the Northern Territory. As part of the initiative CALM co-chaired a local cane toad working group that aimed to enable the broader community to contribute to the outcomes of the initiative's objectives including stopping the western march of cane toads at the Victoria River in the Northern Territory, stopping hitch-hiking toads establishing in WA and protecting WA's biodiversity assets from the devastating impacts of cane toads.

Key achievements include the establishment of a surveillance and control team; establishment of an additional border inspection position; assistance with the cane toad trap competition run by the Northern Territory Government; investigation of improved trapping control options; and mapping of key water holding sites in the Victoria River region that will be important for toad control.

Marine parks

Western Australia's goal to have a world-class marine parks system along its 13,500 km coastline came closer to being achieved with the creation of four new reserves and the extension of two existing marine parks. This was a 50 per cent increase in the number and a 25 per cent increase in the area of marine conservation reserves.

The management plan for Ningaloo Marine Park and the new Murion Islands Marine Management Area off the North West Cape was released during 2004-2005. The plan is a comprehensive prescription for the management of the extended park and the marine management area for the next 10 years. The plan outlines a range of strategies to ensure Ningaloo Reef is managed to conserve its

Ningaloo Marine Park's boundaries have been extended to include the entire 290 km stretch of the coral reef system.

rich biodiversity and provide for a range of sustainable recreation and commercial activities.

Under the plan, the park's boundaries have been extended to include the entire 290 km stretch of the coral reef system, increasing the park from 225,000 ha to around 264,000 ha. In response to scientific advice and community consultation the park's sanctuary zones were increased to 34 per cent of the park.

Ningaloo is one of the world's great fringing coral reef systems and is inhabited by a variety of large marine animals such as whale sharks, turtles and dugongs. The park and the adjoining Cape Range National Park attract more than 200,000 visitors a year, which is expected to double over the next five to seven years. The final plan was the result of an exhaustive public consultation process that began in 1999 and in which 5,600 submissions were received.

To support the plan, funding of \$5 million over four years was allocated to significantly expand a research and monitoring program and a further \$8.5 million over four years was allocated for the management of the expanded park.

Two new marine parks were created in the Montebello-Barrow Islands area and the boundaries of the existing Rowley Shoals Marine Park were extended in December 2004.

The Montebello Islands Marine Park extends over 59,000 ha of which 49 per cent is sanctuary zones, while the Barrow Island Marine Park is 100 per cent sanctuary zone and covers an area of 4,169 ha. These new parks afford greater protection for marine wildlife and the important coral reefs and unique offshore mangrove communities.

The Rowley Shoals Marine Park was extended to 87,500 ha of which around one-quarter will be sanctuary zones. The new boundaries have increased the marine park's area by four-fold and were the result of extensive community and industry involvement.

The marine reserve system reached a further milestone with the release of the management plan for Jurien Bay Marine Park in June 2005. The park encompasses the waters of the Turquoise Coast between Wedge Island and Green Head.



The year in summary

CALM's commitment to improving employment and training opportunities for Indigenous people was recognised at the 2004 Diversity@work awards.

Perth Observatory

The Perth Observatory hit a high when it was awarded a 2004 Accessible Communities Award in the category of small State Government business. The Observatory was also awarded more than \$100,000 in grants and equipment and was placed on the Interim listing on the WA Register of Heritage Places.

National Award for MATES

CALM's commitment to improving employment and training opportunities for Indigenous people was recognised at the prestigious national Diversity@work awards in October 2004. The Department's Mentored Aboriginal Training and Employment Scheme (MATES) won the category of Employment and Inclusion of Indigenous Australians. This is the third award for the MATES program, which aims to ensure that Indigenous people are strongly represented in conservation and land management employment throughout WA.

The multi-faceted program is run in conjunction with non-Government training providers and land management organisations and is part of CALM's aim to achieve just and equitable Aboriginal employment outcomes through a 10-year plan to ensure Indigenous people made up 10 to 15 per cent of its full-time workforce.

CALM volunteers recognised

Volunteers once again made significant contributions in helping CALM conserve the State's environment. Volunteers dedicate hundreds of thousands of hours of their time each year to help conserve WA's biodiversity and other natural features. These contributions were recognised at a function to announce CALM's annual Volunteer of the Year and Outstanding Service Awards in December 2004.

In 2004-2005, CALM had approximately 7,600 registered volunteers – about 4,000 of them contributed a total of 444,000 hours on various nature conservation and visitor services projects during the year. This was an increase of 25 per cent on last year's figure, due largely to increased recording of volunteers caring for wildlife and the community involvement in two major whale strandings.

Wildlife protection

CALM undertook two massive rescue operations in 2004-2005 to try to save 19 long-finned pilot whales and 123 false killer whales that had stranded in two separate incidents in Geographe Bay in the State's south-west.

The rescue efforts cemented WA's reputation for responding to strandings and, once again, highlighted the spirit and generosity of the WA community. The efforts of volunteers, the private sector and Government officers helped to turn the tide

The second largest whale stranding to occur in WA's south-west in the past 20 years saw all but one of the 123 whales successfully rescued.

of what could have been tragedies into two of the most successful whale rescues ever undertaken in Australia.

The first mass whale stranding began on 3 April 2005 when 19 long-finned pilot whales (*Globicephala melas*) beached themselves at a number of locations along a 35-km stretch of Geographe Bay. CALM's rescue strategy swung into action with the help of many volunteers to ensure the wellbeing of the surviving whales and encourage them to return to the open sea. The main strategy of the rescue operation was to transport the whales to one location before herding them back out to sea as one pod. This rescue strategy was based on the known strong bonds that exist among whales of this species, thereby minimising the risk of any whales restranding once they were herded back out to sea.

Transportation of the whales to Port Geographe Beach proved to be a laborious, long task, with the last whale relocated to the main pod early on 4 April. During this time, two whales died. The next morning the whales were released from the temporary holding point and guided out to sea with the help of boats operated by volunteers and CALM staff. The main pod was escorted out to sea until it was dark. Aerial surveillance continued for several days, but there were no further sightings of the pod.

The second stranding occurred on 2 June, when a large pod of false killer whales (*Pseudorca crassidens*) stranded themselves. This was much larger than the stranding in April with 123 stranded whales, with a pod of 10 remaining offshore – the second largest stranding to occur in WA's south-west in the past 20 years.

The mammoth effort needed to undertake a rescue of this size required enormous people-power and within a few hours, about 1,500 volunteers had assembled on the beach. CALM quickly established teams that were deployed to the stranding sites and to monitor the third pod of whales that remained offshore. CALM wildlife officers arrived from Perth and local veterinary advice was obtained to identify any injuries and to gauge the stress of the animals during rescue operations.

The same strategies used during the previous rescue were employed, with the whales kept moist and covered. Only one whale died, and once the pod was re-formed later in the day, it was escorted towards Cape Naturaliste and deeper water. Further surveillance did not report any signs of the pod of whales.

As well as the 1,500 volunteers who turned out to help rescue efforts, many groups and agencies were also involved, including the West Whales volunteer group, the Busselton Volunteer Marine Rescue Group, the Shire of Busselton, the Department for Planning and Infrastructure, the WA Police and the Department of Fisheries.

The Perth hills fire was the largest in the northern forest since the 1961 Dwellingup fires.

Fire management

The 2004-2005 fire season was extremely busy for CALM staff. The total number of wildfires attended by Departmental forces in south-west of WA was 406 of which 19 fires were greater than 100 hectares. The area of wildfires that were attended by CALM forces in the south-west was 50,569 ha.

The very dry conditions extended to most of the State and the resultant severe fire danger levels meant that wildfires burning in remote, inaccessible parts of the State affected large tracts of CALM reserves and adjoining vegetated lands. The total area of wildfires attended and monitored by CALM forces throughout the State was 3,832,950 ha.

CALM and Forest Products Commission (FPC) fire fighting resources, supported by the Fire and Emergency Services Authority (FESA), local government Volunteer Bushfire Brigades and emergency support agencies were heavily involved in the suppression of the Perth hills wildfires that burned through 28,600 hectares of jarrah and wandoo forests from 15 to 25 January 2005. The fire was the result of six deliberate ignitions by an arsonist on 15 January, and a lightning strike to the east of the main fire on 18 January 2005. This fire joined up with the western fires and threatened the Mundaring Weir community on 19 January 2005.

The fire was the largest in the northern forest since the 1961 Dwellingup fires, and was also the biggest combined operation undertaken among the fire authorities, Police and support agencies.

The fire required the services of 670 CALM staff, 63 FPC staff, about 1,200 bushfire brigade volunteers and FESA staff, 200 fire trucks and command vehicles, 25 bulldozers and other heavy machinery, and 16 fixed wing aircraft and helicopters.

The fire threatened several hills suburbs including Pickering Brook, Karragullen, Araluen, Roleystone, Mundaring and Darlington. The fire was contained through the dedicated efforts of all fire fighting and support personnel. The presence of 10 forest blocks that were previously prescribed burned contributed significantly to the control of the fire, and the relatively low level of property damage to orchards, farm outbuildings and fences.

The Yanchep National Park fire on 6 January 2005 was the result of two separate arson fires lit under hot, windy conditions. The fires burned 1,270 ha of national park and 300 ha of private property. A tree that was burnt by the fire fell and seriously injured a CALM park employee. Two CALM houses within the park were destroyed along with boardwalks and signage. Most of the park's tourist and recreation facilities were saved by the actions of CALM's fire fighters with support

CALM launched the Healthy Parks, Healthy People initiative to promote the physical, mental and social benefits of spending time in natural areas.

from FESA and local bushfire brigades. Sections of the fire were contained within recently prescribed burned low fuel zones.

The State Government increased its funding to CALM in 2004-2005 to enhance CALM's capacity to deal with major bushfires across the State and its fire preparedness. The additional funding (\$2.75 million per annum) enabled CALM to hire an extra 40 fire fighting staff for the three south-west regions from April 2005.

This followed an increased allocation of \$24.3 million over four years for CALM's fire management services, starting in 2003-2004. During 2004-2005 these additional funds have provided an extra 32 fire crew members, three fire officers and additional budgets for fire prevention, prescribed burning works program, and fire suppression operations.

Strategic Planning Framework

During 2004-2005, CALM continued to work to meet the strategic directions set for the WA public sector in the State's 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

- A positive difference to the lives of people with disabilities by providing universal access to many tourism sites in areas of natural attractions (see Disability services in Statutory information section).
- Improved economic and social opportunities for Indigenous people through CALM's Mentored Aboriginal Training Scheme (MATES) and other programs (see About us section and Service 4 – Parks and Visitor Services).
- Lifelong learning opportunities for all through CALM's Bush Rangers Cadet Program for school children and Community Involvement Program, which provides people with the opportunity to become involved in conservation activities such as wildlife caring and bushland revegetation (see Service 1 – Nature Conservation and Service 4 – Parks and Visitor Services).
- CALM launched the Healthy Parks, Healthy People initiative to promote the physical, mental and social benefits of spending time in natural areas and demonstrate the link between healthy parks and healthy people (see Service 4 – Parks and Visitor Services).

Significant progress was made towards establishing a world class system of national parks, marine parks and other conservation reserves in WA.

Goal 2 – The Economy

- Provision of greater recreation and tourism facilities at WA's natural attractions and the creation of 46 new national parks and other reserves under the State Government's *Protecting our old-growth forests* policy, generating greater social and economic benefits for regional communities (see Service 4 – Parks and Visitor Services).

Goal 3 – The Environment

- Significant progress was made towards establishing a world class system of national parks, marine parks and other conservation reserves in WA. During the year 36 new national parks and nature reserves and 10 new conservation parks were created in the south-west forests, as well as four new marine conservation reserves (see Service 4 – Parks and Visitor Services and Service 1 – Nature Conservation respectively).
- Effective management of diverse ecosystems through CALM programs including *Western Shield* and *Land for Wildlife*, and the coordination of policy, planning, advice and implementation for the protection of the State's biodiversity (see Service 1 – Nature Conservation).
- CALM's Science Division including the WA Herbarium progressively worked towards the aims of understanding and protecting the State's biological diversity (see Service 1 – Nature Conservation).

Goal 4 – The Regions

- CALM continued comprehensive community consultation and participation in the establishment of new conservation reserves, enhancing Government decision-making based on understanding regional issues (see Service 4 – Parks and Visitor Services).
- CALM worked progressively towards improving environmental management of the conservation estate by providing improved regional infrastructure in many areas of the estate (see Service 4 – Parks and Visitor Services).

Goal 5 – Governance

- CALM continued to provide opportunities for the community to participate in and make effective contributions to Government processes through its comprehensive community consultation process, Community Involvement Program, and Bush Rangers Cadet 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.



The year in summary

CALM's
LANDSCOPE
magazine marked
its 20th year.

- CALM continued its commitment to using better information communications and technology to provide better services to the community through its Internet site, NatureBase, and publications such as the Bush Book series and *LANDSCOPE* magazine, which marked its 20th year.

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.



There was a 50 per cent increase in the number, and 25 per cent increase in the area of marine conservation reserves.

Government strategic 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.	1. Nature Conservation 2. Sustainable Forest Management 3. Performance of statutory functions by the Conservation Commission of WA. 4. Parks and Visitor Services 5. Astronomical Services

Nature Conservation – Service I

Highlights

- The findings of an extensive biological survey of WA's south-west agricultural zone were published as a book. Survey findings will underpin the development of management strategies aimed at preventing further loss of biodiversity.
- The construction of a major emergency watering system for long-term recovery of seven important caves within Yanchep National Park was completed. These caves support tiny aquatic animals (stygo fauna) known from nowhere else. Most of the caves support occurrences of the Critically Endangered 'Aquatic root mat community of the Swan Coastal Plain'.
- The area registered under the *Land for Wildlife* scheme reached more than 1,000,000 ha, including more than 400,000 ha of vegetation, of which more than half was managed specifically as wildlife habitat. A questionnaire of members gave overwhelming endorsement of the quality and value of the *Land for Wildlife* program.
- A 50 per cent increase in the number, and 25 per cent increase in the area of marine conservation reserves, with four new reserves being added to the system and two existing marine parks being significantly extended during the year.
- Bilby, quenda, tammar wallabies, woylies, western ringtail possum, and dibbler were translocated to locations around the south-west under the *Western Shield* program. A trial translocation of the Critically Endangered Gilbert's potoroo was also undertaken to Bald Island.



What we do

The biological survey of the agricultural zone described 25 new invertebrate and six new plant species.

Outcome achieved by

The conservation of indigenous plants, animals and ecological processes in natural habitats.

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', i.e. '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

Systematic biological inventory and assessment

The biological survey of the agricultural zone was completed in December 2004 with the publication of the survey findings. This project was a collaboration with the WA Museum, UWA and the University of Adelaide. The publication contains 13 papers by 20 authors from six organisations. In addition 25 new invertebrate and six new plant species have been described already as part of the 26 other external publications arising from the survey.

The survey highlighted that the world significant biodiversity of the south-west agricultural zone remains, but identified salinity as a major threatening process. The survey noted that hundreds of plants and animals were at risk of extinction



The major regional biological survey program in the Pilbara continued into its third year.

from rising saline groundwaters and that woodland, shrubland and wetland communities confined to valley floors were also at great risk.

The widespread dissemination of information from the survey continued with the preparation of a data CD for public access to the data sets.

CALM has committed to funding regional biological surveys of the Banded Ironstone Formations (BIFs) of the Yilgarn Craton over the next three years. These surveys are to focus specifically on the flora 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 the Yilgarn BIFs.

The major regional biological survey program in the Pilbara continued into its third year. Good progress has been made in sampling both terrestrial and aquatic sites. At the end of 2004-2005, the first 150 terrestrial sites had been sampled twice for vascular plants and vertebrate animals. Invertebrates were also sampled at these sites, and sorting of this material was well under way. An additional 60 sites were scored once for botanical attributes. The first half of bat sampling was completed at 12 campsites. Work has begun on establishing the second set of 150 terrestrial sampling sites. Two thirds (60) of aquatic sites were sampled for invertebrates and botanical attributes. Most (80 per cent of 500) stygofauna sites were sampled twice.

Other biological survey and monitoring programs continued in specific areas. In the Wheatbelt, 2,200 ha of unmanaged reserves were surveyed to assess their conservation potential, as well as various areas of private land that were assessed for their potential to add to the conservation reserve system. Biological surveys on the former Lorna Glen and Giralia stations continued, and further surveys began on Lake Mason and Black Range stations (properties purchased through the Gascoyne-Murchison Strategy) by Landscape Expeditions and regional staff. These latter surveys will inform review of the Interim Management Guidelines for the areas.

Conservation reserve system establishment

There were significant developments in the establishment of a comprehensive, adequate and representative system of marine reserves in WA. Four new marine conservation reserves (the Montebello Islands Marine Park and the Barrow Island Marine Park and the State's first marine management areas, the Muiron Islands Marine Management Area and the Barrow Island Marine Management Area) were added to the system. This took the number of marine conservation reserves from eight to 12 and increased the total area of marine conservation reserves from 1,226,000 to 1,538,000 ha, a rise of 25 per cent. Two existing marine parks were



The number of marine conservation reserves that have more than 20 per cent of their area with a high level of protection increased from two to five.

also significantly extended – the southern portion of the Ningaloo Reef was added to the Ningaloo Marine Park and all of the surrounding State waters were added to the Rowley Shoals Marine Park, significantly increasing the ecological integrity of both reserves.

A major feature of these new reserves is the increase in the proportion of sanctuary zones, which are a key element of the legal framework to protect marine biodiversity. The number of marine conservation reserves that have more than 20 per cent of their area with a high level of protection has increased by 150 per cent, from two to five.

The indicative management plan for the proposed Dampier Archipelago/Cape Preston marine conservation reserves was released for public comment in January 2005. These proposed reserves cover about 214,920 ha and include a proposed marine park and a proposed marine management area. Public submissions on these proposed reserves closed in May 2005, and an analysis of submissions began.

In conjunction with the Marine Parks and Reserves Authority (MPRA), CALM continued working on the planning and consultation processes to develop a proposal for new marine conservation reserves in the Geographe Bay/Leeuwin Naturaliste/Hardy Inlet area and the Walpole-Nornalup inlets.

A community-based advisory committee was formed in August 2003 to assist planning for the proposed Geographe Bay/Leeuwin-Naturaliste/Hardy Inlet marine conservation reserve. The advisory committee finalised its recommendations in 2004-2005, recommending that the area become a marine park. Further public consultation was undertaken during the year, before final consideration by the Minister for the Environment. The proposed reserve 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.

The proposed Walpole-Nornalup inlets marine conservation reserve on the south coast represents 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, which is largely surrounded by the Walpole-Nornalup National Park, 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. The inlet system has outstanding scenic qualities and is an important area for recreation and tourism. The focus group established in 2003-2004 held a further two meetings and finalised a draft indicative management plan during 2004-2005.



CALM established the Biodiversity Adjustment Scheme to purchase high quality bushland from landholders who have been refused permission to clear the land.

The MPRA has identified high priority areas from the 1994 Marine Parks and Reserves Selection Working Group Report that the MPRA believes should be considered for reservation in the medium term. Two areas, the Recherche Archipelago and Roebuck Bay areas, have been specifically recommended by the MPRA as high priorities for future consideration.

The area of terrestrial conservation reserves increased by 568,149 ha during the year (498,410 ha national parks, 28,657 ha nature reserves and 41,082 ha conservation parks). Details of significant reservations are provided in the section on CALM-managed lands and waters in this report.

CALM established the Biodiversity Adjustment Scheme to purchase high quality bushland from landholders who have been refused permission to clear the land. A total of \$1 million has been allocated to the voluntary scheme, and selection criteria established to identify those landholders most in need of assistance and the bushland that will contribute to the conservation reserve system. One property was purchased during the year: a 779 ha bushland part of a farming property between Eneabba and Three Springs in the northern Wheatbelt. The property contains 270 species of native flora, including one Declared Rare Flora species and four Priority flora species. Land purchase negotiations under the scheme were begun 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 significant increases in capital and 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.

Management plans for the Jurien Bay Marine Park and the Ningaloo Marine Park were approved during the year and their implementation began. The review of the original 1987 management plan for Ningaloo was a major undertaking by CALM that followed an extensive five-year public consultation process. The new management arrangements included increasing the proportion of sanctuary zones from 10 to 34 per cent, increasing the level of protection of the park and significantly improving the representation of marine communities in sanctuary zones.

CALM also worked on finalising management plans for the recently created Montebello/Barrow islands marine conservation reserves and the extended



The Crown Reserves Program under the State Salinity Strategy continued with a range of land management and rehabilitation works.

Rowley Shoals Marine Park in accordance with final decisions on the zoning arrangements for these reserves.

A project funded through the Natural Heritage Trust was undertaken to assist with the future planning of marine conservation reserves in the Canning coast (West Kimberley) region, which includes Roebuck Bay. The project has provided information to assist in the future consideration of this area and identify gaps in ecological and social information that need to be addressed.

CALM undertook its second 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 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.

Marine information systems that provide a data management framework for spatial information, along with computer-based tools and procedures to assist decision making in day-to-day reserve management, have been developed for Ningaloo, Shark Bay, Hamelin Pool, Shoalwater Islands, Swan Estuary, Marmion and Jurien Bay marine conservation reserves. These systems help with the collection of information to verify progress towards auditable targets set out in marine park management plans. The marine information systems also provide for regional aggregation of information to facilitate management at all spatial and institutional levels.

The Crown Reserves Program under the State Salinity Strategy continued with a range of land management and rehabilitation works being undertaken on reserves throughout the south-west. Activities included:

- collection of local provenance seed for rehabilitation;
- site preparation and revegetation of degraded areas using seedlings and direct seeding techniques (e.g. Coalseam and Karamara);
- gravel pit rehabilitation;
- weed control works;
- rabbit baiting (e.g. Burma Road); and
- feral pig control (e.g. East Yuna).

In May 2005, members of Green Corps worked with CALM staff at Geikie Gorge National Park on a major weed control effort. *Parkinsonia aculeata* in particular was targeted and a series of monitoring sites set up to test the effectiveness of various control techniques. This project was part of ongoing efforts to focus on



The total area of properties registered with *Land for Wildlife* reached 1,000,485 ha.

weeds on CALM-managed public land in the Kimberley Region. The region has been developing a weed control strategy and a feral animal control strategy that will be used to develop individual reserve control plans.

The date palm control program at Millstream Chichester National Park has significantly reduced the impact of the palms on the local environment, while a successful prickly pear control program has also nearly eradicated this weed from the islands of the Dampier Archipelago.

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 134 new properties were registered in the scheme. The total area of properties visited was 35,921 ha, with a total area of 5,156 ha being dedicated wildlife habitat. Of those properties assessed, 26 were affected by secondary salinity and two had naturally saline sites. Eleven properties assessed also had conservation covenants over all or part of their property. To 30 June 2005, a total of 1,539 property owners had applied to join *Land for Wildlife* and the total area of properties registered at that time was 1,000,485 ha. This includes 236,778 ha of land where the primary management purpose is nature conservation.

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. Staff assisted with 27 applications under the Bushland Benefits Program and 25 other funding applications during the year. Support included provision of 'voluntary management agreements', project development and letters of support.

In 2004, a *Land for Wildlife* landholder was successful in winning the Bushcare category of the State Landcare Awards. This landholder went on to win the 2005 National Banksia Award for Environmental Leadership in the Rural Sector for their 'outstanding contribution to the protection of the environment and sustainable management of Australia's natural resources'.



The voluntary Nature Conservation Covenant Program established 10 new covenants in perpetuity, and one for 30 years.

Four editions of the Western Wildlife publication were produced. A survey of members conducted to determine attitudes to this publication and the program in general attracted 273 responses, with 97 per cent considering *Land for Wildlife* staff to be knowledgeable and helpful; 82 per cent using advice to help manage their bushland; 79 per cent considering they had a better appreciation of their bushland since joining the program; 99 per cent agreeing that Western Wildlife was interesting and informative; and 100 per cent of people attending workshops or field days believing that they were useful and interesting.

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 and one for a period of 30 years, bringing the total number of registered covenants with the program to 50 on 66 land titles. Covenants now protect a total area of 4,605 ha of land, including a number of threatened species and ecological communities. Negotiations began for a further 41 covenants covering 5,272 ha.

The Nature Conservation Covenant Program maintains 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. A Memorandum of Understanding has been signed between CALM and the National Trust of Australia (WA) for the exchange of information between the two organisations to benefit and further advance their nature conservation covenant programs. These programs have also been successful in a joint project proposal seeking funding from the South West Catchments Council for the delivery of covenants in the South West Natural Resource Management region.

The Nature Conservation Covenant Program provided articles for local media and Western Wildlife (the *Land for Wildlife* newsletter) and sent covenant information to local governments. Participation in a national covenant forum provided an opportunity for CALM to review the program to ensure that it still met 'best practice' principles.

Identification, protection and management of regionally-significant areas to increase landscape connection and function

The ability to assess the conservation value of a vegetation remnant rapidly and accurately is a critical step in landscape management aimed at integrating the goals of conservation and agricultural production. A collaborative research program involving CALM, CSIRO Division of Plant Industry, and Land and Water Australia, is directed towards addressing this issue by investigating those factors that will be critical for the survival of plant populations in remnant vegetation.



Drafting began on the Buntine-Marchagee Recovery Catchment Plan, to assess threats to the area's biodiversity and recommend recovery actions.

The importance of factors such as remnant size, shape, quality and connectivity are being assessed in relation to the viability and persistence of populations of a number of key plant species in the Dongolocking area of the Wheatbelt.

A final report for the first three years of this research program was completed highlighting a number of key findings:

- Negative genetic and demographic changes are occurring in populations of common native plant species in fragmented landscapes. This is likely to affect both local population viability and the utility of these populations as seed source for revegetation and restoration activities.
- Population size is critically important and is the primary population/landscape variable underpinning changes in measured genetic and reproductive parameters.
- Most positive relationships observed between population size and genetic and demographic variables are log-linear in nature and suggest that, across species, major negative effects are encountered in populations smaller than 100-200 reproductive plants.
- Inter-population gene flow is critical with data from *Eucalyptus wandoo* clearly indicating that small populations can be genetically rescued by inputs from other remnants in the landscape over scales of up to several kilometres. Paddock trees may well be a critical factor in maintaining the levels of gene flow observed.

Natural Diversity Recovery Catchments and related salinity projects

Six Natural Diversity Recovery Catchments have been identified by CALM under the State Salinity Strategy. These 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.

CALM completed a revegetation database for Natural Diversity Recovery Catchments, providing a tool for easy storage and retrieval of revegetation information. The database also provides the ability to interrogate, analyse and report on data.

Buntine-Marchagee Natural Diversity Recovery Catchment

The Buntine-Marchagee Catchment is a naturally saline wetland system that is at risk from hydrological changes, including salinity.

Drafting began on the Buntine-Marchagee Recovery Catchment Plan, which will outline current knowledge of the catchment's biodiversity and cultural values, assess the threats to these values, and recommend recovery actions to be implemented within five years.



More than 118,000 seedlings were planted in the Drummond Natural Diversity Recovery Catchment.

A detailed survey of aquatic invertebrate fauna was conducted at 20 wetland sites by consultants from UWA, adding to the data collected in 2003. There were 150 species of invertebrate found in the 20 wetlands, including several not previously collected in WA and one not previously collected in Australia. This study identified factors that influence the different faunal composition of sites.

The Recovery Catchment team hosted a hydrological investigations workshop in which technical specialists provided an understanding of the hydrological functioning of the catchment and its wetlands, and contributed to the development of a five-year surface and groundwater monitoring plan.

Monitoring programs have been established to measure the condition of wetland-fringing vegetation and fluctuations in groundwater level and quality within the catchment.

Development of a five-year remnant vegetation protection and revegetation plan began in early 2005. The plan aims to combine terrestrial flora protection with wetland management priorities. A specific revegetation plan is being developed for the Coorow Land Conservation District Committee's integrated surface water management demonstration catchment. Development also began on a revegetation procedures manual to evaluate the success of revegetation programs.

Revegetation on private property started in the Buntine-Marchagee Catchment, with 23 ha revegetated on two sites on two properties, which were chosen for their importance to the conservation of declining woodland birds.

Lake Warden Natural Diversity Recovery Catchment

Several research activities undertaken throughout the year were completed, providing important hydrological threshold information about the Lake Warden system. The information is being used to determine targets to recover the internationally significant waterbird values present at Lake Warden. Research conducted over the past four years has been integral to the development of a recovery plan for the Lake Warden system, which continued.

Drummond Natural Diversity Recovery Catchment

During the third year of operation of the Drummond Natural Diversity Recovery Catchment, more than 118,000 seedlings were planted on project sites upstream from Bewmalling Nature Reserve and Pither Road Nature Reserve. The projects included establishing a sandalwood demonstration site, planting oil mallee and working with the Department of Agriculture in implementing a Sustainable Grazing of Saline Lands project. The first stage of the *Acacia chapmanii* recovery research project was also completed, involving conducting research burns to determine the germination response of the species to fire.



Groundwater pumping in the Toolibin Lake Natural Diversity Recovery Catchment has lowered the water table to more than 2 m below the lake floor.

Groundwater monitoring bore sites across the catchment and adjacent to Drummond Nature Reserve were surveyed for water quality as part of building baseline information on the catchment. Groundwater bore monitoring data loggers and a rainfall station were established to investigate any correlation between rainfall events and groundwater behaviour. A macro-invertebrate aquatic fauna and frog survey was also completed in the clay pans on Drummond Nature Reserve.

Toolibin Lake Natural Diversity Recovery Catchment

Lake Toolibin remained dry throughout the year due to the lack of sufficient rainfall to generate surface water flow. Groundwater pumping from beneath the lake continued through the year, with the volume of water extracted currently being approximately 640 KI/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 2 m 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.

Within the catchment, 14.5 ha were revegetated with a total of 130,000 oil mallee seedlings and 18,300 seedlings of other species.

Lake Magenta - Upper Fitzgerald River Catchment

An engineering design of the shallow drainage channel in Lake Magenta Nature Reserve was completed and a 2 km shallow drainage channel constructed as part of drainage management within the reserve. A network of 85 km of grade banks was also constructed on private properties within the catchment to control surface water flow. Paired data loggers were installed to monitor surface water flows at eight sites within the catchment.

A vegetation survey and degradation assessment of the Fitzgerald River Catchment within Lake Magenta Nature Reserve was completed with six transects established to monitor changes in vegetation over time. Revegetation of 30 ha of waterways with 22,000 mixed species seedlings and 8 kg of local provenance seed was also undertaken.

Lake Bryde Natural Diversity Recovery Catchment

Surface water management works on both Crown land and private property were the main focus of the recovery project at Lake Bryde during the year. A preliminary engineering design and feasibility study into the development of valley floor surface water structures was completed. An environmental impact



CALM scientists have prepared a benchmark report summarising the results of some 23 years of monitoring 151 wetlands in south-west Australia.

assessment of this preliminary engineering design found that the installation of valley floor engineering structures will have a net benefit to the Lakelands Nature Reserve and the vegetation associations of the Lake Bryde Recovery Catchment valley floor. Partnership investigations with Edith Cowan University and UWA also began into hydrological aspects of the catchment.

A series of cost share agreements was completed with approximately 16.2 km of remnant vegetation and revegetation fencing completed, 26,000 seedlings planted, four dams (total capacity 42,000 m³) constructed, and 10 km of grade banks constructed.

Tarin Rock Representative Landscape Project

Funding of \$60,000 was obtained through the Avon Catchment Council for projects within the Tarin Rock Representative Landscape Area. Activities undertaken during the year included revegetation of 5 ha with 5,000 local provenance mixed species, fencing of 1.5 km (5 ha) of a revegetation site, and fox baiting of 6,000 ha of private properties and CALM-managed reserves. Fauna surveys were also undertaken at 10 sites.

Other

CALM scientists have prepared a benchmark report summarising the results of some 23 years of monitoring fluctuations in water depth and salinity of 151 wetlands in south-west Australia. The report revealed considerable variation in water depth over the period and that a number of wetlands had become more saline, while others had not changed significantly.

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, is a major focus of the Unit's current work. Natural Diversity Recovery Catchments are one focus for revegetation work with prospective species developed by the unit.

The final collation and publication of data arising from the Natural Heritage Trust Search Project was completed in 2004-2005 and a CD presenting the full final report was widely circulated. The next phase of work in this area began through the FloraSearch Project, supported by the Joint Venture Agroforestry Program and the Cooperative Research Centre for Plant Based Management of Dryland



What we do

Mallee seed sales were strong with about 25 million seeds sold.

Salinity. Work focused on a ranked list of 11 'development' species with a short list of three proceeding into industry exploration: *Acacia saligna*, *Eucalyptus rudis* and one of the oil mallees, *Eucalyptus loxophleba* subsp. *lissophloia*. In the case of *Acacia saligna*, some detailed taxonomic work began to clarify the variation across its wide geographic range.

The mallee breeding and seed production program reached a milestone with completion of testing in all progeny trials for all four mallee species. This involved some 50 trial sites and 80,000 trees. The unit established its own leaf testing laboratory with the capacity to produce more than 1,000 high quality gas chromatography analyses per week, significantly upgrading the quality and volume of tests carried out.

Culling plans for seed orchards were completed and implemented on all trials except two sites at Collie and one at Wongan Hills. Mallee seed sales were strong with about 25 million seeds sold. While the resulting seedlings are largely planted to meet conservation objectives, they represent the resource base for new, prospective industries.

The first research project on improvement to the chipper unit for mallee harvesters was successfully completed, and a second project began to continue this promising development.

A major output from the Search Project was the development of a model to predict woody crop yield and overall scale of production, based on the constraints of available water and economic competitiveness with alternative crops. A paper was submitted for publication.

The Revegetation Systems Unit continued to assist Western Power with the development of the Integrated Wood Processing Pilot Plant for mallees at Narrogin.

Assessment of conflicting land uses

CALM undertakes significant work in assessing mining and other resource development proposals that might impact on the State's biodiversity conservation assets. This work often requires extensive negotiations and interaction with numerous stakeholders, regarding the avoidance, minimisation or mitigation of potential impacts. The ongoing management of such projects also requires significant work by CALM's regional staff. Activities in 2004-2005 included:

- Input by staff in the South West Region into the development and implementation of environmental conditions for Cable Sand's titanium minerals mine in State forest adjacent to the Tuart Forest National Park.



CALM provides biodiversity advice on five of the 10 clearing principles under the Environmental Protection Act for applications to clear native vegetation.

- Input by staff in the South Coast Region into the development and assessment of the planned Ravensthorpe Nickel Operation.
- The ongoing management by staff in the Goldfields Region of impacts on biodiversity from Portman's Koolyanobbing iron ore operation benefited significantly by the provision of an externally supported conservation officer, dedicated to liaising with the proponent regarding impacts and management of the operation.
- Another project of interest was ARC Energy's Denison three-dimensional seismic survey, the largest and most complex land-based 3D seismic survey held in Australia. Access was negotiated for petroleum exploration to be conducted in Beekeepers and Yordanogo Nature Reserves and it was the first petroleum exploration project in WA to be formally assessed by the Environmental Protection Authority, a process that involved significant input by CALM to reach agreement with the proponent regarding acceptable methodology and impacts. CALM was successful in recommending the first bank-guaranteed performance bond to be placed on a petroleum exploration project in WA, with this bond being placed on the project to ensure that benchmark completion criteria set for the project will be upheld.

CALM continued to contribute to the whole-of-government process of implementing recommendations made via the 2002 Review of the Project Development Approvals System. CALM was represented at a policy level on the Approvals Review Team and also on the Inter-Agency Implementation Group (IAIG). A contract project officer was appointed to review internal procedures and guidelines. External funding totaling \$79,000 was provided from the IAIG, which was used to develop an internal database to manage assessment timelines, to prepare biological survey guidelines and to provide information sessions to staff across CALM on the Integrated Project Approvals System.

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, 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;



There were 242 applications to clear native vegetation referred to CALM for biodiversity advice during the year.

- 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 242 applications to clear native vegetation covering 16,798 ha referred to CALM for biodiversity advice during the year.

Community-based natural resource management (NRM)

CALM staff put considerable effort into working on the accreditation of the regional strategies and investment plans of regional NRM groups. Membership and contributions to the State Natural Resource Management Council and a range of NRM committees, forums and workshops also involved a significant level of staff input.

The Blake report on CALM's relationships with other NRM stakeholders was completed in 2004-2005, providing a valuable review of these relationships. Preparation of a set of principles for CALM's interaction with regional groups neared completion.

CALM progressed a range of programs relating to marine conservation, with the financial support of Natural Heritage Trust grants totaling approximately \$500,000. These included the Marine Community Monitoring Program and the Central West Coast Marine Biodiversity and Conservation Program.

Amelioration of landscape/seascape threatening processes

The WA Cane Toad Initiative was launched in December 2004 with an initial budget of \$600,000, to prevent the westward spread of the cane toad (*Bufo marinus*) into the State. This project was jointly managed by CALM and the Department of Agriculture. As part of the initiative, consultation took place to undertake work in the Northern Territory. As well as liaising with the Department of Agriculture on the activities of the cane toad survey team, managed by that agency, CALM co-chaired a local cane toad working group that enabled the broader community to contribute to the outcomes of the initiative.



The WA Cane Toad Initiative aims to stop the western march of cane toads in the Northern Territory, stop hitch-hiking toads establishing in WA, and to protect WA's biodiversity.

The Commonwealth Minister for the Environment and Heritage has been approached to match the State Government funding.

The WA Cane Toad Initiative has the key objectives of stopping the western march of cane toads at the Victoria River in the Northern Territory, stopping hitch-hiking toads establishing in WA and protecting WA's biodiversity assets from the devastating impacts of cane toads.

Key achievements to the end of 2004-2005 include:

- establishment of a surveillance and control team;
- establishment of an additional border inspection position;
- assistance with the cane toad trap competition run by the Northern Territory Government;
- investigation of improved trapping control options;
- mapping of key water holding sites in the Victoria River region that will be important for toad control;
- detailed liaison with the Northern Territory Government, resulting in a commitment to assist WA in its program to halt the toads; and
- development of a program to identify and protect biodiversity assets at most risk from toads.

Primary management responsibility for the State Cane Toad Initiative was passed to CALM at the end of the 2004-2005 financial year.

CALM's Natural Resources Branch coordinated and reported on two main workshops during the year. The first involved a group of scientists, and provided valuable feedback and new strategies for the selection of potential Natural Diversity Recovery Catchments. Reporting and discussion of this work with representatives of regional NRM groups began late in the financial year. The second workshop involved a review of the Wetland Monitoring Program, the first of a series of workshops to be held to review CALM's major salinity programs.

The initiation of a new, collaborative program with the Centre for Water Research at UWA will underpin integrated surface and groundwater management in recovery catchments with significantly improved decision systems and more accurate catchment measures. Also on the planning front, although the Salinity Investment Framework Phase 2 report is still to be published, results from the work have emphasised the importance of industry development in reducing the significant costs of managing salinity, such as through the availability of commercially-driven revegetation options.



CALM's wildlife recovery program *Western Shield* baited more than 3.7 million ha of conservation lands to control foxes and feral cats.

The Commonwealth Department of the Environment and Heritage published a report identifying 15 biodiversity hotspots, of which WA has eight. CALM was successful in obtaining funding for a Biodiversity Hotspot project in the Midwest Region that incorporates three of the hotspots – Geraldton to Shark Bay sandplains and most of the Carnarvon Basin and Mt Lesueur/Eneabba hotspots. The project focuses on recovery actions for a suite of threatened flora species and threatened ecological communities.

Western Shield and other fauna management

CALM's wildlife recovery program *Western Shield* baited more than 3.7 million ha of conservation lands to control foxes and feral cats using more than 900,000 poison baits in 2004-2005. Valuable corporate sponsorship continued to be provided, 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.

Research continued to develop suitable baits for feral cats and to improve baits for foxes. Development of a salami-style fox bait, 'Pro-bait', progressed during the year with research trials to test bait uptake by non-target animals such as the chuditch and brush-tailed phascogale being completed successfully, demonstrating that baiting will have no negative impact on these native species.

Trials continued with the feral cat bait, Eradicat, to determine the most appropriate baiting density in areas where alternative prey (e.g. rabbits) was present or absent, timing of baiting, and frequency of baiting determined by cat reinvasion. Staff from CALM's Midwest Region continued operational research into feral cat control on Peron Peninsula (Project Eden). The Science Division and Goldfields Region also continued with field trials on Lorna Glen station to control introduced predators (foxes, feral cats and wild dogs), with a large-scale aerial baiting in July 2004 resulting in an 80 per cent reduction in the feral cat population. Much of CALM's work in feral cat control research is generously sponsored by the Wind Over Water Foundation.

CALM, in collaboration with the Victorian Department of Primary Industries (Research) and the Commonwealth Department of the Environment and Heritage, continued to develop a new toxin and bait delivery mechanism for cat control. Research is primarily focused on developing an encapsulation process for the toxin that will further reduce the risk of exposure to non-target species.



What we do

During the year, CALM spent more than \$1,115,000 on ongoing weed control.

CALM's Science Division and Wellington District have also developed a new ground-based bait delivery technique reducing the availability of baits to non-target species. This delivery technique was successfully trialed on Christmas and Cocos Islands.

Increasing concern and awareness of the impacts of feral pigs highlighted the need for a forum to exchange information between CALM districts. A Pig Information Exchange (PIE) day was held during the year, with 65 attendees, most of them CALM staff with others from Murdoch University, the Department of Agriculture and the Water Corporation. The presentations and discussions during the PIE day demonstrated a shift in thinking from control and eradication to identifying and protecting values. As a result of the PIE day, a Feral Pig Management Committee was established to oversee the integration of feral pig control across CALM.

Appropriate fire management, together with introduced predator and feral pig control, is critical for the conservation of mainland quokkas. Interim guidelines for managing fire to protect quokka populations in south-west forests were prepared and put into practice.

Goat control on the Peron Peninsula was maintained to minimise the impacts of these animals on mangrove communities and fauna habitat. Goat control work was also undertaken in the Midwest in conjunction with the WA Field and Game Association, with significant numbers of goats being removed from a number of nature reserves. Goat control also occurred on a number of pastoral leases acquired by CALM (Burnerbinmah, Karara, Lochada).

Management of environmental weeds

Weed management actions on CALM-managed lands are prioritised within each region according to the Environmental Weed Strategy of WA (1999). The large area of land managed, large number of neighbours and available resources are ongoing management issues. During the year, CALM spent more than \$1,115,000 on weed management, including the control of arum lily, bridal creeper, blackberry and other significant environmental weeds.

Additional sources of funding for the management of environmental weeds were secured in 2004-2005. The first was part of a \$400,000 funding initiative by the State Government, for improved management of priority agricultural and environmental weeds in south-west WA. CALM received \$161,000 for expanded programs on the control of environmental weeds such as cotton bush, blackberry, Paterson's curse and arum lily, across Swan, South West and Warren regions.



Some 3,200 native plant taxa are now considered to be susceptible to *Phytophthora* in the South-West Botanical Province.

CALM was also successful in securing funding from the 2004-2005 allocation of the Federal Defeating the Weed Menace Program, administered by the Department of Agriculture, Forestry and Fisheries and the Department of Environment and Heritage. The sum of \$44,000 was provided to implement an integrated weed control program in the Warren Region, focusing on the weeds of national significance, blackberry and bridal creeper, plus other serious environmental weeds such as St John's wort, arum lily, watsonia and pampas grass. This project will be implemented over a 12-month period and will continue to foster coordination and integration between various land managers, including regional NRM groups, local community action groups, and the CSIRO Entomology research project on the biological control of blackberry, to which CALM continued to provide in-kind support.

Phytophthora dieback

The Dieback Response Group, chaired by CALM, works with the Dieback Consultative Council to drive the implementation of the State Dieback Management Framework. During the year, the Dieback Response Group:

- completed a revision of CALM's dieback policy and new best practice guidelines;
- drafted a business case for investment in *Phytophthora* response;
- completed an initial draft of a generic risk assessment methodology; and
- held a workshop and drafted an action plan for management of dieback in the Fitzgerald River National Park, with one immediate outcome being an increase in the spraying of phosphite within the park.

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.

Studies undertaken on the susceptibility of the State's flora to *Phytophthora* have shown that it ranges from 33 per cent in the northern jarrah forest to 49 per cent for Declared Rare and Priority flora. Some 3,200 native plant taxa are now considered to be susceptible to this disease in the South-West Botanical Province.

Tuart conservation and management

In 2004-2005 the protection of tuart woodlands was enhanced by State Government proposals to create new conservation reserves at Southern Beekeepers, Gingin, Moore River, Harvey River and the 'Maidens' near Bunbury; agreement to add State forest containing tuart woodlands to existing national parks at Yanchep, Neerabup, Yalgorup and Ludlow; and funding of \$200,000 for tuart conservation projects involving local environment groups.



Sites in the Helena Catchment and Julimar forest were selected and monitoring equipment installed to investigate the causes of wandoo crown decline.

