

ANNUAL REPORT



**CONSERVATION AND
LAND MANAGEMENT**

JULY 1991 TO JUNE 1992

HONOURABLE 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.

Included in this report are performance indicators by which the effectiveness and efficiency of some Departmental operations can be measured. These are prescribed in the Financial Administration and Audit Act.

This Report also contains general statistics, tables and appendices which convey the Department's performance for the year and provide a comparison against previous years.



Syd Shea
EXECUTIVE DIRECTOR

CALM'S MISSION AND OBJECTIVES

Western Australia has a beautiful and diverse natural environment which provides material, aesthetic and spiritual benefits. The natural environment is an essential component of the quality of life for West Australians. The statement of mission adopted for the Department of Conservation and Land Management is therefore:

To conserve Western Australia's wildlife and manage lands and waters entrusted to the Department for the benefit of present and future generations.

CALM's five primary objectives are:

Management: To protect, restore and enhance the value or resources entrusted to the Department so as to meet, as far as possible, the diverse expectations of the community.

Conservation: To conserve indigenous plants and animals and environmental processes in natural habitats throughout the State.

Production: To provide and regulate the supply of those renewable resources that Government decides should be used, on a sustained yield basis for the satisfaction of long-term social and economic needs, and in a manner that minimises impact on other values.

Recreation and Tourism:

To facilitate public enjoyment of the natural attributes of public lands and reserved waters in a manner that does not compromise conservation and other management objectives.

Knowledge: To seek a better understanding of the natural environment and to promote awareness and appreciation of its values.

A MESSAGE FROM THE EXECUTIVE DIRECTOR

There's an old Chinese curse that runs: 'May you live in interesting times.' For the Department of Conservation and Land Management, that just about sums up the twelve exciting months of 1991-92.

When the Department was created in 1985, its *raison d'être* - to act as custodian of the environment while also serving the more immediate needs of the community - seemed to many to be quite a challenge. We of CALM, on the other hand, have always thought of it as a logical exercise in harmony between nature and humanity. After seven years, our record increasingly shows that our mission is not only achievable, but even inevitable. Since the historic agreement between CALM and the Australian Heritage Commission some months ago, the notion of an integrated land agency such as CALM has been recommended by the Resource Assessment Commission, as a model for other States and the Federal Government.

When people examine the history of CALM, this year's achievements will stand out as milestones. Three of them are fundamental to our reason for being: the release of the draft Nature Conservation Strategy, the release of the draft Forest Management Review, and the agreement between CALM and the AHC.

Around the Department there are numerous other examples of innovative projects, such as ecotourism ventures, tree planting projects which achieve economic and environmental objectives, and recreation developments which provide for community recreation and enhance our tourist potential.

In order to develop these initiatives, a huge amount of work is being done by a lot of dedicated CALM staff. Because it is all around me, I never have any trouble observing the quality of work done by the Department's people. However, there are not so many opportunities for me to pay public tribute to them. We would not achieve the results we do without staff who have the ability to deliver them.

That is especially important now that we face tougher times. We must now do more with less taxpayer-direct funding, which requires a culture change in Government agencies.

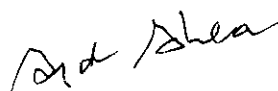
I am pleased to have this opportunity to thank all members of the Department and their spouses and families for their continued commitment to CALM.

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PERFORMANCE INDICATORS

I certify that the performance indicators (pp. 45-49) are based on proper records and fairly represent the performance of the Department of Conservation and Land Management for the year ended June 30, 1992.



Syd Shea
EXECUTIVE DIRECTOR
14 August 1992

1991-92 was a big year for CALM, though in many ways a typical one. It began with the news in July 1991 that the tanker *Kirki* had spilled 10 000 tonnes of oil off the vulnerable Jurien coast. It changed its mood in January with 44 bushfires over the Australia Day long weekend, and ended in June 1992 with the discovery near Wellington Dam of a colony of quokkas, a species usually thought of only in relation to Rottnest Island. In between, events ranged from the completion of a major forest inventory, the addition of 873 456 hectares to the lands and waters managed by CALM, the launch of the intriguingly named Operation Foxglove, and the release in draft form of two major conservation and land management strategies.