The Minister for the Environment also sought advice from Government and community groups on projects eligible for funding from Cable Sands' offset payment of \$830,000 for tuart conservation initiatives. The approved projects to be managed by CALM are:

- tuart rehabilitation to establish tuart overstorey and understorey vegetation on areas degraded by century-old grazing in the Tuart Forest National Park;
- land purchases to support the acquisition of high conservation tuart lands at Ludlow;
- tuart-based recreation facilities including parking bays, walk trails and interpretive signage to enable enhanced visitor use and tourism of the Ludlow tall tuart woodlands;
- tuart research to consolidate current research into tuart health funded by the Australian Research Council 'linkage program' and industry partners Murdoch and Edith Cowan universities, CALM, the City of Mandurah and Alcoa; and
- tuart eco-education to provide tuart knowledge to future natural land managers, tools for increasing community awareness and development training to school teachers.

The Tuart Response Group held two business meetings during the year, and three public forums at Guilderton, Lake Clifton and Busselton to seek community input into the development of a tuart conservation and management strategy and action plan. A meeting of the Australian Government's Research Working Group on Forest Health was also held in WA and included a workshop on tuart decline.

Wandoo crown decline

During 2004-2005 the Wandoo Recovery Group (WRG) conducted a further six business meetings and focused on its key priorities: research, mapping and community education.

Investigations by UWA into the causes of wandoo crown decline have progressed. Sites in the Helena Catchment and Julimar forest were selected and monitoring equipment installed (sap flow meters and temperature probes), to record and compare the water relations of wandoo with other co-occurring eucalypts. A PhD project is identifying a particular woodborer and fungal pathogens found to be associated with decline in wandoo.

In March 2005, CALM allocated \$55,000 towards a Wandoo Canopy Assessment Project to:

- map the distribution of wandoo decline and recovery at various sites using remote sensing technology; and



CALM allocated \$55,000 towards a Wandoo Canopy Assessment Project.

- identify changes in vegetation cover over 17 years using trend analysis of Landsat imagery data.

Six sites across the south-west have been selected: Helena River Catchment; Julimar State forest; Drummond Nature Reserve; Dryandra Woodland Reserve; Talbot forest block and surrounding bushland near York; and the North Stirling Ranges - Wandoo forest blocks.

The WRG has developed a guide to surveying wandoo crown decline, to provide data for monitoring and research. This guide is for use by community groups, land managers, researchers and students to record the progression and effects of decline on individual stands of trees.

Public education programs to increase awareness of wandoo decline continued. The second in a series of wandoo news bulletins was widely circulated throughout the south-west. The WRG hosted community information days at Dandaragan and York. In addition a public forum was held in Perth to seek community input into research related projects.

Funding and collaborative partnerships with regional natural resource management groups, local authorities, and industry were sought to support further research into the consequences of long-term drought on a catchment scale from a hydrological and vegetation perspective.

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

Recovery of threatened species and ecological communities

Agreement was reached with the Commonwealth Department of the Environment and Heritage on a process for aligning the lists of threatened species under the respective State and Commonwealth threatened species legislation. New processes introduced by the Commonwealth in 2000 meant that endorsement of State listing processes ceased to occur, and significant differences subsequently evolved in the lists. A cooperative project identified 348 discrepancies between the lists that concerned species endemic to WA, of which 182 were listing differences, and 166 were for taxa that were listed in different threatened categories. The Commonwealth Threatened Species Scientific Committee considered 31 of these listing recommendations during the year, with a further 57 list discrepancy nominations being drafted through this project for consideration in 2006.



At the end of 2004-2005, there were 362 extant Declared Rare Flora and 14 listed as Presumed Extinct.

The State Threatened Species Scientific Committee's (TSSC) recommendations for changes to the lists of threatened flora and fauna under the Wildlife Conservation Act, endorsed by the Minister for the Environment during 2003-2004, were gazetted on 6 July 2004 (refer to 2003-2004 Annual Report for details). One additional flora taxon (*Dryandra ionthocarpa* subsp. *chrysophoenix* ms) was also added to the list of Declared Rare Flora as a consequence of a taxonomic review of the species to create two subspecies.

Further recommendations by the TSSC for changes to the threatened flora and fauna lists were also endorsed by the Minister for the Environment, and published on 8 February 2005. Details of these changes are provided below.

Flora

There were five additions to and one deletion from the list of Declared Rare Flora (DRF), including the transfer of one taxon from the presumed extinct list to the extant list. At the end of 2004-2005, there were 362 extant DRF and 14 listed as presumed to be extinct.

Three taxa added to the list of DRF were ranked as Critically Endangered (*Eremophila koobabbiensis* ms, *Ricinocarpus brevis* ms and *Synaphea selenae* ms) and two as Endangered (*Hibbertia priceana* ms and *Tetrateca nephelioides* ms). *Laxmannia jamesii* was down-graded from DRF to Priority 4. However, there was some taxonomic uncertainty over the occurrence of this species near Busselton compared to those at Albany, and this will be the subject of further genetic investigation.

The presumed extinct species, *Calothamnus accedens*, was transferred to the extant DRF list following confirmation of its rediscovery along a road verge in the Wheatbelt. This species was the only known example of flora that had been made extinct due to the only known population being destroyed by human activity. Its rediscovery was therefore of great significance for flora conservation in this State.

A further 29 taxa were added to CALM's Priority flora list, and 11 taxa were deleted from the list on the basis of further survey and taxonomic review. Altogether, 2,138 taxa were listed as Priority flora as at 30 June 2005.

The three-year phase 1 of the WA component of the Millennium Seed Bank Project was completed in September 2004 and has resulted in a dramatic increase in CALM's efforts to collect and store seed of rare, Priority and threatened flora for future reintroduction and revegetation programs. Phase 2 of the program began and will continue for another five years. The eight-year program involves a benefit sharing agreement between the Royal Botanic Gardens Kew (United Kingdom) and two WA partner agencies, CALM and the Botanic Gardens and Parks



What we do

Translocations of nine Critically Endangered plant species were carried out to establish new populations.

Authority. Under the program, 474 collections have been made of Priority flora and key species from threatened ecological communities (TECs). During the year CALM's Threatened Flora Seed Centre made seed collections from more than 158 rare, threatened and poorly known taxa (283 accessions). This includes 109 DRF, 112 Priority and 62 general collections of taxa associated with TECs. These collections were added to the 226 DRF stored as seed in the centre for CALM's threatened flora recovery programs.

The recovery actions implemented for a suite of threatened flora included:

- Surveys or monitoring of 290 species of threatened and Priority flora. Of note, monitoring of the southern populations of the underground orchid *Rhizanthella gardneri* found more than 50 flowering plants. Only one plant was located in the northern populations.
- The discovery of 33 new populations or sub-populations of threatened flora and 123 populations of Priority flora.
- One species that was previously not known from any living plants (*Beyeria lepidopetala*) was relocated and two secure populations of the species were surveyed.
- A new population of *Hakea megalosperma* was found on private property adjacent to Wotto Reserve, representing a significant extension to its known range. The private property that contains the new population has been purchased by CALM.
- Translocations of nine Critically Endangered plant species, *Acacia volubilis*, *Darwinea carnea*, *Daviesia cunderdin*, *Grevillea batrachioides*, *Grevillea scapigera*, *Leucopogon gnaphilioides*, *Persoonia micrantha*, *Symonanthus bancroftii* and *Verticordia albida* were carried out to establish new populations to enhance their conservation.
- Taxonomic work was undertaken on several DRF recorded in disjunct populations in different habitats. This included genetic work for *Eremophila rostrata* and *Eremophila microtheca* and morphological determination for *Stylidium coroniforme* and *Hypocalymma longifolium*. In each case the species is likely to be separated into different taxa.
- Fencing of populations of *Orthrosanthus muelleri* was completed in spring 2004 as well as fencing to link a roadside population of *Lambertia orbifolia* with remnant vegetation.
- Fire and smoke water trials to stimulate germination of soil-stored seed were conducted for *Daviesia euphorbioides*, *D. microcarpa* and *Eremophila lactea*.
- A partnership was established with C Y O'Connor TAFE to grow associated species to rehabilitate habitat of a population of *Caladenia drakeoides*.
- Phosphite was applied to 167 ha of *Phytophthora cinnamomi*-affected vegetation containing populations of 16 species of threatened flora.



More than 440 person hours were spent on surveys for the Critically Endangered *Caladenia huegelii*.

- A draft recovery plan was prepared for *Tetratheca paynterae* subsp. *paynterae* ms. Some 30 interim recovery plans were in draft at the end of the financial year.
- Wildlife management plans covering DRF and Priority flora were drafted for the Wongan-Ballidu Shire and Warren Region.

A joint study involving UWA, CALM, the local community, land conservation district committees and the Botanic Garden and Parks Authority was begun to research the underground orchid *Rhizanthella gardneri* and its habitat requirements. The group progressed development of a proposal for habitat regeneration trials, constructed rabbit exclusion fencing, monitored habitat, designed and installed an information sign with assistance from local school groups, conducted genetic studies on the organism and its host, and propagated the orchid.

During the year, special attention was given to surveys for the Critically Endangered *Caladenia huegelii* on the Swan Coastal Plain. More than 440 person hours were spent surveying sites from the north of Perth, to Dawesville, south of Mandurah, and known locations in the Bunbury and Busselton areas. These surveys involved more than 52 CALM staff, consultants, and volunteers from other agencies and the broader community. While five new populations were surveyed during this period, the survey results did not change the conservation status of the species, and concerns for the long-term security of the species remain.

A 5.5 ha area of *Caladenia huegelii* habitat was purchased by the WA Planning Commission as a conservation area to protect this species within the Perth metropolitan area. Two other populations were retained in smaller conservation areas as part of negotiated outcomes relating to land developments. Consultation continued with regard to the protection and management of the two largest populations of this species.

Fauna

The Minister for the Environment endorsed nine fauna taxa for addition to the threatened species list and one taxon for deletion from the list. At the end of 2004-2005 there were 199 extant threatened fauna and 18 presumed to be extinct.

Two bird taxa (forest red-tailed black-cockatoo, *Calyptorhynchus banksii naso*, and western rosella (mallee), *Platycercus icterotis xanthogenys*) were added as threatened species based on survey work that showed both of these species were not as common or as widely distributed as previously believed.

Five reptile taxa added to the list (*Pogona minor minima*, *Egernia pulchra longicauda*, *Tiliqua rugosa konowi*, *Pseudonaja affinis exilis* and *Pseudonaja affinis tanneri*) are naturally restricted to offshore islands. One other reptile taxon (*Cyclodomorphus branchialis*) is restricted to an area of the northern Wheatbelt and lower Murchison.



What we do

A trial translocation of two Gilbert's potoroos to Bald Island was conducted and found to be successful.

The final addition was the trout minnow (*Galaxias truttaceus hesperius*), which is restricted to a very small section of a river east of Albany.

One taxon, the Dorre Island rufous hare-wallaby (*Lagorchestes hirsutus dorrae*), was delisted as a result of a change in its taxonomy whereby it is now considered to be the same as *L. h. bernieri* on the neighbouring Bernier Island. The combined species was, however, still listed as threatened.

In addition to the changes in listings, the mala (*Lagorchestes hirsutus* unnamed subspecies NTM U2430) was re-listed from a classification of Extinct in the Wild to Endangered.

The recovery actions implemented for many threatened fauna included:

- A research project was completed relating to truffle availability, on which Gilbert's potoroos are highly dependent; a Gilbert's Potoroo Action Group was established and was very active; and the recovery plan was endorsed. A trial translocation of two Gilbert's potoroos to Bald Island was conducted and found to be successful.
- Eighteen captive bred western swamp tortoises were released into a swamp in Mogumber Nature Reserve.
- Birds Australia, on behalf of the Carnaby's Black Cockatoo Recovery Team, gained Natural Heritage Trust funding for a three-year cross regional project to continue the recovery project. Considerable activity continued on identifying and improving management of priority areas for feeding and breeding, and opportunities for community involvement. A Community Conservation Grant from the Minister for the Environment enabled Birds Australia volunteers to repair damaged nesting hollows at key breeding sites and to train interested landholders in the methods. The project was very successful and significant numbers of the repaired nests were used in the following breeding season.
- The recovery project for the Critically Endangered western ground parrot (*Pezoporus wallicus flaviventris*) resulted in the discovery of new populations in Cape Arid National Park and for the first time, further east in Nuytsland Nature Reserve. The project leader took the first photograph of a western ground parrot in the wild. This was a juvenile bird and provided the first opportunity to observe and describe the juvenile plumage of the sub-species.

Additional translocations of woylies into Kalbarri National Park were carried out, with confirmation of breeding success of previously translocated animals indicating initial success in the establishment of populations of these animals.

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



Construction was completed of a major emergency watering system for seven caves in Yanchep National Park containing a Critically Endangered ecological community.

commercial industries. The Priority fauna list included 195 taxa at 30 June 2005, one less than at the end of the previous financial year.

Threatened ecological communities (TECs)

Ecological communities are the sum of species occurring in specific combinations that combine in unique ways to provide life support in the form of ecosystem services. WA has a myriad of ecological communities, but some 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.

The recovery actions implemented for a suite of TECs included:

- Occurrences of the 'Montane mallee thicket' TEC were mapped and new occurrences surveyed and assessed. A draft interim recovery plan for this TEC was completed. Of concern is the location of spot *P. cinnamomi* infestations in occurrences previously considered disease-free.
- Private land containing an occurrence of the Endangered 'Assemblages of organic mound springs of Three Springs area' adjacent to Bunny Road Reserve was acquired for a nature reserve.
- Two additional occurrences of the Endangered 'Herbaceous plant assemblages on bentonite lakes' were located in the Buntine-Marchagee Catchment area. Hydrological investigations were undertaken for this community as part of the funding from the Biodiversity Hotspots project.
- A major occurrence of the Endangered 'Heath community on chert hills of the Coomberdale Floristic Region' was Gazetted as an A class nature reserve following extensive negotiations with regard to a mining lease previously held over the site.
- Recovery actions were implemented for all Critically Endangered TECs in the Swan Region as part of a Natural Heritage Trust funded project.
- A prescribed burning trial was undertaken on the Leeuwin Naturaliste Ridge to try to reduce rainfall interception by vegetation and surface leaf litter, in order to increase soil water infiltration into the cave system to replenish the pools supporting the threatened root mat communities. However, low rainfall appeared to be causing continued decline in water levels.
- Construction was completed of a major emergency watering system for the long-term recovery of seven important caves in Yanchep National Park containing the Critically Endangered 'Aquatic root mat community of the Swan Coastal Plain'.
- The recovery team for the 'Sedgeland in holocene dune swales' continued to negotiate to seek good outcomes for conservation of a suite of occurrences in the Rockingham area. A number of significant areas are now to be included in future reserves including occurrences at Lark Hill and at Port Kennedy.



What we do

Two new fauna recovery teams were established, for forest cockatoos and Shark Bay mammals.

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 authorities, and appropriate local non-government conservation or community organisations or individuals. Community representatives provide critical input to most recovery teams.

Two new fauna recovery teams were established: the Forest Cockatoos Recovery Team for Baudin's Black Cockatoo (*Calyptorhynchus baudinii*) and the Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*); and the Shark Bay Mammals Recovery Team for the Western Barred Bandicoot (*Perameles bougainville*), Banded Hare Wallaby (*Lagostrophus fasciatus*) and the Boodie (*Bettongia lesueur*).

Annual reports on recovery team progress for the 2004 calendar year were received from the following 19 recovery teams:

- Carnaby's Black-Cockatoo Recovery Team
- Western Swamp Tortoise Recovery Team
- Orange-bellied and White-bellied Frogs Recovery Team
- Toolibin Lake Recovery Team
- Merredin District Threatened Flora and Communities Recovery Team
- South West Threatened Flora and Communities Recovery Team
- Narrogin District Threatened Flora Recovery Team
- Geraldton District Threatened Flora and Communities Recovery Team
- Moora District Threatened Flora Recovery Team
- Albany District Rare Flora Recovery Team
- Eastern Stirling Range Montane Heath and Thicket Recovery Team
- Sedgeland in Holocene Dune Swales Recovery Team
- Lake Richmond Recovery Team
- Aquatic Root Mat Community of Caves of the Swan Coastal Plain
- Lake Bryde Recovery Catchment Team
- Katanning Threatened Flora and Communities Recovery Team



There were 32 interim recovery plans approved for one fauna and 29 flora species and two threatened ecological communities.

Esperance District Threatened Flora Recovery Team
 Goldfields Threatened Flora Recovery Team
 Aquatic root mat community 1-4 of caves of the Leeuwin Naturaliste Ridge Recovery Team

Two fauna recovery plans were published, as listed below. In total, there have now been 15 recovery plans endorsed (for 12 fauna and two flora species and one TEC). This total includes one revised plan (for the western swamp tortoise).

Gilbert's Potoroo (*Potorous gilbertii*) Recovery Plan 2003-2008
 Dibbler (*Parantechinus apicalis*) Recovery Plan 2003-2013

There were 32 interim recovery plans approved for one fauna and 29 flora species and two TECs, as listed below. This brought the total number of approved interim recovery plans to 194 (comprising plans for 11 fauna and 153 flora taxa and 30 for TECs).

Fauna

Camaenid Land Snails of the East Kimberley 2005-2010. This includes 26 threatened taxa of snails restricted to an area in two small hill systems north of Kununurra.

Flora

Meelup mallee, *Eucalyptus phylacis* (updated)
 Large-fruited Tammin wattle, *Acacia ataxiphylla* subsp. *magna*
 Hairy-stemmed zig-zag wattle, *Acacia subflexuosa* subsp. *capillata*
 Tangle wattle, *Acacia volubilis*
 Matted centrolepis, *Centrolepis caespitose*
 Mountain villarsia, *Villarsia calthifolia*
 White-flowered philotheca, *Philotheca basistyla*
 Northampton midget greenhood, *Pterostylis* sp. Northampton (updated)
 Elegant spider orchid, *Caladenia elegans* ms (updated)
 Scott River boronia, *Boronia exilis* (updated)
 Ironstone brachyscias, *Brachyscias verecundus*
 Carburnup king spider orchid, *Caladenia procera*
 Scott River darwinia, *Darwinia ferricola* ms
 Whicher Range dryandra, *Dryandra squarrosa* subsp. *argillacea*
 Scott River lambertia, *Lambertia orbifolia* subsp. Scott River Plains
 Eneabba mallee, *Eucalyptus impensa*
 Swamp starflower, *Calytrix breviseta* (updated)
 Blue babe in-the-cradle orchid, *Epiblema grandiflorum* var. *cyaneam* (updated)
 Cadda Road mallee, *Eucalyptus balanitis*



What we do

During the year, 74 woylies were sourced from the Australian Wildlife Conservancy's Karakamia Sanctuary for translocation.

Red snakebush, *Hemiandra gardneri*
 Cumquat eremophila, *Eremophila denticulata* subsp. *trisulcata* ms
 Scaly-leaved featherflower, *Verticordia spicata* subsp. *squamosa* (updated)
 Salt myoporum, *Myoporum turbinatum* (updated)
 Chiddarcooping myriophyllum, *Myriophyllum lapidicola*
 Splendid wattle, *Acacia splendens*
 Scaly-butt mallee, *Eucalyptus leprophloia*
 Long flowered nancy, *Wurmbea tubulosa*
 Irwin's conostylis, *Conostylis dielsii* subsp. *teres*
 Small flowered conostylis, *Conostylis micrantha* (updated)

Threatened ecological communities:

Ferricrete floristic community (Rocky Springs type)
 'Melaleuca huegeli – Melaleuca systema shrublands of limestone ridges' (Swan Coastal Plain community type 26a - Gibson *et al.* 1994) 2004-2009

Translocations of plants and animals

Translocation of plants and animals continued throughout 2004-2005 to augment existing populations of threatened species, or establish new populations in secure areas. Details of these translocations are set out below.

Fauna

Efforts in 2004-2005 focused on adding 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; and
- quenda from sites on the Swan Coastal Plain to Nambung National Park.

During the year, 74 woylies were sourced from the Australian Wildlife Conservancy's Karakamia Sanctuary for translocation to Avon Valley National Park, Kalbarri National Park and Julimar State forest. There have now been 115 woylies translocated from Karakamia Sanctuary, which the Australian Wildlife Conservancy maintains as an exotic predator-free haven for wildlife recovery.

As part of the management of tammar wallaby numbers at Tutanning Nature Reserve, wallabies were captured from reserve and provided to Murdoch University (16), the University of Melbourne (30) and the University of New South Wales (29) to form captive colonies for study.



CALM co-sponsored an international whale shark conference in May 2005, attended by more than 80 delegates from 23 countries.

Flora

Translocations of the following flora species were carried out, most of them extending translocations approved previously.

Acacia aprica

Acacia cochlocarpa subsp. *cochlocarpa*

Acacia volubilis

Daviesia macrocarpa

Daviesia bursarioides

Daviesia cunderdin

Dryandra ionthocarpa subsp. *ionthocarpa*

Grevillea batrachioides

Grevillea calliantha

Grevillea scapigera

Lambertia echinata subsp. *echinata*

Lambertia orbifolia

Leucopogon gnaphalioides

Persoonia micranthera

Symonanthus bancroftii

Management of marine fauna

There were 112 whale-watch boat-tour operators licensed Statewide, an increase of 10 (8.9 per cent) on the previous year. These tours were primarily based on humpback whales, although southern right whales were the focus in the lower south-west, particularly from Augusta, Albany and Esperance. Pygmy blue whales are also becoming more regularly encountered on tours off the lower west coast.

There were 96 boat-based dolphin interaction licences, three in-water dolphin interaction licences and two boat-based dugong interaction licences issued. Forty-nine boat-based Australian sea lion and New Zealand fur seal interaction licences were issued.

Fifteen whale shark interaction licences for Ningaloo Marine Park were issued for the year. Reported passenger numbers decreased from 5,832 (2003-2004), to 4,199 (2004-2005), a decrease of 28 per cent.

CALM co-sponsored an international whale shark conference in May 2005, attended by more than 80 delegates from 23 countries. The four-day conference concluded with the release of a communique stating that regional and international conservation measures were urgently needed to protect the whale shark. The



CALM officers attended 28 reported whale and dolphin strandings throughout the year.

Minister for the Environment forwarded the communique to the Federal Environment and Heritage Minister who had earlier announced the formal adoption of a national recovery plan for whale sharks.

CALM officers attended 28 reported whale and dolphin strandings throughout the year, involving both live and dead animals. There were two mass strandings involving 19 long-finned pilot whales (*Globicephala melas*) and 123 false killer whales (*Pseudorca crassidens*), both of which occurred at Busselton. Notably both mass stranding rescue operations were managed by CALM via the Incident Control System structure, and involved a large number of volunteers. Thirteen of the long-finned pilot whales were returned to the open ocean and six died. The operation involving the false killer whales was remarkable, with 122 animals being successfully returned to open ocean, and the loss of only one individual. This was achieved with a huge volunteer contingent estimated at up to 1,500 people. Overall the strandings involved 171 individual animals, representing 10 species – Indo Pacific humpback dolphins, humpback whales, bottlenose dolphins, sperm whales, dwarf sperm whales, Gray's beaked whales, Cuvier's beaked whales, long-finned pilot whales, false killer whales and southern right whales. The most commonly stranded cetacean was the bottlenose dolphin.

Officers responded to two reports of entangled humpback whales and one southern right whale during the year. The two humpback whales were successfully disentangled, but the southern right whale eluded the disentanglement attempt (a complicated five-day operation was compounded by the type of heavy gear entangled in its mouth). CALM staff were involved in the training of other conservation agency staff in disentanglement techniques at a national workshop in Queensland. CALM staff also assisted the West Coast Rock Lobster Managed Fishery to establish a code of practice for reducing whale entanglements.

Officers attended 24 reported pinniped strandings throughout the year, comprising 16 sub-Antarctic fur seals, four Australian sea lions, two New Zealand fur seals and two southern elephant seals. Five sub-Antarctic fur seals and two New Zealand fur seals were taken into short-term captive management. Two sub-Antarctic fur seals were released back to the wild, three did not recover under captive veterinary management and died, one New Zealand fur seal was released back to the wild and one died.

The Pilbara Marine Turtle Program continued with threat abatement activities as well as an extensive monitoring program. Fox control was carried out to protect nesting marine turtles and hatchlings at various beaches from the Ningaloo coast to east of Port Hedland. The community monitoring program developed in Exmouth continued there and in Wickham and was extended to Cemetery Beach in Port Hedland. A turtle tagging program continued on four nesting beaches from Barrow Island to Mundabullangana Pastoral Lease.



The discussion paper, Towards a Biodiversity Conservation Strategy for WA, suggested a 100-year recovery strategy.

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

A discussion paper, Towards a Biodiversity Conservation Strategy for WA, was prepared by CALM to begin the public consultation process for the development of a State biodiversity conservation strategy. An analysis of the submissions received in the four-month public comment period was begun.

The discussion paper brought together a vast array of background data and information on the State's biodiversity and suggested nine key strategic directions that could be incorporated in a draft strategy. The discussion paper suggested a 100-year recovery strategy that was incorporated into a 100-year vision, with the proposal that initial strategic planning could focus on a 25-year timeframe.

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, six field days were held to provide practical bushland management information and 18 training sessions were run through the Skills for Nature Conservation Program delivered through a partnership between the Swan Catchment Centre, Urban Nature and Greening Australia (WA). Urban Nature also produced leaflets on weed management and bushland management and provided direct advice on specific issues to land managers as requested.

To help private landowners manage their timber resource for production and conservation, an information booklet, Managing Private Native Forests and Woodlands in the South West of Western Australia: Combining Wood Production and Conservation, was published by CALM with support from the Natural Heritage Trust.

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 67 community groups and individuals involved in voluntary community conservation.



Bushland Benefits was developed during the year to deliver the State Government's \$1 million Native Vegetation Trust Fund.

A new funding program, Bushland Benefits, was developed during the year to deliver the State Government's \$1 million Native Vegetation Trust Fund. Bushland Benefits is a financial incentive program modelled on a tender system developed in Victoria, called Bush Tender. The aim of Bushland Benefits is to help private landholders in the south-west of the State meet the initial management costs of bushland and wetlands that is under voluntary protection using a market-based instruments approach to funding.

The program was developed through consultation with relevant Government departments, non-government organisations, and each of the five natural resource management regions in which it will operate. The 88 tenders received from 76 landholders were ranked according to the biodiversity value to be achieved by the works.

During the year, \$75,000 was allocated under the Wetlands Conservation Grant Scheme across six new wetland conservation projects. One project continued from the previous year that involved longer-term monitoring activities. Projects included the development and implementation of management plans, research, survey, 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 threatened ecological communities.

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. During 2004, aerial kangaroo population surveys were undertaken over parts of the northern survey zones as part of the triennial survey program, and, for the first 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 2004 grey kangaroo quota to 121,000 (from 100,000). The 2005 quota was approved at 180,000.

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.



CALM's management of private property timber harvesting continued with more than 100 licences being issued for firewood and/or timber milling.

Surveys were again undertaken of saltwater crocodile and freshwater crocodile populations in the Cambridge Gulf to Lake Argyle area during the year.

The WA Flora Industry Advisory Committee (WAFIAC) met twice during the year, and provided flora industry management advice to CALM and the Minister for the Environment. Two new species, *Verticordia grandis* and *Petrophile diversifolia*, were put forward to the Commonwealth Department of the Environment and Heritage as additions to the State's Export Flora List after being supported by the committee.

The five regional flora industry management teams each met several times during the year to coordinate and discuss management issues relevant to their respective regions. A training course was run for CALM officers who use the Flora Industry Data Management System to improve operational efficiency in managing the industry.

Intensive management of *Banksia hookeriana*, *Stirlingia latifolia*, *Verticordia nitens*, and *Eucalyptus* stems used for making didgeridoos continued during the year, and special investigations were undertaken into the management of *Corynanthera flava* (golden cascades) and *Geleznovia verrucosa* (yellow bells). Monitoring of *B. hookeriana* and *Boronia megastigma* also continued, however it was decided by the Warren Region Flora Industry Team, and approved by WAFIAC, that *B. megastigma* would no longer be intensively managed due to the low number of pickers and demand for the product.

CALM's management of private property timber harvesting continued with more than 100 licences being issued for firewood and/or timber milling during 2004-2005. Under amendments to the Wildlife Conservation Act included in the amendments to the Environmental Protection Act, the issuing of these licences must now be consistent with the principles applied to land clearing assessments. CALM officers attended several industry forums and field days to discuss the licensing and approvals process with private property owners and other agencies involved in the timber industry. A Goldfields prosecution relating to illegal taking of firewood was dismissed on the grounds that dead plants were not 'flora' as defined under the Wildlife Conservation Act. The decision was upheld by the Supreme Court, leaving CALM with no means of effectively managing the removal of dead wood products from private property.

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 ecological and social values through initiatives such as: representation on joint venture management and technical advisory committees of the Strategic Research Fund for the Marine Environment; representation on the



Roadside conservation value maps were completed for seven shires during the year.

steering and technical committees of the North West Shelf Joint Environmental Management Study; representation on the steering committee of the WA Marine Science Institution; representation on the Western Rock Lobster Effects of Fishing on the Ecosystem Scientific Reference Group; representation on the Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management Project Advisory Committee; representation on the Marine and Coastal Committee Task Force on marine turtle and dugong populations which has developed a national approach to the sustainable and legal Indigenous harvest of marine turtles and dugongs in Australia; collaborations in funding initiatives and on-the-ground marine research projects with the 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.

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 contributes 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.

The RCC seeks to facilitate best practice management of remnant vegetation in transport corridors by raising awareness, liaison and cooperation. The RCC is aware of the need for a safe and efficient road system, but endeavours to ensure that this is achieved in a balanced way for the sustainability of the many values present within road reserves.

Roadside conservation value maps were completed for seven shires during the year: Mt Marshall, Wongan-Ballidu, Wyalkatchem, Dumbleyung, Nannup, Tambellup and Kent. A further four shires, Trayning, Wagin, Dowerin and York, completed roadside surveys but the data were still to be processed. Maps were produced by CALM's Information Management Branch, and provided to shires with accompanying reports free of charge by the RCC.

CALM chairs the State's Wetlands Coordinating Committee and is actively involved in the implementation of the Wetlands Conservation Policy for WA (1997). During the year, the committee helped produce a document describing the biodiversity incentive programs that exist in WA and how these can be accessed, and also a proposal for rapid appraisal of wetlands for drainage impact assessments. The committee also coordinated the development of key State initiatives to improve the protection of wetlands. These include:



The Minister for the Environment announced in March 2005 that up to eight new wetlands were to be considered for Ramsar nomination.

- a framework for evaluating drainage projects;
- guidelines for planning buffering requirements for wetlands;
- a framework for assessing the status of wetlands, including a guide for wetland classification, evaluation and mapping; and
- a wetland management and restoration manual.

The Minister for the Environment announced in March 2005 that up to eight new wetlands were to be considered for nomination as wetlands of international importance under the Convention on Wetlands (known as the Ramsar Convention). CALM is the lead agency working on the proposed nominations for the 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.

The development of a Statewide wetlands database was hosted by CALM. This database will house wetland inventory data in a format that will be readily accessible by stakeholders across the State and will be collated together with all other States and Territories in Australia to form a National Wetlands Inventory.

CALM continued as a member of the WA Weeds Committee (WAWC), which met seven times in 2004-2005. 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. Key areas investigated by the WAWC during the year included a review of legislation regulating weed management in WA, liaison with the nursery and garden industry of WA regarding the sale of weedy garden plants, and awareness raising and information gathering with various land managers and stakeholders.

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. 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.



The number of fauna licences issued increased by 6.9 per cent from the previous year to 6,868.

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 full-time Aboriginal trainees completing Certificate Level IV for appointment as assistant reserves officers in the Goldfields Region. The working group continued to work towards the implementation of the MoU's five-year strategic plan. CALM staff visited conservation reserves and met with native title claimant groups throughout the Goldfields Region.

Liaison with the Ngaanyatjarra Council over joint management planning for the Gibson Desert Nature Reserve, Great Victoria Desert Nature Reserve and Lorna Glen/Earaheedy continued with significant consultation with Aboriginal communities with interests in these areas including the continuation of agreements with Ngaanyatjarra people for assistance with black-footed rock-wallaby (Warru) monitoring work in the Gibson Desert. An MoU was signed with the Wiluna Native Title claimants through the Ngaanyatjarra council for joint management arrangements for Lorna Glen and Earraheedy.

Regulation

There were 6,868 fauna licences (other than damage, but including non-commercial) issued during the year, an increase of 6.9 per cent from the previous year (see table on page 64). The increase was again due primarily to continued interest in pet herpetofauna (reptile) licensing with more than 1,100 people being licensed to keep pet herpetofauna. The total number of flora licences and permits issued was 2,337, an increase of 3.4 per cent from the previous year. CALM issued 446 commercial purposes licences and 566 commercial producer's licences and nurseryman's licences in 2004-2005.

Officers in the Kimberley received 10 reports of problem crocodiles. Licences to remove six saltwater crocodiles from the wild were issued because of the threat they posed to public safety. One dangerous fauna licence was issued for a single freshwater crocodile and 54 dangerous fauna licences were issued for magpies.

Licences issued for the control of fauna causing damage included: 27 licences issued for emus, a decrease of 67 per cent; 575 licences for grey kangaroos; eight licences for little corellas; 29 licences for western long-billed corellas; 28 licences for twenty-eight parrots; 15 licences for galahs; and 24 licences for Australian ravens. The total number of damage licences issued for birds was 197, a decrease of 27 per cent from 2003-2004.



What we do

During the year, a total 21,480 records were added to the Herbarium specimen database.

During the year, CALM staff provided guidance to many people regarding the legal requirements of conservation legislation. There were 278 caution notices issued for minor offences and 200 infringement notices. Written reports were prepared for 237 offences under the Wildlife Conservation Act and Regulations and the CALM Act and Regulations. Action in 143 matters under both statutes was completed.

WA Herbarium

The WA Herbarium is responsible for taxonomic research on WA's 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:

Algae	12,057
Mosses	6,193
Liverworts	1,738
Myxomycetes	377
Fungi	10,133
Lichens	10,469
Ferns	3,289
Gymnosperms (pines, cycads)	1,828
Flowering plants (monocots)	95,694
Flowering plants (dicots)	472,062
Total number of databased specimens	614,020

There was a significant increase in the number of algae specimens catalogued as a result of a grant under 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 was undertaken in preparation for census publication.

Records of all specimens incorporated in the Herbarium are entered into the Herbarium specimen database (WAHERB) that is updated constantly. During the year, a total 21,480 records were added to WAHERB. This included 1,042 Priority flora and 141 DRF specimens that were added to the State Collection, bringing the total collection of Priority and DRF to 33,970 specimens.



WA Herbarium
volunteers
contributed a total
of 14,565 hours in
2004-2005.

Significant accessions added to the State Collection were from the following:

- SWALE (Surveying Western Australia's Land Edge) Project, Phase 2;
- FORESTCHECK (CALM's forest monitoring program);
- Banksia book vouchers;
- Planetary Biodiversity Inventory;
- Stirling Range Fire Research;
- Woodland Watch (WWF) surveys of remnant vegetation in the Wheatbelt;
- Priority taxa for Swan Region by F Hort;
- State Salinity Strategy biodiversity survey project vouchers;
- Malcolm Trudgen and Barbara Rye vouchers;
- Anne Cochrane and Andrew Crawford vouchers of seed collections of threatened flora;
- UWA survey of the Recherche Archipelago;
- Wildflower Society bushland surveys;
- Gnangara Mound Survey 2002;
- SEARCH project;
- Upper Lefroy Valley Catchment; and
- WA Lichen Study Curtin University.

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 labeled before they are returned to the WA Herbarium. During the year, 1,671 specimens were loaned to other institutions, and 2,326 specimens were received on loan from other herbaria. The Herbarium received 1,097 exchange specimens from other institutions to add to its collection and distributed 1,671 others.

Significant curatorial work was accomplished in the genera *Eucalyptus*, *Tetratheca*, *Hypocalymma*, *Acacia*, *Stylidium*, *Thryptomene*, *Micromyrtus* and *Senecio*.

The program to recruit and maintain volunteers for a variety of tasks to increase and value-add the collection continued. Volunteer participation was significant in 2004-2005, totalling 14,565 hours (equivalent to 8.1 full-time positions). During the year volunteers:

- mounted 12,610 specimens;
- assisted in curation of specimens;
- assisted in the incorporation of 21,480 specimens that were added to the collection;
- completed the DELTA (Descriptive Language for Taxonomy) scoring for *Dryandra*;



Volunteers mounted, repaired and sorted 1,500 marine algal and seagrass specimens for the On-line Marine Plant Project.

- began DELTA scoring for *Petrophile* and *Isopogon*;
- validated plant chemistry vouchers;
- validated 1,097 doubtful location outliers;
- continued the validation of the 6,000 specimens of the W E Blackall collection;
- validated collection information on 2,300 Max Koch collections;
- curated *Austrostipa*, *Eucalyptus*, *Pterostylis*, *Verticordia*, *Calandrinia* and native grasses;
- photographed type specimens;
- captured and prepared composite images for FloraBase;
- increased the collection and documentation of Myxomycetes to 38 genera and 115 species;
- maintained and increased the number of taxa represented in the Reference Herbarium;
- supplied the Statewide Regional Herbarium Network with identification validation, vouchering and databasing; and
- mounted, repaired and sorted 1,500 marine algal and seagrass specimens for the On-line Marine Plant Project.

During the year the Australian Virtual Herbarium (AVH) Project has progressed the databasing of the backlog of specimens at the WA Herbarium, curating, identifying, databasing and validating the material to be incorporated into the main Herbarium collection. By the end of 2004-2005, 69,410 specimens had been processed as part of the AVH since 2001. Of these, some 12,000 records were processed during the year. The project remains on target to complete databasing the entire backlog of specimens by the end of this five-year national project.

Biosystematics and conservation studies of the flora continued, with specific work on Proteaceae (*Isopogon*, *Petrophile*), Lamiaceae (*Dicrastylis*), Poaceae (*Amphipogon*, *Austrodanthonia*), Epacridaceae (*Leucopogon*, *Monotoca*, *Brachyloma*), Myrtaceae (*Baeckea* group of genera, *Agonis*, *Chamaelaucium*, *Darwinia*), Asteraceae (*Olearia*, *Xerochrysum*, *Cornonidium*), Stylidiaceae (*Stylidium*), Portulacaceae (*Calandrinia*), Amaranthaceae (*Ptilotus*), and lichens. Studies on Asteraceae, Myrtaceae and Stylidiaceae were supported by grants from the Australian Biological Resources Survey. Targeted taxonomic work was also undertaken on DRF 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.

The public-access Reference Herbarium in Perth comprises 13,568 specimens, with about 11,000 taxa represented. Each specimen is linked to a databased specimen in the main Herbarium collection. The Reference Herbarium is



What we do

The CSIRO fungal collection comprising about 11,000 specimens was relocated to the Herbarium.

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, 1,710 visitors used this resource to identify their plant specimens.

There are some 60 active 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 project continued to make a positive impact on the location of rare and threatened plant species. There were 94 reports on plants in this category received, as well discoveries of new taxa. During the year Regional Herbarium Network volunteers added 2,385 specimens to the WA Herbarium collection, bringing the number of specimens contributed by regional herbaria to a total of 24,052. Regional herbaria continued to provide most of the new specimens lodged in the Herbarium.

Although Natural Heritage Trust funding to the Weed Information Network was discontinued, the system previously established continued to be maintained largely by volunteers, including links with Department of Agriculture 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.

The Census of WA Plants contained more than 18,230 records at the end of 2004-2005, representing 12,803 currently recognised vascular plant species and infraspecies for the State. Work began to upgrade the WACensus software to increase capacity for managing alternative taxonomies and common names and to improve integration with other dependent systems, such as FloraBase.

The Plant Image Database grew rapidly, through the assistance of volunteers who scanned and edited photographs before archiving them at high-resolution. By the end of the year, 48,190 images had been scanned, with composite images illustrating habitat, habit and detail of 8,447 species available on-line via FloraBase.

The Herbarium successfully tendered for the Perth Urban Bushland Fungi Project to be housed at the Herbarium. During the year, a fungi taxonomist and education officer began duties. The CSIRO fungal collection comprising about 11,000 specimens was also relocated to the Herbarium. In total, 37 workshops and forays in 18 urban bushlands were conducted; details of 847 fungi were recorded; 121 fungi specimens were collected for the State Collection, including the first record of the spotted mycena in WA. A poster on the common fungi of the Perth region was prepared and distributed, and a website for the project was created and launched.



What we do

A new version of Max, a species database utility, was completed and launched.

The WA marine plants collaborative project with CALM's Marine Conservation Branch entered its second phase with external funding. Specimens were received at the Herbarium for databasing from CSIRO, Murdoch University and UWA representing three quarters of the total available for databasing. Five volunteers began work on the project carrying out repair work and mounting 1,500 specimens. A part-time algologist was appointed to validate identifications of algal specimens prior to databasing. There were 2,409 specimens databased, bringing the total number of specimens included in this project to 5,500.

Max, a species database utility, has become an indispensable tool for many CALM staff and collaborators in maintaining their species database. It forms a vital component of the Regional Herbaria Network with many country users. At the end of the financial year, some 300 users of this software were registered, including a number of commercial clients. A new version of Max was completed and launched with improvements in its data management capability that make it beneficial to a much greater range of users. Many of the 21,480 records added to the WAHERB database during the year were accompanied by data gathered using Max, which avoided re-keying specimen collection data.

The Government's 2005-2006 budget, announced in May 2005, included funding for the first stage of a new Biodiversity Science Centre, including a new Herbarium. Detailing planning for the project was carried out during the year.

Performance measures – Service I			
	2004-2005 Target	2004-2005 Actual	Explanation of significant variation
Quantity			
Area managed (ha)	25 million	25 million	
Quality			
Threatened species	560	561	
Change in threatened species	(+)22	(+)23	
Timeliness			
Completion of management plans within specified timeframes	100%	100%	
Cost (Efficiency)			
Average cost per hectare managed	\$2.76	\$3.08	The increase is due principally to higher than forecast expenditure on wildfire suppression.



Wildlife licences issued in 2004-2005

Fauna licences	Licences issued	Fauna licences	Licences issued
SCIENTIFIC		CROCODILES	
Scientific collection (Reg 17)	403	Crocodile farming (Reg 14)	2
Bird/bat banding (Reg 23)	105	Skin dealing (Reg 10)	0
		Processing (Reg 7)	2
EDUCATION AND PUBLIC (to take) (Reg 15)		KANGAROO	
Marine interaction	294	Take kangaroos for sale (Reg 6)	395
Other	427	Deal in carcasses (Reg 8)	26
		Skin dealing (Reg 10)	16
EDUCATION AND PUBLIC (to hold) (Reg 16)	92	Processing (Reg 7)	26
AVIAN FAUNA		EXPORTS INTERSTATE	
Keep and breed in captivity (Reg 12)	2,833	Skins of fauna (or other dead fauna)	50
Deal (Reg 13)	45	Fauna (live)	293
Breed for commercial purposes (Reg 14)	0	Herpetofauna (reptiles and amphibians)	41
Trap (Reg 11)	3		384
Species trapped commercially	Number	EXPORT OVERSEAS	
Twenty-eight parrot	140	Skins of fauna (or other dead fauna) from WA	47
Red-capped parrot	89	Emu eggs or products (personal items) from WA	2
Western rosella	282	Fauna (avian) from WA (live)	4
Galah	76		53
FAUNA		IMPORTS INTERSTATE	
Keep in captivity (Reg 12A)	85	Skins of fauna (or other dead fauna) into WA	9
HERPETOFAUNA (reptiles and amphibians)		Australian fauna (live)	293
Keeping	1,131	Live exotic birds and other animals	179
Dealing	17	Herpetofauna (reptiles and amphibians)	4
Farming	3		485
Taking	13	TOTAL FAUNA LICENCES	6,868
EMUS		FLORA LICENCES	
Emu farming (Reg 14)	17	Commercial purposes	446
Dealing (Reg 8)	3	Commercial producers	566
Dealing (emu eggshells Reg 13)	5	Scientific/prescribed purposes	1,161
Processing (Reg 7)	3	Sandalwood (from Crown land)	49
		Sandalwood (from private land)	10
		Permits to take Declared Rare Flora	105
			2,337



Summary of damage licences and dangerous fauna licences issued in 2004–2005

	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
OTHER AVIAN FAUNA			WATERFOWL		
Australian raven	24	425	Eurasian coot	4	440 trap and relocate
Baudin's black cockatoo	6	500 scare only	Little pied cormorant	1	2 scare only
Galah	15	3390	Maned geese	24	706 106 trap and relocate
Kookaburra	1	1 trap and relocate	Mountain duck	2	25
Little corella	8	672	Pacific black duck	7	65 64 trap and relocate
Muir's corella	1	1,000 scare only	Pied cormorant	2	8
Red-capped parrot	9	400	MAMMALS		
Silver gull	3	425	Euro	1	60
Twenty-eight parrots	28	1,110	Grey kangaroo	575	43,335 5 scare only
Wedge tailed eagles	3	1 2 scare only	Red kangaroo	23	3168
Welcome swallow	3	4 1 x 30 trap and relocate 1 x 100 scare only	Southern brown bandicoot	1	6 trap and relocate
Western long-billed corella	29	10452	Australian sea lion	5	50 scare only
Emu	27	1,530	New Zealand fur seal	4	40 scare only
			DANGEROUS FAUNA		
			Magpie	57	63
			Saltwater crocodile	6	6
			Freshwater crocodile	1	1

Note: The four welcome swallows for which damage licences to destroy were issued represented a health hazard in a school and despite best efforts could not be captured.

Offence status summary

2003-2004 Reported offences	2004-2005 Reported offences	
	As at 30-6-04	Revised
Total offences reported	216	401
Court convictions	43	68
Court dismissals	0	2
Infringement notices	-	17
Letters of warning	56	78
Caution notices	-	166
No further action	40	67
Pending	77	3
Total court fines	\$14,250.00	\$22,750.00
Total court costs	\$2,486.55	\$5,794.85
Infringement penalties	-	\$2,835.00

2004-2005 Reported offences	As at 30-6-05
	Total offences reported
Court convictions	14
Court dismissals	0
Infringement notices	200
Letters of warning	91
Caution notices	278
No further action	38
Pending	94
Total court fines	\$6,500.00
Total court costs	\$884.65
Infringement penalties	\$13,050.00

Note 1: Figures for 2003-2004 reported offences are updated from those included in last year's report under the Revised column.

Note 2: See page 66 for details of 2004-2005 offences.

Note 3: Infringement and caution notice details are shown for the first time.



Offences under the CALM Act and Regulations 2004-2005

Charges	Reported offences	Convictions	Fines \$	Costs \$	Dismissed	Infringement notice	Letter of warning	Caution notice	No further action	Pending
CALM Act										
Illegal taking or possession of forest produce	14	2	\$700.00	\$136.90	-	-	1	9	-	2
Offences relating to the occupation of CALM-managed land	5	-	-	-	-	-	1	-	3	1
Offences relating to marine parks and reserves	8	-	-	-	-	-	-	8	-	-
CALM REGULATIONS										
Offences relating to disease risk areas	8	-	-	-	-	-	1	7	-	-
Offences relating to activities on State forests, nature reserves and national parks	445	1	\$13,250.00	\$68.45	-	200	24	201	11	8
TOTALS	480	3	\$13,950.00	\$205.35	0	200	27	225	14	11

Offences under the Wildlife Conservation Act and Regulations 2004-2005

Charges offences	Reported	Convictions	Fines \$	Costs \$	Dismissed	Letter of warning	Caution notice	No further action	Pending
WILDLIFE CONSERVATION ACT									
Illegal taking or possession of protected fauna	51	5	\$2,600.00	\$268.60	-	8	3	8	27
Illegal importation, selling or taking for sale of fauna	17	-	-	-	-	-	13	-	4
Use of illegal devices in taking fauna	-	-	-	-	-	-	-	-	-
Offences relating to the taking or possession of rare or threatened fauna	15	3	\$1,900.00	\$205.35	-	3	-	-	9
Illegal taking of protected flora	35	3	\$1,100.00	\$205.35	-	10	-	8	14
Offences relating to the sale of protected flora	11	-	-	-	-	4	4	2	1
Taking declared rare flora without the Minister's consent	7	-	-	-	-	5	-	2	-
Offences against wildlife officers	-	-	-	-	-	-	-	-	-
Failing to comply with licence conditions	69	-	-	-	-	28	19	3	19
WILDLIFE CONSERVATION REGULATIONS									
Offences relating to the acquisition, possession, control and disposal of fauna	30	-	-	-	-	6	14	1	9
TOTALS	235	11	\$5,600.00	\$679.30	0	64	53	24	83

Biodiversity assessment and ecological modelling tools were enhanced during the year.

Sustainable Forest Management – Service 2

Highlights

- Continued implementation of the Forest Management Plan 2004-2013 (FMP), including finalisation of the boundaries of the 36 new national parks and nature reserves and 10 new conservation parks in the south-west forests.
- Revision of the FMP requirements for the management of soil disturbance in native forest timber harvesting.
- Provision of integrated forest management, monitoring and planning services.
- Enhancement of biodiversity assessment and ecological modelling 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.
2. Inventory, assessment and modelling of natural resources.

Three Reserves Acts passed during the year will implement 148 of the reserve proposals in the FMP.

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.

Implementation of approved forest management plans and Government policies and programs

Protecting our old-growth forests policy

Final boundaries for all of the new national parks proposed in the *Protecting our old-growth forests* policy, Tone-Perup Nature Reserve and the Hester and Kerr conservation parks were approved by Cabinet following periods of public consultation on the indicative boundaries. Three separate Reserves Acts, which created 36 new national parks and nature reserves and 10 new conservation parks, received Royal Assent during late 2004. On assent, 136 of the proposals listed at Appendix 2 of the FMP were implemented. A further 12 will be implemented on proclamation of various sections of the Acts. Action on the remaining proposals continued.

A review of the distribution of old-growth forest remaining outside the formal reserve system was conducted with a view to determining if it was practicable to improve the security of old-growth forests by classifying discrete patches as forest conservation areas. The review recommended that only contiguous areas of a significant size (hundreds of hectares) would be practical to classify and manage as a forest conservation area under the CALM Act. Action to identify and evaluate such patches began.

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 both guidelines; however, they could not be completed by the required date due to other work pressures associated with implementation of the FMP.

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

Mapping and predictive modelling of vegetation communities within the pine plantations on the Gngangara mound were carried out to develop strategies to balance water yield and biodiversity conservation outcomes.

conservation movement, staff from the Forest Products Commission (FPC), the Conservation Commission and CALM inspected harvest coupes in the Warren Region in August 2004.

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;
- vegetation mapping in areas subject to disturbance to inform silvicultural decisions, disease impact predictions, and the reservation of poorly-represented vegetation complexes;
- mapping and predictive modelling of vegetation communities within the pine plantations on the Gngangara mound to develop strategies to balance water yield and biodiversity conservation outcomes;
- the migration or redevelopment of key computer applications to new computing environments, including CALM's geographic information system, FMIS (Forest Management Information System), and the development of a Web-based Soil Trafficability Index system;
- mapping and classification of wetlands and associated organic soils in the Warren Region was undertaken to inform conservation planning and the definition of appropriate fire regimes in these landscapes;
- computer system development and field measurements were initiated to monitor the use and silvicultural standards realised in timber harvest operations; and
- other specialist services provided to CALM Divisions, the FPC, other Government agencies, natural resource management groups and external clients included aerial photography, photo-interpretation, photogrammetry, vegetation and disease mapping surveys, mathematical modelling, and systems analysis services.

Maintenance and enhancement of biodiversity and other values of forests

Activities conducted by the Sustainable Forest Management Division incorporate measures to sustain or where possible enhance biodiversity and other forest values. Staff deliver information services and the mapping of dieback occurrence for disease management. Staff are also responsible for establishing and implementing an approvals, monitoring and compliance management system and setting

Mapping of the presence of symptoms of disease caused by *Phytophthora cinnamomi* was carried out over a total of nearly 36,000 ha.

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, soil and water values.

Disease in natural landscapes

The mapping of 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 30,726 ha was mapped to assist the planning of roading and harvesting operations undertaken by the FPC. This included 13,221 ha of previous mapping that was rechecked for further spread. Mapping and hygiene planning was also undertaken on a further 3,752 ha for the Parks and Visitor Services, Nature Conservation and Sustainable Forest Management Services, and 1,404 ha for external requests.

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 a number of initiatives:

- A revised planning system and resultant maps were developed to guide the selection of public firewood and flora harvesting areas.
- Monitoring and collation of the areas burnt by wild and prescribed fires was undertaken across regions to support integrated fire planning and reporting.
- A major project began with the SCRIPT (South Coast Regional Initiative Planning Team) natural resource management group to undertake dieback threat assessment and risk analyses for vegetation on the South Coast. This involved the collation of biological assets, strategic disease mapping, predictive modelling of future disease spread, and estimation of threat and risk categories.

Silviculture guidelines

The jarrah, karri and wandoo silviculture guidelines were updated according to the amendments included in the FMP and published. A more comprehensive review of silviculture guidelines for the jarrah, karri and wandoo forests, with an emphasis on specific practices to be applied in the field, continued during the year. Studies began on seeding characteristics and regeneration effectiveness to contribute to the guidelines.

Management of soil disturbance in timber harvesting

The FMP provided for increased protection of soils during timber harvesting by introducing soil damage risk periods based on the Soil Dryness Index and



What we do

A revision of the January 2004 map of the location of indicative fauna habitat zones was published in July 2004.

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 required that the soil protection requirements be reviewed after the first 12 months of operation.

An Interim Manual of Procedures for the Management of Soils Associated With Timber Harvesting in Native Forests was developed that set out the procedures for the monitoring and measurement of soil disturbance in areas subject to timber harvesting.

The FPC and the timber harvesting industry had considerable difficulty in planning for and adapting to the new soil protection requirements with the consequence that the supply of timber for sawmills over winter and spring 2004 was only able to be maintained through timber harvesting facilitated by application of the discretionary powers provided to the Director of Forests.

The soil provisions of the FMP were reviewed after the first full year of operation using the operational experience gained during the period of operation on wet soils in 2004 and the results of adaptive management trials set up to test soil protection measures. The review was completed in March 2005 and a revised Appendix 6 to 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 were produced in time for operations during the wet soil period of 2005.

Two consultancies were let to provide additional information to refine the soil management requirements further. The consultancies were a review of the factors affecting soil trafficability in timber harvesting in the south-west forests and a mapping of soil types associated with timber harvesting in 2004-2005.

Implementation of Fauna Habitat Zones

A major initiative of the FMP is the introduction of approximately 300 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 within themselves and to provide a source for recolonisation of nearby areas after timber harvesting.

A revision of the January 2004 map of the location of indicative fauna habitat zones was published in July 2004. 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.



What we do

A further 10 study sites were established as part of the FORESTCHECK monitoring program, bringing the total number of sites to 37.

During the year design, analysis, survey and/or liaison work was undertaken for a total of 22 indicative fauna habitat zones adjacent to proposed disturbance activities. The location of 12 indicative fauna habitat zone zones was finalised as a result of that analysis.

Management system for approvals, monitoring and compliance

A review was undertaken of the process of gaining approval for operations on State forest and revised procedures drafted. 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

FORESTCHECK

A further 10 study sites were established and assessed in the eastern part of CALM's Wellington District as part of the FORESTCHECK monitoring program, bringing the total number of sites established to 37. Sites were included in examples of jarrah forest harvested to release regeneration (gap) and harvested to establish regeneration (shelterwood) as well as in areas temporarily retained unharvested and in undisturbed forest. Three of the sites were burnt by a lightning-caused wildfire in December 2004 but have since been re-established. The FORESTCHECK program is partially funded by the FPC.

Aspects of the Kingston study located north-east of Manjimup were re-measured to provide information about longer-term trends in the response of jarrah forest ecosystems to timber harvesting. The Kingston study began in 1994 with harvesting and follow-up silviculture work that was completed by 1997. Invertebrate sampling and medium-sized mammal trapping were conducted in spring of 2004 and autumn of 2005.

Monitoring of water values

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 (900-1000 mm/annum) of the northern jarrah forest. Three years after the harvesting treatments, the results show that groundwater rose to a small extent in response to the intensive harvesting treatment but was not affected by harvesting to the less intensive silviculture guideline under the new FMP. Stream water quality and quantity were not adversely affected by the treatments.



What we do

CALM issued 13 Work Improvement Notices and nine Management Letters in response to non-compliance with environmental management standards.

A project to monitor the richness of aquatic invertebrates in south-west forest streams began, 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. Work focused on selection of study sites and sampling methodologies in readiness for monitoring.

Monitoring of forest operations

All forest operations on State forest require approval from CALM. Staff in Regional Services Division review proposals and provide conditional approval. Monitoring the compliance of operations with the conditions of approval and with environmental management standards is carried out by CALM staff. Where significant non-compliance is identified, CALM may issue the FPC with a Work Improvement Notice (WIN) if the non-compliance can be rectified by further field operations, or a Management Letter (ML) if it cannot. In 2004-2005, staff issued 13 WINs and nine MLs of which 16 related to ecosystem health and vitality issues, three to soil and water issues, two to productive capacity issues and two to process issues, one of which is also included in the count of those related to ecosystem health and vitality.

Adaptive management

The FMP provides for conducting adaptive management trials. CALM, in cooperation with the FPC, planned and set up two adaptive management trials to test the use of vegetation laid on landings and snig tracks to protect soil in the extraction and loading phase of timber harvesting. A consultant helped establish the trials by providing experience in the use of these techniques in eastern Australia. The trials were completed, measured and analysed, and the results were used in the review of Appendix 6 of the FMP mentioned in the section on the management of soil disturbance in timber harvesting.



What we do

Regeneration was completed on 1,340 ha of karri forest harvested in the 12 months to December 2004, or in previous years.

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

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 2004, 8,860 ha of jarrah forest were harvested with the following silvicultural or management objectives:

Promote growth on retained trees (thinning)	530 ha
Release of regeneration (gap)	490 ha
Establishment of regeneration – eastern jarrah (shelterwood)	1,190 ha
Establishment of regeneration – western jarrah (shelterwood)	3,120 ha
Single tree selection (dieback areas)	1,410 ha
Selective	1,620 ha
Other (mining and clearing for utilities)	500 ha
Total	8,860 ha

Silvicultural objectives for 1,880 ha harvested in this or previous years were achieved by follow-up treatment during the year.

In the 12 months to December 2004, 330 ha of karri forest were clearfelled or partially cut, and 920 ha were thinned. Regeneration was completed on 1,340 ha harvested in either this or previous years.

Regional indicative harvest plans

CALM reviewed the 2005 Indicative Timber Harvest Plan submitted by the FPC, to ensure consistency with the settings adopted in the FMP. The FMP requires the development of a three-year timber harvest plan by the end of 2005 and preliminary work began on its production.

CALM
contributed to
the work of the
National Forest
Inventory.

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.

Partnerships

Throughout the year effective communication and interaction continued with:

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

CALM contributed to the work of the 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.



What we do

Performance measures – Service 2			
	2004-2005 Target	2004-2005 Actual	Explanation of significant variation
Quantity			
Forest area managed (ha)	1,308,000	1,297,700	
Quality			
Compliance with management standards	>95%	95%	The figure represents the unweighted average of the level of compliance with the measures of the Key Effectiveness Indicator reported in the Performance Indicator section of this report.
Timeliness			
Satisfaction of programmed management	100%	100%	
Cost (efficiency)			
Average cost per hectare managed	\$26.90	\$31.52	The increase is due to additional funding provided to implement the FMP.

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

* Jarrah/wandoo harvested included in jarrah total.



What we do

The largest capital works program undertaken in WA's parks and other reserves has been successfully implemented.

Parks and Visitor Services – Service 4

Highlights

- The establishment of 36 new national parks and nature reserves and 10 conservation parks in the forests of the south-west.
- Release of six management plans.
- Successful implementation of the largest capital works program undertaken in WA's parks and other reserves.
- Expanded engagement with Indigenous communities and the advancement of joint management with traditional owners of parks.
- Launch of the Healthy Parks, Healthy People program.

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.



What we do

Six management plans were approved in 2004-2005, bringing the total number to 49.

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.

The Minister for the Environment approved six management plans in 2004-2005 (Herdsman Regional Park, Ningaloo Marine Park and the Muiron Islands Marine Management Area, Jurien Bay Marine Park, Turquoise Coast Islands Nature Reserves, Forrestdale Lake Nature Reserve and Thomsons Lake Nature Reserve). This brings the total number of management plans under the CALM Act to 49. At the end of the year, a further 28 plans were in various stages of completion.

As well, draft management plans were released for public comment for the proposed St John Brook and Jarrahwood conservation parks, Shannon and D'Entrecasteaux national parks, and Jandakot Regional Park. The Proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Area Indicative Management Plan, and the Ningaloo Marine Park Draft Management Plan and Indicative Management Plans for the Extension to the Existing Park and Muiron Islands Marine Management Area, were also released. A draft management plan for the Kennedy Range National Park and Proposed Additions was printed.

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 stakeholder workshops and meetings, advisory committees, newsletters, and inviting comments on draft plans. During 2004-2005, 37 meetings were held with the public or stakeholders, 26 meetings with nine different advisory committees, and two meetings with Aboriginal Park Councils to facilitate community input into the planning process (excluding marine reserves – see Service 1).

CALM's NatureBase website has features that enable electronic public submissions and the downloading of information relevant to management planning. This includes 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 2004-2005, with the most recent being sent directly to approximately 750 stakeholders.

The following tables list the area of each tenure category managed by CALM for which plans are completed, and the status of plans in preparation or already approved as at 30 June 2005.



What we do

Management plans as at 30 June 2005

Final management plans (completed and approved)	Region	Effective from
Mooradung Nature Reserve	Swan	21/2/86
Nature Reserves in the Shire of Wyalkatchem	Wheatbelt	21/2/86
Nature Reserves in the Shire of York-Northam	Swan	10/7/87
Shannon and D'Entrecasteaux National Parks	Warren	8/1/88
Benger Swamp Nature Reserve (five-year term)	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 – Coomallo Nature Reserve	Midwest	13/10/95
Dryandra Woodland	Wheatbelt	14/11/95
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
Shark Bay Marine Reserves	Midwest	7/3/97
Canning River Regional Park	Swan	5/12/97
Nambung National Park, 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, 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



What we do

Management plans as at 30 June 2005

Final management plans (in preparation)	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 and Indicative Management Plan for extensions to the existing marine park	Kimberley	12/01/04-12/04/04
Proposed Montebello/Barrow Islands Marine Conservation Reserves Indicative Management Plan	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 (Revision)	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 Ranges National Park	Midwest	To be determined
Draft management plans (in preparation)	Region	
Cape Range National Park	Pilbara	
Dampier Archipelago	Pilbara	
Esperance Coastal Parks and Reserves	South Coast	
Proposed Geographe Bay – Leeuwin Naturaliste – Hardy Inlet Marine Conservation Reserve Indicative Management Plan	South West	
Jandakot Regional Park	Swan	
Kalbarri National Park	Midwest	
Kimberley Region	Kimberley	
Lane Poole Reserve	Swan and South West	
Millstream-Chichester National Park and Mungaroona Range Nature Reserve	Pilbara	
Parks of the Leeuwin Ridge, Gingilip Swamp Nature Reserve and Scott National Park	South West	
Parks of the Darling Range	Swan	
Shoalwater Islands Marine Park Management Plan	Swan	
Shark Bay Terrestrial Reserves and Proposed Terrestrial Reserve Additions (Revision)	Midwest	
Tuart Forest National Park	South West	
Proposed Walpole Nornalup Inlets Marine Conservation Reserve Indicative Management Plan		
Walpole Wilderness Area and Adjacent Parks and Reserves	Warren	
Wellington National Park and Westralia Conservation Park	South West	
Wheatbelt Region	Wheatbelt	
Yanchep and Neerabup National Parks and Neerabup Nature Reserve	Swan	

Area covered by management plans*

Tenure classification	Area covered by management plan (ha)	Total tenure area (ha)	% covered
National park	1,751,553	5,591,090	31.3
Nature reserve	361,956	10,856,529	3.3
Marine reserve	1,489,461	1,536,418	96.9
Other recreational/conservation reserves	94,110	892,271	10.5
Total	3,473,080	18,876,308	18.4

* 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.



What we do

Work continued to implement outstanding tenure recommendations in CALM 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.

In addition to CALM's program of acquiring conservation lands, further lands were acquired through the involvement with other programs and processes. Additions in the past year included land ceded to the State as a condition of subdivision (e.g. additions to Herdsman Lake Regional Park and Kooljerrenup Nature Reserve); land acquired from land swaps (e.g. adjoining Southern Beekeepers Nature Reserve); and reserves no longer required by other organisations (e.g. the creation of Fish Road Nature Reserve and an addition to Cardup Nature Reserve).

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. New national parks committed under the Government's *Protecting our old-growth forests* policy and a number of other reserves proposed in the Forest Management Plan were established through three Acts of Parliament in late 2004 (see section titled 'New national parks and other reserves in the south-west forests').

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 extension of Kent River Siding Road through Owingup 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, commenting on numerous proposals, such as the use of unallocated Crown land for the grazing of stock and the disposal of Crown reserves.

Work continued to implement outstanding tenure recommendations in CALM management plans for regions and specific areas, the most significant being the consolidation of Leeuwin-Naturaliste National Park, and additions to Walpole-Nornalup and John Forrest National Parks.

Leasing activities

CALM has various leasing arrangements for a wide range of purposes. At the end of the financial year there were 168 formal arrangements in place for uses on lands



What we do

At the end of the year there were 3,441 current apiary site permits issued on Crown lands.

managed by CALM, including recreation, tourism, accommodation, utilities, sawmills and environmental education facilities.

The formal arrangements comprise 118 leases, 15 written agreements, 18 licences, 14 Memoranda of Understanding and three sawmill site permits.

During the year, 13 new leases were finalised involving facilities such as the Broome Bird Observatory, Lions Dryandra Village, UWA's Water Sports Complex, the World Wide Fund for Nature's Herdsman Lake office accommodation, and an Optus communication tower at Yallingup.

In addition, 13 Memoranda of Understanding were finalised with other government agencies that jointly own communication facilities with CALM.

Apiary site management

At the end of the year there were 3,441 current apiary site permits issued on Crown lands within the State. Of these, 1,662 permits were on lands managed by CALM – 868 were located in State forest, 58 on timber reserves, 395 on national parks, 239 on nature reserves, 76 on conservation parks and 26 on other lands vested in the Conservation Commission.

During the year 400 apiary site permits were issued which comprised:

- 12 permits to reflect a new location of the apiary site;
- one permit as a renewal of an expired permit;
- 152 permits to recognise that a transfer in the holder had occurred; and
- 235 permits as a result of applications to occupy new or previously cancelled sites.

In 2004, the Minister for the Environment announced approval for the trading of apiary sites, subject to the introduction of amended regulations relating to beekeeping on Crown land and a review of apiary site rentals. In June 2005, CALM released for public comment a paper outlining the proposed amendments to the beekeeping regulations in the Forest Management Regulations 1993, including proposed rental increases.

The Beekeeping Consultative Committee (BCC), which provides input to CALM on matters relating to the beekeeping industry, met twice during the year to discuss a range of issues including feral bees, policy matters, trading of apiary sites, access to pastoral leases, digital mapping information, the Walpole Wilderness Area and Shannon and D'Entrecasteaux National Parks Draft Management Plan. A special meeting of industry representatives of the BCC was also held in December to discuss the review of apiary site rentals and the associated zoning system. The BCC is convened by CALM and consists of representatives from the



What we do

Site planning continued on the Walpole Wilderness Discovery Centre.

WA Apiarists' Society, Wescobee Limited, Swan Settlers Limited, the WA Farmers' Federation, the WA Beekeepers' Association, the Pollination Association of WA as well as representatives from the Water Corporation, Pastoral Lands Board, and the Pastoralists and Graziers' Association.

Park presentation and resource protection

CALM aims to achieve high quality visitor services and facilities that are planned, designed, developed and managed in a sustainable way. The goal of creating a world class parks system and further enhancing visitor opportunities and experiences across the State's parks and other reserves was given a significant boost with a further increase to CALM's capital works program, making it the largest undertaken in WA's parks and other reserves. This latest funding increase has enabled CALM to progress the planning and development of a number of new facilities as highlighted in the regional reports of this section.

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.

Design and/or construction documentation drawings were prepared for many projects such as boardwalks, steps and lookouts. Concept, site and documentation plans were also prepared to facilitate ongoing implementation of the Government's *Protecting our old-growth forests* policy.

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

Planning, training and design advice was provided as needed by CALM's Recreation and Landscape Unit. 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 assessment, 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. A review of the Visual Landscape Management database was also initiated to ensure its currency and relevance.



What we do

Three Acts of Parliament established 36 new national parks and nature reserves and 10 new conservation parks.

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

During the year, a new Refresher Course for Visual Landscape Management was also undertaken.

New national parks and other reserves in the south-west forests

Three Acts of Parliament assented to in November and December 2004 established 36 new national parks and nature reserves and 10 new conservation parks, implementing commitments under the Government's *Protecting our old-growth forests* policy. The new reserves represented about half of the reserve proposals in the Forest Management Plan. Work began to implement the remaining tenure changes proposed in the plan over this term of Government.

The *Reserves (National Parks and Conservation Parks) Act 2004* [Act No. 63 of 2004] was assented to on 30 November 2004. This Act established the following national parks:

Wiltshire-Butler	Wandoo
Hilliger	Canning
Milyeannup	Mundaring
Blackwood River	Pickering Brook

The *Reserves (National Parks, Conservation Parks, Nature Reserves and Other Reserves) Act 2004* [Act No. 66 of 2004] was assented to on 8 December 2004 and established the following national parks:

Forest Grove	Boyndaminup
Yelverton	Greater Preston
Greater Beedelup	Greater Kingston
Jane	Boorara Gardner
Greater Dordagup	Wellington

The *Reserves (National Parks, Conservation Parks and Other Reserves) Act 2004* [Act No. 79 of 2004] was also assented to on 8 December 2004 and established the following national parks:

Mt Lindesay	Greater Hawke
Mt Frankland South	Mt Roe
Dalgarup	Easter
Mt Frankland North	Bramley
Whicher	Lake Muir

This Act also established the Tone-Perup Nature Reserve and the Hester and Kerr conservation parks.



What we do

Designs were prepared for more than 230 sign and display projects in CALM-managed areas.

Visitor communication and management

Interpretive planning

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

An interpretive communication strategy was prepared for the Walpole Wilderness Area. The interpretation project plans for the Wilderness Discovery Centre sites at Swarbrick, Mount Frankland and the Valley of the Giants were refined with input from the Walpole Wilderness Area Community Advisory Committee, and wider community involvement began.

The Swan Region Communication Strategy was completed and its implementation began.

The Style Guide for Shark Bay World Heritage Area (SBWHA) identified in the Interpretation Action Plan from the Shark Bay World Heritage Area Communication Strategy progressed, along with the development and construction of the SBWHA Interpretation Centre in Denham.

Interpretive design

The CALM Sign System has been re-designed to integrate all CALM 'protected areas' and 'campaigns' into a corporate identity through badging, as well as established sign shapes, sizes and functions. Colour schemes for park signs were guided by the biogeographical regions and landscape characteristics as well as the 'world class parks' initiative.

CALM's Interpretation and Visitor Information Services Unit's Sign Design Studio continued to meet regional needs for signs and displays in managing visitors to CALM-managed areas. Designs were prepared for more than 230 projects.

Interpretive products of particular note were: Shelter panels for Durokoppin and Sandford Rock Nature Reserves (Wheatbelt Region); Cave Hill and Boondi Nature Reserves (Goldfields); Mitchell Plateau National Park and King Leopold Range Conservation Park (Kimberley); Jurien Bay Marine Park; Kennedy Range National Park; Shark Bay World Heritage Area including Steep Point; Nanga and Big Lagoon (Midwest); Cape Arid National Park (South Coast); and Lane Poole Reserve (Swan).

Trailside signs for interpretive walks were developed for Canning River Regional Park; Monkey Mia Reserve in the Shark Bay World Heritage Area; and Telegraph Hill (Kimberley).



What we do

Guided interpretive activity programs were conducted at more than 30 locations across WA, attracting more than 300,000 participants.

Visitor Risk Management signs continued to be produced, along with signs for *Western Shield*, dieback and rehabilitation sites to assist management of these issues.

Community liaison, consultation and advisory services

Interpretation staff continued their close association with CALM's Indigenous Heritage Unit in planning for cultural interpretation for visitors. Staff worked with the regional working parties of the South West Land and Sea Council to facilitate Indigenous consultation on cultural sites, notably at Castle Rock in Porongurup National Park and Mount Frankland in the Walpole Wilderness Area.

Interpretation projects are a way for Indigenous communities to express their relationship with their country and with the visitors to these protected areas.

Community involvement has resulted in the production of interpretive shelter panels for the Friends of Crooked Brook (Dardanup); Birds Australia (Myalup); Friends of Fox's Lair (Narrogin); Friends of Brixton Wetlands (Brixton Wetlands); and Sandy Cape (Shire of Jurien).

Other community-based sign projects included the Slow Down Campaign for the Wedge and Grey communities and a Let Nature Feed Itself sign for the Edith Cowan University Joondalup Campus based on a CALM Regional Parks Unit sign.

The revised Accommodation Guide for the Friends of the Bibbulmun Track was produced by the Sign Design Studio, along with the tri-annual newsletter for FACET – the WA Forum Advocating Cultural and Eco Tourism. Advice continued to be given to various local shires across the State, and Friends Groups, on the production of signs.

Guided interpretation programs

Guided interpretive activity programs were conducted at more than 30 locations across WA. Participants enjoyed an enriched experience while learning to support sound management of our heritage and environment. Regular guided activity programs attracted more than 300,000 participants.

Major guided interpretive programs were based at Geikie Gorge and Purnululu national parks in the Kimberley; Karijini National Park in the Pilbara; Monkey Mia in the Midwest; the Valley of the Giants and Leeuwin-Naturaliste National Park in the South West; around Perth at Yanchep National Park, Perth Observatory and Penguin Island, as well as through the Nearer to Nature Program providing experiences in Perth's regional parks and other venues.

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



What we do

CALM continued to work closely with WA's major tertiary institutions on nature-based recreation and tourism research.

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 communication strategies of information, interpretation, community involvement, consultation and public participation as a core component of this six-day course; a two-day workshop in guided interpretation by CALM and Whiteman Park staff; and another two-day workshop in value adding to your business through interpretation as part of an ecotourism mentoring program with Green Skills Albany.

Nature-based tourism recreation and tourism 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 79 research projects listed on the program (that were either completed, in progress or available). Completed projects as well as potential research topics that can be undertaken by students as honours, masters or PhD studies, are listed on CALM's NatureBase website.

A Research Reference Group facilitates the coordination of students 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;
- 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.

CALM also plays an active role as a member of the Sustainable Tourism Cooperative Research Centre (STCRC). Several projects begun or completed under the auspices of the STCRC were either proposed by CALM or involved CALM as a key industry stakeholder. These included research into the potential for tourism on CALM-acquired rangelands properties in the Gascoyne Murchison, a review of tourism licensing in WA, the production and consumption of national wildlife icons, and an investigation into the factors leading to impact creep.



What we do

Around 4,000 of the approximately 7,600 volunteers registered contributed a total of 444,000 hours to CALM projects.

Community involvement

The Community Involvement Unit is an important part of CALM's mandate, providing a point where students and people with a passion for the environment can support CALM and have input into its management and practices.

The Community Involvement Program provides its many volunteers with interesting and fulfilling volunteer projects, ensuring they have access to and knowledge of CALM's management practices and policies. Around 4,000 of the approximately 7,600 volunteers registered contributed a total of 444,000 hours to CALM projects during 2004-2005.

In the biggest single volunteer operation of the year, about 1,500 volunteers took part in the successful rescue operation to help more than 100 stranded whales in Geographe Bay.

This financial year there were 28 new volunteer projects approved with another 14 projects being reviewed after a 12-month period, as requested by local staff. Some of the approved projects for 2004-2005 were:

- staffing the Interpretation Centre at William Bay National Park;
- rebuilding the Nerang Bibbulmun Track hut;
- working on the conservation and ecology of butterflies;
- monitoring Katanning fauna;
- contributing to management at Lorna Glen;
- removing weeds from the Abrolhos Islands; and
- assisting with a Goldfields regional herbarium.

Many volunteer projects had members of four-wheel drive clubs involved with fence removal, clean ups, and general maintenance around homesteads and national parks, thus providing CALM with further resources. Conservation Volunteers Australia also provided CALM with groups of local, national and international volunteers eager to sample life and help the natural environment in the various regions of the State.

Training courses for volunteers have been developed and implemented to ensure CALM's volunteers were informed of policies, expectations and risk management. Courses delivered included:

- basic fire awareness;
- senior first aid;
- radio awareness;
- basic wildlife rehabilitators;
- advanced wildlife rehabilitators;



What we do

There were 1,138 CALM Bush Rangers in 2004-2005, who spent approximately 296,400 volunteer hours on conservation projects.

- regional basic wildlife rehabilitators;
- honorary CALM officer; and
- information day for campground hosts.

Development of a new corporate volunteer induction package began for members of the public looking for volunteer projects.

Department of Justice prisoners have continued to provide a valued contribution to CALM on the Bibbulmun Track, Munda Bididi Trail, and throughout the State in national parks such as Millstream-Chichester and Leeuwin-Naturaliste.

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

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 in life skills such as teamwork and leadership and, within the CALM Bush Rangers network, an ethic for conservation and community service.

In the 2004 calendar year, Bush Rangers spent approximately 296,400 volunteer hours in the program on nature conservation projects and were assisted by CALM staff and supported by Bush Ranger Instructors.

CALM Bush Rangers cadets		
Year	No. of CALM Bush Rangers 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



What we do

CALM's Indigenous Heritage Unit gave 65 presentations at schools, reaching a total of 6,020 students.

Liaising and working with Indigenous people

During this year the Indigenous Heritage Unit (IHU) has had a focus on re-evaluation of programs and services to ensure that the Unit continues to increase the level of recognition and knowledge of Aboriginal culture within the wider community.

The IHU continued to build on strong relationships with Aboriginal communities, linking communities to appropriate CALM staff for the development of works or strategic directions and consultations.

To help ensure that the perspectives of Aboriginal people throughout the State are incorporated into the planning process as standard practice, the IHU produced or contributed to the following documents:

- Indigenous Heritage Unit Business Plan;
- Response to Draft Aboriginal Economic Development Strategy;
- Working party for the development of Aboriginal Tourism Development Strategy- Tourism WA; and
- Swan Regional Plan 2005-2015.

The IHU conducted the following educational presentations in 2004-2005:

- 65 school bookings involving a total of 6,020 students;
- 15 cultural professional development sessions for CALM staff;
- 57 cultural learning workshops with CALM staff participation; and
- 10 cross cultural awareness deliveries to CALM staff across the State.

CALM also continued to engage with Aboriginal communities, government and community groups, including:

- Yirra Yaakin;
- Leeuwin Ocean Explorer;
- South West Aboriginal Land and Sea Council;
- Department of Indigenous Affairs – Heritage Sites;
- Friends of Yongar Reserve;
- Tourism WA;
- Department of Education and Training; and
- Wagin community on land revegetation issues linking with local government and CALM.

The Unit was also involved in presenting and providing advice to a wide range of workshops, meetings and training exercises to both internal and external audiences.



What we do

Distribution of the Goldstar Park Pass increased by 21.5 per cent.

Business management

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

CALM attended a number of consumer events during the year where brochures were distributed, National Park Passes and CALM publications were sold and queries from the general public were answered. During November 2004, CALM linked with Track Care WA in a joint display at the 4WD Drive and Adventure Show to promote and encourage responsible visitor behaviour on CALM-managed lands. In March 2005, CALM staff from the Park Policy and Services Unit, together with IHU staff from Yanchep National Park, attended the Perth Caravan and Camping Show to help build the public's awareness and appreciation of nature conservation, Indigenous culture and the facilities and services available. In June 2005, CALM attended and provided a display at the Australian Tourism Exchange (ATE). ATE is Australia's premier tourism trade event and the largest international travel show in the southern hemisphere. CALM also participated in all interstate caravan shows through partnerships with Tourism WA.

Brochures and National Park Passes continued to be distributed and sold through 38 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 CALM offices and national parks has resulted in steady park pass distribution numbers for Annual All Parks Passes and a substantial increase of 21.5 per cent for the Goldstar Park Passes.

CALM hosted the WA Nature-Based Tourism Exchange and Supplier Workshop (previously called CALMTIE) in August 2004 as a full day event and in partnership with the Australian Tourism Export Council. This event allowed regional tourism organisations to showcase their products to the inbound tourism market and build important industry relationships, and to further their knowledge, understanding and appreciation for sustainable tourism within WA's natural areas.

Breakdown of pass distribution 2004-2005		
Type of pass	Number	Change from previous year
Holiday Park Pass (4 weeks)	7,242	Down 30.5%
Annual Local Park Pass (1 park, 12 months)	6,691	Down 7.6%
Annual All Parks Pass (All parks, 12 months)	4,523	No change
Goldstar Park Pass (All parks, 12 months and 12-month LANDSCOPE subscription)	1,251	Up 21.5%

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



What we do

In May 2005, CALM issued the first electronic edition of Touring WA to 1,100 subscribers.

In May 2005, CALM issued the first electronic edition of Touring WA to 1,100 subscribers. Touring WA was previously printed and mailed out quarterly to subscribers. The e-newsletter was developed together with Tour Operator Alerts (previously known as Operator Broadcasts), which are also sent via the same template design. Tour Operator Alerts are an effective communication tool that notifies tour operators, visitor centres and a range of other stakeholders, of current and important park information.

CALM's Marketing and Tourism Unit provides regular articles to the RAC Road Patrol magazine, promoting responsible and sustainable recreational opportunities on CALM-managed lands to the WA self-drive market. This has proved to be an effective promotional and educational tool.

Key media or travel industry personnel undergoing familiarisations are eligible for waiver of national park entry fees. Aged and infirm groups, education or study groups, and disabled groups accompanied by their carers, may also be eligible for a waiver. During the year, CALM approved 134 requests for entry fee waivers to a total value of \$57,327 (based on expected visitor numbers of 27,084 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	16,152	650	1,175	165	723	1,490

Environmental consultants were engaged in 2003-2004 to help CALM develop sustainability criteria to assess calls for Expressions of Interest for accommodation on CALM-managed land. These criteria were successfully used this year in a call for Expressions of Interest for semi-permanent accommodation facilities at Purnululu National Park, resulting in world class accommodation facilities that are environmentally, structurally and socially sustainable. This represented a major step towards increasing awareness of operator impacts on CALM-managed lands and waters, with international interest in using this system as a model for developing sustainable businesses within protected areas.

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 Marine Parks and Reserves Authority.



What we do

As at 27 June 2005, 404 commercial operations licences were in issue for activities in marine and terrestrial reserves.

November 2004 saw the launch of a number of new licensing initiatives. The new Tour Operator Handbook – Terrestrial came into operation on 19 November 2004, updating the original handbook released on 1 January 1999. This was accompanied by a new Terrestrial Commercial Operations Licence application form, and an online education program, which was developed to assist operators understand their responsibilities on CALM-managed lands.

In an effort to reduce the cost of administering small credit accounts, and to reduce the incidence of defaults on credit accounts, CALM also introduced the requirement for operators to apply for credit facilities for payment of entry and camping fees.

As at 27 June 2005, 404 commercial operations licences were in issue for activities in marine and terrestrial reserves. This was composed of 353 general 'T' class licences and 51 special 'E' class licences. E class licences apply to operations that are restricted in number or that are in areas that are particularly sensitive – for example whale shark interaction at Ningaloo Marine Park. The total number of commercial operations licences increased from the 376 licences in issue at the end of 2003-2004.

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 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 2004-2005, there were 54 Eco Certified and 136 NTAP accredited operators. These figures represent a continuing increase in the number of accredited operators, with 17 more Eco Certified operators and 22 more NTAP accredited operators than in 2003-2004.

Legislation and policy for Parks and Visitor Services

During the year, CALM's revised draft Policy Statement No. 18, Recreation, Tourism and Visitor Services, was released for public comment following an extensive period of stakeholder consultation. Work to finalise the policy and its associated guidelines began in the light of public comments received.

A paper describing proposed amendments to the *Forest Management Regulations 1993* relating to the administration and management of apiary sites on Crown land was also released for public comment in June 2005. This is also discussed under the section relating to apiary site management.



What we do

A Department of Justice Walpole Work Camp crew continued to work on Bibbulmun Track maintenance and improvement projects.

Tracks and Trails

A Department of Justice Walpole Work Camp crew continued to work on Bibbulmun Track maintenance and improvement projects. A crew from Karnet Prison continued work on construction of the first stage of the Munda Bidli Cycle Trail between Dwellingup and Collie and on smaller Bibbulmun Track improvement projects. CALM's Indigenous trainees undertake most maintenance work along the South Coast sections of the track.

Trails recreation activities

During the year the Mountain Bike Working Group was established consisting of CALM officers and representatives of key mountain-biking user organisations. Key outcomes include: identification of the needs of mountain bicyclists on CALM-managed lands; identification of issues and areas of contention between various mountain biking needs and CALM's management objectives; and the establishment of a productive dialogue and open lines of communication between mountain bicycling interests and CALM at a range of levels.

Ongoing interaction and discussions continued with horse riding groups, represented by the Sustainable Tracks and Trails Action Group and the Horse Council of WA. Similarly liaison continued on bushwalking policy and operational issues with bushwalking organisations and Outdoors WA.

A Notification of Intentions system has been developed for non-commercial groups overnighting on long trails. The system allows group organisers, such as school teachers and scout or cadet leaders, to plan ahead and ensure that there is minimum overlap of groups using trails campsites which cannot be booked ahead.

Bibbulmun Track

A capital budget allocation for long trails' improvements, coupled with revenue from Bibbulmun Track publications, funded improvements across the length of the track this year. Works completed in the Perth hills include: a new steel, timber-decked footbridge over a creek north of Mt Cooke; relocation and rebuilding of Nerang campsite that was burnt down in the 2003 Mt Cooke fire; and realignment, start of resurfacing and step construction on sections of heavily eroded trail entering Kalamunda National Park. Across the rest of the track, toilets were upgraded; steel exclusion gates and other barriers were installed; hard surfacing of eroded trail was carried out; and preservative treatments were applied to timber structures.

The second edition of A Guide to the Bibbulmun Track Southern Half was released in December 2004. A Bibbulmun Track map poster showing the whole



What we do

The Bibbulmun Track Foundation's website recorded 56,000 hits per week.

track was also published. Upgrades and reprints have begun for Maps 1-4 that include new national parks and changes to conservation areas. Map and guidebook sales continued at a steady rate with proceeds providing valuable revenue for Bibbulmun Track improvements as well as coordination and administration.

CALM publications now include 14 separate Bibbulmun Track products published by the Tracks and Trails Unit, in addition to three others that are published by the Bibbulmun Track Foundation.

The Perth hills bushfire in January 2005 had a major impact on the Bibbulmun Track, forcing the closure of around 90 km of the track at its peak and leaving around 30 km of track and the Beraking campsite destroyed. A track diversion and temporary campsite were put in place and open by 8 April, and planning began to reconstruct the campsite.

The partnership between CALM and the Bibbulmun Track Foundation continued to produce positive results for the track. CALM provides some financial support to the Foundation to fund salaries for management of the volunteer maintenance program and the provision of walker information services. Other collaborations and achievements over the past year include:

- The track won a 2004 WA Tourism Award in the Significant Tourism Attraction category.
- The Mountain Designs Bibbulmun Team Challenge was supported through a CALM team and operational support from CALM district and Tracks and Trails Unit staff.
- Six maintenance volunteer training field days were conducted by Foundation and CALM district and Tracks and Trails Unit staff.
- A comprehensive information folder on the Bibbulmun Track was compiled with material supplied by both CALM and the Foundation and distributed to all CALM Track, district and regional offices, all visitor centres along the track and many outdoor equipment stores.
- The Foundation's Bibbulmun Track website recorded 56,000 hits per week.
- A new Guide to Accommodation and Services Along the Bibbulmun Track was published.
- Advertising prior to maintenance volunteer training field days along the track attracted many new maintenance volunteers outside the metropolitan area. This has resulted in a majority of track sections south of Collie being maintained by local volunteers.
- Various displays, including a scaled-down Bibbulmun Track shelter at the Landcare Pavilion at the 2004 Perth Royal Show, and representation at WA on Show at the Perth Convention Centre.



What we do

Visitor data showed that 10 per cent of cyclists on the Munda Biddi Trail were from interstate and overseas.

At the end of 2004-2005, the Foundation had 2,007 current members, of whom 362 were registered as volunteers: 239 worked on the track maintenance program and the rest were involved in office work, events and guiding activities.

Munda Biddi Off-Road Cycle Trail

Very positive feedback from the cycling public was received for stage 1 of the trail, which has now been open for more than 12 months. In 2004-2005, the project included both maintaining the opened section of trail and further planning and construction works on stage 2, from Collie to Northcliffe.

Some of the works completed this year on the open trail included:

- completing the final campsite on stage 1, the Yarri campsite north of Collie;
- completing the northern terminus at Sculpture Park in Mundaring;
- completing a trail inventory and trail marking improvements;
- liaising with the Water Corporation in planning the construction of the Waterous Trail within the Shire of Waroona – the Water Corporation provided \$45,000 in sponsorship for the development of this loop trail; and
- installing trail counters and developing a monitoring program.

Visitor data collected this year showed that 10 per cent of users were from interstate and overseas, and a peak usage in Mundaring of 240 riders in a six-hour period.