LOOKING AFTER NATURE

After a year of intensive preparation, the Department released its draft Nature Conservation Strategy in February 1992. It was open for public comment for five months. The fundamental objective, quoted from the strategy document, is bold and far-reaching: to provide guidelines by which the Western Australian community can 'conserve in perpetuity the widest possible diversity of indigenous landscapes, ecosystems and species (including their genetic variability), in natural habitats in Western Australia'. This directly supports CALM's mission (see inside front cover).

Nature conservation has become increasingly significant in our community. At the same time, the State has been growing and developing with increasing speed, and there have been many conflicts between development and conservation interests. There is now considerable recognition throughout the community that successful development and successful conservation must go hand in hand.

The strategy identifies the following key actions:

- ◆ To complete the conservation reserve system by selecting, reserving and managing viable protected areas broadly representative of the natural ecosystems and species of Western Australia and including areas with special landscape, cultural and educational values.
- ◆ To promote, encourage and assist nature conservation on private and other lands and waters outside the conservation estate.
- ◆ To protect, conserve and manage threatened species, ecosystems and communities by conducting and applying research and protecting and managing key areas and critically endangered species.
- ◆ To control processes that are threatening large areas of habitat and/or many species.
- ◆ To promote and assist the integration of nature conservation with economic activity according to the principles of ecologically sustainable development.

- ◆ To promote the appreciation and awareness of the natural environment and the role of effective nature conservation in the well-being of human society.
- ◆ To develop new ways of attracting resources to nature conservation.

In order to maintain Western Australia's remarkably diverse, globally significant range of plants and animals, we will need the knowledge to manage the ecosystems and the endangering processes on conservation reserves and other land. We will also continue to require specific actions to prevent the extinction of critically endangered species. It is a task for the whole community, not just one or a few government agencies.

CHANGES IN THE FOREST

CALM also released this year a major review of WA forest management - the Forest Management Strategy. The document was open for public scrutiny for four months, and attracted more than 2 000 comments. These are now being evaluated before a modified final strategy is released. Improved nature conservation measures, new national parks and changes to timber harvesting are among the draft recommendations. There is good news for environmentalists and the timber industry alike.

The 12-month review is the most comprehensive examination of our native forests since the 1987 forest management plans, the Conservation and Recreation Plan, and the Timber Strategy. The new strategy is based on advances in technology and scientific research, and on the knowledge gained from implementing the 1987 strategy.

Two new national parks are among 18 new conservation reserves proposed in south-west forests, totalling 124 000 hectares. Still to be named, the parks would be created near Collie and north-west of Denmark. As well, every stream in the forest would have a corridor of undisturbed vegetation, extending existing river and stream zones by five times their present area. A total of 154 000 hectares would be allocated to river and stream zones throughout the forest.

Despite these massive additions to the conservation reserve system, existing levels of timber yield from the forest can be sustained indefinitely. This is an exciting reversal of one of the assumptions of the 1987 Timber Strategy, which conservatively forecast a decrease in the supply of jarrah and karri. The jarrah forest had not then been recently inventoried. The inventory, foreshadowed in the 1987 strategy, has now been completed (see JARRAH INVENTORY in this section). According to the new inventory, the level of sustainable wood harvest from the karri and jarrah forest is 1 360 000 cubic metres of jarrah, 417 000 cubic metres of karri, and 508 000 cubic metres of marri.

Another result of the Forest Management Strategy is a series of important changes to timber harvesting operations. More old trees will be retained, smaller and more dispersed sites will be cut, and the size of individual areas to be harvested will be reduced dramatically. Harvesting will be designed to mimic the natural patterns of the forest.

JARRAH INVENTORY

One major discovery this year was that the volume of timber in WA's jarrah forest is much greater than anyone had thought.