A large section of the trail around Pickering Brook, including the Carinyah campsite, sustained serious damage in the January 2005 Perth hills fire, including the loss of the campsite toilet, scorch to the shelters, burnt out bridges and 18 km of trail burnt. The fire remediation works required a lot of time and resources to rectify the fire damage and re-open the trail.

With the remaining proposed trail, a lot of work time has been spent on the final planning. Other works included:

- liaising with various agencies in developing the Nannup to Jarrahwood Railtrail, including the successful application to the Australian Tourism Development Program grant;
- a successful application to Lotteries WA for funding to complete the development plan for stage 3 between Northcliffe and Albany;
- completing machinery trials for the conversion of forest railway formations to cycle trail; and
- planning for two new campsites, located within Wellington National Park and in the vicinity of Jarrahwood.



What we do

The final management plan for Herdsman Lake Regional Parks was released in November 2004.

Some large sections of the trail will pass through areas available to the Forest Products Commission (FPC) for timber harvesting, requiring careful planning to ensure that operations of both CALM and the FPC can be conducted with minimal disruption.

The ongoing relationship between CALM and the Munda Biddi Trail Foundation continued to strengthen. The Foundation's Try the Trails program successfully encouraged people out onto the trail. In conjunction with the Foundation, CALM began developing a volunteer maintenance program to assist in the ongoing maintenance of the trail, funded through the CALM ALCOA Forest Enhancement (CAFE) program. Other initiatives included attracting a Lotteries Trail funding grant for \$20,000 to plan for the third stage of the trail between Northcliffe and Albany, and securing public liability insurance for the Foundation.

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 vested in the Recreation Camps and Reserve Board formerly 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.

The major achievements in managing the parks over 2004-2005 were as follows:

Planning works

- the final management plan for Herdsman Lake Regional Park and draft management plan for Jandakot Regional Park were released by the Minister for the Environment in November 2004;
- a Pest Animal Control Plan for regional parks was completed;
- significant planning and consultation occurred regarding the Kennedy Bay development adjacent to Rockingham Lakes Regional Park;
- liaison continued with the Public Transport Authority regarding the construction of the South West Metropolitan Railway, which will abut parts of Beeliar and Rockingham Lakes regional parks;
- a Rehabilitation and Landscape Plan was completed for Woodman Point Regional Park as part of Port Coogee development approvals process;
- planning and liaison began with the Water Corporation regrading the Perth



What we do

More than 100 cygnets were rescued from behind the vermin proof fence at Thomsons Lake Nature Reserve and released into Kogolup Lake.

- Seawater Desalination Project and its impacts on Beeliar Regional Park;
- assistance was provided to the Department for Planning and Infrastructure in relation to regional park planning in the Peel and Bunbury areas;
- a trail master plan was prepared for the Kalamunda area in the Darling Range;
- landscape studies were completed and landscape management guidelines developed for Woodman Point, Herdsman Lake and Yellagonga regional parks; and
- planning began for an Aboriginal cultural tourism facility at The Spectacles in Beeliar Regional Park.

Conservation works

- Water supplementation and cygnet management at Thomsons Lake Nature Reserve were successfully implemented. Water supplementation was successful in extending water bird habitat in early summer. In December 2004, more than 100 cygnets were rescued from behind the vermin proof fence at Thomsons Lake Nature Reserve and released into Kogolup Lake.
- Dieback surveys were completed across numerous areas in the regional parks, including Thomsons Lake Nature Reserve.
- Control of *Typha orientalis* at Thomsons Lake Nature Reserve.
- Weed control and realignment of strategic access tracks at Port Kennedy Nature Reserve that has provided greater protection for the 'Sedgeland's in holocene dune swales' threatened ecological community.
- Control of *T. orientalis* and *Arundo donax* infestations at Herdsman Lake, which has assisted in the restoration of avian habitat.

On-ground park improvements

- major improvements to recreation facilities at Cape Peron in Rockingham Lakes Regional Park began, including an interpretive snorkel trail that local school students helped to plan;
- walk trails and shared paths were constructed in Yellagonga, Beeliar and Herdsman Lake regional parks;
- at Yellagonga Regional Park, a boardwalk was constructed at Beenyup Swamp and a viewing platform was built at Lake Goollelal;
- walk trail interpretive signs were installed in Canning River Regional Park;
- interpretation shelter and trailside signs were installed at Mt Brown and the Henderson Foreshore in Beeliar Regional Park;
- the car park at Thomsons Lake Nature Reserve in Beeliar Regional Park was redeveloped; and
- recreation site upgrades were also completed at Popeye Lake and Glendalough Open Space in Herdsman Lake Regional Park.



What we do

The Healthy Parks, Healthy People initiative was launched in November 2004.

Community involvement

The Regional Parks Unit continued to administer eight Community Advisory Committees (one each for the parks on the Swan Coastal Plain and one for the parks in the Darling Range) which held a total of 47 committee meetings for the year.

As well, the Regional Parks Unit organised a community workshop to assist in the assessment of Regional Parks Community Grants. A meeting between the chairs of the Community Advisory Committees and the Minister for the Environment to discuss regional park management also took place.

The Regional Park Community Grants Scheme was successfully administered for the third year running. The grants were established to assist community volunteer groups in undertaking projects that rehabilitate, conserve, enhance or restore natural areas and values, as well as for activities that raise public awareness and appreciation of nature conservation at a local level.

Volunteers contributed 5,573 hours working on CALM-managed lands within regional parks over the past 12 months, primarily on projects related to weed control and rehabilitation.

Healthy Parks, Healthy People

The Healthy Parks, Healthy People initiative was officially launched by the Minister for the Environment in November 2004. The program aims to increase community awareness, visitation and support of parks, reserves and waterways by demonstrating the link between health and conservation.

A logo representing 'people and parks' was designed and included on all promotional material produced for the program, information has been posted on CALM's NatureBase website, and articles about the program have been included in a number of CALM publications, such as *Touring WA* and *LANDSCOPE*.

Healthy Parks, Healthy People was presented at relevant conferences and trade shows, links have been made with the community and a process begun to badge external events on CALM-managed land with the program logo.

A strategic plan for 2005-2006 has been completed for the program, including proposals to recruit external health organisations to work collaboratively with CALM to promote the program.



What we do

The total number of visits to lands and waters managed by CALM during the year was 10,990,000.

Other initiatives

Visitor risk management

CALM's visitor risk management (VRM) is an extensive program that involves identifying, evaluating 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 outdoor pursuits.

A review of the effectiveness of CALM's VRM program began in 2004-2005. Four VRM training courses were conducted during the year at Albany, Fitzroy Crossing, Esperance and Perth and involved 71 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 lands and waters managed by the Department. 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.

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

Visitor use monitoring

Visitor use is monitored at 246 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 10,990,000. This was a modest increase from the 10,921,000 visits recorded during 2003-2004. This increase reflected a continuing interest by the public in visiting natural areas managed by CALM despite factors such as the major fires that affected Perth parks during peak visitation periods and increased fuel costs.



What we do

CALM continued to progress the development of its new road classification and asset management system.

Visitor survey program

The Visitor Satisfaction Survey Program continued to provide visitor feedback that is 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 State Government extended the period for public consultation to enable more time to consult with key stakeholders and the community over the report of the World Heritage Consultative Committee appointed by the Minister for the Environment.

Recreation training

During the year, CALM staff conducted a week-long training course on recreation planning and management for recent graduate officer recruits and other CALM staff at the Department of Sport and Recreation's Point Walter Conference Centre. A number of students from the University of Notre Dame's Fremantle campus also attended the lecture sessions of this training program, which explores the theory and practice of recreation resource planning, visitor management and communications in natural areas. The course has been held every year since 1988 and during this time it has been successfully completed by more than 400 CALM staff and a number of employees from other State and local government organisations.

Parks and Visitor Services Division staff also presented lectures on various aspects of recreation resource planning and management and landscape design to students at Curtin, Edith Cowan and Murdoch universities and assisted in the delivery of other in-service training programs.

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 used by most local government authorities throughout WA.



What we do

An upgrade of facilities was completed at Boondi and Victoria Rock recreation sites, in Goldfields Woodlands National Park.

A consultant carried out a field assessment and collected and recorded information on sealed and unsealed roads and associated road assets in the Warren Region in accordance with this 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 picked up by the ROMAN inventory process.

When the new classification system is fully operational, it should greatly assist CALM in:

- identifying and planning strategic road access requirements to meet current and future needs across the public conservation estate;
- identifying high priority road improvement and preventative and routine maintenance works;
- periodically assessing and reporting on the value of CALM's road and bridge assets; and
- identifying and mitigating potential road risks and allocating available funding.

This initiative will also assist CALM in continuing to work collaboratively with local government authorities and with Main Roads WA to address inter-regional road construction and maintenance requirements that cross organisational boundaries.

Involvement with the WA 4WD Association, Track Care WA and Tread Lightly! Australia

CALM continued to promote the Tread Lightly! message and to work actively with the WA 4WD Association and member clubs and with Track Care WA on various track rehabilitation, dune stabilisation and beach clean-up projects and other environmental care initiatives. CALM staff also participated in the annual WA 4WD Show and assisted Track Care WA with the installation of two visitor information shelters designed to promote visitor safety and environmental care for outback travellers accessing the Canning Stock Route via Halls Creek and Wiluna.

Regional services

Through Service Provider Agreements, CALM's nine regions continued to provide a full range of management, maintenance and development services to implement effectively and efficiently actions under the Parks and Visitor Services Service. Highlights from the regions in 2004-2005 included:

Goldfields

- An upgrade of camping/day use facilities was completed at Boondi and Victoria Rock recreation sites, in Goldfields Woodlands National Park.



What we do

A significant upgrade of Bellburn airstrip in Purnululu National Park was completed.

- The Kalgoorlie Arboretum dam wall was reshaped with major earthworks to reduce visitor risk.
- A new windmill with associated pipe work was installed at Goongarrie station to provide reliable water supply for campground hosts and paying visitors.
- Main Roads WA funding saw the upgrade of access (more than 35 km) into the homestead complex on Lorna Glen station off the Lake Violet Road north-east of Wiluna, and the continuation of upgrading of the 14 km road into the Goongarrie homestead off the Goldfields Highway.
- The Coolgardie Shire, as part of a Memorandum of Understanding with CALM, completed a new access alignment into Victoria Rock camping and day use area as part of the upgrade of the site.
- The Region continued to establish effective and meaningful liaison with Indigenous groups such as the Goldfields Land and Sea Council, through the development of joint management agreements. Two Aboriginal trainees completed their Certificate III in Conservation and Land Management and were progressing through the Certificate IV modules.
- The Goldfields Community Involvement program continued to expand by liaising with volunteer groups such as the Conservation Volunteers Australia who were involved in major works on Lorna Glen and Lake Mason stations.
- The Region continued to develop volunteer campground hosts and caretakers programs and remained involved in other community-based initiatives such as the Golden Quest Discovery Trail and Golden Pipeline drive trails.
- Continued use of programs such as the Community Development Employment Program has assisted in the construction of interpretation shelters and tables.

Kimberley

- A community-funded upgrade of the interpretation facilities at Telegraph Hill, in Parry Lagoons, was completed with a new walk trail and related signage being installed. This has been a collaborative effort with the Wyndham Historical Society and the Department of Justice.
- The airstrip at Mt Hart was upgraded to meet Royal Flying Doctor Services night standards.

In Purnululu National Park:

- A significant upgrade of Bellburn airstrip was completed, to achieve a standard suitable for aircraft up to 5,700 kg conducting Regular Public Transport (RPT) operations. The upgrade included a redesign of drainage around the airstrip, as well as widening and lengthening the strip, and re-surfacing. The upgrade was planned as a result of requests from the tourism industry to improve aircraft access and safety in the park.



What we do

Work began to develop the Pinnacles Desert Interpretation Centre.

- A significant visitor risk assessment of walking trails and visitor facilities in the park began with planning and Indigenous consultation for a number of existing and proposed sites and walk trails.
- New commercial tour operator camps were developed, with the provision of catered safari tent accommodation for both tour groups and free and independent travellers. The supporting infrastructure for the new camps has been put into place, including a new road network and upgraded facilities.
- Ranger facilities were upgraded to include a new kitchen and ablutions block, as well as two additional accommodation units for staff, to support a renewed Indigenous trainee program in the park.

Midwest

- Definition of Miners camp site and construction of toilet and facilities by Greenough prisoners was completed in Coalseam Conservation Park along with an engineer's assessment of road safety.
- A commercial agreement was established for the operation and development of Cobra tourism facilities in the Gascoyne area, and an assessment began, in partnership with Curtin University, of tourism opportunities on rangelands conservation properties.
- Recreation planning begun previously for the Burringurrah Conservation Area was incorporated into Mt Augustus National Park.
- A campground host program was initiated at Kennedy Range and Mt Augustus national parks.
- Work began to develop the Pinnacles Desert Interpretation Centre.
- An 18 km sealed tourist drive was constructed through Lesueur National Park and planning began for the development of visitor facilities within the park.
- Vehicle access in Nambung National Park and Nilgen Nature Reserve was upgraded.
- Monitoring of baseline water quality and human usage in the Jurien Bay Marine Park was undertaken.
- Land-based signage was installed in Jurien Bay Marine Park.
- A brand and style guide for the World Heritage Area was developed with Regional Development Scheme and Natural Heritage Trust funding.
- Interpretive signage for the Skipjack Point lookouts and the Wanamalu and Monkey Mia walk trails in the Shark Bay World Heritage Area was designed.
- The Shark Bay District conducted the Wonderfully Wild holiday activity programs at Monkey Mia, and two teacher professional development programs.
- Planning began for the Shark Bay World Heritage Interpretive Centre displays, and renovation work was carried out by the Shark Bay District at the Monkey Mia Visitor Centre.



What we do

The Jurabi Turtle Centre in the Jurabi Coastal Park was completed with multi-agency contributions.

In Kalbarri National Park:

- The 8 km coastal walk trail was realigned and reopened using funding provided by Coastwest.
- An entry station, toilets and shelters were built at Hawks Head and Ross Graham recreation sites, and the river trail at Z Bend was realigned for visitor safety. Interpretation signage was produced for lookouts and trails at Hawks Head, Ross Graham, Natural Bridge and Castle Cove.
- An assessment of conservation and recreation values resulted in agreement to purchase a portion of Murchison House Station to add to the national park.
- The park successfully hosted WA's inaugural X Adventure Raid.

Pilbara

- The three-year Dales Road project in Karijini National Park was completed, providing sealed road access to the eastern precinct of the national park.
- CALM, the Fire and Emergency Services Authority and Police in the Pilbara have formed a committee to review the recommendations of the Major Incident Review into the Karijini Gorge Incident (June 2004) report.
- A new tour operator campground loop was constructed in Dales campground to accommodate the increasing numbers of CALM-licensed tour operators to Karijini National Park.
- Major site and road works at the new Millstream-Chichester National Park campground development were completed.
- Miliyana Park Council in Millstream-Chichester National Park has been formalised to identify Yindjibarndi and Ngarluma community representation.
- Exmouth District site redevelopments in Cape Range National Park at Turquoise Bay and South Mandu day use areas and 1 km campground have resulted in new fencing, hazard and interpretive signs installed at all sites.
- The Jurabi Turtle Centre in the Jurabi Coastal Park was completed with multi-agency contributions.
- Yardie Creek Boat Operations in Cape Range National Park continued to be successfully run by CALM staff.
- Interpretive activities programs at Millstream-Chichester, Cape Range/Ningaloo and Karijini national parks continued.

South Coast

- Access steps at Four Mile Beach were constructed to complement the Four Mile Camp Site within Fitzgerald River National Park.
- The large Gap carpark in Torndirrup National Park was bitumised to improve access, parking and visual aspects of the site.
- A 2 km section of Little Beach Road, Two People Bay Nature Reserve, was bitumised for visitor comfort and dust prevention.
- A fee paying station and information shelter with interpretation material was



Eco-education programs continued at Wellington Discovery Forest and the Margaret River Eco Discovery Centre, with 167 excursions.

- constructed at Thomas River in Cape Arid National Park
- An upgrade was completed within Cape Le Grand National Park at the Hellfire Bay day use site, and the Hellfire Bay Road was bitumised.
- The Eyre escarpment track in Nuytsland Nature Reserve was upgraded to improve drainage and the surface of the track for driver safety.
- Six Noongar Land Management Trainees completed their Certificate III in Conservation and Land Management.
- South Coast Regional office worked closely with the Great Southern Development Commission, Department of Indigenous Affairs, Office of Aboriginal Economic Development, Shire of Gnowangerup, and Gnowangerup Aboriginal Corporation to plan and promote a Discovery Centre at Stirling Range National Park. Ongoing liaison continued with the local Indigenous community through the establishment of a CALM-Noongar Stirling Range Discovery Centre Planning Group with support from GSDC and DIA.
- In conjunction with the Goldfields Land and Sea Council, the Esperance District held a number of Indigenous community workshops in Norseman including field trips to Peak Charles National Park and Dundas Nature Reserve.
- The Esperance District continued ongoing consultation with the Esperance Noongar Claimant group in regard to progressing CALM capital projects.
- The trial of safety devices for rock fishers at the Salmon Holes, Torndirrup National Park was extended for a further six months.

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.
- Eco-education programs continued at Wellington Discovery Forest and the Margaret River Eco Discovery Centre, with 167 excursions and five professional development days.
- Maintenance of existing facilities was a major activity, with the refurbishing of all toilet facilities and application of protective oils to all timber stairways, buildings, decks and lookouts completed during the year.
- The improvement of roads in Leschenault Peninsula Conservation Park continued in conjunction with the Harvey Shire, with the re-gravelling of Rose and Princep roads.
- Liaison and consultation with the local Aboriginal communities about proposed park improvements and visitor management was also a significant activity. Strong working relationships have developed and endorsement for all projects was given, and Aboriginal people are assisting with several interpretation projects.

In Wellington National Park:

- The new Stone's Brook campsite was completed.
- Work progressed on a retaining wall along the river and a deck structure at



What we do

The Boxing Day tsunami required the rescue of more than 100 people from the waters of the bay off Penguin Island.

Honeymoon Pool. These projects will provide safe access to the water for swimmers and canoeists, and protect the mature peppermint trees from soil compaction and erosion.

- The major road upgrade program continued, in conjunction with Collie and Dardanup shires, with the sealing of Lennard Drive and 1 km of River Road north.
- Wellington Weir Road was realigned, with new parking areas and pedestrian pathways constructed.

In Leeuwin-Naturaliste National Park:

- A new abseil launch ramp was installed at Brides Cave, providing additional safety for visitors and protecting the fragile cliff edge.
- Several new stairways and walkways were installed in Calgardup and Giants Caves as part of the ongoing program to improve public safety and protect cave features.
- The Cape to Cape Track continued to be maintained and promoted by an enthusiastic group of volunteers, The Friends of Cape to Cape. The first stage of the 'access for more' section of the track was completed.
- In a joint project with the Yallingup Land Conservation District Committee a new coastal lookout was constructed on Rabbit Hill.

In Blackwood River National Park:

- A major upgrade of the camping area at Sue's Bridge progressed, with improved access roads, new toilet facilities and a camp kitchen completed.
- A 4 m high rock gabion wall was constructed at Chapman Pool to stabilise the eroding riverbank and allow the construction of a viewing deck.

Swan

- Two old swimming jetties at Matilda Bay were removed and replaced with floating pontoon style jetties that met both Indigenous and non-Indigenous community sentiments.
- Stage 2 of the Fred Jacoby Park master plan in Mundaring National Park was completed with road engineering and the construction of the main toilet the major components of work.
- Upgrading and redevelopment of recreation sites along Mundaring Weir Road continued and included completion of Farrell Grove, North Ledge and The Dell. The areas now include facilities for walkers and picnickers, with new car parking and signage.
- New picnic and visitor facilities at Mount Dale recreation site in Helena National Park were completed, providing toilets, car parking, walk trails, picnic facilities, and a viewing deck.
- Storm damage to Penguin Island resulted in studies to determine the most effective way to deal with erosion of the southern beach and jetty work to repair structural damage. Also, the Boxing Day tsunami required the rescue of



What we do

Visitor figures for all Nearer to Nature activities increased by 16 per cent on the previous year to 17,724.

- more than 100 people from the waters of the bay.
- The Bibbulmun Track shelter at Nerang was rebuilt in conjunction with the Bibbulmun Track Foundation after being destroyed by a wildfire in the previous year.
- The Chuditch Campground in Lane Poole Reserve was completed, providing 27 new sites for more than 100 overnight campers.
- The Gnangara Park development continued with the construction of 4.2 km of dual use path to the Ellenbrook residential development, and 6 km of boundary fencing.
- Remodelling of the main picnic and barbecue area at Walyunga Pool, Walyunga National Park was completed with significant Indigenous community liaison.
- Stage 1 of the Perth Hills Visitor Centre in Mundaring National Park was completed and entailed the relocation and renovation of an old timber building.
- Significant work was undertaken after January's wildfires in Yanchep National Park and the Perth hills, to make the areas safe for walkers, riders and picnickers. Many facilities including bridges, walkways, shelters and camping huts had to be reconstructed and all roads, trails and tracks had to be walked across the 29,870 ha burnt by the two fires.
- The Nearer to Nature interpretation and educational programs continued to expand across the metropolitan area. A further 15 events were added to the seasonal and group booking schedule, bringing the total available to 70. Visitor figures for all Nearer to Nature activities increased by 16 per cent on the previous year to 17,724.
- The Nearer to Nature marine school education program continued to expand resulting in a 113 per cent increase over the previous year, with 3,227 students participating in the program.
- The Nearer to Nature team designed and delivered corporate programs to organisations including Woodside, Chevron Texaco, BHP Billiton and Perth Zoo.
- Guided interpretation programs continued to be popular at Yanchep National Park and Penguin Island.

Warren

- The main focus for the region was implementing the *Protecting our old-growth forests* policy through planning and construction of new recreation facilities in new national parks. A secondary focus was the renovation of several older recreation sites.

In the Walpole Wilderness Area national parks:

- At Mt Lindesay a partnership proceeded with Denmark Greenskills to undertake trail renovation work to alleviate conservation issues relating to traditional recreation (walk trail to summit) in a threatened ecological community.



What we do

The joint management initiative in the Walpole Wilderness Area was progressed with the Indigenous community.

- The renovation of the recreation site at Circular Pool was completed, including wheelchair access to viewing platforms.
- Community consultation, advanced planning, and some construction for the Wilderness Discovery Centre modules to be located at Mt Frankland, Swarbrick Forest and Valley of the Giants took place.
- Planning and community consultation for the redevelopment of Coalmine Beach and Knoll Drive picnic facilities were completed.

In Warren National Park:

- A significant project to protect the riverbanks by installing viewing decks and canoe launch and swimming access was completed along Heartbreak Trail. This complements the new camping areas and day use facilities installed next to the river.

In D'Entrecasteaux National Park:

- Redevelopment began at Lake Yeagarup, to reduce environmental impacts of recreation, and preserve Indigenous values adjacent the lake. A difficult section of Salmon Beach Road was realigned and sealed, and camping facilities at Banksia Camp were renovated and new toilets installed.

Indigenous community liaison:

- The joint management initiative in the Walpole Wilderness Area was progressed with the Indigenous community and a joint working group was formed.
- In partnership with the South West Land and Sea Council (SWALSC), family and community groups were consulted to develop the Indigenous Issues Report for the Walpole Wilderness Area management plan.
- The Mt Frankland Heritage Survey was coordinated as part of the Walpole Wilderness Discovery Centre development.
- Consultation on capital works projects in the Walpole Wilderness Area was undertaken with the SWALSC family representatives to agree on needs and requirements of both CALM and the Native Title Claimants.
- Employment opportunities for Indigenous people as forest workers, trainee park rangers and trainee administration officers were identified and supported.
- Measures were taken to maintain and protect heritage sites by identifying and coordinating suitable heritage training for CALM staff, employing community people to monitor new works that may disturb a heritage site, and advocating the ongoing protection of heritage sites.
- Indigenous community projects such as the Windy Harbour revegetation project, were developed to promote and encourage Aboriginal participation in CALM projects.



What we do

The redevelopment of sites at Lake Dumbleyung in Katanning District began.

Wheatbelt

- The redevelopment of the recreation site at Buckley’s Breakaway Nature Reserve was completed, including an interpretation shelter, car park, semi-formal walk trail and steps.
- In association with the Friends of Tutanning Group, refurbishment of the research building (Percy Marshall Research Building) at Tutanning Nature Reserve began, including the removal of the asbestos roof, repainting and electrical rewiring. The long-term aim is for the Friends group to manage this facility for overnight accommodation for research staff and the general public.
- Maintenance on the Irabina Field Study Centre in Dryandra Woodland, was completed. Irabina is used by schools and other groups for educational activities.
- A lease with the Lions Club to manage Dryandra village was renewed in September 2004 for a further 21 years. During the year, the Lions Club continued to complete improvements in the village, such as installing mains gas.
- All roads within the Radio Drive Trail, Darwinia Drive and Tomingley, Kawana and Dryandra Woodlands were upgraded.
- The redevelopment of sites at Lake Dumbleyung in Katanning District began, including the construction of seating using local stone.
- An Indigenous trainee was employed in the Katanning District.
- Stage 2 of the site redevelopment at Yorkrakine Rock Nature Reserve was completed, including redesigning the carpark and picnic area.
- The site development at Durokoppin Nature Reserve in Merredin District was completed, including the installation of interpretation signs and the construction of the road and carpark with Main Roads WA funding.

Performance measures – Service 4			
Performance measures	2004-05 Target	2004-2005 Actual	Explanation of significant variation
Quantity			
Visits to sites managed	11,200,000	10,990,000	
Quality			
Mean level of visitor satisfaction with their visit overall	85%	86%	
Timeliness			
Visitor services/activities delivered within advertised timeframes	100%	100%	
Cost (efficiency)			
Average cost per visit	\$5.08	\$6.00	The increase is due to a number of factors including a significant increase in funding to undertake additional maintenance to visitor facilities.

The Observatory won a 2004 Accessible Communities award for increasing opportunities for people with disabilities to look at the stars.

Astronomical Services – Service 5

Highlights

- Winner of a 2004 Accessible Communities Award in the category for small State Government agencies.
- More than \$100,000 in grants and equipment obtained.
- Began operation of an Internet telescope.
- Interim listing on the WA register of heritage places.

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.

Observatory achievements over the financial year occurred in a variety of areas. A highlight was winning a 2004 Accessible Communities Award, in the category for small WA Government agencies, for designing and building two machines that let people with disabilities look at the stars through telescopes and on the Internet. This was achieved with equipment acquired in partnership with the Perth Observatory Volunteer's Group and Lotterywest that included a specially designed and constructed telescope and mount that can be adjusted to the height of the observer, including people sitting in wheelchairs. As well, specialised video cameras with large format displays enable people with vision impairment to view celestial objects more easily.

The number of visitors participating in star viewing nights and daytime guided tours in 2004-2005 was 6,886. Star viewing was also provided to rural and metropolitan schools and communities. Attendance at these events increased markedly for this financial year with more than 3,293 people viewing the stars with Observatory telescopes transported to their locality at one of 29 'astronomy field nights'. The number of people attending lectures and talks also increased to 3,067 attendees at 71 presentations. These lectures included a basic astronomy course conducted off-site, and a multi-disciplinary first-year course containing a large component of astronomy at UWA. Also, two university students were supervised in their research projects.



What we do

The Observatory joined a collaborative project where students worldwide can make astronomical observations with telescopes via the Internet.

Public awareness of the Observatory remained high. In 2004-2005 the number of people who visited, telephoned for information (15,219), attended talks, or attended an astronomy field night, totalled 29,219 (35,068 in 2003-2004). Observatory staff also informed the public of astronomical events in 72 radio and seven television interviews, and 63 newspaper articles.

Observatory visitors' satisfaction remained high as in previous years with 98 per cent both satisfied with their visit and the educational quality of the services in which they participated.

Observatory educational and informational resources were expanded by collaboration with groups at the University of California, Berkeley, the Lawrence Hall of Science, Oil Region Astronomy Society and Clarion University, USA, in a project where students worldwide can make astronomical observations with telescopes via the Internet. These groups provided two telescope systems, computers, and control software totalling \$90,000. At the end of 2004-2005, the University of California, Berkeley and Lawrence Hall of Science system (named the Real Astronomy Experience telescope, RAE), was successfully installed and tested by the Observatory technical staff, and became operational well ahead of the time anticipated by CALM's collaborators.

Telstra BigPond also provided \$11,000 in sponsorship for a satellite Internet link to communicate with the Internet telescopes and afforded a significant upgrade to the Observatory's information infrastructure.

Provision of astronomical information by the Observatory is also provided via a movable display. This facility was used 15 times during the financial year, and was very effective during the well attended WA on Show exhibition for the opening of the new Perth Convention Centre from 26 to 31 August.

Volunteers have not only assisted the Observatory win the 2004 Accessible Communities Award but assisted permanent staff in many activities, notably, the star viewing nights, archiving, and at displays. Volunteer assistance totalled 0.7 full-time positions in 2004-2005 and continued to make an important contribution to the Observatory output.

Research activities were more productive in terms of useful observations acquired. Following the successful installation of new camera cooling the quality of observations acquired with the Perth-Lowell Automated Telescope improved. This has assisted all projects that use this telescope.

Observations of planetary transits (where a planet blocks out the light of the star it orbits, for a few hours at a time) as well as gravitational microlensing (where a

Three new supernovae were discovered during 2004-2005 in collaboration with Lowell Observatory USA.

star's brightness is enhanced by the passage of a faint foreground star in front of it) continued to produce new astrophysical results. These observations are acquired as part of an international collaboration, PLANET, with 32 members affiliated with 18 institutions in 10 countries. Access to telescopes in Perth, South Africa, the Canary Islands, Chile, Hawaii and Tasmania (with apertures ranging from 0.6 m to 2 m) allows 24-hour monitoring during the bulge season (May to August). The Perth-Lowell Automated Telescope is used in fully automated mode, with PLANET members anywhere in the world able to adjust target selection and sample rates (based on real-time data reduction and automatic modelling), via an online 'homebase' control system. Perth Observatory is the only telescope in the collaboration with this facility – most other telescopes require an observer to be present all night, every night. Two refereed papers were published from this program, detailing a new method to measure the mass of distant stars.

A significant amount of comet research was conducted in the 2004-2005 year. Observations were acquired for 49P/Comet Arend-Rigaux as part of nucleus rotation studies. A study of 30 years of Perth Observatory comet data was also undertaken with assistance from researchers from Lowell Observatory, USA. Also, observations made in May 2005 with the Perth-Lowell Automated Telescope of 9P/Comet Tempell were used to fine-tune the settings for observations being made with NASA's Deep Impact mission.

Three new supernovae (SN2005ae, SN2005am and SN2004at) were discovered during 2004-2005 using the Perth-Lowell Automated Telescope. Also, detailed sets of photometric light curves (brightness as a function of time) were determined for SN 2004S and SN 2005ae. Preparation of a paper detailing the former object began.

Work on variable stars bore fruit with one refereed paper published on a particularly unusual star, star HR 1217. Also, a student project was conducted to search for transient brightness variations from the star SS2883 that orbits around a pulsar. Comet and asteroid tracking observations were transferred to the 35-cm RAE Internet telescope.

Site testing was conducted over several nights at a Midwest site. These data were analysed by a former student and confirmed that the remote site experiences atmospheric conditions of comparable, if not better, quality than those at existing major Australian astronomical facilities.

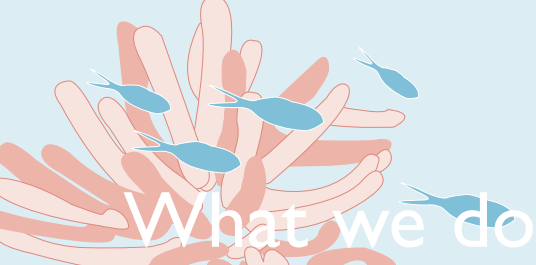
A significant development in the history of Perth Observatory occurred in September, 2004, when the Observatory was entered on the Interim Register of WA Heritage Places. This was not only due to the recognition of its rarity and historical importance, but also because of its ongoing educational, scientific and social values.

What we do

The Observatory has been on the Municipal (Kalamunda Shire) Inventory since July 1997.

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

Performance measures – Service 5			
	2004-2005 Target	2004-2005 Actual	Explanation of significant variation
QUANTITY			
Tour visitors	9,000	6,886	This decrease reflects the lack of 'high-profile' celestial events this year and the reluctance of schoolteachers to undertake excursions owing to general legal concerns.
Enquiries	20,000	22,333	This measure increased because of the continued public interest in astronomy.
Refereed scientific papers	4	4	
QUALITY			
Positive responses to 'quality' measures in customer surveys	99%	98%	
Submitted research papers published in international refereed journals	100%	100%	
TIMELINESS			
Satisfaction of information requests as they occur	95%	98%	
Timely publication of research papers in international refereed journals	100%	100%	
Effective study of astronomical targets of opportunity as they occur	60%	94%	This increase reflects the efficiency being obtained with the automation of Observatory telescopes.
COST			
Cost per tour visitor	\$19.40	\$47.35	This measure increased owing to reduced visitation while operating costs that entail substantial overheads remained fixed.
Cost per enquiry	\$35.82	\$22.88	This measure decreased owing to the sustained increase in use of information services while operating costs that entail substantial overheads remained fixed.
Cost of research activities per refereed research paper	\$106,000	\$121,405	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.
Cost of research activities per 1,000 head of population	\$210	\$240	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.



What we do

Remote sensing technology was used to map fire history over selected areas of the State.

General information

Corporate Services

Financial Services Branch

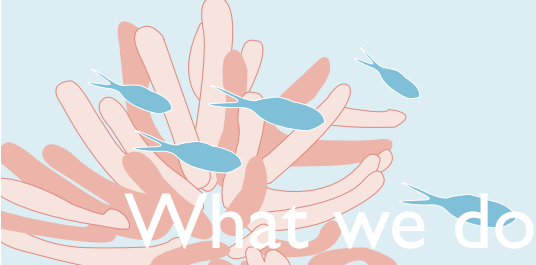
During 2004-2005, Financial Services Branch continued to oversee the processing of revenue, expenditure and asset recording, managed CALM's heavy fleet and produced a range of management and statutory reports. Staff also upgraded CALM's Oracle financial system, implemented new accounting standards and continued to provide a bureau service to the Forest Products Commission. Preparations for the implementation of new whole-of-government corporate services delivery arrangements continued. Driver training programs for staff throughout CALM were also implemented.

Information Management Branch

Corporate Information Section continued to work towards ensuring CALM's compliance with the *State Records Act 2000* and CALM's Recordkeeping Plan. An Electronic Document and Records Management System (EDRMS) was selected in May 2005 to replace the existing records management system and the progressive implementation of the corporate keyword classification continued. The Section's award-winning Recordkeeping Awareness Training package was popular, with 13 other agencies implementing the course.

The Geographic Information Services Section provided support for regional operations throughout CALM, including atlases and digital spatial data on external hard drives depicting the cadastre, orthophotos and georeferenced versions of CALM's operations maps. The section also provided training and support in desktop GIS. Projects were begun to coordinate GIS application software throughout CALM, and to integrate the Department's on-line GIS, EcoBase, with other corporate applications.

The section continued to provide GIS support for the processes involved in the establishment of new national parks in the south-west of the State. Data and assistance were provided to support Natural Resource Management and State Salinity Strategy programs. GIS assistance was also provided to support the Terrestrial Conservation Reserve acquisition program for a national comprehensive, adequate and representative (CAR) reserve system. A WA agricultural zone biological survey information CD was produced, and a revegetation database was developed. Remote sensing technology was employed for a variety of projects involving vegetation monitoring and the mapping of fire history over selected areas of the State.



Projects were implemented to upgrade CALM's information technology and telecommunications structure and move it towards a standard operating environment.

Other activities within the section included the production of a variety of maps for publication, and participation in the Department of Land Information's Shared Land Information Platform project with advice on the Emergency Management, Natural Resource Management and Register of Interest focus areas.

Information Services Section continued to deploy the strategies and pursue the objectives identified in CALM's Information Technology and Telecommunications Strategic Plan. Key focus areas were the standardisation, governance, integration and operational management of infrastructure, plus information systems management, with the aim of improving system connectivity, accessibility and security, and business continuity for CALM.

Projects were implemented to upgrade CALM's information technology and telecommunications infrastructure and move it towards a standard operating environment. To achieve a better integration of service delivery throughout CALM, all corporate information systems were migrated to and consolidated within a new data centre, relocated from West Perth to State Operations Headquarters, and a storage area network was installed to cope with the increasing demand for data storage.

People Services Branch

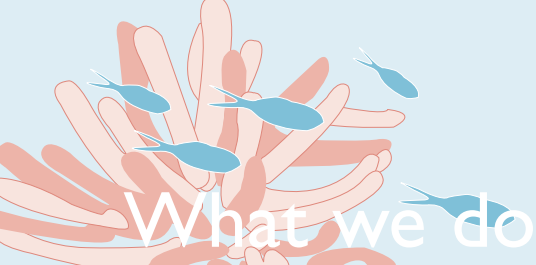
Workforce Services and Planning Section successfully upgraded its computer system to improve system navigation, reduce payroll processing times and streamline leave approval processes. User training was completed in regional areas in April 2005.

In early 2005, a process to replace printed payslips with electronic payslips was implemented. More than 90 per cent of CALM's salaried staff now receive their payslips electronically.

Following the introduction of the new General Agreements in 2004-2005, the Sick Leave, Short Leave and Carers Leave of all staff covered by the Public Service Award was converted to Personal Leave.

New pay rates for all awards and classifications were implemented early in the financial year, with some being backdated to 1 January 2004.

The Candidate Management System (CMS) was introduced successfully in late 2004, although it is not yet fully functional. The CMS allows applicants to apply for vacancies online, and once completely operational, it will allow panels to access applications electronically and submit their selection reports online, removing the need for hard copy vacancy files and speeding up the process.



What we do

Twenty-four graduate recruits completed their training in May 2005 and all achieved permanent appointments with CALM.

Premier's Circular 2002/17 was issued in October 2002 and provides for the conversion of fixed-term contract employees to permanent status. To date, 76 employees have achieved permanency via this process.

Fifty salaried staff achieved career advancement through promotion via advertised vacancies. Nineteen salaried staff were reclassified into higher-level positions, and one 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.

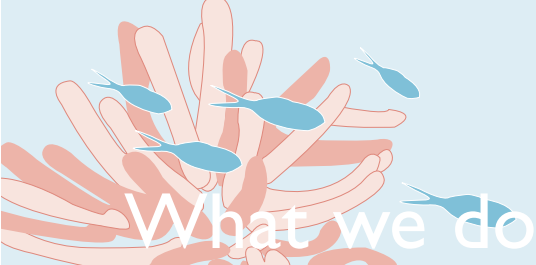
Organisational Learning and Development Section saw 24 recruits graduate in May 2005 after completion of 12 weeks competency-based training delivered over a two-year period. Training programs cover a range of nature conservation and park management initiatives and are nationally recognised by the Training Accreditation Council. All the graduating officers have achieved permanent appointments with CALM.

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

Sixty-five employees also successfully completed one of the three tiers of Leadership and Organisational Development Programs, delivered by Murdoch University. The programs are designed to provide employees with the necessary tools to address areas of leadership, change management and project management.

Five employees successfully completed the nationally recognised Certificate IV in Government course and another 19 completed the Diploma of Management course. A further seven enrolled in the Certificate III in Business Administration course and 20 people entered into the Diploma of Business course for 2005. Thirty-five wages employees were enrolled in the Conservation and Land Management training package being jointly administered by CALM and TAFE.

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 has been extended, which will see 35 Aboriginal trainees graduate from the Conservation and Land Management Training Package over a six-year period. Fourteen graduated with the Certificate II in Conservation and Land Management and three graduated with the Certificate III in Conservation and Land



CALM's
Aboriginal
employment
strategy, MATES,
won the national
Diversity@work
award for 2004.

Management at the Graduation and Awards Ceremony conducted in May 2005. On completion of the Certificate IV studies, the graduates will be employed in field officer positions throughout the State. Twenty-five trainees were employed in 2004-2005.

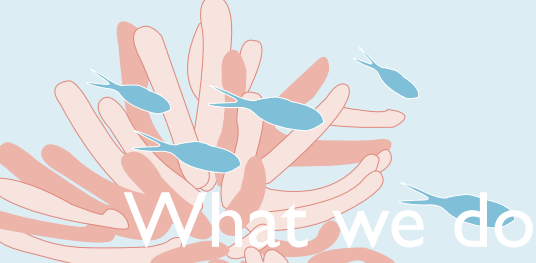
A further six Aboriginal cadets were sponsored by CALM while undertaking tertiary studies. This program is part of the National Indigenous Cadetship Program that provides funds for the student during their 40 weeks of academic study, and placement with CALM for the remaining 12 weeks while on semester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

The success of the MATES program was again highlighted when it won the national Diversity@work award for 2004 in the category of Employment and Inclusion of Indigenous Australians.

Employee Relations Section negotiated replacement agreements for conservation employees, visitors centre employees and rangers following the expiry of CALM's Enterprise Bargaining Agreements, except for the Pilots Agreement, in 2003. The replacement agreements, which have been registered with the State and Federal Industrial Relations Commissions, deliver wage increases over three years with improvements in conditions of employment such as paid Parental Leave and the ability to cash in Annual and Long Service Leave. In addition, all employees now enjoy a standardised Personal Leave provision that replaced Short Leave, Sick Leave and Carers Leave.

The Australian Workers' Union (AWU) Career Development Model project saw the employment of a project officer to progress matters such as a realignment of the current AWU Award points system used to determine classifications, to a system that is based on nationally-accredited competencies. Extensive awareness-raising sessions were conducted with conservation employees to explain the benefits that can be realised in areas such as career opportunities and improvements in training.

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



WA had 96 national parks at 30 June 2005.

CALM-managed lands and waters

Total estate

As at 30 June 2005, the total area under CALM's care was 25,437,141 ha, representing an increase of 434,190 ha during 2004-2005.

The terrestrial area (i.e. not including marine reserves) was approximately 9.42 per cent of the land area of WA. The table below provides a summary of all tenure classifications.

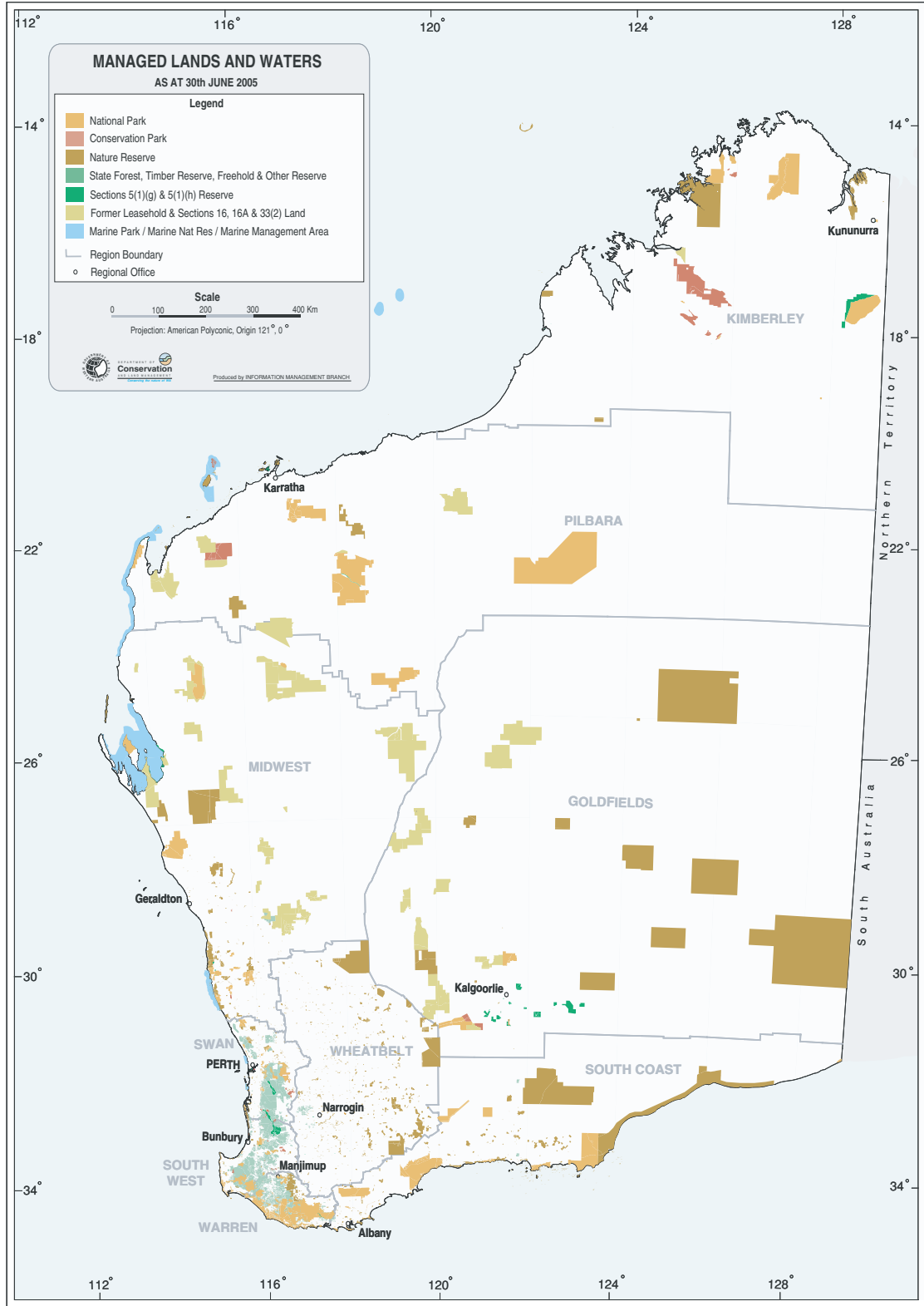
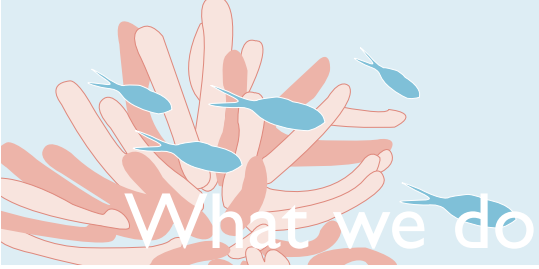
National parks

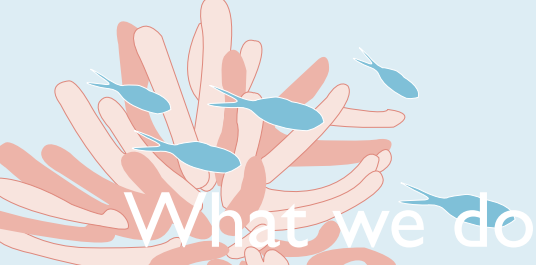
National parks are for wildlife and landscape conservation, scientific study, preservation of features of archeological, historic or scientific interest, and enjoyment by the public. They have national or international significance for scenic, cultural or biological values.

The area of the 96 national parks at 30 June 2005 was 5,591,090 ha, an increase of 498,410 ha for the year. The majority of changes were as a result of the State Government's *Protecting our old-growth forests* policy culminating in three Reserves Acts late in 2004.

CALM-managed lands and waters (ha) by region as at 30 June 2005										
Tenure classification	South West	Goldfields	Kimberley	Midwest	Pilbara	South Coast	Warren	Swan	Wheatbelt	Total
National park	140,929	151,009	829,773	505,101	2,393,701	891,809	560,360	117,116	1,292	5,591,090
Conservation park	13,560	33,517	460,232	3,750	149,348	-	37	84,494	257	745,195
Nature reserve	12,898	6,304,107	809,783	735,077	250,595	1,559,377	86,730	52,599	1,045,363	10,856,529
Marine park	-	-	87,674	868,860	288,108	-	-	16,391	-	1,261,033
Marine nature reserve	-	-	-	132,000	-	-	-	-	-	132,000
Marine management area	-	-	-	-	143,385	-	-	-	-	143,385
State forest	545,291	781	-	-	-	4,055	262,595	463,843	28,066	1,304,631
Timber reserve	26,484	28,576	-	26,338	-	5,231	8,216	28,501	-	123,346
Sections 5(1)g & 5(1)h	30,966	81,593	80,540	1,813	8,131	<1	1,513	27,439	1,353	233,348
Miscellaneous reserve	130	<1	58	515	1,779	3,814	349	5,946	15	12,606
Freehold (Exec Dir)	21,071	<1	<1	<1	<1	63	4,658	220	1	26,013
Former leasehold	-	1,601,190	35,625	2,454,491	781,935	-	-	-	-	4,873,241
Section 33(2) managed land	-	28,514	-	90,139	-	-	-	-	-	118,653
Sections 16 & 16A managed land	121	215	-	7,020	-	-	40	8,675	-	16,071
TOTALS	791,450	8,229,502	2,303,685	4,825,104	4,016,982	2,464,349	924,498	805,224	1,076,347	25,437,141

Source: Information Management Branch





The area of State forest at 30 June 2005 was 1,304,631 ha, a decrease of 425,046 ha due to changes under the State Government's *Protecting our old-growth forests* policy.

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 2005 was 745,195 ha, an increase of 41,082 ha. Most changes were as a result of the State Government's *Protecting our old-growth forests* policy.

Nature reserves

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

The area of nature reserves at 30 June 2005 was 10,856,529 ha, representing a net increase of 28,657 ha for the year. Most changes were as a result of the State Government's *Protecting our old-growth forests* policy. Other notable changes were reductions in areas to Beekeepers Nature Reserve and Nuytsland Nature Reserve as a result of a recalculation and redescription respectively.

State forest

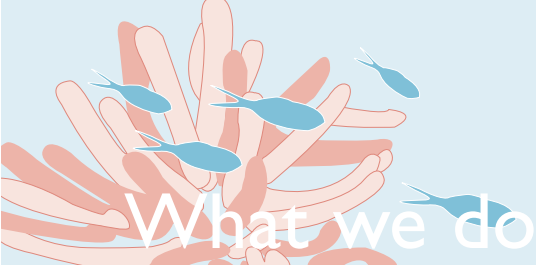
State forests are managed for multiple purposes, including water catchment protection, recreation, timber production on a sustained yield basis, and conservation. Provision is also made for public utilities and mineral production, where these activities are imposed. Within State forests, designated areas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

The area of State forest at 30 June 2005 was 1,304,631 ha, a net decrease for the year of 425,046 ha. The majority of excisions were due to tenure changes as a result of the State Government's *Protecting our old-growth forests* policy.

Timber reserves

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

The area of timber reserves at 30 June 2005 was 123,346 ha, a net decrease of 18,100 ha due to tenure changes primarily as a result of the State Government's *Protecting our old-growth forests* policy.



Ningaloo Marine Park was extended, and WA's first two marine management areas were proclaimed, at Barrow Island and Muiron Islands.

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 flora and fauna and their habitats. Fishing and collecting are not permitted.

The area of marine parks at 30 June 2005 was approximately 1,261,033 ha, a net increase of 166,055 ha. This was due to the creation of Barrow Island Marine Park (4,169 ha) and Montebello Islands Marine Park (58,375,ha) and additions to both Ningaloo (37,749 ha) and Rowley Shoals Marine Parks (65,762 ha).

The area of marine nature reserves at 30 June 2005 was approximately 132,000 ha. There were no changes during the year.

Marine management areas

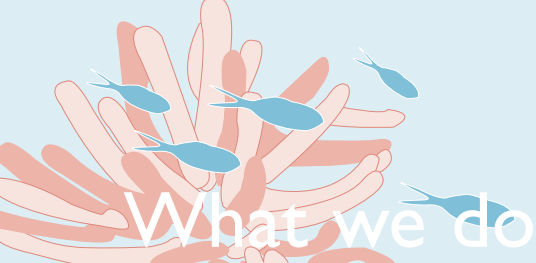
Marine management areas provide a formal integrated management framework over areas that have high conservation value and intensive multiple use, selected primarily on the basis of their biological and recreational values and their existing or future commercial activities.

The area of marine management areas at 30 June 2005 was approximately 143,385 ha. WA's first two marine management areas were proclaimed during the year, being Barrow Island (116,616 ha) and Muiron Islands (26,769 ha).

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

Under 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, e.g. Matilda Bay Reserve. Predominantly they have conservation/recreation purposes.

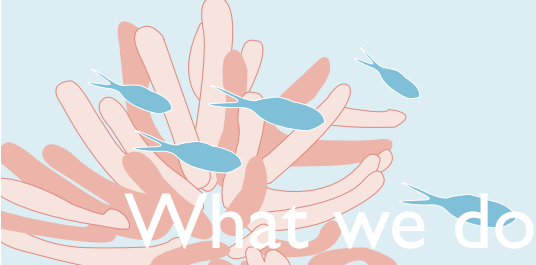
The area of sections 5(1)(g) and 5(1)(h) reserves at 30 June 2005 was 233,348 ha. This represents an increase for the year of 1,098 ha. The increases were due to tenure changes primarily as a result of the State Government's *Protecting our old-growth forests* policy. Major changes were the creation of the Wellington Discovery Forest reserve (684 ha) and a reserve for the purpose of Conservation, Recreation, Future Reservoir and Water Infrastructure (876 ha) located within the newly-created and unofficially named Mt Lindesay National Park.



National parks vested in the Conservation Commission of WA as at 30 June 2005

	(ha)		(ha)		(ha)
Alexander Morrison	8,500	<i>Greater Preston</i>	12,665	Purnululu	239,723
Avon Valley	4,366	Greenmount	202	Rudall River	1,283,706
Badjingarra	13,108	Hassell	1,265	Scott	3,273
<i>Blackwood River</i>	20,477	<i>Helena</i>	12,255	Serpentine	4,357
Boorabbin	26,000	Hilliger	16,962	Shannon	52,598
<i>Boorara Gardner</i>	11,008	<i>Jane</i>	6,863	Sir James Mitchell	247
<i>Boydaminup</i>	5,439	John Forrest	2,678	Stirling Range	115,920
<i>Bramley</i>	3,892	Kalamunda	375	Stokes	9,726
Brockman	49	Kalbarri	183,004	Tathra	4,322
<i>Canning</i>	2,492	Karijini	627,442	Torndirrup	3,936
Cape Arid	279,381	Kennedy Range	141,660	Tuart Forest	2,049
Cape Le Grand	31,801	<i>Lake Muir</i>	9,625	<i>Tunnel Creek</i>	91
Cape Range	47,655	<i>Lawley River</i>	17,572	<i>Un-named</i>	1,571
Collier Range	235,162	Leeuwin-Naturaliste	18,862	<i>Un-named</i>	79
D'Entrecasteaux	116,686	<i>Lesmurdie Falls</i>	56	Walpole-Nornalup	19,447
<i>Dalgarup</i>	2,377	Lesueur	27,235	Walyunga	1,812
Drovers Cave	2,681	Millstream-Chichester	199,736	<i>Wandoo</i>	46,493
Drysdale River	448,264	<i>Milyeannup</i>	18,692	Warren	2,982
<i>Easter</i>	2,985	<i>Mirima</i>	2,068	Watheroo	44,474
<i>Eucla</i>	3,560	<i>Mitchell River</i>	115,325	<i>Waychinicup</i>	3,982
Fitzgerald River	329,882	Moore River	17,254	Wellington	16,790
<i>Forest Grove</i>	1,379	Mt Augustus	9,168	West Cape Howe	3,517
Francois Peron	52,587	Mt Frankland	37,359	<i>Whicher</i>	6,343
Frank Hann	67,550	<i>Mt Frankland North</i>	22,053	William Bay	1,734
Geikie Gorge	3,136	<i>Mt Frankland South</i>	42,283	Wiltshire-Butler	11,645
Gloucester	876	<i>Mt Lindesay</i>	39,541	Windjana Gorge	2,134
<i>Goldfields Woodlands</i>	64,612	<i>Mt Roe</i>	127,726	Wolfe Creek Crater	1,460
Goongarrie	60,397	<i>Mundaring</i>	4,617	Yalgorup	13,090
Gooseberry Hill	33	Nambung	18,362	Yanchep	2,876
<i>Greater Beedelup</i>	19,379	Neerabup	937	<i>Yelverton</i>	729
<i>Greater Dordagup</i>	6,408	Peak Charles	39,959		
<i>Greater Hawke</i>	14,004	<i>Pickering Brook</i>	6,344		
<i>Greater Kingston</i>	21,092	Porongurup	2,621	TOTAL	5,591,090

Names shown in italics are unofficial.



Marine reserves vested in the Marine Parks and Reserves Authority as at 30 June 2005			
	(ha)		(ha)
Barrow Island Marine Park	4,169	Ningaloo Marine Park	263,313
Barrow Island Marine Management Area	116,616	Rowley Shoals Marine Park	87,674
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	Total	1,536,418

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 2005 was 12,606 ha, representing a decrease of 230 ha for the year.

Other land

The area of freehold land held by the Executive Director at 30 June 2005 was 26,013 ha, a net decrease of 388 ha for the year. Softwood forests occupy the major portion of freehold land held by the Executive Director.

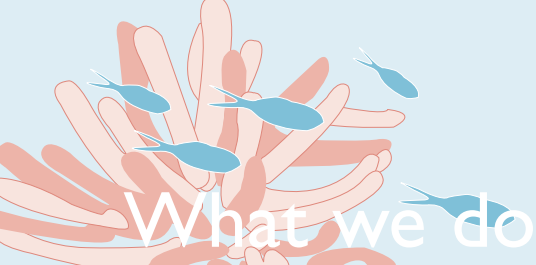
The area of former pastoral lease land being held under an interim management arrangement prior to formal reservation was 4,873,241 ha.

Crown land placed under the management of the Department under section 33(2) of the CALM Act as at 30 June 2005 totalled 118,653 ha. Of this, 406 ha comprise unvested Crown reserves. The remainder is land proposed for addition to the conservation estate, which is managed accordingly under an interim arrangement.

Two areas, parts of Credo and Boolardy Pastoral Leases, totalling 7,235 ha are currently managed under section 16A of the CALM Act by agreement between the lessees and CALM.

The area of freehold land managed by the Department under section 16 of the CALM Act at 30 June 2005 was 8,836 ha. Most of this land falls within regional parks and is managed by agreement between the WA Planning Commission and CALM.

Under a Memorandum of Understanding with the Department for Planning and Infrastructure, CALM also has limited responsibility for the management of fire



The first land purchase under the Biodiversity Adjustment Scheme was also finalised during the year.

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 83,841,000 ha.

Conservation land acquisitions

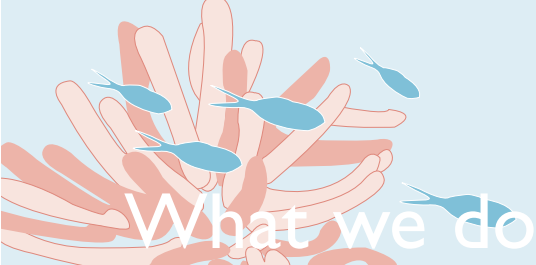
CALM purchased six parcels of high conservation value land covering a combined total area of about 1,578 ha during the year for future addition to the conservation reserve system. Priorities for purchase are for those areas containing ecosystems that are not adequately reserved in the existing conservation reserve system, threatened ecological communities and additions to existing reserves that would greatly improve their diversity or facilitate their management.

The purchases were funded from a number of sources: CALM's annual capital allocation for conservation land acquisition; the National Reserve System component of the Commonwealth Government's Natural Heritage Trust; the Crown reserves component of the State Salinity Strategy and the Biodiversity Adjustment Scheme. The total expenditure from all funding sources for the financial year was \$472,000.

Two parcels of land covering 32 ha in the Shire of Three Springs were purchased to protect a threatened ecological community and as an addition to an existing nature reserve. About 646 ha of remnant vegetation south-west of Ravensthorpe, within the Phillips River catchment, were acquired. Ten hectares adjoining the Lake Chandala Nature Reserve were acquired for addition to the nature reserve. The land acquired contains part of Lake Chandala, an important bird-breeding site on the Swan Coastal Plain. The viability of the Tank Hill Nature Reserve within the Shire of Merredin was improved by the purchase of 110 ha of adjoining native remnant vegetation.

The first land purchase under the Biodiversity Adjustment Scheme, about 780 ha of remnant vegetation adjoining the existing Wotto Nature Reserve between Eneabba and Three Springs, was also finalised during the year. The scheme's focus is on the purchase of lands where the owner has been prevented from clearing due to biodiversity values. The acquisition of priority areas of remnant vegetation for inclusion in the formal reserve system has an important role to play in helping to manage clearing issues and associated rural adjustment.

In addition to the land purchased, about 153 ha of freehold land held by BHP Titanium Minerals Pty Ltd were transferred to the State for conservation as part of the Beenup Rehabilitation Plan for the Beenup mineral sands project. The land supports an Endangered ecological community and several species of Declared Rare Flora.



CALM attended and monitored 528 wildfires across the State, 406 in the south-west.

CALM would also like to acknowledge the transfer of land north of Moora, known as Cairn Hill, from the WA Government Railways to the State for conservation. The land contains an occurrence of the Endangered 'Coomberdale chert' ecological community. In recognition of the high conservation values of the area, Simcoa Operations Pty Ltd surrendered their mining lease over the area.

CALM once again 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 2004-2005 this contribution amounted to \$224,000. This support continued to help with progress towards the establishment of a comprehensive, adequate and representative terrestrial conservation reserve system in WA.

Fire management services

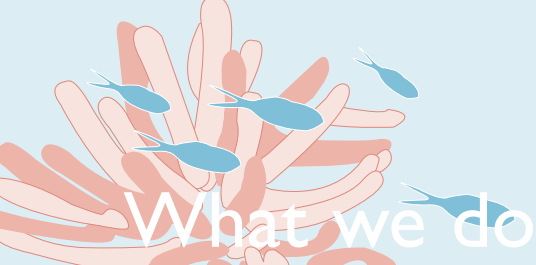
Fire season 2004-2005

The 2004-2005 fire season in the southern half of WA was drier than the long-term mean and continued the extended run of drought years that has prevailed since 1998. The first half of the fire season (mid-October to mid-March) was particularly dry. This was reflected in the Soil Dryness Index (SDI), an indicator of the seasonal dryness of soil and large dead branch material and deep ground litter. The SDI readings for many locations in the south of the State were well above normal levels during October to March.

The dryness of the branch, ground litter and understorey vegetation fuels ensured that fire hazard levels were very high. These dry fuel moisture conditions combined with the hot and dry weather conditions during the summer months (December to March) meant that the fire danger levels reached Extreme and Very High on numerous occasions. The incidence of lightning-caused wildfires in the south of WA (101 fires) was well above average and the incidence of arson fires (179 fires) during the elevated fire danger periods resulted in a significant number of high intensity, large wildfires on or near CALM-managed lands.

CALM attended 406 wildfires in the south-west, 19 of which burned more than 100 ha. The total area of wildfires that were attended by CALM forces in the south-west was 50,569 ha.

The very dry conditions extended to most of the State and the resultant severe fire danger levels meant that wildfires burning in remote, inaccessible parts of the State affected large tracts of CALM-managed reserves and adjoining vegetated lands. The total area of wildfires attended and monitored by CALM forces throughout the State was 3,832,950 ha.



The Perth hills fire was fought by 670 CALM staff, 63 FPC staff and about 1,200 bushfire brigade volunteers and FESA staff.

Of the total of 528 wildfires throughout the State that were attended and monitored by CALM, the main cause of ignitions was deliberately lit or arson (37 per cent), lightning (32 per cent), accidental fires (nine per cent), escapes from private property burns (four per cent), and unknown or other causes (17 per cent). Eight wildfires were the result of escapes from CALM prescribed burns, which represents less than two per cent of all wildfire numbers (see page 137 for details).

Major fires

Perth hills fire - 15-25 January 2005

CALM and Forest Products Commission (FPC) fire fighting resources, supported by the Fire and Emergency Services Authority (FESA), local government volunteer bushfire brigades and emergency support agencies were heavily involved in the suppression of the Perth hills wildfires that burned through 28,600 ha of jarrah and wandoo forests. The fire was the result of six deliberate ignitions by an arsonist on 15 January 2005, and a lightning strike to the east of the main fire on 18 January 2005. This fire joined up with the western fires and threatened the Mundaring Weir community on 19 January.

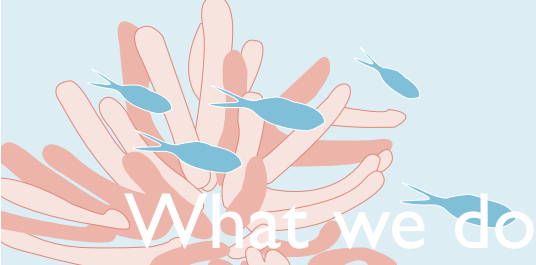
The fire was the largest in the northern forest since the 1961 Dwellingup fires, and was also the biggest combined operation undertaken among the fire authorities, Police and support agencies.

The fire required the services of 670 CALM staff, 63 FPC staff, about 1,200 bushfire brigade volunteers and FESA staff, 200 fire trucks and command vehicles, 25 bulldozers and other heavy machinery, and 16 fixed wing aircraft and helicopters.

The fire threatened several hills suburbs including Pickering Brook, Karragullen, Araluen, Roleystone, Mundaring and Darlington. The fire was contained through the dedicated efforts of all fire fighting and support personnel. The location of 10 forest blocks that were previously prescribed burned contributed significantly to the control of the fire, and the relatively low level of property damage to orchards, farm outbuildings and fences.

Yanchep National Park fire - 6 January 2005

The Yanchep National Park fire was the result of two separate arson fires lit under hot, windy conditions. The fires burned 1,270 ha of national park and 300 ha of private property. A CALM park employee was seriously injured by a falling tree that was burnt by the fire. Two Departmental houses in the park were destroyed along with boardwalks and signage. Most of the park's tourist and recreation facilities were saved by the actions of CALM's fire fighters with support from FESA and local bushfire brigades. Sections of the fire were contained within recently prescribed burned low fuel zones.



Fire caused by a lightning strike at Mt Manypeaks Nature Reserve burnt out 4,600 ha of habitat for three threatened bird species, including the noisy scrub-bird.

Woodridge Estate fire - 2 February 2005

This fire was also caused by an arsonist who lit four fires in separate locations along Wanneroo Road. The fire seriously threatened the Woodridge Estate community 70 km north of Perth. The fire was contained to 1,570 ha through the combined efforts of CALM, FESA and volunteer bushfire brigades.

Mt Manypeaks Nature Reserve fire - 31 December 2004

A lightning strike on Mt Manypeaks, 30 km east of Albany, resulted in a large wildfire that burned out 4,600 ha of the Mt Manypeaks Nature Reserve. The reserve contains important and large sub-populations of three threatened fauna species: the noisy scrub-bird, western bristlebird and western whipbird. The steep, inaccessible slopes and dense vegetation in the reserve made it impossible to undertake direct attack by machinery and ground forces. Two fixed-wing water bombers were used to slow the fire's development. Back-burning operations using helicopter ignitions under moderate fire conditions were undertaken subsequently under mild conditions in order to prevent the entire reserve from being burned by wildfire.

Araluen fire - 15 February 2005

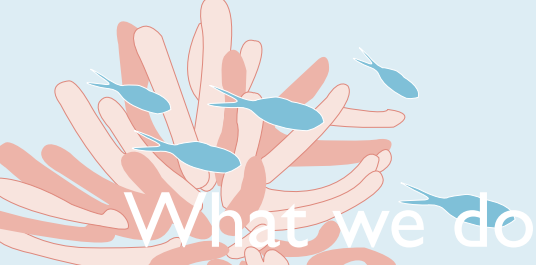
An arson fire lit adjoining Lady McNess Drive spread rapidly up steep slopes into the Araluen Country Club, threatening homes and Canning National Park. The fire was contained to 535 ha by CALM and FESA ground forces with support from aerial water bombers. No property assets were damaged by the fire.

Esperance coastal fires

Numerous lightning-caused fires within the South Coast Region during December 2004 resulted in several large, intense wildfires that burned onto CALM-managed reserves including: Barkers Inlet (34,100 ha), Cape Le Grand National Park (6,200 ha), Cape Arid National Park (12,000 ha), Munglinup/Cheandenu Nature Reserve (34,000 ha), Nuytsland Nature Reserve (77,000 ha), and near Peak Charles National Park (79,000 ha).

Prescribed burning

Each year CALM plans to undertake prescribed burning on CALM-managed lands in the south-west for three primary purposes, which are not necessarily mutually exclusive. These purposes are: 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.

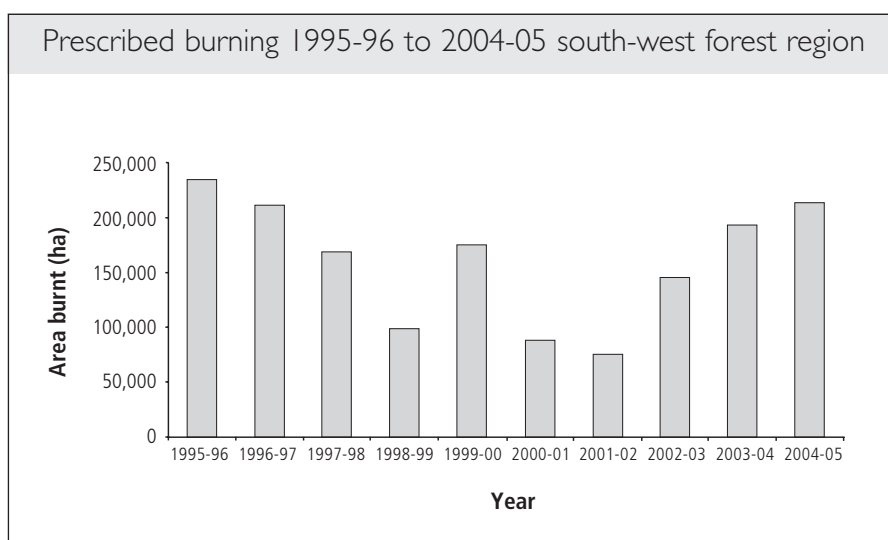


The year's prescribed burn program achieved more than 213,000 ha in the south-west.

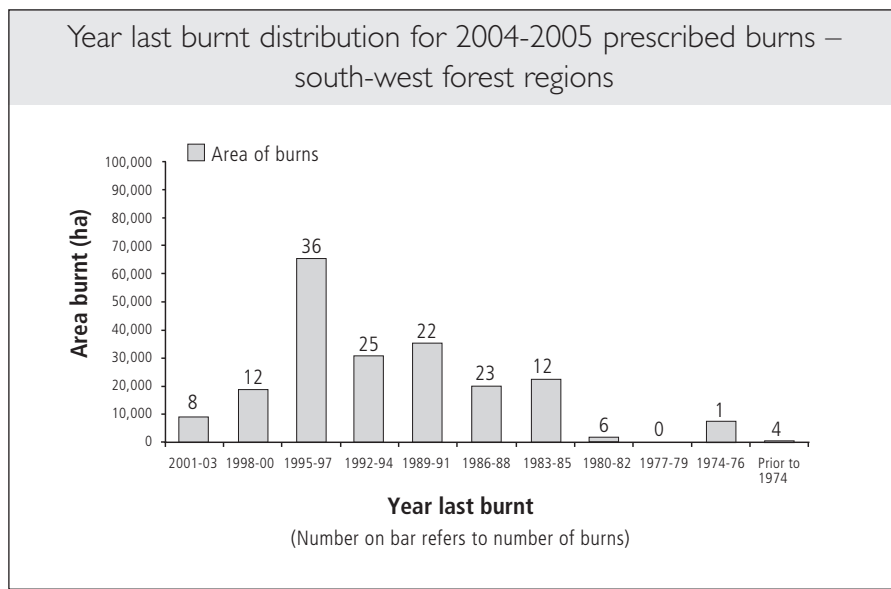
In order to meet these objectives, CALM's Master Burn Planning process identified 348,158 ha in 227 burning units that were available for prescribed burning in the south-west forest regions. Of this, about 25,000 ha was for native hardwood silvicultural purposes and forest regeneration following timber 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.

Throughout the south-west regions, the prescribed burn program achieved in 2004-2005 totalled 213,102 ha, including 9,077 ha that were burnt under pine plantation. Approximately 52 per cent of burns were undertaken in the spring-early summer period (September to December 2004); two per cent in summer (January to March 2005); 44 per cent in autumn (April to June 2005); and two per cent in winter (July and August 2004). The chart below shows the achievement of prescribed burning in the south-west forest regions from 1994-1995 to 2004-2005. The decline in the burns in the period from 1998 to 2003 is a reflection of the impacts of drought and unfavourable burning conditions on planned burning operations.

A total of 190,168 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 provided protective buffers used to limit the spread of wildfires from burning out entire reserves and to protect nearby community assets.

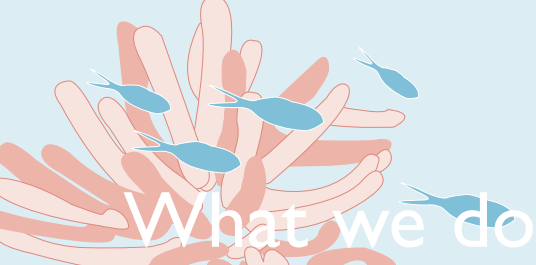


The chart below shows the year of last burn of the vegetation/fuel of all the prescribed burns conducted in the south-west regions in 2004-2005. Approximately 59 per cent of the burns contained fuels that had not been previously burnt for more than 10 years.



Development of the Master Burn Planning (MBP) system has continued this year. The Fire and Biodiversity Project has developed a prototype decision support tool based on GIS technology to help fire planners produce a rolling, three-year fire management program that addresses biodiversity maintenance, strategic asset protection and land management objectives (research, silviculture, water production, etc). The tool will allow fire planners to develop and implement appropriate fire regimes that achieve the long-term maintenance of biodiversity while also providing short and medium term outcomes for other land management objectives and for community protection.

Large spatial datasets associated with fire history, fauna occurrence, vegetation and landform, and management constraints have been collated and formatted for use with the MBP tool. Data maintenance and use protocols are being developed to ensure data integrity through time.



Additional funding of \$2.75 million per annum enabled CALM to hire an extra 40 fire fighting staff.

Additional fire management resources

The State Government increased its funding to CALM in 2004-2005 to enhance CALM's capacity to deal with major bushfires across the State and its fire preparedness. The additional funding (\$2.75 million per annum) enabled CALM to hire an extra 40 fire fighting staff for the three south-west regions, from April 2005.

The State Government had previously increased funding for CALM's fire management services throughout the State by \$24.3 million over four years commencing in 2003-2004. During 2004-2005 these additional funds have provided an extra 32 fire crew members, three fire officers and additional budgets for fire prevention, prescribed burning works program, and fire suppression operations.

Aerial water bombing operations

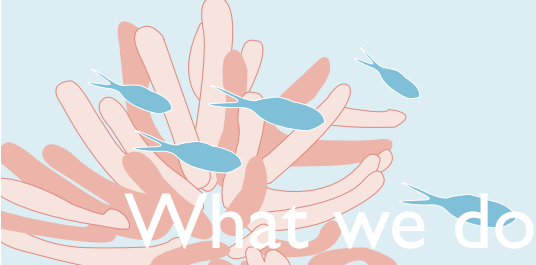
CALM contracted eight fixed-wing water bomber aircraft during the peak summer months of the 2004-2005 fire season to provide rapid suppression capability in the South Coast, Warren and South West regions and the Perth outer metropolitan area. Pairs of the Dromader aircraft were based at Bunbury, Manjimup and Albany and a pair of Air Tractor 802 aircraft was used in Perth to provide 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 semi-rural areas. The fixed-wing aircraft and helitankers were used successfully in combination on several bushfires in the Perth outer metropolitan area that threatened residential areas.

The eight fixed-wing aircraft attended a total of 146 wildfires in the south-west stretching from Moore River to Esperance. These aircraft dropped 1,976 loads and flew a total of 888 operational hours. This compares with 654 loads and 291 hours in 2003-2004.

Fire training

CALM's fire training staff conducted a total of 33 formal fire training courses involving 429 participants. In addition, district and regional staff delivered local fire training programs to conservation employees and staff. These comprised both formal and informal training.

The formal courses conducted in 2004-2005 included: Advanced Incident Leadership; Incident Control System; Logistic Management; Operations Management; Prescribed Burning; Fireline Construction using Machines; Fire Fighting Level 1 and Level 2; Sector Commander Operations; Wildfire Suppression Level 3; Fire Management in CALM; Fire Weather; Resource Unit



CALM's fleet of nine aircraft flew 3,687 hours for aerial surveillance and 297 hours in support of aerial suppression operations.

Management; Situation Unit Management; Management Support Unit Management; and Ground Support Unit Management (new).

Training was also provided for aircrews including air observers; fire detection pilots; aerial suppression support staff; air attack supervisors; helitorch and incendiary machine operators.

Participants were predominantly from CALM, but also included staff from the FPC and FESA, as well as shire and contract employees, and CALM's Bush Rangers cadets. CALM also delivered training programs to interstate fire and land management agency staff on incident leadership, prescribed burning, aerial suppression and aerial observation.

The development and promotion of common fire training programs and course materials continued between agencies within WA, as well as with other States and Territories.

The implementation of the Public Safety Training Package has seen the introduction of new competency evaluations for fire fighting personnel.

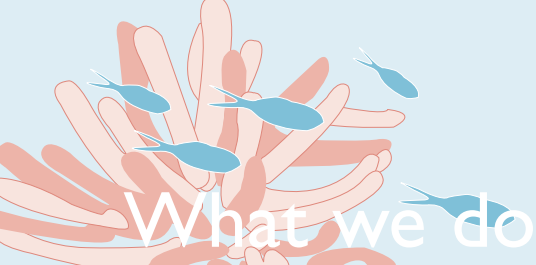
Fire detection

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 3,687 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 297 hours in support of aerial suppression operations. The aircraft were flown by three permanent senior pilots and 10 seasonal pilots.

Fire prevention on unallocated Crown lands

From 1 July 2003 onwards, responsibility for the coordination and on-ground management of fire prevention works on non-metropolitan, non-townsite unallocated Crown land (UCL) and unmanaged reserves (UMR) was transferred from the Department for Planning and Infrastructure to CALM. This Crown land consists of nearly 84 million ha.

During 2004-2005, CALM conducted fire risk assessments on selected areas of the UCL/UMR lands, and has identified fire prevention works and priorities throughout the State.



CALM completed fire prevention works on extensive areas of unallocated Crown land and unmanaged reserves.

Within the allocated budget of \$300,000 the following fire mitigation programs were conducted on the rural UCL lands: maintenance of strategic firebreaks; prescribed burning of buffer zones adjacent to high community and conservation values; and scrub rolling and mechanical fuel modification.

Fire prevention works completed on UCL/UMR in 2004–2005				
CALM region	Firebreak/access upgrade and maintenance (km)	Scrub rolling/slashing and vegetation modification (km)	Open-edge burning (km)	Block burning (ha)
South Coast	53	13	80	150
Wheatbelt	11	-	-	-
Midwest	351	-	50	-
Kimberley	-	-	-	46,000
South West	10	-	-	-
Total	425	13	130	46,150

Fire Ecoeducation program

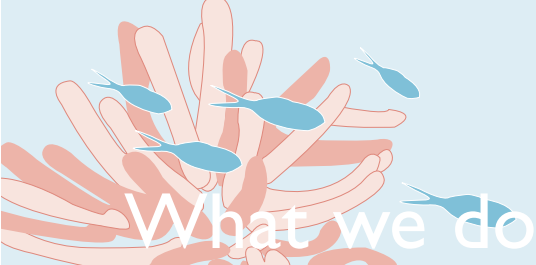
An Ecoeducation program was initiated in April 2005 to educate secondary school students and teachers about the impact of fire on biodiversity, the interrelationships of fire, flora and fauna and the role of science and fire in sustainable biodiversity management and community protection. This program 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 with those in a wildfire area.

Two successful professional development days were held at The Hills Forest Discovery Centre. The aim of these days has been 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 new Fire for Life excursion.

Radio communications

CALM has an extensive radio communications network (1,300 radios) throughout the State, supported by the Department's Radio Communications Services (RCS) section. Highlights achieved in 2004-2005 include:

- Replacing the VHF radios in Esperance and Narrogin districts, 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 69 per cent of radios are less than four-years old.



The prescribed burning achievement in the south-west was above the 10-year rolling average due to favourable fuel moisture and weather conditions, and increased staffing levels and operational funds.

- Linking the Jurien and Geraldton VHF repeater system via Mt Lesueur and Mt Adams. This system now provides coastal coverage of more than 400 km from Lancelin to Kalbarri.
- Providing a relay for VHF and Radio Telephone (RT) signals via the Bickley Lookout Tower, to improve radio communications into the Mundaring office.
- Providing radio service programs to all regions, districts and specialist sections, with RCS staff attending fires in the Perth hills, Yanchep, Esperance and Albany districts.

Key effectiveness indicators

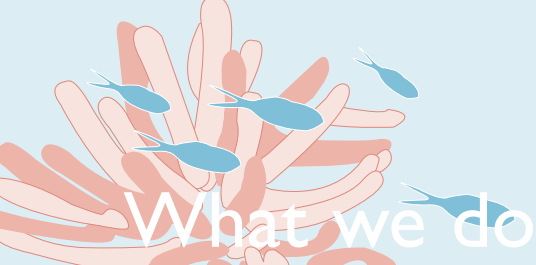
1. Prescribed burning				
Region	10-year rolling average (ha)	Actual 2004-2005 (ha)	Difference (ha)	%
Swan	44,174	79,300	35,126	8
South West	49,710	68,505	18,795	38
Warren	63,058	65,297	2,240	4
Total	156,942	213,102	56,161	36

These statistics compare the 2004-2005 prescribed burning program with the 10-year rolling average for prescribed burning.

The prescribed burning achievement for the regions in the south-west forests was above the 10-year rolling average due to favourable fuel moisture and weather conditions during the spring/early summer and autumn months, as well as increased staffing levels and operational funds provided to the Department.

2. Fire suppression		
Region	Priority 1 and 2 (%) Standard	Priority 1 and 2 (%) 2004-2005
Swan	95	89
South West	95	89
Warren	95	95
CALM average (1 year)	-	91
CALM average (5 years)	-	96.9

The percentage of all forest wildfires that are attacked with effective suppression forces before these fires exceed five hectares in Priority 1 and Priority 2 areas, under 95 percentile weather conditions (see following page for definitions). The percentage standard to be exceeded is 95 per cent of all forest fires requiring suppression by direct attack.



What we do

Definitions:

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 wildfires.

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 crews work safely and effectively under these conditions in standard forest fuels.

Area of prescribed burns for all CALM regions 2002-2003 to 2004-2005			
	2002-2003	2003-2004	2004-2005
Indigenous vegetation - hand burning (ha)			
State forest	3,455	1,749	7,349
National parks	38,924	13,914	11,355
Nature reserves	2,496	680	4,070
Other Crown land and private property *	3,549	1,952	7,047
Total	48,424	18,295	29,821
Indigenous vegetation - aerial burning (ha)			
State forest	60,386	53,956	63,068
National parks	85,845	90,969	101,209
Nature reserves	8,384	1,415	64,785
Other Crown land and private property *	4,152	31,887	99,877
Total	158,767	178,227	328,939
Indigenous vegetation - silviculture burning (ha)			
Jarrah dominant forests	41,603	18,236	22,186
Karri, karri/marri dominant forests	1,621	1,301	641
Total	43,224	19,537	22,82
Softwood plantation - burning (ha)			
Strategic protection	4,671	14,965	19,008
Second rotation clearing burns	-	881	625
Logging debris removal	433	-	2,050
Total	5,104	15,846	21,683
Grand Total	255,519	231,905	403,270

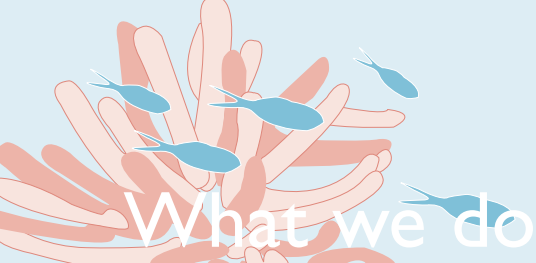
For data specific to south-west forest regions see page 139

* Includes other Crown land, other CALM reserves, and private property

Wildfires attended and monitored by CALM in all regions 2002-2003 to 2004-2005 Number and area by land category and number and percentage by cause						
Land category						
	Number *			Area burnt (ha) **		
	2002-2003	2003-2004	2004-2005	2002-2003	2003-2004	2004-2005
All CALM regions						
State forest						
* native hardwood	197	128	93	94,749	4,519	22,642
* softwood plantation	72	49	46	373	90	629
National parks	93	71	97	314,596	50,852	970,127
Nature reserves	53	28	44	213,592	8,717	115,845
Other CALM reserves	42	24	38	162,623	75,079	689,205
Other Crown lands	68	41	14	964,363	559,024	11,288
Private property	131	109	164	361,623	19,246	678,947
Unallocated Crown land		12	32		82,559	1,344,267
Total	656	462	528	2,111,919	800,086	3,832,950
Cause						
	Number *			Percentage		
	2002-2003	2003-2004	2004-2005	2002-2003	2003-2004	2004-2005
Deliberately/illegally lit	172	240	196	26	52	37
Escapes - CALM burns	8	14	8	1	3	1
Escapes - non CALM burning	36	31	19	5	7	4
Accidental - timber industry	4	2	1	1	0	0
Accidental - other industries	18	21	24	3	4	5
Accidental - recreationists	19	17	23	3	4	4
Lightning	275	52	169	42	11	32
Unknown	103	59	64	16	13	12
Other causes	21	26	24	3	6	5
Total	656	462	528	100	100	100

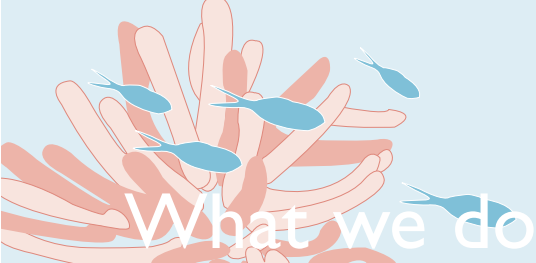
* Number of wildfires originating in the tenure type/fire cause

** Area (ha) burnt by wildfires in the tenure type



Area and number of wildfires attended and monitored by CALM for all regions 2004-2005										
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
South-west forest regions										
Swan	Area (ha) *	22,228	618	8,503	1,265	627	63	4,273	1,311	38,887
	Number **	48	39	39	12	13	7	76	3	237
South West	Area (ha) *	270	11	209	2	138	1	742	36	1,410
	Number **	32	7	13	4	14	3	37	6	116
Warren	Area (ha) *	61	-	5,066	4,137		25	951	31	10,272
	Number **	11	-	24	5	1	2	10	-	53
Sub Total	Area (ha) *	22,559	629	13,778	5,405	765	88	5,966	1,379	50,569
	Number **	91	46	76	21	28	12	123	9	406
Other regions										
Kimberley	Area (ha) *	-	-	892,100	10,565	679,800	-	610,330	257,430	2,450,225
	Number **	-	-	4	4	4	-	1	3	16
Pilbara	Area (ha) *	-	-	38,263	-	-	-	500	-	38,763
	Number **	-	-	6	-	-	-	-	-	6
Midwest	Area (ha) *	-	-	1,750	17,529	3,465	95	7,637	5,829	36,306
	Number **	-	-	1	7	3	2	16	3	32
Goldfields	Area (ha) *	-	-	6,000	65,000	1,000	11,000	-	898,000	981,000
	Number **	-	-	-	-	1	-	-	6	7
Wheatbelt	Area (ha) *	1	-	-	549	1	-	11,148	273	11,972
	Number **	1	-	-	4	1	-	5	-	11
South Coast	Area (ha) *	82	-	18,236	16,797	4,174	104	43,366	181,356	264,115
	Number **	1	-	10	8	1	-	19	11	50
Sub Total	Area (ha) *	83	-	956,349	110,440	688,440	11,199	672,981	1,342,888	3,782,381
	Number **	2	-	21	23	10	2	41	23	122
Grand Total	Area (ha) *	22,642	629	970,127	115,845	689,205	11,288	678,947	1,344,267	3,832,950
	Number **	93	46	97	44	38	14	164	32	528

* Area (ha) burnt by wildfires in the tenure type
 ** Number of wildfires originating in the tenure type

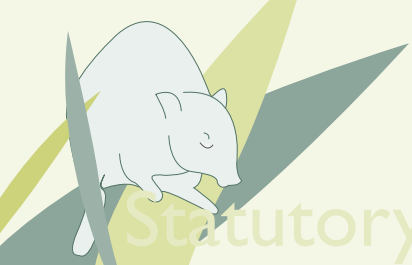


Area prescribed burnt within south-west forest regions for 2004-2005						
Dominant purpose	Region	Area (ha)				Year of last fire *
		Winter	Spring	Summer	Autumn	
Community/ strategic protection	Swan	-	11,637	-	28,395	1974 - 1997
	South West	-	18,097	-	13,606	1986 - 1998
	Warren	-	4,173	-	8,503	1967 - 1997
Biodiversity conservation	Swan	-	1,777	-	-	1985
	South West	-	16,960	-	551	1989 - 2002
	Warren	-	13,774	3,801	16,165	1983 - 2002
Hardwood silviculture	Swan	-	7,745	-	46	1968 - 1986
	South West	-	4,603	-	4,719	1989 - 1998
	Warren	-	4,693	-	1,021	1980 - 2003
Plantation silviculture protection **	Swan	5,454	4,011	-	3,114	1970 - 2002
	South West	-	5,772	-	3,332	1984 - 1998
	Warren	-	-	-	-	-
Tourism and recreation/ protection	Swan	46	12,674	-	4,401	1987 - 1996
	South West	-	-	-	865	1986 - 2000
	Warren	-	4,405	-	8,762	1988 - 1997
Grand Total by season (ha)		5,500	110,321	3,801	93,480	
Seasonal %		2	52	2	44	
Grand Total (ha)		213,102				

* Range of vegetation / fuel ages as at July 2004

** Includes 9,077 hectares of under pine burning operations for 2004-2005

Number of prescribed burns conducted within south-west forest regions in each season for various purposes in 2004-2005											
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	7	-	-	8	3	23	-
	South West	-	-	4	-	-	-	4	2	10	2
	Warren	-	-	1	3	-	-	1	5	10	2
Biodiversity conservation	Swan	-	-	-	1	-	-	-	-	1	-
	South West	-	-	3	-	-	-	1	1	5	1
	Warren	-	-	5	-	2	-	4	3	14	-
Hardwood silviculture	Swan	-	-	2	-	-	-	1	-	3	-
	South West	-	-	4	-	-	-	2	-	6	-
	Warren	-	-	1	14	-	-	-	18	33	-
Plantation silviculture/ protection	Swan	1	4	-	4	-	-	2	5	16	-
	South West	-	-	3	1	-	-	2	10	16	-
	Warren	-	-	-	-	-	-	-	-	-	-
Tourism and recreation/ protection	Swan	-	2	3	4	-	-	1	-	10	-
	South West	-	-	-	-	-	-	-	7	7	-
	Warren	-	-	1	1	-	-	1	2	5	-
Total		1	6	32	35	2	-	27	56	159	5



Management Audit Branch has undertaken an annual system review with a complete compliance audit on three of the public sector standards.