Using advanced technology, CALM staff have now completed stage one of the biggest single stocktake of an entire forest ever carried out in Australia. They surveyed one and a half million hectares of State forest over the three-year project, measuring 700 000 trees in the first phase of the Department's jarrah forest inventory. Using aerial photography directed by satellites and analysed by computers, staff from Inventory, Land Information, Fire Protection, and Information Systems branches worked on the inventory, with help from CALM district offices, the University of Melbourne, and Curtin University of Technology.

The flight paths of a specially equipped helicopter were fixed by a precise satellite navigation system, known as the Global Positioning System.

Altogether, 28 000 photographs were taken, providing quick, low-cost estimates of timber volume in the State's jarrah, marri and wandoo forests. These have been supported by measurements of about 80 000 trees on the ground, giving estimates of volumes of different log grades. The ground measurements have been taken in such a way that new estimates can be recalculated even when the requirements for log use change.

A combination of Geographic Information Systems with the precise sample locations and statistical analysis allows examination of timber volumes over any subsection of the forest.

The result is a much more accurate estimate of the number of trees in the forests, together with their heights, girths and timber quality. Amongst other things, this study has confirmed that the log yield can be maintained on a sustainable basis, whereas the Timber Strategy of 1987 was based partly on the assumption that the industry would need to scale down its activities over a period of years.

The inventory now enters its second phase, the continuous updating of information to allow for the effects of timber harvest and other disturbances.

FOREST MANAGEMENT: A MODEL FOR AUSTRALIA

In February, an historic agreement was announced between CALM and the Australian Heritage Commission (AHC). The agreement is the first between a State forest manager and the AHC, and is expected to become a model for similar moves around Australia.

The two agencies worked closely together to assess the southern forests of WA for heritage values worthy of listing in the Register of National Estate. What makes the agreement significant is that national estate values and forest management were examined in a comprehensive regional review, rather than proceeding independently and on a site-to-site basis.

The Resource Assessment Commission (RAC) completed its investigation of Australian forests and forest industries in 1992. Its final report recommended that the concept of the integrated land management agency, pioneered in WA by CALM, should be adopted throughout Australia.

The RAC's final report generally endorses Western Australia's approach to forest management. It concluded that WA is practising sustained yield of timber in native forests, and that the cessation of timber harvesting in native forest cannot be justified. It also applauded the agreement between CALM and the Australian Heritage Commission.

Since the 1970s there have been over 30 inquiries into Australian forests. One result has been confusion and doubt, which should be cleared up by the report. The RAC has confirmed the legitimacy of all traditional uses of the forest, including timber harvesting.

CALM regards it as important that industry continues to work with State forest agencies to ensure that forests are protected, forest processes are sustained, and that all users are catered for in an equitable way.

OPERATION FOXGLOVE

One creature will certainly be affected by CALM's Forest Management Strategy - the introduced European fox. This foreign predator is arguably the greatest threat to the conservation and biological diversity of forest fauna. CALM research shows it to be the most serious cause of small mammal decline; its introduction probably caused dozens of mammal species to become extinct or disappear from large areas of Australia. It continues to threaten the survival of many other species, such as the tammar wallaby and western swamp tortoise, that still survive in small pockets.

In what it calls Operation Foxglove, the Department has set a 10-year target to make 20 per cent of the forest fox-free. Research results available this year show that if fox

populations are controlled, large numbers of small and medium-sized native mammals can rapidly recolonise suitable habitats - the woylie population at Dryandra forest has risen 400 per cent after two years of fox control. The baits used in that program contain 1080, a naturally occurring poison, to which native fauna are largely resistant. CALM scientists would prefer a form of biological control over predators, however, and are researching a range of possible solutions.

While the research trials from fox control programs have shown dramatic results, current fox control programs are relatively small and there has been no overall coordination with adjacent landholders. CALM will work with the Agriculture Protection Board as well as landowners and other agencies in Operation Foxglove and will seek funds from the private sector. This coordination will ensure that efforts to control foxes are directed at the most needed areas and carried out in the most efficient manner.

As well as boosting existing fox control projects, funds will be directed to several new areas considered to be a high priority. For instance, researchers are keen to target a reserve in the northern jarrah forest, such as Lane Poole, where chuditch, quokkas, brush wallabies, bandicoots and possums all occur.