We have attempted to comply with the requirements of relevant written law as originally enacted and as variously amended. Steps have been taken to rectify errors and omissions detected during 2004-2005. The relevant Acts and amendments to legislation are noted in this section of the annual report.

Keiran McNamara

Keiran McNamara
EXECUTIVE DIRECTOR
31 August 2005

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.

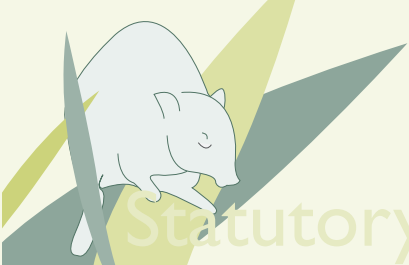
CALM has adopted guidelines and processes supporting the public sector standards in human resource management. I am pleased to say there were no breach findings made against any standard for the reporting period 2004-2005.

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 who 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 undertaking 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 adherence to current Departmental policy. Staff in the Employee Relations Section are responsible for termination and disciplinary cases.

In accordance with CALM's policy, Management Audit Branch 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;



Statutory information

The CALM Act established the Department in March 1985.

- compliance with the standards was satisfactory; and
- there was no evidence of non-compliance with any standards.

Keiran McNamara

Keiran McNamara
Executive Director
31 August 2005

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*

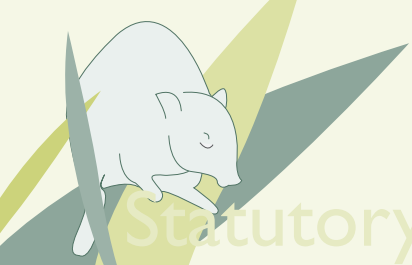
On behalf of the people of WA, CALM manages national parks, conservation parks, marine parks, State forests, timber reserves, nature reserves, marine nature reserves, marine management areas, other reserves, lease areas and any associated fauna, flora and forest produce under the legislation that it administers. It is also responsible for conserving flora and fauna throughout the State.

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.

Mining and Government Agreement Acts

The CALM Act does not generally protect CALM-managed land from mining or development projects. Section 4 of the CALM Act provides that nothing in the Act shall take away from the operation of any Act relating to minerals or petroleum or any Agreement Act for a development project (except in marine nature reserves and certain zones in marine parks, which are protected from petroleum drilling and production).

The CALM Act cannot impose restrictions on mining or development projects



Statutory information

Agreement Acts that involve clearing CALM-managed land or require access to forest resources also include specific responsibilities for CALM.

subject to an Agreement Act. The requirements for mining and development projects with respect to land and waters managed by CALM are stated in the *Mining Act 1978* (Mining Act) and the individual 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*.

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 Authorisation Act 1975*; *Wood Chipping Industry Agreement Act 1969*; *Wood Processing (Wesbeam) Agreement Act 2002*; *Wood Processing (WESFI) Agreement Act 2000*.

Where an Agreement Act involves contracting in relation to forest products, this is undertaken by the FPC under the *Forest Products Act 2000*.

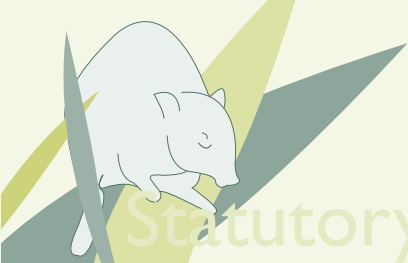
The *Mineral Sands (Eneabba) Agreement Act 1975* affects CALM's management of the land involved in that project.

Management of the Barrow Island Nature Reserve is affected by the *Barrow Island Act 2003*.

Other relevant Acts

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 1994*; *Electronic Transactions Act 2003*; *Energy Operators*



Seven international agreements are relevant to CALM's activities.

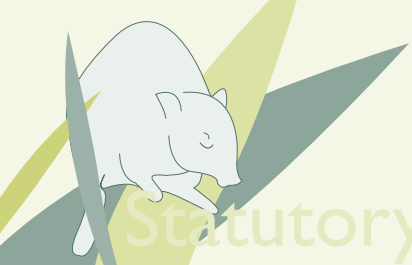
(Powers) Act 1979; Environmental Protection Act 1986; Equal Opportunity Act 1984; Explosives and Dangerous Goods Act 1961; Financial Administration and Audit Act 1985; Fines, Penalties and Infringement Notices Enforcement Act 1994; Fish Resources Management Act 1994; Forest Products Act 2000; Freedom of Information Act 1992; Government Employees' Housing Act 1964; Government Financial Responsibility Act 2000; Health Act 1911; Heritage of Western 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; Public Interest Disclosure Act 2003; Public Sector Management Act 1994; Public Works Act 1902; Reserves (Dampier to Bunbury Natural Gas Pipeline Corridor) Act 2003; 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; Town Planning and Development Act 1928; Transfer of Land Act 1893; Volunteers (Protection from Liability) Act 2002; Water and Rivers Commission Act 1995; Water Corporation Act 1995; Water Services Licensing Act 1995; Waterways Conservation Act 1976; Workers' Compensation and Rehabilitation 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; Regional Forest Agreements Act 2002; Trade Practices Act 1974; Workplace Relations Act 1996.*

International agreements relevant to CALM's activities: 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; 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; Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention); Convention on International Trade in Endangered Species of Wild Fauna and Flora; Convention for the Protection of the World Cultural and Natural Heritage; Convention on the Conservation of Migratory Species of Wild Animals; Convention on Biological Diversity.

Regulations administered

- Conservation and Land Management Regulations 2002
- Forest Management Regulations 1993
- Sandalwood Regulations 1993
- Wildlife Conservation Regulations 1970
- Wildlife Conservation (Reptiles and Amphibians) Regulations 2002



Statutory information

The CALM Act was amended twice during the year, and the Wildlife Conservation Act four times.

Changes to legislation administered

Changes to the *Conservation and Land Management Act 1984*

The CALM Act was amended twice during the year.

Under the Courts Legislation Amendment and Repeal Act 2004, amendments were made to the CALM Act in respect of the establishment of the Magistrates Court under the Magistrates Court Act 2004 and the repeal of the Criminal Procedure (Summary) Act 1902.

Amendments made to the CALM Act by the Criminal Procedure and Appeals (Consequential and Other Provisions) Act 2004 changed terminology applicable to prosecutions.

Changes to the *Wildlife Conservation Act 1950*

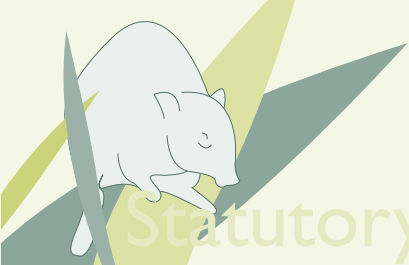
The Wildlife Conservation Act was amended four times during the year.

As a consequence of the provisions applicable to the clearing of native vegetation commencing in July 2004 under the *Environmental Protection Amendment Act 2003*, the Wildlife Conservation Act was amended under that Act in respect of the principles applicable to clearing and constraining the grant of licences to sell protected flora taken on private land.

Amendments were made to the Wildlife Conservation Act under the *Courts Legislation Amendment and Repeal Act 2004* in respect of the establishment of the Magistrates Court under the *Magistrates Court Act 2004* and the repeal of the *Criminal Procedure (Summary) Act 1902*.

In respect of appeal provisions in the Wildlife Conservation Act, the *Criminal Procedure and Appeals (Consequential and Other Provisions) Act 2004* deleted references to Part VIII of the *Criminal Procedure (Summary) Act 1902* and replaced them with references to Part 2 of the *Criminal Appeals Act 2004*. The amending Act also updated a review procedure that will now be undertaken by the Magistrates Court, and recast provisions applicable to the limitation period for prosecutions and presumption of identity.

The *Criminal Law Amendment (Simple Offences) Act 2004* amended the Wildlife Conservation Act by replacing a provision that relied on a repealed provision of the *Police Act 1892* with a similar provision that refers to *The Criminal Code*.



CALM's Disability Services Plan seeks to make recreational areas and facilities more accessible to all members of the community.

Changes to regulations

The *Conservation and Land Management Amendment Regulations (No. 2) 2004* inserted Part 7A into the *Conservation and Land Management Regulations 2002*. Part 7A of these regulations establishes the Barrow Island Trust Account, the trust account's purpose and what moneys are to be credited to the account.

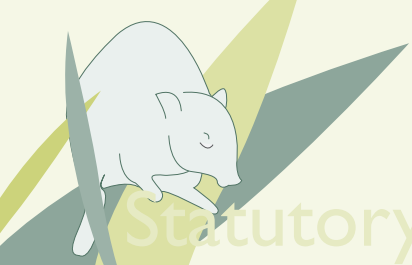
Disability services

CALM's Disability Services Plan, which is based on the policy of universal access, seeks to make recreational areas and facilities more accessible to all members of the community including people with disabilities wherever practicable.

CALM's Disability Services Planning Committee consisting of seven employees is responsible for monitoring the implementation of the Disability Services Plan. The plan expires in 2006 and the committee has started the process of drafting a new plan.

In accordance with this plan and policy, CALM continued with its ongoing program of improving visitor access, facilities and services at a number of recreation areas around the State. Highlights during the year included:

- completing a new boat ramp and floating jetty at Matilda Bay that will facilitate access by Swan River boating enthusiasts;
- completing major improvements to visitor facilities in Walyunga National Park including the construction a wheelchair accessible picnic area and barbecue facilities at Walyunga Pool;
- completing major access improvement works at Serpentine Falls National Park including the construction of a new wheelchair accessible elevated ramp-way and lookout near the falls;
- completing an accessible picnic area and lookout at Mt Dale in Helena National Park;
- continuing park improvement works at several sites along the Blackwood River including the development of fully accessible camping sites and a camper's kitchen and day use facilities at Sue's Bridge;
- completing major access improvements and new facilities in Wellington National Park including the Wellington Dam kiosk precinct and the construction of new camping area and wheelchair accessible camper's kitchen and toilets at Stones Brook on the lower Collie River;
- continuing development of accessible facilities including pathways, viewing platforms and day use facilities in Perth's network of regional parks including Beeliar, Herdsman Lake, Rockingham Lakes and Yellagonga regional parks; and



Statutory information

CALM received national recognition by winning the prestigious national Diversity@work award for 2004.

- continuing major redevelopment works including the construction of a new day use area, shelter and toilets at Castle Rock in the Porongurup National Park near Albany.

In the area of employment, CALM's various strategies aimed at increasing the recruitment and retention of people with disabilities included emailing eight disability employment agencies details of all advertised vacancies. A fund to improve access for employees and volunteers with disabilities paid for additional hand rails for staircases at the Kensington office.

CALM's Disability Access Audit Online Information Program is actively used by managers. The program provides information on how to conduct a disability access audit in the work area, and includes checklists for access to buildings, information, staff awareness and public participation.

EEO and diversity management

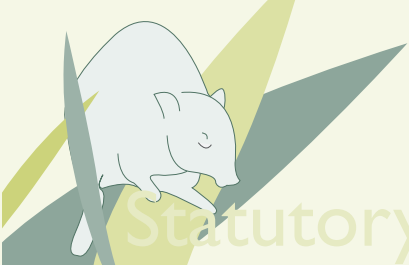
CALM received national recognition by winning the prestigious national Diversity@work award for 2004 in the category of Employment and Inclusion of Indigenous Australians for its Mentored Aboriginal Training and Employment Scheme (MATES). The award recognised and rewarded CALM for working to encourage diversity and inclusion in the workplace.

CALM's EEO and Diversity Management Committee was formed in November 2004 consisting of 13 employees from all levels and streams across CALM. The committee is responsible for monitoring CALM's EEO and Diversity Management Plan 2003-2006. The plan contains strategies that provide for the effective management of CALM's diverse workforce and affirms CALM's commitment to provide an inclusive corporate culture and work environment that is free from discrimination and harassment. The committee regularly reviews the plan to ensure that the strategies adopted are achieved and has kept informed of new developments in EEO and diversity.

EEO and diversity, Code of Conduct and ethics training has been included as a part of the Graduate Recruit Program, MATES, the Public Sector Training Package and the Business Support Workshop. The training has also been provided to various work centres across CALM. Working in Government, an induction to the WA Public Sector training course, has also been included in the Graduate Recruit Program.

The Workplace Discrimination and Sexual Harassment – Legal Compliance online self-paced interactive training course has been completed by 321 employees, with 63 employees enrolled at the end of 2004-2005.

CALM has 19 Grievance Contact Officers located throughout the State.



CALM purchased 10 per cent of the electricity it used from Western Power's South West Interconnected System as 'Green Power'.

Electoral Act 1907

In accordance with the requirements of section 175ZE of the *Western Australian Electoral Act 1907*, CALM incurred the following expenditures in the financial year ended 30 June 2005.

Media advertising organisations: \$230,623.12 (Marketforce Productions); \$3,630.91 (Australia's South West Inc); \$2,222.74 (Aussie Drawcard); \$2,190 (Scoop Magazine); \$2,000 (Australian Publishing Resource); \$1,545.45 (Getaway Publication); \$1,473.64 (AAA Tourism); \$1,410 (Medial Q Corporation); \$1,363.64 (Albany Advertiser); \$1,080 (Cooks Tours); \$945.45 (Pilbara News); \$727.27 (RAC Queensland); \$661.53 (Media Decisions WA); \$650 (Tourist Information); \$352.73 (Group Link); and \$227.27 (Australian Tourism Source).

There was no expenditure in the advertising agencies, market research, direct mail and polling areas by the Department.

Total expenditure was \$251,103.75.

Energy Smart

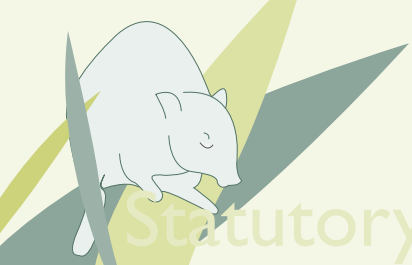
In accordance with the State Government's Energy Smart Policy, CALM committed to achieve a 12 per cent reduction in non-transport related energy use by 2006-2007.

The targeted reduction for 2004-2005 was eight 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 were also undertaken:

- Action began to engage a consultant to undertake a detailed review of CALM's diesel-powered energy systems in the Pilbara with a view to replacing them with hybrid renewable energy systems. The current systems account for approximately 24 per cent of CALM's energy consumption.
- Each region developed its own Energy Management Plan.



Grants or funding programs were a major source of financial support for CALM.

Energy Smart Government policy			
Performance indicators	Baseline data	2004-2005 actuals ¹	Variation%
Energy consumption (GJ)	24,379	22,962	-5.8
Energy cost (\$)	937,958	848,752	-9.5
Greenhouse gas emissions (tonnes of CO ²)	4,325	3,993	-7.7
Performance Indicators by end use category			
<i>Office - Combined services</i>			
MJ/sqm	249	312	
MJ/occupancy	11,569	10,277	
<i>Office - Tenant services</i>			
MJ/sqm	264	164	
MJ/occupancy	7,784	6,594	
Laboratories - MJ/sqm	482	439	
Public buildings - MJ/sqm	492	255	
Parks and wildlife facilities ² - GJ		7,227	
Other buildings ² - MJ/sqm		21	
Other uses - GJ	10,655	811	
Residential buildings ² - MJ/occupant		9,357	

¹ Some figures may vary slightly as final accounts are received.

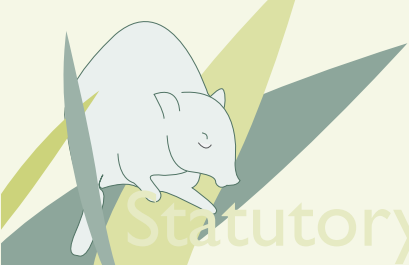
² New reporting categories.

External funding, grants and sponsorships

This section focuses primarily on revenue to CALM from grant programs administered by Commonwealth 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.

Commonwealth 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

Grants or funding programs provide a major source of financial support for CALM. Commonwealth funding continued through the four major Natural Heritage Trust programs – Landcare, Bushcare, Rivercare and Coastcare. 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 Commonwealth sources, which include the Australian Biological Resources Study, 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, was launched this year and CALM received significant funding for the construction, maintenance and signage of effective fire trail networks throughout the State.



Statutory information

The Royal Botanic Gardens, Kew, is funding a WA Millennium Seed Bank Flora Conservation Project.

It should be noted that the figures in the Commonwealth funding table include several programs and/or projects for which CALM is a joint proponent. The figures in the table may differ from Commonwealth funding amounts shown in the financial statements. The figures are prepared on the basis of approved program or project funding which will not necessarily reflect the timing of actual funding receipts.

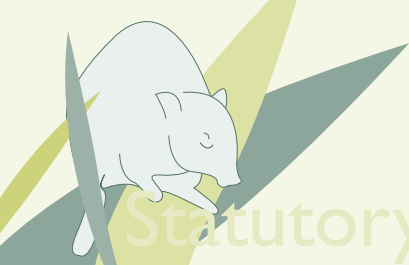
Support from the State Government continued, with recurrent funding being provided through programs that included the State Salinity Strategy (\$4.65 million) and Main Roads WA (\$2 million). Other State support included funding from the Regional Airports Development Scheme and Coastwest, both of which are administered by the Department for Planning and Infrastructure. Projects included upgrades to the Bellburn and Mt Hart airstrips, dune restoration at the Eyre Bird Observatory, and a turtle program at Ningaloo Marine Park. The State Cane Toad Initiative was announced this year with \$200,000 allocated to CALM.

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, Kew, is funding the eight-year project, 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.

Observatory educational and informational resources were expanded by collaboration with groups at the University of California, Berkeley, the Lawrence Hall of Science, Oil Region Astronomy Society and Clarion University, USA, in a project where students worldwide can make astronomical observations with telescopes via the Internet. These groups provided two telescope systems, computers, and control software totalling \$90,000.

Furthermore, a sponsorship of \$11,000 in-kind value was obtained from Telstra BigPond for a satellite Internet link to communicate with the Internet telescopes and afforded a significant upgrade to the Observatory's information infrastructure.

Other valued support through corporate sponsorship included Alcoa (Jervoise Bay enhancement project at Mt Brown); BHP Billiton (Pilbara marine turtle research and monitoring program, heath mouse research, Pilbara Biological Survey Bibliographic Database); Portman Mining (conservation of *Tetratheca paynterae*); SITA Environmental Solutions (Kalgoorlie Arboretum waste management); Tiwest (Western Shield in Nambung National Park, conservation works across the Swan Coastal District); Western Power (Albany aerial fire suppression aircraft activities); Woodside Energy (Pilbara marine turtle research and monitoring program); Water Corporation (Mundi Biddi Trail); Robe River Iron Associates (four research projects in the Pilbara Region); and Wind over Water Foundation (cat research).



Statutory information

The BankWest *LANDSCOPE* Visa card raised about \$10,000 for conservation.

The BankWest *LANDSCOPE* Visa card raised about \$10,000 for the conservation of endangered species and ecological communities. Although no new projects were established this year, an informative brochure on the program was prepared and forwarded to cardholders.

CALM was actively involved with Conservation Volunteers Australia, who, in partnership with BHP and BP, assisted with rehabilitation works mainly focused within Beeliar Regional Park.

Many other community organisations assist CALM in its conservation effort. They included the Albany Maritime Foundation (materials to assist in protection of heritage lighthouse), Earth Sanctuaries Foundation (fencing for protection of Gilbert's potoroo), Friends of Attadale Foreshore (works to protect bird habit in and adjoining Alfred Cove Nature Reserve), and the Friends of Yellagonga (numerous projects to assist Yellagonga Regional Park). Other support included small donations of cash into CALM's collection-boxes and through community fund raising activities, the loan of specialised tools, help with relocating animals, and participation in biological surveys. For example, the Yanchep Two Rocks Art Group donated \$400 to the Yanchep National Park volunteers.

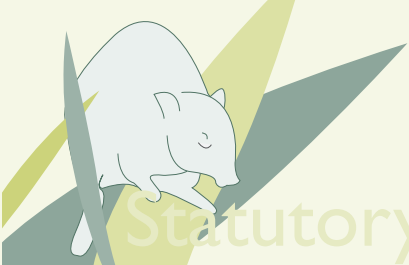
The Bibbulmun Track Foundation and Mundi Biddi Foundation continued to support CALM in meeting its management obligations for the Bibbulmun Track and the Mundi Biddi Trail. Support included funding from the Lotterywest for development planning.

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 objective is not just to prevent work-related injury and illness, but also to create a working environment that maximises the effectiveness of each worker. Occupational safety and health performance indicators are shown in the table below.

Performance indicators		
	2003-2004	2004-2005
Lost time injury frequency rate*	9	9
All injury frequency rate*	40	44
Number of lost time incidents	26	24
Average days lost (per LTI)	18	23
Annual workers' compensation contribution (Premium)	\$704,674	\$484,145

*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.



During 2004-2005
CALM provided
6.53 tonnes of
paper for recycling
under the State
Government's
waste paper
recycling contract.

Record keeping

The annual evaluation of the Corporate Information Section's record keeping services was conducted and a new electronic document and records management system procured. CALM's online record keeping awareness training course is included in induction training and is mandatory for all staff. The course specifically addresses employee roles and responsibilities in regard to compliance with CALM's record keeping plan.

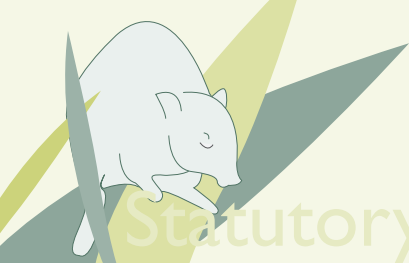
Waste paper recycling

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 2004-2005, CALM provided 6.53 tonnes of paper for recycling under the contract.



Publications produced in 2004-2005

General

Analysis of public submissions to Ningaloo Marine Park Draft Management Plan and Indicative Management Plans for Extensions to Existing Park and Murion Islands Marine Management Area (report)

Annual Report of the Department of Conservation and Land Management 2003-2004

Arbor Day 2005 (poster)

BankWest *LANDSCOPE* Conservation Visa Card (brochure)

Be a Conservation and Land Management Graduate Recruit (brochure)

Be a Conservation and Land Management Graduate Recruit (leaflet)

Be a Nature Conservation Officer for a weekend – Shark Bay World Heritage Area/or Night – Hills Forest Discovery Centre, Mundaring (leaflet)

Be a Nature Conservation Officer for a night/weekend – choice of venues (leaflet)

Conservation News (newsletter, 12 issues)

Graduation and Awards Ceremony 2005 (booklet)

Herdsman Lake Regional Park Management Plan 2004-2013

Indicative Management Plan Proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Area 2005

Indicative Management Plan Proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Plan – Have your say (brochure)

Indigenous ownership and joint management of conservation lands in WA (booklet)

Jandakot Regional Park Draft Management Plan 2004-2013

Kennedy Range National Park Proposed Additions – Draft Management Plan 2005-2015 (brochure)

LANDSCOPE Calendar 2005

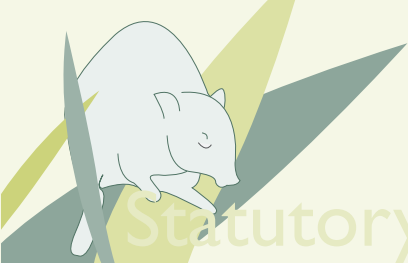
LANDSCOPE magazine (4 issues)

Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area 2005-2015 Management Plan No.52

Management Plan for Shark Bay Terrestrial Reserves and proposed Terrestrial Reserves additions – Have your say (brochure)

Ningaloo Marine Park – Have your say (booklet)

Ningaloo Marine Park – Draft Management Plan 2004



Statutory information

Ningaloo Marine Park – Sanctuary Zones and Murion Islands Marine Management Areas (pamphlet/map)

Organisational Learning and Development Manual 2005

Our Observatory (brochure)

Peer Support (brochure)

Proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Plan Area – have your say (booklet)

Proposed St John Brook and Jarrahwood Conservation Parks Draft Management Plan 2004

Shannon and D'Entrecasteaux National Park Draft Management Plan 2005

Sharing the Dreaming – Indigenous Heritage Unit (brochure)

Thomson's Lake Nature Reserve Management Plan 2005

Turquoise Coast Island Nature Reserves Management Plan

Volunteers needed, become part of the wildlife – Yanchep National Park (poster)

Nature Conservation

A Biodiversity Conservation Act for Western Australia – Consultation Paper

A Conservation Case Study of Western Australia's Rejuvenated Drainage Sub Region (Avon Wheatbelt 2) in 2003

A Conversation Case Study of Western Australia's Mitchell Sub Region (North Kimberley 1) in 2003

Advance in plant conservation biology: implications for flora management and restoration (leaflet)

Buntine Marchagee Catchment News (newsletter, 2 issues)

Common Plants of the Pilbara – Bush Book

Bushland Benefits (brochure)

Catchment Carers' Trail – Primary students, Years 5, 6 and 7 (leaflet)

EcoEducation Opportunities 2005 for Primary and Middle Schools (leaflet)

EcoEducation Programs – Primary School Students. EcoEducation – Pathways for youth action in biodiversity conservation (booklet)

Ecoplan News (3 issues)

Geology of the Gorges, Pilbara Region of WA – Bush Book

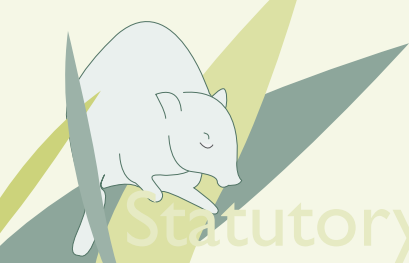
Gilbert's Potoroo Recovery Plan

Green flowered emu bush (leaflet)

Greenhouse Strategy (report)

Hughan's feather flower (leaflet)

Managing a fiery change – *LANDSCOPE* extract (leaflet)

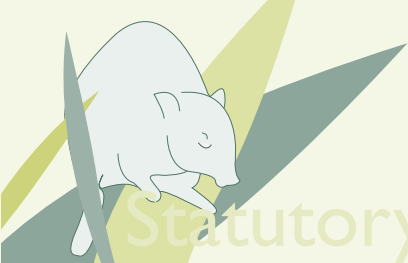


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Reintroduction into Francois Peron National Park (leaflet)
Saving the Giants (leaflet)
The Western Swamp Tortoise (brochure)
Threatened animals and ecosystems (leaflet)
Threatened animals of Western Australia (book)
Threatened Ecological Communities of the Swan Coastal Plain Bioregion (leaflet)
Towards a Biodiversity Conservation Strategy for Western Australia - Discussion Paper
WA Cane Toad Initiative Update (newsletter)
Wagin banksias (leaflet)
Wellington Discovery Forest, EcoEducation opportunities 2005 (leaflet)
Western Wildlife (newsletter, four issues)
Wildflowers of Dryandra Woodland – Bush Book
Wildflowers of the Stirling Range – Bush Book

Parks and Visitor Services

A Guide to the Bibbulmun Track – Southern half (book)
A Guide to the South West (newspaper)
Application for commercial activity licence or renewal – T class terrestrial reserves only (leaflet)
Barna Mia Wildlife Home (leaflet)
Bibbulmun Track Calendar of Events, March to July 2005 (leaflet)
Coral Bay Boating, in Ningaloo Marine Park (brochure)
Cruising the Windjana Coast – *LANDSCOPE* extract (leaflet)
Experiencing whale sharks in Ningaloo National Park (brochure)
Explore WA's newest national parks (booklet)
Fitzgerald River National Park (brochure)
Goldfields, land of surprises (newspaper)
Healthy Parks Healthy People (brochure)
Kalbarri National Park (brochure)
Karijini National Park – Visitor Information and Walk Trail Guide (brochure)
Kennedy Range National Park (brochure)
Monkey Mia Magic (brochure)
Mount Augustus National Park (Burringurrah) (brochure)
Munda Biddi Trail Western Australia (brochure)
Munda Biddi Messenger (newsletter)



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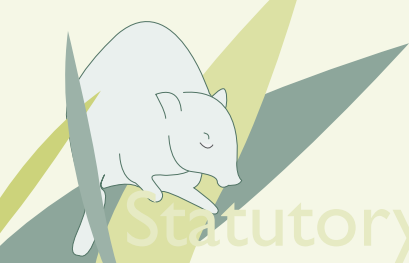
Nambung National Park (brochure)
Nearer to Nature (activities program, 4 issues)
Park Notes – Cape Range National Park and Ningaloo Marine Park (leaflet)
Recreational fishing in Ningaloo Marine Park and Muiron Islands Marine Management Area (map)
Small two-coloured kangaroo paw (leaflet)
Summer in the Tingles – Holiday activities from the forest to the coast (leaflet)
Talbot Road Nature Reserve (brochure)
Tell us about your experience (leaflet)
Tell us about your experience, Karijini National Park (leaflet)
The Best of the South West, *LANDSCOPE* Special Edition (magazine)
Touring Western Australia, Spring 2004 Vol 6 Issue 3 (newsletter)
Valley of the Giants – Activity Program, 9-23 April 2005 (brochure)
Walk through the tree tops of our unique tingle forest (brochure)
Walks in Perth Outdoors (book)
Yalgorup National Park (brochure)
Yanchep National Park – Perth's natural and cultural meeting place (brochure)
Your Guide to Montebello/Barrow Islands (brochure)
Your Guide to Ningaloo Marine Park and Murion Islands Marine Management Area (brochure)
Your Guide to Rowley Shoals Marine Park (brochure)

Sustainable Forest Management

Community Forest Inspection Program (report)
Wandoo Recovery Group Bulletin No.2 March 2005 (newsletter)

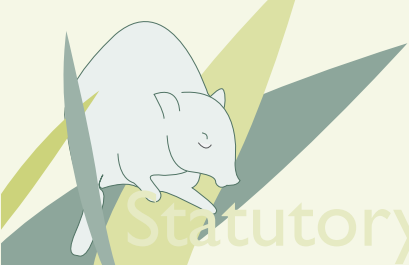
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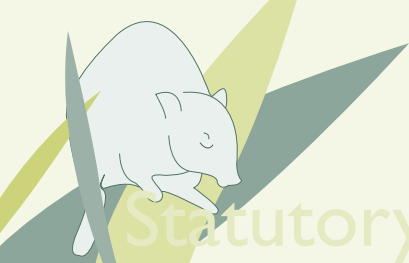


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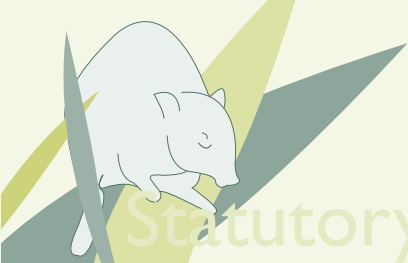


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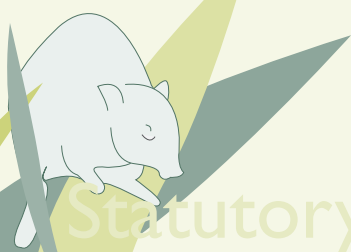
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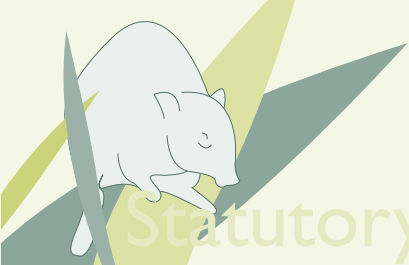
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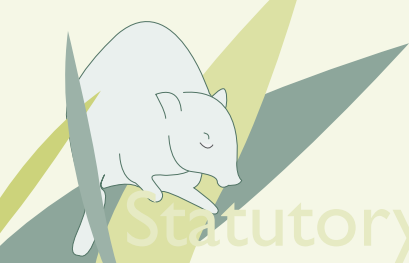
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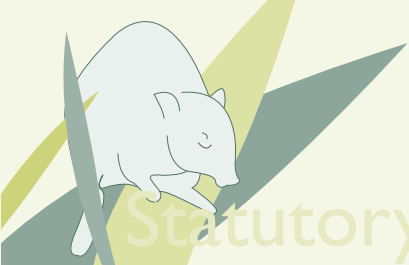


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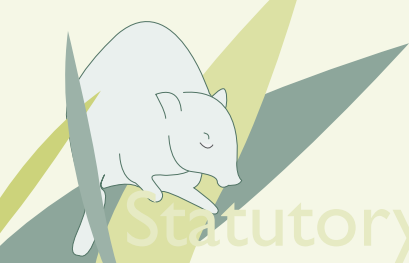
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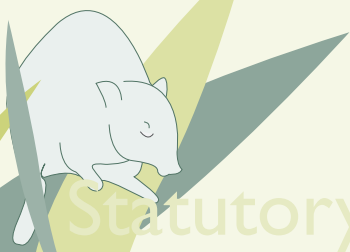


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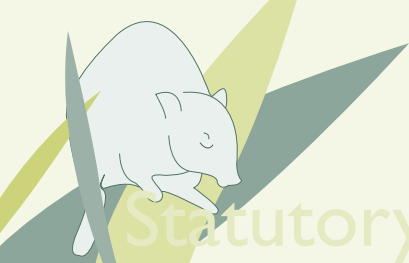
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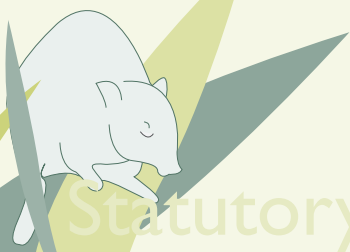
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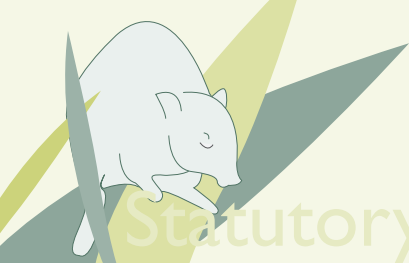
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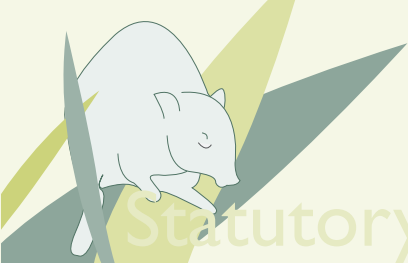


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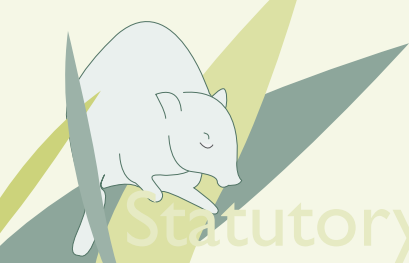
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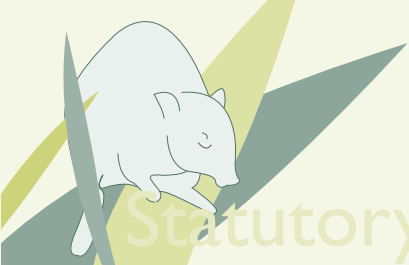


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The Nature Conservation Service performance is measured in wildlife and habitat management; wildlife utilisation; and threatened species management.

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 2005.



Keiran McNamara
EXECUTIVE DIRECTOR

11 August 2005

Nature Conservation – Service I

Outcome achieved by

The conservation of indigenous plants, animals and ecological processes in natural habitats.

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 by effectiveness and efficiency indicators in three key areas:

- wildlife and habitat management;
- wildlife utilisation; and
- threatened species management.

Key effectiveness indicators

1. Wildlife and habitat management

Land is set aside for the management of wildlife and habitat. Management



Performance indicators

Under Western Shield, fox baiting occurred on more than 3.7 million ha of the State.

strategies are developed to ameliorate threatening agents, such as fire, pests, weeds and diseases, which can impact on the functioning of native ecosystems, and threaten the survival of species.

Performance indicator: Example population estimates of native fauna following control of a threatening process.

Research by CALM scientists demonstrated in 1988 that fox predation was a major cause of small fauna decline in the south-west of WA. This led to the baiting for foxes in selected areas of land managed by CALM, which resulted in the recovery of several species of threatened fauna at those sites. In 1994 the baiting program was extended as Operation Foxglove, where 500,000 ha of the northern jarrah forest was baited on a regular basis. In 1996, this program was further expanded as *Western Shield* with fox baiting now occurring on more than 3.7 million ha of the State.

If baiting for foxes is successful in reducing fox predation as a threatening process, then it would be expected that fauna in the size range susceptible to fox predation would, in the absence of other factors, recover to an equilibrium level for the area of suitable habitat. To monitor the implementation of *Western Shield*, monitoring sites are being established across the range of the baiting program.

Measure

Population estimates for native fauna susceptible to fox predation in areas where fox baiting is occurring, as shown by monitoring sites where *Western Shield* is operating. An example set of data from an area baited under *Western Shield* is presented in the graph on the following page.

The graph shows percentage capture rates of quenda (*Isoodon obesulus*, Priority 5) and brushtail possums (*Trichosurus vulpecula*) in Porongurup National Park. An earlier version of these data was presented in the 2000-2001 Annual Report. Porongurup National Park is 2,621 ha in area and has been aerially baited to control foxes since December 1996.

Previously listed as a threatened species, the quenda has been successfully recovered at a number of locations through fox control and translocations, contributing to its removal from the threatened fauna list in 1998. The quenda is now regarded as Conservation Dependent – that is, dependent on ongoing fox control provided through the *Western Shield* program. While quenda have declined in Porongurup National Park from the peak observed in 2001, capture rates are still higher than would be expected in the absence of fox control. The brushtail possum is a common species, but still falls in the critical weight range for susceptibility to



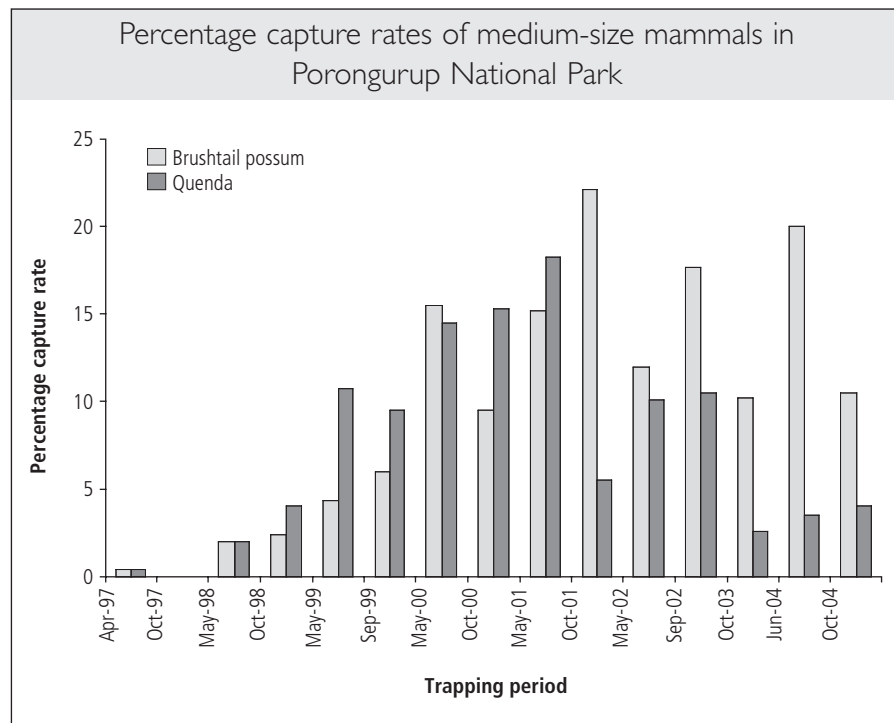
Performance indicators

The brushtail possum population in Porongurup National Park has stabilised at a density much higher than was evident before fox control began.

fox predation, and consequently can be locally uncommon. The population of this species in Porongurup National Park has stabilised at a density much higher than was evident before fox control began.

As these species are not threatened, they do not have a recovery plan, and hence there are no target capture rates to evaluate the effectiveness of their recovery. The information provided shows trends in abundance of these species, relative to their abundance when fox control began.

This response to fox baiting is typical of the response over the range of fox baiting activity where medium-sized mammals are already established, although drought between 2000 and 2002 caused some variation in the maintenance of fauna levels with continued fox baiting. Other examples have been presented in previous annual reports.





Performance indicators

Sustainable kangaroo harvest quotas are set at a maximum of around 25 per cent of the population estimate.

2. Wildlife utilisation

Species such as kangaroos, crocodiles and a number of flora species (excluding timber) are used commercially 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. Since 1995 the surveys have been done annually, each covering one third (approximately 330,000 km²) of the pastoral region.

Annual population estimates of red kangaroos, which occur in all 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.

In 2004, for the first time, the south-west forest areas were surveyed to provide a more complete population estimate for western grey kangaroos.

Sustainable harvest quotas have been determined from historical monitoring, and are set at a maximum of around 25 per cent of the population estimate, with the actual quota based on:

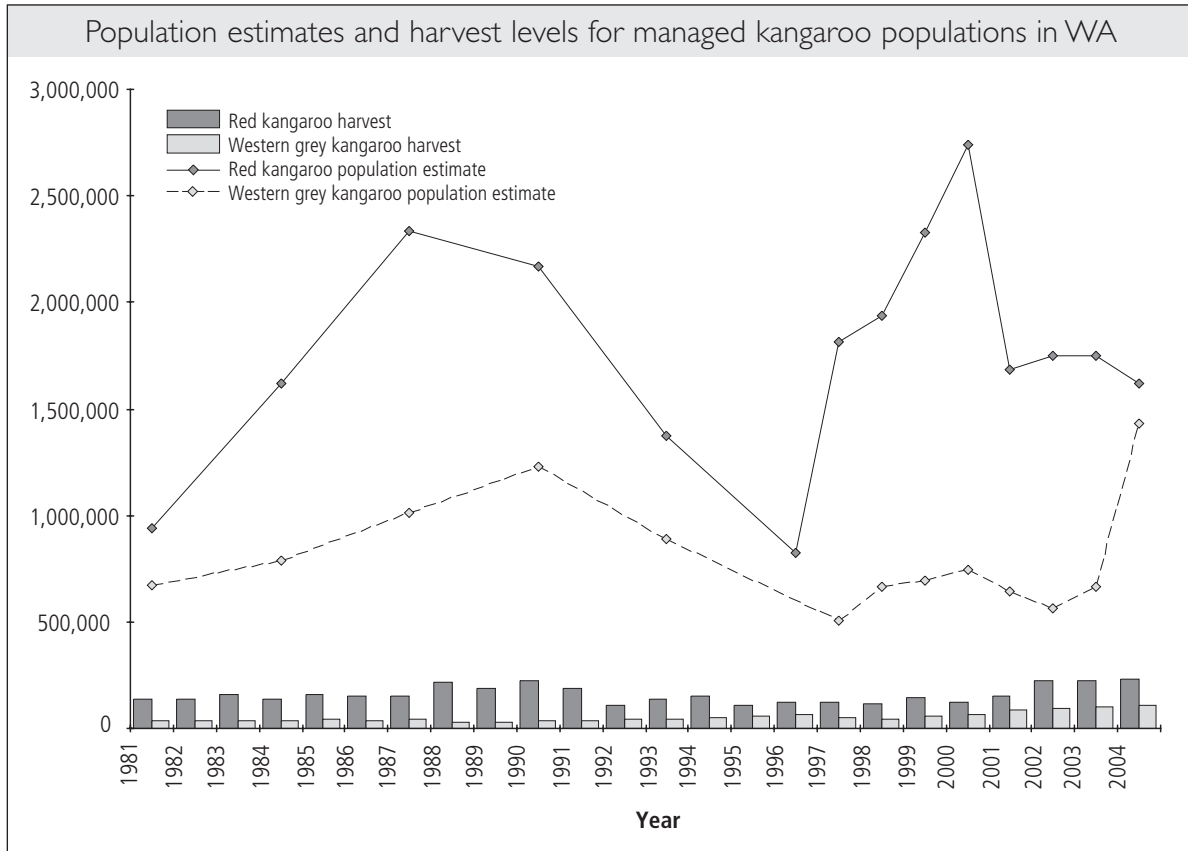
- current population trends;
- seasonal conditions;
- review of previous harvests;
- the proportion of the habitat and population not subject to harvesting;
- current land use practice and trends in land use; and
- significance of the take outside the commercial quota.



Performance indicators

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 delays occur in receiving harvest reports. Minor corrections may also occur to previous years' data as late harvest returns are incorporated.

As from 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.

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 the population estimate for this species in 2004-2005 (43 per cent of the total population estimate).



Performance indicators

A total of 2,937 taxa were declared to be threatened or specially protected, or included on CALM's Priority flora and fauna lists.

3. 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 first graph on the following page, at 30 June 2005 a total of 2,937 taxa (2,514 flora and 423 fauna) were declared to be threatened or specially protected, or included on CALM's Priority flora and fauna lists. This represents an increase of 1.1 per cent in the number of taxa listed as requiring special conservation status compared to 2003-2004.

Two sets of changes were made to the lists of threatened or specially protected flora or fauna during the year due to a delay in the gazettal of the list during 2004. There were 17 flora added to the list, and one taxon was renamed to subspecific level creating an additional entity on the list. Eight flora taxa were deleted from the list. There were 29 flora added to the Priority flora list, and 11 flora deleted from this list.

Altogether, 13 taxa were added to the threatened fauna list and one to the presumed extinct fauna list. One taxon was deleted from the threatened fauna list



Performance indicators

The increase in the number of taxa listed mainly reflects increased knowledge, and does not in itself represent a change in the conservation status of the State's wildlife.

due to the synonymisation of its name with another listed taxon, resulting in a net increase of 12 threatened fauna. Twelve taxa were removed from the Priority fauna list, 11 of which were transferred to the threatened fauna list. Ten taxa were added to the Priority fauna list resulting in a net reduction of two taxa from the list.

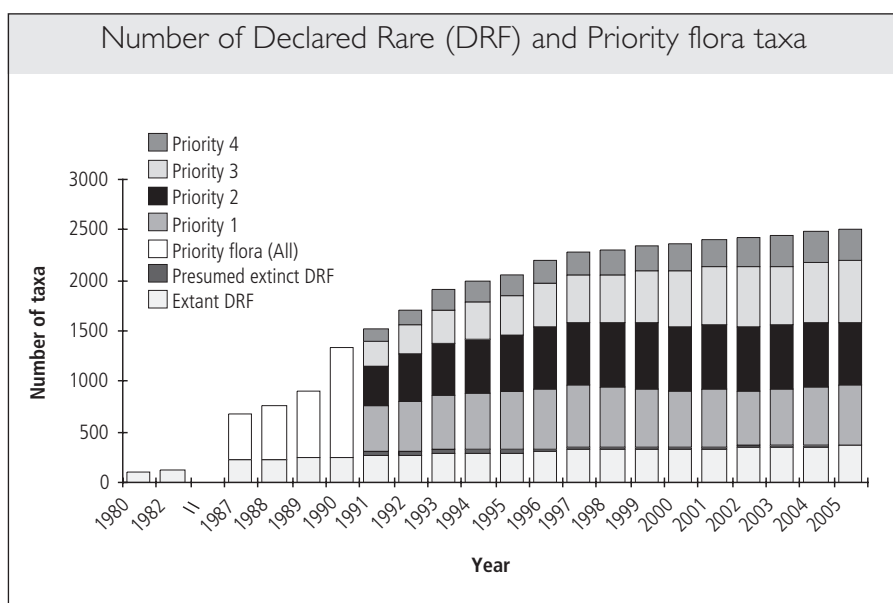
Notes

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, 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).

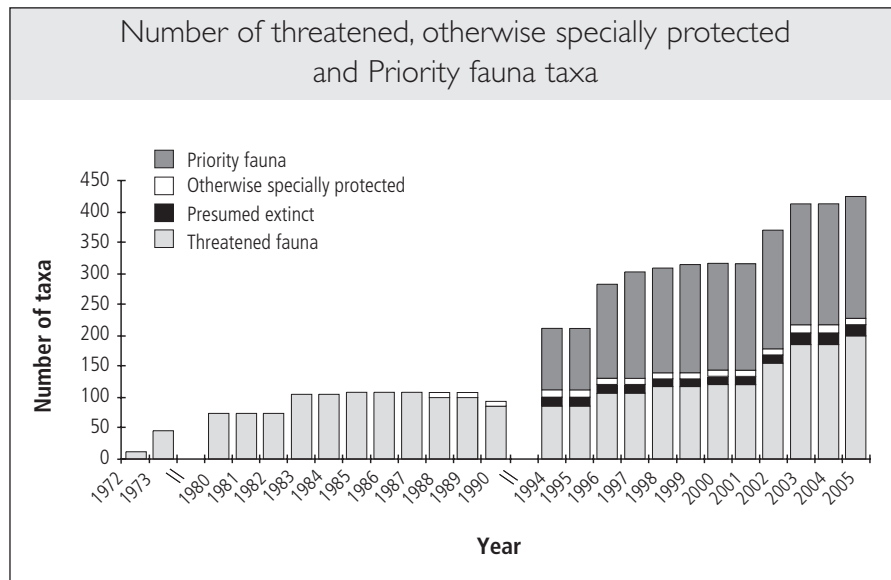
The increase in the number of taxa listed mainly reflects CALM's maintenance of an enhanced knowledge base of the State's wildlife through taxonomic revision, curation of collections, databasing of information, and field investigations, and does not in itself represent a change in the conservation status of the State's wildlife.





Performance indicators

The natural population of *Grevillea humifusa* was originally estimated to be 50 individuals in 1991.



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 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) *Grevillea humifusa* is a spreading shrub with trailing stems that grows in open woodland south of Eneabba. It was first collected in 1968, but was not formally named until 1994. Despite extensive surveys just one population has ever been located. This occurs on a narrow road verge extending into the adjacent agricultural land. It was listed as Declared Rare Flora in 1996 and ranked as Critically Endangered in 1998 due to the small population size and threats from weed competition, inappropriate fire regimes and accidental damage from road and firebreak maintenance activities.

The natural population of *Grevillea humifusa* was originally estimated to be 50 individuals in 1991. The population was burnt in 1995, but regenerated. Resurveys of the population provided increased estimates of the population to 200 plants in 1996. The occurrence of the species on private property was fenced in 1997 to prevent accidental damage to plants. A resurvey of the population in 1998 counted 609 plants, while a more accurate survey in 2002 revealed that there were substantially more plants present at the site than previously recorded, with 1,510 individuals being counted.



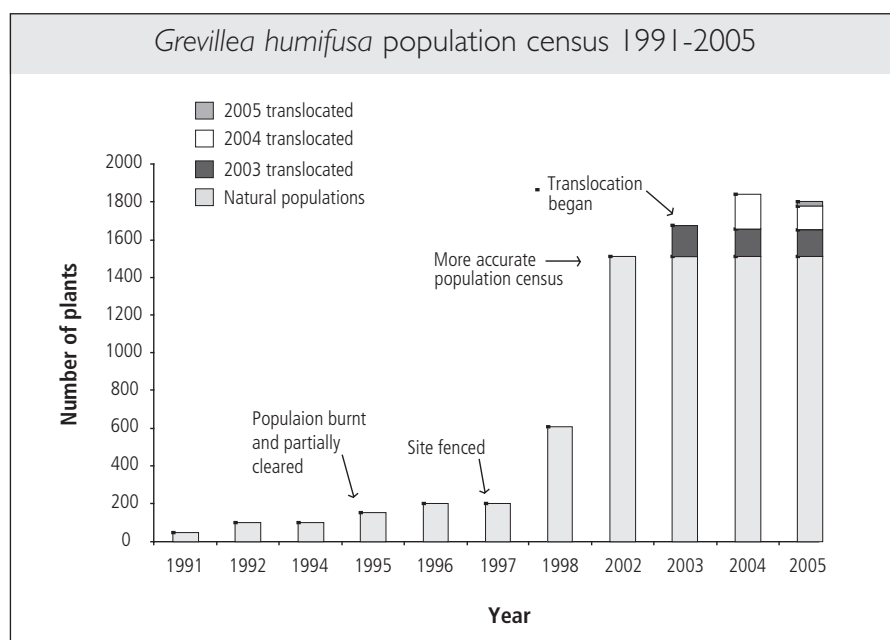
Performance indicators

A second population of *Grevillea humifusa* has been established at a secure site.

An interim recovery plan was written for this species in 1999. This plan recommended a translocation program to enhance the conservation status of this species given the single known occurrence, and relatively small number of plants known at that time. A translocation program began in 2002, with the selection of a translocation site in a nature reserve managed by CALM. A translocation proposal was written and approved in 2003. In August 2003, 166 seedlings were planted at the translocation site. To test whether watering increased the survival of the translocated plants half of these seedlings were watered over the first summer and the other half were left unwatered. At the most recent monitoring in June 2005, plants given water over the first summer had a survival of 95 per cent, whereas 76 per cent of plants not given water survived.

Another 184 seedlings were planted at the translocation site in 2004 and 22 in 2005. After three years of planting, a total of 372 seedlings had been planted and 78 per cent of these seedlings had survived at June 2005. The translocation has therefore met the first of the short-term criteria for success – establishment of the translocated seedlings based on the survival of the original translocated plants over two seasons.

The *in situ* management actions, combined with the translocation of seedlings to a secure location in a nearby nature reserve, have resulted in the number of plants of this species increasing to 1,801 individuals in 2005, and the establishment of a second population at a secure site. The probability of this species surviving in the wild is more secure as a consequence of the management and recovery actions being implemented through the interim recovery plan.



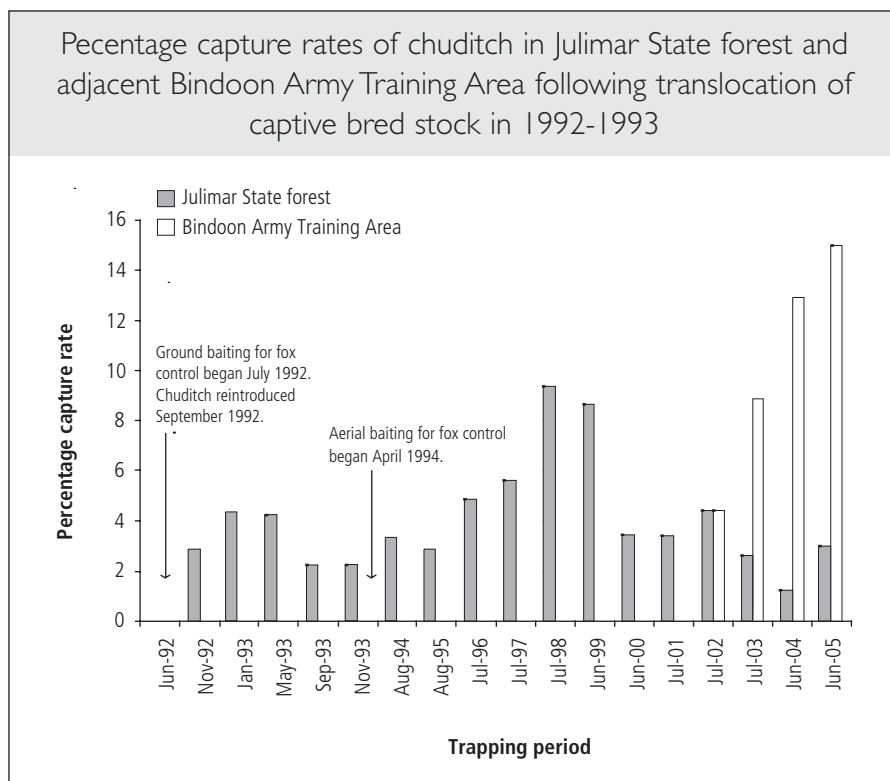


Performance indicators

Capture rates of chuditch have been measured since a translocation program began in Julimar State forest in 1992.

- 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 may 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.

The chuditch (*Dasyurus geoffroii*) is listed as a threatened species. Fox control, habitat management, captive breeding and the establishment of new populations in protected areas are strategies included in the published recovery plan for this species. The graph below shows the results of a translocation program of the chuditch into the 28,317-ha Julimar State forest (a proposed conservation park) north of Perth, with supporting fox control. An earlier version of these data was presented in the 2000-2001 Annual Report.



The graph shows percentage capture rates of chuditch in Julimar State forest and the adjoining Bindoon Army Training Area. Ground delivery of 1080 baits (four times per year) for fox control began in July 1992 in preparation for the reintroduction of captive-bred chuditch in September 1992. Aerial baiting (four times per year) for fox control over Julimar and Bindoon began in April 1994. After an initial peak in abundance, the chuditch population has stabilised in



Performance indicators

Chuditch capture rates of two to four per cent have been recorded, well above the rate of one per cent nominated for success.

Julimar as reflected by capture rates of generally between two and four per cent. The criterion for successful establishment was given in the Chuditch Recovery Plan as a capture rate of one per cent. Regular monitoring of the adjoining Bindoon Army Training Area began in 2002 and the graph shows that the translocated population has expanded into this area. The dramatic peak in abundance is likely to fall to similar post-peak levels as observed in Julimar. The Bindoon Army Training Area is 17,176 ha in area.

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.

Key efficiency indicators

Wildlife and habitat management

The cost per hectare managed

Note

This measure provides an indicative comparison of the accrual basis gross total cost (excluding revenues) per hectare of managing nature conservation on CALM-managed lands and waters.

Measure

1997-1998: \$2.12 per hectare
1998-1999: \$1.85 per hectare
1999-2000: \$2.05 per hectare
2000-2001: \$2.03 per hectare
2001-2002: \$2.28 per hectare
2002-2003: \$2.76 per hectare
2003-2004 \$2.76 per hectare
2004-2005 \$3.08 per hectare



A field audit samples active and completed forest coupes in both jarrah and karri, in a range of rainfall zones that have been or are being harvested by a range of contractors.

Sustainable Forest Management - Service 2

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 forest 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.

Key effectiveness indicator

Satisfaction of the sustainable forest management standards of the Conservation Commission

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 and the Manual of Management Guidelines for Timber Harvesting in WA.



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 table below.

	Stream zone		Diverse ecotype zone		Other management boundaries	
	2003-2004	2004-2005	2003-2004	2004-2005	2003-2004	2004-2005
Length assessed (metres)	14,058	11,355	1,702	1079	5,345	7,470
No. of minor incidents	19	13	0	2	5	0
Length of minor incidents (metres)	144	133	0	13	45	0
No. of major incidents	8	0	0	0	0	1
Length of major incidents (metres)	112	0	0	0	0	120
Percentage of edge protected intact	98%	99%	100%	99%	99%	98%

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 m²/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 2002-2003, 2003-2004 and 2004-2005.

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 an area of river and stream zones additional to the FMP requirement. 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 stream zone was retained and protected in accordance with the requirements. In 2004-2005 no coupes were harvested in a catchment identified as having a high salt risk.

Compliance with the requirement for the retention of habitat elements

The requirements are the identification and marking of five primary and six to eight



Performance indicators

The average karri clear fell area in 2004 was 7.9 ha.

secondary habitat trees per hectare in all jarrah forest cut to release regeneration (gap). 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 for areas sampled was found to be 5.6 in 2002-2003 and 8.9 in 2003-2004 when the requirement was four trees per hectare and an average of 14.7 trees per hectare under the current FMP requirements of five primary habitat trees per hectare and a further six to eight secondary habitat trees per hectare. The average number of ground habitats per hectare was 0.65 in 2002-2003, 0.5 in 2003-2004 and 0.7 in 2004-2005.

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 2002 was 32.1 ha, in 2003 it was 41.4 ha and in 2004 it was 32.0 ha. The average clear fell area size was 11.8 ha in 2002, 12.4 ha in 2003 and 7.9 ha in 2004.

Compliance with pre-harvest planning 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. One coupe out of 16 sampled in 2002-2003 had sections of the pre-harvest checks not signed off as completed prior to the start of the operation. In 2003-2004 and 2004-2005 all coupes sampled complied with the pre-harvest check requirement.

Compliance with specifications for coupe demarcation

Management boundaries, including those of the coupe, fauna habitat zones and informal reserves must be identified and demarcated prior to the start of tree felling. Ninety-eight per cent of boundaries assessed were marked correctly in 2002-2003, 99 per cent in 2003-2004 and 100 per cent in 2004-2005.

Compliance with requirements for the protection of soil

When the extraction of logs is completed in any fellers block, and prior to machinery leaving, interceptor banks and drains must be constructed across all extraction tracks and disturbed firebreaks with exposed soil to minimise the risk of erosion. Ninety-two per cent of assessed track complied with the requirement in 2002-2003, 79 per cent in 2003-2004 and 94 per cent in 2004-2005.

Compliance with requirements for the protection of threatened flora

Field searches are conducted along proposed road alignments, log landing and gravel

The cost per hectare of State forest managed was \$31.52.

pit sites before harvesting 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 one coupe sampled in 2002-2003 there was no record of a search having been undertaken. In 2003-2004 all 13 sampled coupes had records of searches and in 2004-2005 all 10 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 2002-2003, 2003-2004 and 2004-2005 had evidence of the procedure being implemented.

Key efficiency indicator

The 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 relevant management plans. 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 1,297,700 ha.

Measure

The cost per hectare managed was \$31.52, an increase on the target cost of \$26.90 in the 2004-2005 Budget Statements.

2002-2003: \$19.75 cost per hectare
2003-2004: \$27.50 cost per hectare
2004-2005: \$31.52 cost per hectare



Performance indicators

The key efficiency indicator shows a decrease on the target cost due to the large number of audits conducted in order to finalise an appropriate audit process under the 2004 Forest Management Plan.

Performance of statutory functions by the Conservation Commission of WA – Service 3

Outcome achieved by

The provision of resources and services to the Conservation Commission of WA.

Service description

The undertaking of statutory functions by the Conservation Commission which include: having vested in it the State’s national parks, conservation parks, nature reserves, State forest and timber reserves; policy development for the preservation and community enjoyment of the State’s natural environment, and promoting the appreciation of flora, fauna and the natural environment; advice to the Minister for the Environment on the development of policies for the conservation and management of biodiversity throughout the State and on the ecologically sustainable management of State forest, timber reserves and forest produce; and audit of CALM’s and the Forest Products Commission’s performance against management plans.

Key efficiency indicator

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 \$11,828, a decrease of \$3,740 on the target cost of \$15,568 in the 2004-2005 Budget Statements. This was due to a larger number of audits associated with the Forest Management Plan 2004-2013 being conducted during 2004-2005 in order to finalise an appropriate audit process.

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 \$
2003-2004	23,545	24,391	846
2004-2005	11,828	15,568	3,740

CALM's visitor survey program was reviewed during 2004-2005.

Parks and Visitor Services – Service 4

Outcome achieved by:

Community enjoyment and appreciation of parks, wildlife and the natural environment without compromising conservation and 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 wildfire; 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 that enrich visitor experience and help develop greater community awareness and support for parks, natural areas, nature-based tourism and recreation services and policies.

Key effectiveness indicators

1. The extent to which visitors are satisfied with their visit overall to recreation areas managed by CALM

Notes

CALM's visitor survey program was reviewed during 2004-2005. The aim was twofold, to improve the survey form (to be more user friendly, appealing and streamlined) and to improve the methodology for its distribution, that is to improve response rates/number of completed forms returned and subsequently the total sample size. Field and specialist staff were consulted at all stages of the revision process.

The old survey forms were distributed only in the parks of the Pilbara and Kimberley during the review, and the revised survey form was sent to field staff in January 2005. As a result, the figures reported for 2004-2005 are comprised of old survey form data from July to May (from Pilbara and Kimberley parks), and revised survey form data from January to May. The end of May deadline was set for data entry, analysis and reporting requirements.



Performance indicators

Survey forms were distributed to visitors to 28 parks/recreation sites across the State.

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 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.

Similar to 2003-2004, respondents to the 2004-2005 survey program displayed the following characteristics:

- 56 per cent were from WA, 29 per cent from interstate and the remaining 15 per cent from overseas;
- the majority 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 were in the 40-59 year age bracket, being 40 per cent of visitors, followed by the 25-39 year age bracket, which comprised 29 per cent of respondents; and
- 70 per cent were first time visitors to the recreation areas surveyed.

Approximately 4,624 surveys were distributed throughout the year to visitors to 28 parks/recreation sites across the State with 1,279, or 28 per cent, completed surveys returned (3000 distributed and 705, or 23 per cent, returned in 2003-2004). At a 95 per cent confidence level, the survey responses reported have a standard error within the range of ± 0.02 .

A large number of forms were 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 2004-2005 index averaged from visitor responses to the survey at the selected parks, reserves and forest areas around the State was 6.19, which is above the benchmark of 6.1. This is illustrated in the **Visitor satisfaction** graph, along with the results from the previous two years of the survey program.

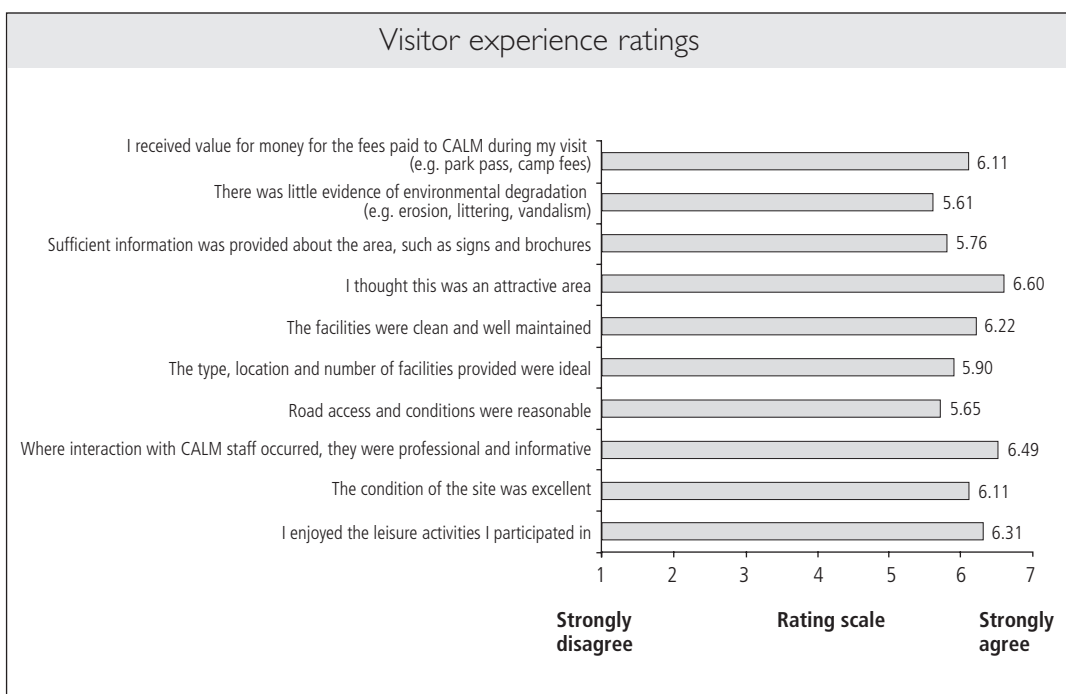


Performance indicators

The visitor satisfaction score of 6.19 was above the benchmark set of 6.1.



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.





Performance indicators

The number of volunteer hours contributed in 2004-2005 was 444,000, an increase of 25 per cent on last year's figure.

The question, 'If you were able to return would you visit this area again?', was included in the survey. The response was to be yes or no, with 94 per cent of visitors indicating yes, they would return to the area again.

2. The extent to which the public has shown interest/support for CALM-managed recreation areas, facilities and services

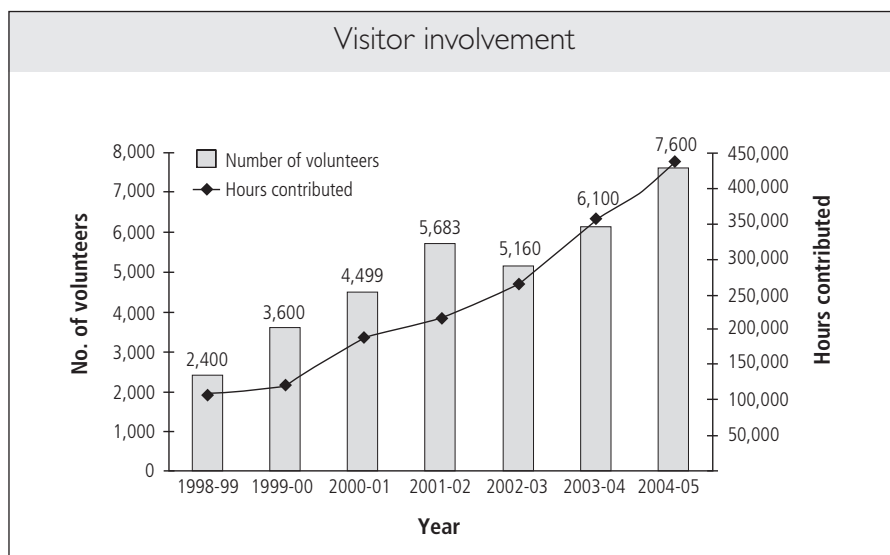
The ongoing commitment and level of involvement by volunteers indicated continued public support for CALM's management programs and CALM's ability to balance competing land used to aid public enjoyment and protect conservation values.

Measures

As illustrated in the **Volunteer involvement** graph, the number of volunteer hours spent on various nature conservation and visitor services projects during 2004-2005 totalled 444,000 hours, an increase of 25 per cent on last year's figure of 355,000. This increase was due in part to the large number of registered wildlife carers and volunteer carers in wildlife rehabilitation centres recording volunteers' attendance, as well as the community involvement in two major whale strandings at Busselton.

The number of registered volunteers on the database at the end of 2004-2005 was about 7,600, of whom about 4,000 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.





Performance indicators

The number of visits to CALM-managed lands and waters for 2004-2005 totalled 10,990,000.

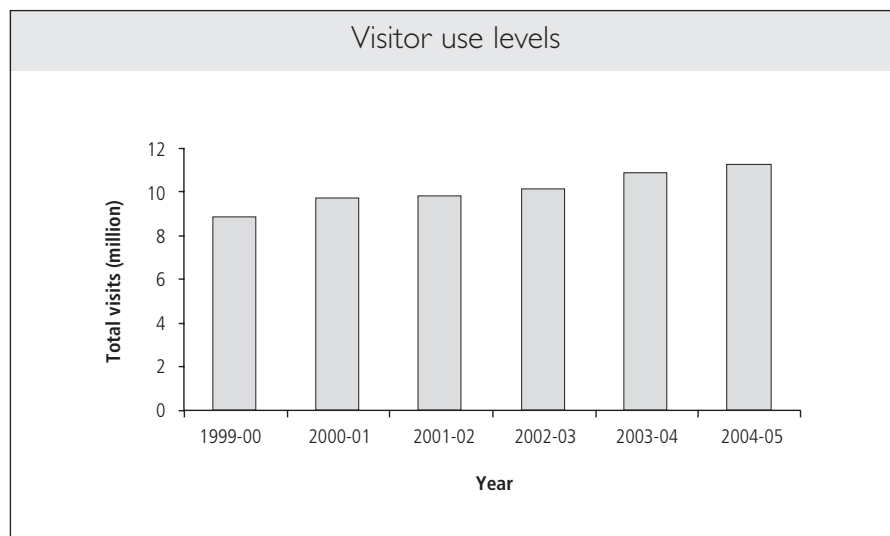
3. The number of visits to recreation areas managed by CALM

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 2004-2005 totalled 10,990,000. 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 was a modest increase of 0.6 per cent on the 10,921,000 visits in 2003-2004.



While the increase in visits was somewhat less than the target of 11,200,000, it still reflected a strong and continuing interest by the public in visiting natural areas managed by CALM. Among the factors that had a dampening effect on visitor numbers in 2004-2005 were the major fires that affected metropolitan area parks during peak visitation periods, seasonal weather conditions limiting visitation to some recreation areas, increased fuel costs and the effects of terrorism threats on world travel.

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.



Performance indicators

Over the past five years, the overall trend has been one of continuous growth in visitation to CALM-managed areas.

Trends in visitor numbers to three national parks			
National parks	2002-2003	2003-2004	2004-2005
Cape Le Grand	105,000	110,000	117,000
Nambung	206,000	212,000	223,000
Purnululu	21,000	23,000	22,000

As indicated in the table above, both Cape Le Grand and Nambung experienced an increase in visitor numbers over the previous 12 months whereas visitation to Purnululu decreased slightly. This latter outcome was due in part to the temporary closure of the Bellburn airstrip in Purnululu during the early part of the 2005 tourist season to allow for upgrading works to be undertaken. However over the past five years, the overall trend has been one of continuous growth in visitation to CALM-managed parks, reserves and forest areas throughout the State.

Key efficiency indicators

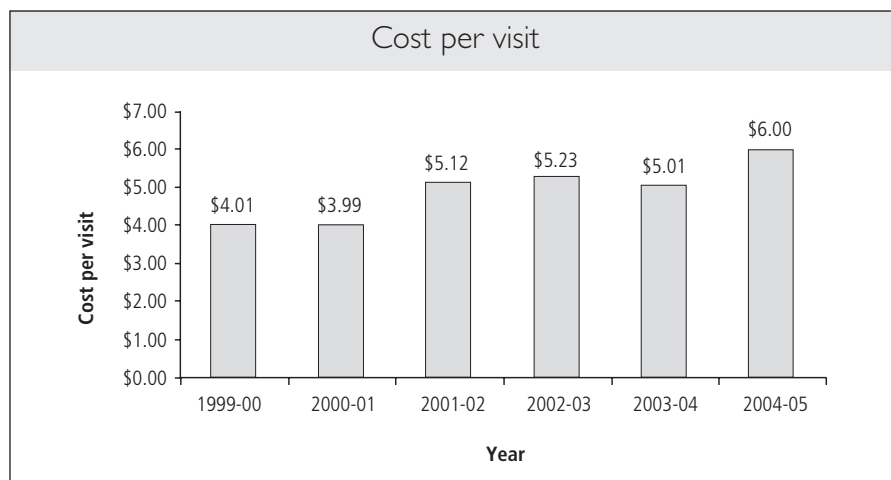
1. Cost per visit

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 2004-2005 gross cost per visit was \$6.00, a significant increase of \$0.99 compared to the figure of \$5.01 reported for the 2003-2004 financial year and the target of \$5.08. The 2004-2005 increase was primarily due to an increase in funding from the capital works program to undertake additional maintenance of visitor facilities throughout the State's parks, reserves and forest areas.



During 2004-2005
6,886 people
visited the
Observatory and
more than 18,000
made contact in
some other way.

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 \$65,951,000 and operating revenue of \$14,021,000, the 2004-2005 ratio was 4.70:1, an increase of 1.17 on the ratio of 3.53:1 recorded in 2003-2004. The significant increase in the ratio of total cost of services to operating revenues is due to a combination of factors, including an increase in the overall cost of service (as partly reflected by the expanded facilities maintenance program) coupled with a modest decrease in revenue.

Astronomical Services - Service 5

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.

Key effectiveness indicators

1. The level of customer satisfaction with the services provided by the Observatory

Note

During 2004-2005, 6,886 people attended a star viewing night or guided day tour, compared to a target of 9,000. This reflects the lack of celestial events in the year. Seventy one lectures were held and 14 requests for natural light consultancies were received.

There were 477 customer survey questionnaires distributed: 451 to Observatory star viewing night visitors between July 2004 and May 2005; and 26 to customers of Observatory services such as lectures and natural lighting consultancies.

In prior years, questionnaires were also distributed to those attending day tours. Due to an oversight this did not occur this year.



Performance indicators

At a 95 per cent confidence level the survey responses reported have a standard error within the range ± 5.5 per cent.

Measure

The table **Overall satisfaction with Perth Observatory** shows the combined analysis of 313 (66 per cent) responses to the 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. The level of satisfaction was 1.2 per cent below the target of 99 per cent.

Overall satisfaction with Perth Observatory								
Response	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
	%	%	%	%	%	%	%	%
Very satisfied	68.7	71.3	75.1	72.8	64.5	67.9	78.7	73.8
Satisfied	29.9	26.4	23.9	25.3	31.3	26.5	19.3	24.0
Neither satisfied or dissatisfied	1.2	2.3	0.8	1.9	3.4	3.0	1.4	2.2
Dissatisfied	0.2	0.0	0.0	0.0	0.7	1.1	0.3	0.0
Very dissatisfied	0.0	0.0	0.2	0.0	0.0	1.5	0.3	0.0

2. The extent to which visitors perceive the information presented during their tour of the Observatory increased their knowledge and awareness of astronomy

Note

This indicator relates to the educational role of the 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. Analysis of the 301 (67 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	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
	%	%	%	%	%	%	%	%
Strongly agree	45.4	52.6	54.9	57.6	42.0	45.0	59.4	60.8
Agree	50.9	45.5	43.9	38.9	53.4	49.8	38.5	35.9
Neither agree or disagree	3.5	1.9	1.2	3.5	4.6	4.4	2.1	3.3
Disagree	0.2	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Strongly disagree	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

The cost per Observatory visitor in 2004-2005 was \$47.35.

3. 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. By publishing in these journals the Observatory is adding to scientific knowledge and therefore furthering scientific research.

Measure

During 2004-2005, the Observatory had four (three in 2003-2004) articles published in internationally recognised journals. This is equal to the target number of four in the 2004-2005 Budget Statements.

There were 19 (17 in 2003-2004) other scientific papers related to scientific data on astronomical objects also published as articles in educational journals, popular magazines, newsletters or internal reports.

Key efficiency indicators

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 2004-2005 tour participation totalling 6,886 (2003-2004 9,750), i.e. 5,170 night visitors and 1,716 day visitors.

Measure

The cost per visitor in 2004-2005 was \$47.35, (2003-2004 \$41.69) an increase of \$27.95 on the target cost of \$19.40 in the 2004-2005 Budget Statements. This increase was due to reduced visitation while operating costs that entail substantial overheads remained fixed.



Performance indicators

The cost of Observatory research activities per 1,000 head of WA population in 2004-2005 was \$240.

2. Cost per enquiry

Note

This indicator shows the average accrual gross cost relating to the 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 2004-2005, 2,445 people used the recorded information line, 12,774 telephoned, 709 emailed and 6,405 participated in field night talks and student consultations. The total of 22,333 was 2,333 higher than the target of 20,000.

Based on a total of 22,333 enquiries in 2004-2005, the cost per enquiry was \$22.88 (25,854 enquiries at \$14.91 in 2003-2004), a decrease of \$12.94 on the target cost of \$35.82 in the 2004-2005 Budget Statements. The decrease was due to the sustained increase in the use of information services while operating costs that entail substantial overheads remained fixed.

3. Cost of research activities per refereed research paper

Note

This indicator shows the average accrual gross cost of the Observatory's research activities expressed as an average per refereed scientific research paper.

Measure

In 2004-2005 the average cost per paper of the research activities supporting the four refereed research papers was \$121,405 (three papers at \$124,011 in 2003-2004), an increase of \$15,405 on the target cost of \$106,000 in the 2004-2005 Budget Statements. This increase reflected the ongoing, protracted and complex nature of the research output, the external collaboration required, and the relatively small number of papers involved each year.

4. Cost of research activities per 1,000 head of WA population

Note

This indicator shows the accrual gross cost of the 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 \$240 in 2004-2005 (\$188 in 2003-2004) an increase of \$30 on the target cost of \$210.

This increase reflected the ongoing, protracted and complex nature of the research output, the external collaboration required, and the relatively small number of papers involved each year.



AUDITOR GENERAL

INDEPENDENT AUDIT OPINION

To the Parliament of Western Australia

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT PERFORMANCE INDICATORS FOR THE YEAR ENDED 30 JUNE 2005

Audit Opinion

In my opinion, the key effectiveness and efficiency performance indicators of the Department of Conservation and Land Management are relevant and appropriate to help users assess the Department's performance and fairly represent the indicated performance for the year ended 30 June 2005.

Scope

The Executive Director's Role

The Executive Director is responsible for developing and maintaining proper records and systems for preparing performance indicators.

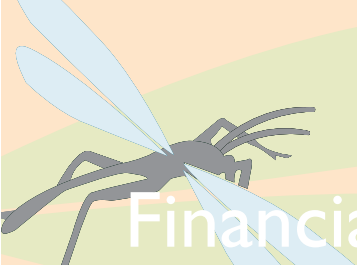
The performance indicators consist of key indicators of effectiveness and efficiency.

Summary of my Role

As required by the Financial Administration and Audit Act 1985, I have independently audited the performance indicators to express an opinion on them. This was done by looking at a sample of the evidence.

An audit does not guarantee that every amount and disclosure in the performance indicators is error free, nor does it 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 performance indicators.

D D R PEARSON
AUDITOR GENERAL
30 September 2005



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 2005 and the financial position as at 30 June 2005.

At the date of signing we are not aware of any circumstances that would render the particulars included in the financial statements misleading or inaccurate.

Keiran McNamara
EXECUTIVE DIRECTOR
11 August 2005

John Byrne
PRINCIPAL ACCOUNTING OFFICER
11 August 2005



Financial statements

Department of Conservation and Land Management Statement of Financial Performance for the year ended 30 June 2005			
	Note	2005 \$'000	2004 \$'000
COST OF SERVICES			
Expenses from ordinary activities			
Employee expenses	4	87,359	79,996
Supplies and services	5	53,481	43,431
Depreciation and amortisation expense	6	14,397	12,107
Accommodation expenses	7	2,029	2,163
Grants and subsidies	8	584	534
Capital user charge	9	13,418	11,276
Carrying amount of non-current assets disposed of	14	507	668
Other expenses from ordinary activities	10	15,432	9,681
Total cost of services		187,207	159,856
Revenue from ordinary activities			
<i>Revenue from operating activities</i>			
User charges and fees	11	28,721	27,420
Commonwealth grants and contributions	12	4,490	4,973
Other grants and contributions	13	3,446	3,888
<i>Revenue from non-operating activities</i>			
Interest revenue		1,513	1,361
Proceeds from disposal of non-current assets	14	1,110	1,262
Other revenues from ordinary activities	15	6,676	8,074
Total revenues from ordinary activities		45,956	46,978
NET COST OF SERVICES		(141,251)	(112,878)
REVENUES FROM STATE GOVERNMENT			
Service appropriations	16	141,596	118,906
Assets assumed (transferred)		0	1
Initial recognition of assets not previously recognised		12,774	96
Resources received free of charge		1,368	573
Liabilities assumed by the Treasurer		1,398	759
Total revenues from State Government		157,136	120,335
CHANGE IN NET ASSETS		15,885	7,457
Net increase/(decrease) in asset revaluation reserve		32,142	189,555
Total revenues, expenses and valuation adjustments recognised directly in equity		32,142	189,555
Total changes in equity other than those resulting from transactions with WA State Government as owners		48,027	197,012

The Statement of Financial Performance should be read in conjunction with the accompanying notes.



Financial statements

Department of Conservation and Land Management Statement of Financial Position as at 30 June 2005			
	Note	2005 \$'000	2004 \$'000
Current assets			
Cash assets	28 (a)	36,844	32,207
Restricted cash assets	17	4	2,644
Inventories	18	480	511
Receivables	19	7,472	8,323
Amounts receivable for services	20	4,214	4,214
Other assets	21	945	737
Total current assets		49,959	48,636
Non-current assets			
Inventories	18	1,919	2,020
Amounts receivable for services	20	30,608	21,807
Property, plant, equipment and vehicles	22	2,362,551	2,304,528
Intangible assets	23	0	176
Total non-current assets		2,395,078	2,328,531
TOTAL ASSETS		2,445,037	2,377,167
Current liabilities			
Payables	24	5,125	5,794
Provisions	25	14,475	12,797
Other liabilities	26	2,542	5,362
Total current liabilities		22,142	23,953
Non-current liabilities			
Provisions	25	6,501	5,930
Total non-current liabilities		6,501	5,930
TOTAL LIABILITIES		28,643	29,883
Equity			
Contributed equity	27	(199,223)	(220,306)
Reserves		2,192,785	2,160,643
Accumulated surplus/(deficit)		422,832	406,947
Total equity		2,416,394	2,347,284
TOTAL LIABILITIES AND EQUITY		2,445,037	2,377,167

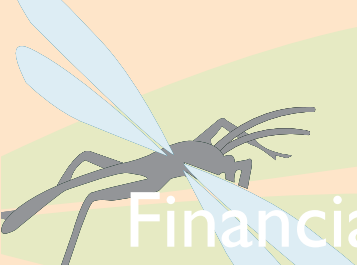
The Statement of Financial Position should be read in conjunction with the accompanying notes.



Financial statements

Department of Conservation and Land Management Statement of Cash Flows for the year ended 30 June 2005			
	Note	2005 \$'000	2004 \$'000
CASH FLOWS FROM STATE GOVERNMENT			
Service appropriations		128,581	107,059
Capital appropriations		13,660	4,802
Holding account drawdowns		4,214	3,214
Equity Contribution to Government		(654)	0
Net cash provided by State Government		145,801	115,075
Utilised as follows:			
CASH FLOWS FROM OPERATING ACTIVITIES			
Payments			
Employee expenses		(87,657)	(75,001)
Supplies and services		(52,412)	(41,215)
GST payments on purchases		(8,006)	(6,251)
Grants and subsidies		(644)	(474)
Capital user charge		(12,237)	(11,233)
Accommodation		(2,137)	(2,149)
Other payments		(15,301)	(10,439)
Receipts			
User charges and fees		29,820	27,224
Commonwealth grants and contributions		4,554	5,256
Interest received		1,513	1,361
GST receipts on sales		3,117	3,080
GST receipts from taxation authority		4,479	3,276
Other receipts		9,905	11,991
Net cash provided by/(used in) operating activities	28 (b)	(125,006)	(94,574)
CASH FLOWS FROM INVESTING ACTIVITIES			
Proceeds from sale of non-current physical assets		1,101	1,151
Purchase of non-current physical assets		(19,899)	(16,207)
Net cash provided by/(used in) investing activities		(18,798)	(15,056)
Net increase/(decrease) in cash held		1,997	5,445
Cash assets at the beginning of the financial year		34,851	29,406
CASH ASSETS AT THE END OF THE FINANCIAL YEAR	28 (a)	36,848	34,851

The Statement of Cash Flows should be read in conjunction with the accompanying notes.



Financial statements

Department of Conservation and Land Management Schedule of Expenses and Revenues by Service for the year ended 30 June 2005

	Nature Conservation		Sustainable Forest Management		Performance of statutory functions by the Conservation Commission of WA		Parks and Visitor Services		Astronomical Services		Total	
	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
COST OF SERVICES												
Expenses from ordinary activities												
Employee expenses	40,457	36,185	19,452	18,745	530	349	26,211	24,081	709	636	87,359	79,996
Supplies and services	23,666	20,657	10,875	9,467	127	111	18,612	13,034	201	162	53,481	43,431
Depreciation and amortisation expense	3,552	3,108	2,312	1,951	22	15	8,330	6,863	181	170	14,397	12,107
Accommodation expenses	964	912	203	213	26	0	817	1,022	19	16	2,029	2,163
Grants and subsidies	399	309	0	9	0	0	185	216	0	0	584	534
Capital user charge	3,218	2,895	2,319	1,822	10	9	7,711	6,392	160	158	13,418	11,276
Carrying amount of non-current assets disposed of	488	603	13	8	0	0	6	57	0	0	507	668
Other expenses from ordinary activities	5,555	4,352	5,731	2,221	42	34	4,079	3,051	25	23	15,432	9,681
Total cost of services	78,299	69,021	40,905	34,436	757	518	65,951	54,716	1,295	1,165	187,207	159,856
Revenues from ordinary activities												
User charges and fees	5,283	3,698	12,148	11,707	0	0	11,156	11,859	134	156	28,721	27,420
Commonwealth grants and contributions	3,270	4,509	656	97	0	0	564	367	0	0	4,490	4,973
Other grants and contributions	1,145	462	0	162	0	0	2,301	3,264	0	0	3,446	3,888
Interest revenue	1,169	959	53	165	0	0	291	237	0	0	1,513	1,361
Proceeds from disposal of non-current assets	1,093	733	11	337	0	0	6	192	0	0	1,110	1,262
Other revenues from ordinary activities	2,389	3,673	2,162	2,238	0	0	2,125	2,163	0	0	6,676	8,074
Total revenues from ordinary activities	14,349	14,034	15,030	14,706	0	0	16,443	18,082	134	156	45,956	46,978
NET COST OF SERVICES	(63,950)	(54,987)	(25,875)	(19,730)	(757)	(518)	(49,508)	(36,634)	(1,161)	(1,009)	(141,251)	(112,878)
REVENUES FROM STATE GOVERNMENT												
Service appropriations	63,477	54,656	28,747	21,594	789	576	47,424	40,947	1,159	1,133	141,596	118,906
Net assets assumed (transferred)	0	1	0	0	0	0	0	0	0	0	0	1
Initial recognition of assets not previously recognised	3,821	55	2,547	3	0	0	6,406	38	0	0	12,774	96
Resources received free of charge	591	248	368	147	1	3	406	170	2	5	1,368	573
Liabilities assumed by the Treasurer	662	341	290	169	3	2	435	240	8	7	1,398	759
Total revenues from State Government	68,551	55,301	31,952	21,913	793	581	54,671	41,395	1,169	1,145	157,136	120,335
Change in net assets	4,601	314	6,077	2,183	36	63	5,163	4,761	8	136	15,885	7,457

The Schedule of Expenses and Revenues by Service should be read in conjunction with the accompanying notes.



Financial statements

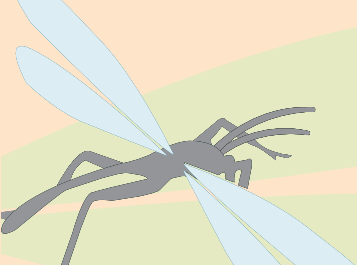
Department of Conservation and Land Management
Summary of Consolidated Fund Appropriations and Revenue Estimates
for the year ended 30 June 2005

	2005 Estimate \$'000	2005 Actual \$'000	Variance \$'000	2005 Actual \$'000	2004 Actual \$'000	Variance \$'000
DELIVERY OF SERVICES						
Item 67 net amount appropriated to deliver services	127,025	141,370	14,345	141,370	118,720	22,650
Amount authorised by other statutes						
- Salaries and Allowances Act 1975	173	226	53	226	186	40
Total appropriations provided to deliver services	127,198	141,596	14,398	141,596	118,906	22,690
CAPITAL						
Item 137 Capital Contribution	11,670	13,660	1,990	13,660	4,802	8,858
GRAND TOTAL OF APPROPRIATIONS	138,868	155,256	16,388	155,256	123,708	31,548
Details of expenses by services						
Nature Conservation	69,057	78,299	9,242	78,299	69,021	9,278
Sustainable Forest Management	35,180	40,905	5,725	40,905	34,436	6,469
Performance of statutory functions by the Conservation Commission of Western Australia	794	757	(37)	757	518	239
Parks and Visitor Services	56,860	65,951	9,091	65,951	54,716	11,235
Astronomical Services	1,315	1,295	(20)	1,295	1,165	130
Total cost of services	163,206	187,207	24,001	187,207	159,856	27,351
Less total revenues from ordinary activities	(38,749)	(45,956)	(7,207)	(45,956)	(46,978)	1,022
Net cost of services	124,457	141,251	16,794	141,251	112,878	28,373
Adjustments (1)	2,741	345	(2,396)	345	6,028	(5,683)
Total appropriations provided to deliver services	127,198	141,596	14,398	141,596	118,906	22,690
Capital expenditure						
Purchase of non-current physical assets	24,383	19,899	(4,484)	19,899	16,207	3,692
Adjustment for other funding sources	(12,713)	(6,239)	6,474	(6,239)	(11,405)	5,166
Capital contribution (appropriation)	11,670	13,660	1,990	13,660	4,802	8,858
DETAIL OF REVENUE ESTIMATES						
Revenues disclosed as Administered Revenues	135	121	(14)	121	125	(4)

(1) Adjustments are related to movements in cash balances and other accrual items such as receivables, payables and superannuation.

The Summary of Consolidated Fund Appropriations and Revenue Estimates should be read in conjunction with the accompanying notes.

This Summary provides the basis for the Explanatory Statement information requirements of TI 945, set out in Note 31.



1. CALM mission and funding

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

In 2004-2005 CALM was predominantly funded by Parliamentary appropriations. CALM provided the services as disclosed at Note 3. Government policy determines the fees charged.

In the process of reporting on CALM as a single entity, all intra-entity transactions and balances have been eliminated.

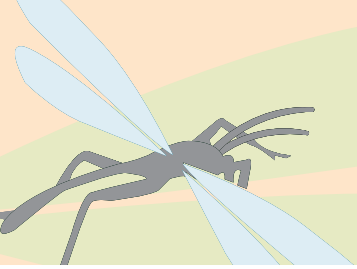
2. Significant accounting policies

The following accounting policies have been adopted in the preparation of the financial statements. Unless otherwise stated these policies are consistent with those adopted in the previous year.

General statement

The financial statements constitute a general purpose financial report which has been prepared in accordance with Accounting Standards, Statements of Accounting Concepts and other authoritative pronouncements of the Australian Accounting Standards Board, and Urgent Issues Group (UIG) Consensus Views as applied by the Treasurer's Instructions. Several of these are modified by the Treasurer's Instructions to vary application, disclosure, format and wording. 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 Accounting Standards, Statements of Accounting Concepts and other authoritative pronouncements of the Australian Accounting Standards Board, and UIG Consensus Views. The modifications are intended to fulfil the requirements of general application to the public sector, together with the need for greater disclosure and also to satisfy accountability requirements.

If any such modification has a material or significant financial effect on the reported results, details of that modification and where practicable, the resulting financial effect, are disclosed in individual notes to these financial statements.



Basis of accounting

The financial statements have been prepared in accordance with Accounting Standard AAS29 Financial Reporting by Government Departments.

The statements have been prepared on an accrual basis using historic cost convention, except for certain non-current assets and liabilities, which, as noted, are measured at fair value.

Administered assets, liabilities, expenses and revenues are not integral to CALM in carrying out its functions and are disclosed in the notes to the financial statements, forming part of CALM's general purpose financial report. The administered items are disclosed on the same basis as is described above for CALM's financial statements. The administered assets, liabilities, expenses and revenues are those that the Government requires CALM to administer on its behalf. The assets do not render any service potential or future economic benefits to CALM, the liabilities do not require the future sacrifice of service potential or future economic benefits of CALM, and the expenses and revenues are not attributable to CALM.

As the administered assets, liabilities, expenses and revenues are not recognised in CALM's principal financial statements, the disclosure requirements of Accounting Standard AAS 33, Presentation and Disclosure of Financial Instruments, are not applied to administered transactions.

a) 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. Refer to Note 16 for further commentary on service appropriations.

b) Contributed equity

Under UIG 38 Contributions by Owners Made to Wholly-Owned Public Sector Entities transfers in the nature of equity contributions must be designated by the Government (owners) as contributions by owners (at the time of, or prior to transfer) before such transfers can be recognised as equity contributions in the financial statements. Capital contributions (appropriations) have been designated as contributions by owners and have been credited directly to Contributed Equity in the Statement of Financial Position. All other transfers have been recognised in the Statement of Financial Performance.

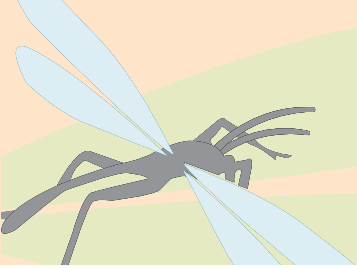
c) Net appropriation determination

Pursuant to section 23A of the Financial Administration and Audit Act, the net appropriation determination by the Treasurer provides for retention of the following moneys received by CALM:

- proceeds from fees and charges;
- Commonwealth specific purpose grants and contributions;
- revenues derived from the sale of real property;
- one-off revenues with a value of less than \$10,000 derived from the sale of property other than real property; and
- other Departmental revenue.

In accordance with the determination, CALM retained \$45,956,000 in 2005 (\$46,978,000 in 2004).

Retained revenues may only be applied to the services specified in the 2004-2005 Budget Statements.



d) Grants and other contributions

Grants, donations, gifts and other non-reciprocal contributions are recognised as revenue when CALM obtains control over the assets comprising the contributions. Control is normally obtained on their receipt.

Contributions 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.

e) Revenue recognition

Revenue from the sale of goods and disposal of other assets and the rendering of services, is recognised when CALM has passed control of the goods or other assets or delivery of the service to the customer.

f) Acquisitions of assets

The cost method of accounting is used for all acquisitions of assets. Cost is measured as the fair value of the assets given up or liabilities undertaken at the date of acquisition plus incidental costs directly attributable to the acquisition.

Assets acquired at no cost or for nominal consideration are initially recognised at their fair value at the date of acquisition.

Assets costing less than \$1,000 are expensed in the year of acquisition.

g) Depreciation of non-current assets

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.

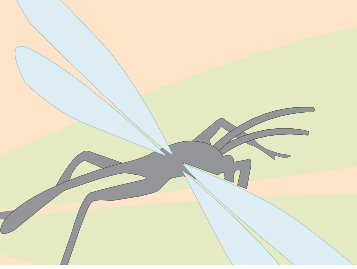
Depreciation is calculated on the straight-line basis, using rates that are reviewed annually. Expected useful lives for each class of depreciable asset are:

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

h) Revaluation of land and buildings

CALM has a policy of valuing land and buildings at fair value.

Freehold land held in the name of the Executive Director, Crown land in the conservation estate and vested State forest are valued by the Department of Land Information (Valuation Services) on either a market value or current use basis. The Department of Land Information (Valuation Services) provided a revaluation for 2004-2005 that has been recognised in the financial statements.



Crown land is reserved for or held by the Conservation Commission of Western Australia for the conservation and land management purposes prescribed by the *Conservation and Land Management Act 1984*. Should the land no longer be reserved or held for these purposes the land becomes Crown land within the meaning of the *Land Administration Act 1997* and thus would no longer be vested in the Conservation Commission. Therefore land of this nature cannot be sold by CALM to meet liabilities or fund activities.

i) Leases

CALM has entered into a number of operating lease arrangements for the rent of buildings, office equipment and motor vehicles where the lessor effectively retains all of the risks and benefits incidental to ownership of the items held under the operating leases. Equal instalments of the lease payments are charged to the Statement of Financial Performance over the lease term as this is representative of the pattern of benefits to be derived from the leased property.

CALM had no finance lease commitments during 2004-2005.

j) Cash

For the purpose of the Statement of Cash Flows, cash includes cash assets and restricted cash assets. CALM held no short-term deposits in 2004-2005.

k) Accrued salaries

The accrued salaries suspense account (refer note 17) 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 in that year instead of the normal 26. 2004-2005 was a year that had 27 pay days. No interest is received on this account.

Accrued salaries (refer note 26) represent the amount due to staff but unpaid at the end of the financial year, as the end of the last pay period for that financial year does not coincide with the end of the financial year. Accrued salaries are settled within a few days of the financial year end. CALM considers the carrying amount of accrued salaries to be equivalent to the net fair value.

l) Inventories

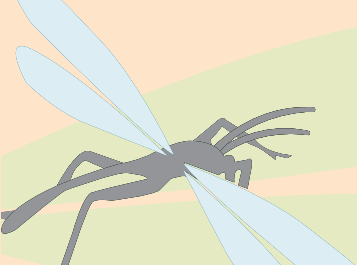
Inventories are valued at the lower of cost and net realisable value. Costs are assigned by the method most appropriate to each particular class of inventory, with the majority being valued on a first-in first-out basis.

Inventories not held for resale are valued at cost unless they are no longer required, in which case they are valued at net realisable value.

m) Receivables

Receivables are recognised at the amounts receivable as they are due for settlement no more than 30 days from the date of recognition.

Collectability of receivables is reviewed on an ongoing basis. Debts that are known to be uncollectable are written off. A provision for doubtful debts is raised where reasonable doubts as to collection exist.



n) Intangible assets

In April 2005 goodwill for Yardie Creek Tours was assessed to be overstated as an earlier attempt to sell the business was unsuccessful. As a result goodwill has been written down.

o) Payables

Payables, including accruals not yet billed, are recognised when CALM becomes obliged to make future payments as a result of a purchase of assets or services. Payables are generally settled within 30 days.

p) Employee benefits

Annual leave

This benefit is recognised at the reporting date in respect to employees' services up to that date and is measured at the nominal amounts expected to be paid when the liabilities are settled.

Long service leave

The liability for long service leave expected to be settled within 12 months of the reporting date is recognised in the provisions for employee benefits and is measured at the nominal amounts expected to be paid when the liability is settled. The liability for long service leave expected to be settled more than 12 months from the reporting date is recognised in the provisions for employee benefits and is measured at the present value of expected future payments to be made in respect of services provided by the employees up to the reporting date. Consideration is given, when assessing expected future payments, to expected future wage and salary levels including relevant on costs, experience of employee departures and periods of service. Expected future payments are discounted using market yields at the reporting date on national government bonds with terms to maturity and currency that match, as closely as possible, the estimated future cash outflows.

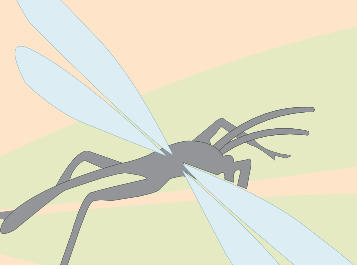
Superannuation

Staff may contribute to the Pension Scheme, a defined benefits pension scheme now closed to new members, or to the Gold State Superannuation Scheme, a defined benefit lump sum scheme now also closed to new members. All staff who do not contribute to either of these schemes become non-contributory members of the West State Superannuation Scheme, an accumulation fund complying with the Commonwealth Government's Superannuation Guarantee (Administration) Act 1992. All of these schemes are administered by the Government Employees Superannuation Board (GESB).

The superannuation expense comprises the following elements:

- (i) change in the unfunded employer's liability 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; and
- (ii) employer contributions paid to the Gold State Superannuation Scheme and the West State Superannuation Scheme.

The superannuation expense does not include payment of pensions to retirees, as this does not constitute part of the cost of services provided by CALM in the current year.



A revenue Liabilities Assumed by the Treasurer equivalent to (i) is recognised under *Revenues from State Government* in the Statement of Financial Performance as the unfunded liability is assumed by the Treasurer. The GESB makes the benefit payments and is recouped by the Treasurer.

CALM is funded for employer contributions in respect of the Gold State Superannuation Scheme and the West State Superannuation Scheme. These contributions were paid to GESB during the year. GESB subsequently paid the employer contributions in respect of the Gold State Superannuation Scheme to the Consolidated Fund.

The liabilities for superannuation charges under the Gold State Superannuation Scheme and West State Superannuation Scheme are extinguished by payment of employer contributions to GESB.

Employment benefit on-costs

Employee benefit on-costs, are recognised and included in employee benefit liabilities and costs when the employee benefits to which they relate are recognised as liabilities and expenses (see notes 4 and 25).

q) Resources received free of charge or for nominal value

Resources received free-of-charge or for nominal value that can be reliably measured are recognised as revenues or expenses as appropriate at fair value.

r) Comparative figures

Comparative figures are, where appropriate, reclassified so as to be comparable with the figures presented in the current financial year.

s) Rounding of amounts

Amounts in the financial statements have been rounded to the nearest thousand dollars, or in certain cases, to the nearest dollar.

3. Services of CALM

Information about CALM's services is set out in the Schedule of Expenses and Revenues by Service. Information about CALM's administered expenses and revenues is set out in note 36.

CALM's five key services are:

Service 1: Nature Conservation

This service comprises the conservation of indigenous plants, animals and ecological processes in natural habitats.

Service 2: Sustainable Forest Management

This service comprises the long-term maintenance of the forest ecosystem.

Service 3: Performance of statutory functions by the Conservation Commission of WA

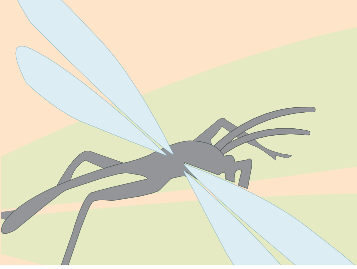
This service comprises the costs of the Conservation Commission of WA in performing its statutory functions.

Service 4: Parks and Visitor Services

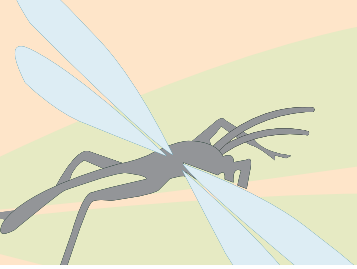
This service comprises community enjoyment and appreciation of parks, wildlife and the natural environment without compromising conservation and management objectives.

Service 5: Astronomical Services

This service comprises astronomical information and services for the benefit of the community.

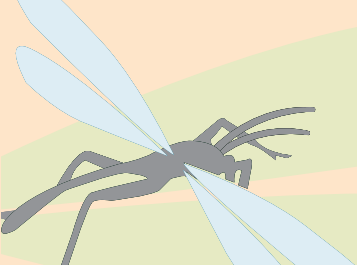


	2005 \$'000	2004 \$'000
4. Employee expenses		
Wages and salaries	68,184	64,297
Superannuation	8,501	7,023
Long service leave	2,670	2,228
Annual leave	7,531	5,765
Other related expenses (I)	473	683
	87,359	79,996
<p>(I) These employee expenses include superannuation, workers compensation premiums and other employment on-costs associated with the recognition of annual and long service leave liability. The related on-costs liability is included in employee benefit liabilities at Note 25.</p>		
5. Supplies and services		
Communications	2,645	2,289
Consultants and contractors	4,921	3,586
Services and contracts	20,282	17,540
Materials	14,742	11,659
Repairs and maintenance	2,709	2,299
Travel	3,112	2,290
GEHA rental expense	1,717	1,530
Other	3,353	2,238
	53,481	43,431
6. Depreciation and amortisation expense		
Depreciation		
Plant, equipment and vehicles	10,542	9,604
Buildings	3,679	2,458
Total depreciation	14,221	12,062
Amortisation		
Goodwill	176	45
Total amortisation	176	45
	14,397	12,107
7. Accommodation expenses		
Lease rentals	803	746
Electricity, power and water	1,226	1,412
Other accommodation expenses	0	5
	2,029	2,163



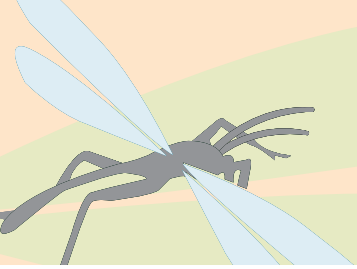
	2004 \$'000
8. Grants and subsidies	
<u>Recurrent</u>	
Conservation Council of WA Inc	134
Shire of Bunbury	0
Shire of Kalamunda	0
City of Wanneroo	0
Bibbulmun Track Foundation	0
City of Joondalup	0
Urban Bushland Council	10
World Wide Fund for Nature	39
Green Skills Inc	20
River Conservation Society Inc	6
Kalgoorlie Boulder Urban Landcare Group	5
Friends of Shenton Park Bushland Inc	5
North Metro Catchment Group Inc	0
Fairbridge Western Australia Inc	0
Lower Moore River Working Group Inc	0
Nickol Bay Naturalists Club	0
Capel LCDC	0
Yongergnow Inc	0
Denmark Weed Action Group	0
Recherche Advisory Group	0
Shire of Moora	0
National Trust of Australia	80
Perth Zoo	50
Forest Heritage Centre	50
City of Cockburn	9
Friends of Yellagonga Regional Park	5
Various grants under \$5,000	121
	534
9. Capital user charge	
	11,276

A capital user charge rate of 8 per cent has been set by the Government and represents the opportunity cost of capital invested CALM's net assets used in the provision of services. The charge is calculated on the net assets adjusted to take account of exempt assets. Payments are made to the Department of Treasury and Finance on a quarterly basis.



	2005 \$'000	2004 \$'000
10. Other expenses from ordinary activities		
Operating lease – motor vehicle	8,360	7,659
Other lease, rental and hire expenses	7,072	2,019
Other	0	3
	15,432	9,681
11. User charges and fees		
User charges	8,371	9,409
Fees	20,350	18,011
	28,721	27,420
12. Commonwealth grants and contributions		
Capital	0	791
Recurrent	4,490	4,182
	4,490	4,973
13. Other grants and contributions		
Capital	1,335	1,461
Recurrent	2,111	2,427
	3,446	3,888
14. Net gain/(loss) on disposal of non-current assets		
<u>Gain on disposal of non-current assets</u>		
Vehicles	643	656
Land	114	11
<u>Loss on disposal of non-current assets</u>		
Buildings	(108)	(24)
Plant and equipment	(46)	(49)
Net gain/(loss)	603	594
15. Other revenues from ordinary activities		
Publications revenue	459	509
Mining compensation revenue	4,284	4,211
Nursery revenue	32	107
Other revenues	1,901	3,247
	6,676	8,074

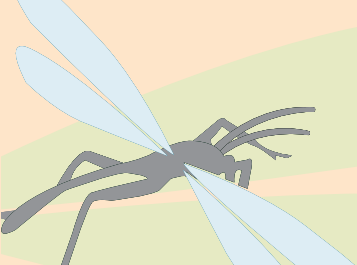
Nursery operations were closed in July 2004



	2005 \$'000	2004 \$'000
16. Revenues from State Government		
Appropriation revenue received during the year:		
Service appropriations (I)	141,370	118,720
<i>Salaries and Allowances Act 1975</i>	226	186
Total appropriations	141,596	118,906
The following liabilities have been assumed by the Treasurer during the financial year:		
- Superannuation (II)	1,398	759
Total liabilities assumed by the Treasurer	1,398	759
The following assets have been assumed from/(transferred to) the Forest Products Commission during the financial year: (III)		
- Plant and equipment	0	1
Total assets assumed/(transferred)	0	1
Initial recognition of assets not previously recognised in the financial statements: (IV)		
- Plant, equipment and vehicles	37	57
- Buildings	12,737	39
Total assets not previously recognised	12,774	96
Resources received free of charge (V)		
Determined on the basis of the following estimates provided by agencies:		
- Department of Land Information	1,146	412
- State Solicitor's Office	135	161
- Department for Planning and Infrastructure	3	0
- Department of Treasury and Finance	84	0
Total resources received free of charge	1,368	573
	157,136	120,335

(I) 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.

(II) The assumption of the superannuation liability by the Treasurer is only a notional revenue to offset 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.



(III) From 1 July 2002 non-discretionary non-reciprocal transfers of net assets (i.e. restructuring of administrative arrangements) have been classified as Contributions by Owners (CBOs) under TI 955 and are taken directly to equity. Discretionary transfers of assets between State Government agencies are reported as Assets assumed/(transferred) under Revenues from State Government.

(IV) 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 have now been recognised in CALM's financial statements.

(V) Where assets or services have been received free of charge or for nominal consideration, 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, and those fair values shall be recognised as assets or expenses, as applicable.

	2005 \$'000	2004 \$'000
17. Restricted cash assets		
Current		
Cash amounts in suspense account	4	10
Accrued salaries suspense account (I)	0	2,634
	4	2,644

(I) Amount held in the suspense account is used for the purpose of meeting the 27th pay in a financial year that occurs every 11 years.

18. Inventories

Current

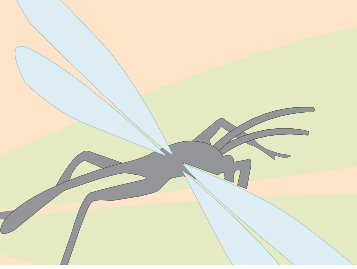
Inventories held for resale:

Publications	412	436
Souvenirs	68	70
Nursery stock	0	5
	480	511
Non-current		
Publications	1,647	1,742
Souvenirs	272	278
	1,919	2,020

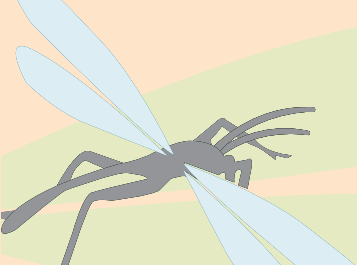
Nursery operations were closed in July 2004.

The aggregate carrying amount of inventories recognised and included in the financial statements is as follows:

- Current	480	511
- Non-current	1,919	2,020
	2,399	2,531



	2005 \$'000	2004 \$'000
19. Receivables		
Current		
Trade debtors	5,916	6,812
Provision for doubtful debts	(382)	(305)
GST receivable	1,596	1,129
Earned revenue	342	687
	7,472	8,323
20. Amounts receivable for services		
Current	4,214	4,214
Non-current	30,608	21,807
	34,822	26,021
<p>This asset represents the non-cash component of service appropriations. It is restricted in that it can only be used for asset replacement or payment of leave liability.</p>		
21. Other assets		
Prepayments	945	737
	945	737
22. Property, plant, equipment and vehicles		
Land		
At fair value (I)	2,215,253	2,187,746
At cost	0	1,082
	2,215,253	2,188,828
Buildings		
At fair value (I)	61,473	32,893
Accumulated depreciation	(3,943)	(11,247)
	57,530	21,646
Buildings		
At cost	0	16,037
Accumulated depreciation	0	(2,666)
	0	13,371
Plant and equipment		
At cost	127,965	109,484
Accumulated depreciation	(52,644)	(40,240)
	75,321	69,244



Department of Conservation and Land Management
Notes to the financial statements for the year ended 30 June 2005

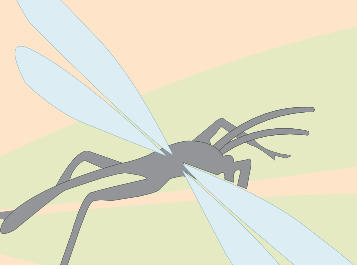
	2005 \$'000	2004 \$'000
Plant and equipment		
At valuation	0	3,478
Accumulated depreciation	0	(3,476)
	0	2
Vehicles		
At cost	18,713	17,174
Accumulated depreciation	(12,492)	(11,660)
	6,221	5,514
Assets under construction	8,226	5,923
	2,362,551	2,304,528

(I) A revaluation of land and buildings was performed during the year ended 30 June 2005 in accordance with an independent valuation by the Department of Land Information (Valuation Services). Fair value of land has been determined on the basis of current market buying values or value in use where no market exists. The fair value of buildings has been determined by reference to the current replacement cost as the buildings are specialised and no market evidence of value is available. Land valuations were made in accordance with a regular policy of annual revaluation.

Reconciliations

Reconciliations of the carrying amounts of property, plant, equipment and vehicles at the beginning and end of the current financial year are set out below:

	2004 - 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	8,077					8,077
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	2,215,253	57,530	75,321	6,221	8,226	2,362,551



	2005 \$'000	2004 \$'000
23. Intangible assets		
Goodwill	225	225
Accumulated amortisation	(225)	(49)
	0	176

During the year Yardie Creek Tours was advertised for sale. In April 2005 an assessment of the value of the business was made. It was determined that the business had a nil value and as a result goodwill has been written off.

24. Payables

Current		
Trade payables	5,125	5,794
	5,125	5,794

25. Provisions

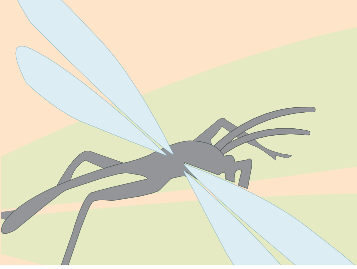
Current		
Annual leave	6,492	5,888
Long service leave	6,443	5,641
Other(l)	1,540	1,268
	14,475	12,797
Non-current		
Long service leave	5,809	5,342
Other (l)	692	588
	6,501	5,930
	20,976	18,727

(l) The settlement of annual and long service leave liabilities gives rise to the payment of employment on-costs including superannuation and workers compensation premiums. The liability for such on-costs is included here. The associated expense is included under other related expenditure (under employee expenses) at note 4.

Employee benefits liabilities

The aggregate employee entitlements liability recognised and included in the financial statements is as follows:

Provision for employee benefits:		
Current	14,475	12,797
Non-current	6,501	5,930
	20,976	18,727



	2005 \$'000	2004 \$'000
26. Other liabilities		
Current		
Accrued expenditure	981	913
Accrued salaries and wages	253	4,016
Accrued superannuation	112	219
Accrued capital user charge	1,195	14
Unearned revenue	1	200
	2,542	5,362

27. 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.

Contributed equity		
Opening balance	15,015	10,213
Capital contributions (I)	13,660	4,802
Contributions by owners (II)	8,077	0
Distribution to owners (III)	(235,975)	(235,321)
Closing balance	(199,223)	(220,306)

(I) Capital contributions have been designated as contributions by owners and are credited directly to equity in the Statement of Financial Position.

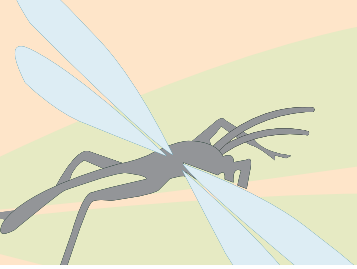
(II) Land transfers from WA Planning Commission

(III) In 2005, sale proceeds from land disposed was not retained. The proceeds were transferred to the Forest Products Commission.

Reserves

Asset revaluation reserve (I)		
Opening balance	2,160,643	1,971,088
Net revaluation increments/(decrements):		
Land	16,176	189,555
Buildings	15,966	0
Closing balance	2,192,785	2,160,643

(I) The asset revaluation reserve is used to record increments and decrements on the revaluation of non-current assets, as described in accounting policy note 2(h).



Department of Conservation and Land Management
Notes to the financial statements for the year ended 30 June 2005

	2005 \$'000	2004 \$'000
Accumulated surplus/(deficiency)		
Opening balance	406,947	399,490
Change in net assets	15,885	7,457
Closing balance	422,832	406,947

28. Notes to the Statement of Cash Flows

(a) Reconciliation of cash

Cash at the end of the financial year as shown in the Statement of Cash Flows is reconciled to the related items in the Statement of Financial Position as follows:

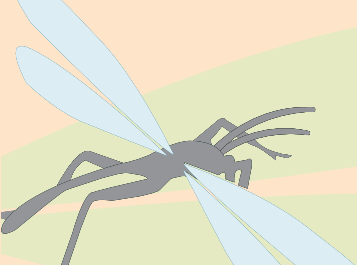
Cash assets	36,844	32,207
Restricted cash assets (refer to note 17)	4	2,644
	36,848	34,851

(b) Reconciliation of net cost of services to net cash flows provided by/(used in) operating activities

Net cost of services	(141,251)	(112,878)
Non-cash items:		
Depreciation and amortisation expense	14,397	12,107
Superannuation liability assumed by the Treasurer	1,398	759
Resources received free of charge	1,368	573
Net (gain)/loss on sale of property, plant and equipment	(603)	(594)
(Increase)/decrease in assets:		
Current receivables (II)	801	350
Current inventories	132	549
Prepayments	(208)	(51)
Other current assets	422	(433)
Increase/(decrease) in liabilities:		
Current payables (II)	(478)	1,400
Provisions	2,248	2,558
Other current liabilities	(2,822)	980
Net GST receipts/(payments) (I)	(410)	106
Net cash provided by/(used in) operating activities	(125,006)	(94,574)

(I) This is the net GST paid/received, i.e. cash transactions.

(II) Note that 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 are not reconciling items.



29. Commitments for expenditure

Non-cancellable operating lease commitments
Commitments for minimum lease payments are payable as follows:
Within 1 year
Later than 1 year and not later than 5 years
Later than 5 years

	2005 \$'000	2004 \$'000
Within 1 year	5,283	4,908
Later than 1 year and not later than 5 years	24,082	14,508
Later than 5 years	7,151	4,816
	36,516	24,232

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.

30. 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 \$550,000, of which \$445,000 is fire related. CALM has disclaimed liability and will defend any action.

(b) Native title claims

Native title claims have been made on CALM-managed land but as yet no claims have been determined by the National Native Title Tribunal. It is not practicable to estimate the potential financial effect of these claims at this point in time.

31. Explanatory statement

The Summary of Consolidated Fund Appropriations and Revenue Estimates discloses appropriations and other statutes expenditure estimates, the actual expenditures made and revenue estimates and payments into the Consolidated Fund. Appropriations are now on an accrual basis.

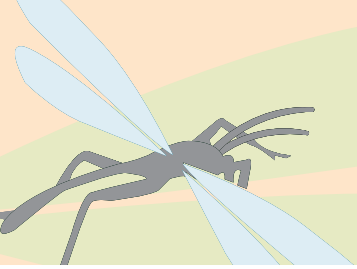
The following explanations are provided in accordance with Treasurer's Instruction 945. Significant variations are considered to be those greater than 10 per cent or \$3,000,000, whichever is greater.

(i) Significant variances between estimate and actual -

Total appropriation to deliver services:

	2005 Estimate \$'000	2005 Actual \$'000	Variance \$'000
Total appropriations provided to deliver services	127,198	141,596	14,398

There was a significant variance in the total appropriation provided to CALM in 2005 which was \$14.398M greater than the estimate and this was due principally to the funding of wildfire suppression costs of \$12.641M. The 2005 fire season was particularly severe and experienced the largest fire in the northern jarrah forest since the 1961 Dwellingup fire. There were also significant offsetting variances in the following output expenditure and total revenues from ordinary activities:



Department of Conservation and Land Management
Notes to the financial statements for the year ended 30 June 2005

	2005 Estimate	2005 Actual	Variance
	\$'000	\$'000	\$'000
Details of expenses by services			
- Nature Conservation	69,057	78,299	9,242

The increased expenditure in this service above the estimate relates principally to wildfire suppression expenditure \$3.4M, additional externally funded specific purpose projects \$1.3M, change in leave liability provisions \$0.9M, additional depreciation and capital user charges \$0.79M, superannuation liabilities assumed by the Treasurer \$0.5M, additional recoupable works \$0.4M and resources received free of charge \$0.3M.

- Sustainable Forest Management	35,180	40,905	5,725
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The increased expenditure in this service above the estimate relates principally to wildfire suppression expenditure \$6.9M offset by general savings in expenditure for this service.

- Parks and Visitor Services	56,860	65,951	9,091
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The increased expenditure in this service above the estimate relates principally to wildfire suppression expenditure \$1.9M, additional maintenance of parks and visitor facilities \$1.9M, depreciation charges \$1.2M, capital user charge \$0.9M, change in leave liability provisions \$0.6M, superannuation liabilities assumed by the Treasurer \$0.3M and resources received free of charge \$0.2M.

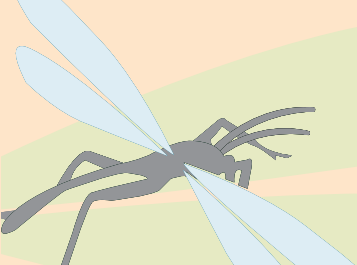
Total revenues from ordinary activities	38,749	45,956	7,207
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Additional revenues for 2005 were attributable to increased externally funded recoupable projects \$3.2M, mining compensation receipts \$1.4M, proceeds from the disposal of non current assets \$0.6M and bank interest receipts \$0.5M.

(ii) Significant variances between actual and prior year actual - Total appropriation to deliver services:

	2005 Actual	2004 Actual	Variance
	\$'000	\$'000	\$'000
Total appropriations provided to deliver services	141,596	118,906	22,690

There was a significant variance in the total appropriation provided to CALM in 2005 which was \$22.69M greater than the 2004 actual and this was due principally to; funding of wildfire suppression costs of \$10.9M, salinity strategy \$3.665M, payroll increases \$2.465M, Forest Management Plan implementation \$1.513M, depreciation adjustment \$1.159M, indigenous joint management of national parks \$1M, capital user charge adjustment \$0.961M. A reduction in the appropriation of \$1.087M was applied in respect of cost savings forecast from whole of government procurement reform. There were also significant variances in the following services expenditure from ordinary activities:



Department of Conservation and Land Management
Notes to the financial statements for the year ended 30 June 2005

	2005 Actual \$'000	2004 Actual \$'000	Variance \$'000
Details of expenses by services			
- Nature Conservation	78,299	69,021	9,278

The increased expenditure in this service in 2005 above the 2004 actual relates principally to an overall increase in employee expenses \$3.7M, wildfire suppression of \$2.6M, depreciation and capital user charges \$0.8M and salinity strategy expenditure \$0.4M.

- Sustainable Forest Management	40,905	34,436	6,469
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The increased expenditure in this service in 2005 above the 2004 actual relates principally to wildfire suppression of \$6.3M.

- Parks and Visitor Services	65,951	54,716	11,235
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The increased expenditure in this service in 2005 above the 2004 actual relates principally to depreciation and capital user charges \$2.8M, additional maintenance of parks and visitor facilities \$1.9M, wildfire suppression \$1.4M, additional maintenance works in Perth's Regional Parks \$1.4M and an overall increase in employee expenses \$1.3M.

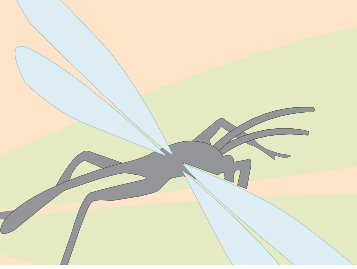
(iii) Significant variances between estimate and actual - Capital contribution:

	2005 Estimate \$'000	2005 Actual \$'000	Variance \$'000
Capital contribution (appropriation)	11,670	13,660	1,990

Additional capital funding of \$1.99M was provided in 2004-2005 for the purchase of five freehold blocks of land of high conservation value within the D'Entrecasteaux National Park for inclusion in the national park.

Purchase of non-current physical assets	24,383	19,899	(4,484)
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Capital expenditure in 2005 was under the estimate in the following items; conservation land purchase \$2.715M, parks and visitor facilities \$2.9M, new office accommodation at Denham \$0.947M and accommodation master plan for the Kensington site \$0.225M. Offsetting overexpenditures occurred in 2005, principally in the purchase of land for conservation within the D'Entrecasteaux National Park \$1.99M.



	2005 Actual \$'000	2004 Actual \$'000	Variance \$'000
(iv) Significant variances between actual and prior year actual - Capital Contribution:			
Capital contribution (appropriation)	13,660	4,802	8,858

The capital contribution increased in 2005 by \$8.858M due to increased funding provided for improvement of park and visitor facilities \$4.15M, improvement of tourism roads \$2.6M and land purchase for conservation \$1.99M.

Purchase of non-current physical assets	19,899	16,207	3,692
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The actual capital expenditure in 2005 was greater than 2004 by \$3.692M due principally to improvements of tourism and recreation facilities \$1.5M, conservation land purchases \$1.4M and heavy fleet vehicles \$0.8M.

(v) Significant variances between estimate and actual, and actual and prior year actual - Administered revenues:

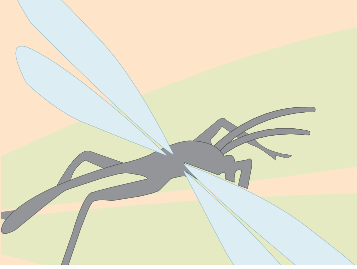
No significant variations.

32. Financial instruments

(a) 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
2005	%	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Financial assets							
Cash assets	5.31	36,844	-	-	-	-	36,844
Restricted cash assets	5.31	4	-	-	-	-	4
Receivables		-	-	-	-	5,916	5,916
		<u>36,848</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>5,916</u>	<u>42,764</u>
Financial liabilities							
Payables	-	-	-	-	-	5,125	5,125
		<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>5,125</u>	<u>5,125</u>
2004							
Financial assets	5.02	32,217	-	-	-	9,446	41,663
Financial liabilities	-	-	-	-	-	5,794	5,794



Department of Conservation and Land Management
Notes to the financial statements for the year ended 30 June 2005

	2005 \$'000	2004 \$'000
(b) Credit risk exposure		
All financial assets are unsecured.		
Amounts owing by other Government agencies are guaranteed and therefore no credit risk exists in respect of those amounts. In respect of other financial assets, the carrying amount represents CALM's maximum exposure to credit risk in relation to those assets.		
The following is an analysis of the amounts owing by other Government agencies:		
- State Government agencies	3,958	5,080
- Local Government agencies	26	9
- Federal Government agencies	90	178
Total	4,074	5,267

(c) Net 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, determined in accordance with the accounting policies disclosed in Note 2 of the financial statements.

33. Remuneration of senior officers

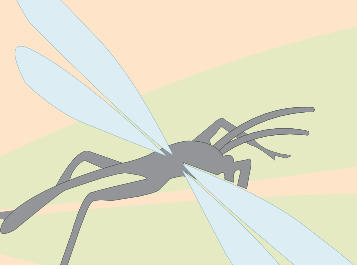
Remuneration

The number of senior officers, whose total of fees, salaries, superannuation and other benefits for the financial year, fall within the following bands are:

\$	2005	2004	2005 \$000	2004 \$000
20,001 – 30,000	0	1		
100,001 – 110,000	0	2		
110,001 – 120,000	1	4		
120,001 – 130,000	4	1		
130,001 – 140,000	3	0		
210,001 – 220,000	0	1		
250,001 – 260,000	1	0		
The total remuneration of senior officers is:			1,289	1,050

The superannuation included here represents the superannuation expense incurred by CALM in respect of senior officers.

No senior officers are members of the Pension Scheme.



34. Remuneration of Auditor

Remuneration to the Auditor General for the financial year is as follows:

Auditing the accounts, financial statements and performance indicators

	2005 \$'000	2004 \$'000
	100	93

35. Supplementary financial information

Write-offs

Losses of public money and public or other property

Irrecoverable amounts

119	54
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Other (includes obsolete)

0	41
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General (includes thefts reported to Police, lost property and stock taking deficiencies)

6	22
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125	117
-----	-----

Public and other property, revenue and other debts due to the State written off under the authority of:

Executive Council

74	0
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The Minister

41	96
----	----

The Executive Director

10	21
----	----

125	117
-----	-----

36. Administered expenses and revenues
Expenses

Receipts paid into Consolidated fund

112	125
-----	-----

Total administered expenses

112	125
-----	-----

Revenues

For transfer:

Fauna licences

110	124
-----	-----

Revenue from regulatory fines

11	1
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Total administered revenues

121	125
-----	-----

37. Administered assets and liabilities

Current assets

Cash assets

9	0
---	---

Total administered current assets

9	0
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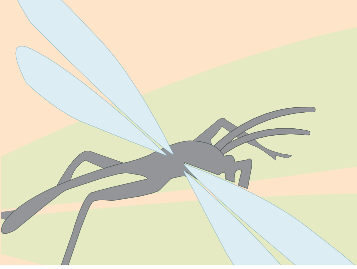
Current liabilities

Payables

9	0
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Total administered current liabilities

9	0
---	---



38. Impact of adopting Australian Equivalents to International Financial Reporting Standards (AIFRS)

The impact of adopting AIFRS including the key differences in accounting policies is set out below.

Reconciliation of total equity as presented under previous Australian Generally Accepted Accounting Principles (AGAAP) to that under AIFRS:

	30 June 2005 \$'000	1 July 2004 \$'000
Total equity under previous AGAAP	2,416,394	2,347,284
Adjustments to accumulated surplus/(deficiency):		
Write-down goodwill (I)	0	(176)
Write-down plant and equipment (II)	0	(2)
Building valuation (III)	0	22,954
Total equity under AIFRS	2,416,394	2,370,060

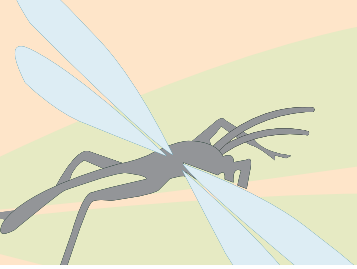
The adjustments are explained as follows:

- (I) AASB 136 Impairment, Goodwill for Yardie Creek Boat Tour business has been written off.
- (II) (II)AASB 136 Impairment, several items of plant and equipment held at valuation have been written off.
- (III) AASB 116 Property, plant and equipment, entire class to be reported on a consistent measurement, in this case fair value.

Reconciliation of surplus/(deficit) for the period as presented under previous AGAAP to that under AIFRS:

	30 June 2005 \$'000
Surplus/(deficit) for the period under previous AGAAP	15,885

Management has decided the quantitative impacts using their best estimates available at the time of preparing the 30 June 2005 financial statements. These amounts may change in circumstances where the accounting standards and/or interpretations applicable to the first AIFRS financial statements are amended or revised.



AUDITOR GENERAL

INDEPENDENT AUDIT OPINION

To the Parliament of Western Australia

**DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2005**

Audit Opinion

In my opinion,

- (i) the controls exercised by the Department of Conservation and Land Management 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
- (ii) the financial statements are based on proper accounts and present fairly in accordance with applicable Accounting Standards and other mandatory professional reporting requirements in Australia and the Treasurer's Instructions, the financial position of the Department at 30 June 2005 and its financial performance and cash flows for the year ended on that date.

Scope

The Executive Director's Role

The Executive Director is responsible for keeping proper accounts and maintaining adequate systems of internal control, preparing the financial statements, and complying with the Financial Administration and Audit Act 1985 (the Act) and other relevant written law.

The financial statements consist of the Statement of Financial Performance, Statement of Financial Position, Statement of Cash Flows, Schedule of Expenses and Revenues by Services, Summary of Consolidated Fund Appropriations and Revenue Estimates, and the Notes to the Financial Statements.

Summary of my Role

As required by the Act, I have independently audited the accounts and financial statements to express an opinion on the controls and financial statements. This was done by looking at a sample of the evidence.

An audit does not guarantee that every amount and disclosure in the financial statements 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.

D D R PEARSON
AUDITOR GENERAL
30 September 2005