COOPERATIVE RESEARCH CENTRE

CALM's scientists are working in the Cooperative Research Centre for Biological Control of Vertebrate Populations, which has attracted Federal Government funding of \$12.42 million to be spread over the seven years it is expected to run (1992-99).

The Centre is formed by cooperation between the Australian National University in Canberra, the CSIRO Division of Wildlife and Ecology, the Department of Conservation and Land Management, and the Agriculture Protection Board. Its chief aim is to develop environmentally benign, humane, and species-specific means of controlling vertebrate pest species, with control of fertility being genetically engineered. To do this the Centre will draw on, and contribute to, developments in the fields of reproductive physiology, immunology, virology, ecology and social behaviour.

NEW LANDS

The WA Government, through CALM, has acquired four very scenic and ecologically significant areas, boosting WA's total conservation estate to an area more than twice the size of Tasmania. It is planned to create a new national park in the King Leopold Ranges, together with three other significant conservation reserves. It is one of the most important conservation initiatives in the Kimberley for several years.

CALM purchased the Mt Hart pastoral station, north-east of Derby, adding 370 000 hectares of land to the conservation estate. The station includes spectacular ranges and gorges and many rare animal species such as brindled bandicoots, rock wallabies and rock ringtails. The sweep of the land is impressive and includes the Bell Creek Gorge, Lennard River Gorge, a number of mountains including Mounts Ord, Bell, Vincent and Broome, as well as Inglis Gap and Bold Bluff - a massive stone outcrop.

The second major acquisition is 42 500 hectares of land excised from the Brooking Springs, Fairfield and Kimberley Downs stations. This area includes a portion of the Devonian Reef and it is intended that a future conservation reserve would also incorporate the existing Tunnel Creek National Park. It is an exciting proposal because the area contains portions of the Oscar and Napier Ranges, which are the limestone remnants of an ancient barrier reef. As well as being geologically significant, the ranges contain some of the most beautiful and striking scenery in WA.

CALM has also acquired land around Brooking Gorge, 16 kilometres west of Fitzroy Crossing. The Gorge, which will become a conservation park, is a long, narrow, limestone gorge that contains permanent pools of fresh water.

The area is part of an excision from Brooking Springs station which also included land adjacent to the Geikie Gorge National Park, one of the most popular tourist attractions in the Kimberley. It is planned to add this land to the Geikie Gorge National Park, in effect doubling its size.

The Department is headed by an Executive Director, who is also a member of the Lands and Forest Commission, an *ex officio* member of the National Parks and Nature Conservation Authority and Chairman of the Forest Production Council.

The management philosophy adopted by the Department is one of devolution of authority and recognition, development and utilisation of the skills of staff. Given suitable ability, there is no impediment to the progress of an individual in the organisation.

The Department operates a Corporate Executive. The diverse nature of CALM functions makes this approach essential. It comprises the Executive Director, General Manager and eight Directors. Regional, branch and other specialist officers are involved according to the relevance of matters discussed.

The detailed structure of divisions, regions and branches is shown in Figure 1. The names and qualifications of the officers occupying senior managerial positions are shown in the table on p. 9.

REGIONAL ACTIVITIES

CALM is committed to regionalisation. There are nine regions which, according to the intensity of activity, are subdivided into districts. Accordingly, the Department is spread over many locations. Figure 2 shows CALM regional boundaries and the location of regional and district offices.

Management structures are in place at nine regional, 21 district and four sub-district offices. Within the regions there are national park rangers at 31 other locations, and a district wildlife officer at one other.

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 are most important. Satisfactory experiences for the 4.6 million visitors (1991-92 figures) to CALM-managed lands and waters, drawn from local, statewide, interstate and overseas sources, are largely in their hands. Regional staff are also responsible for the conservation of native flora and fauna within regional boundaries. In the three forest regions in the south-west of the State, there is also a large commitment to managing the production of wood resources and regeneration and protection of the forests for a wide range of other values.

The Goldfields region has a similar commitment to sandalwood resources.

Regional managers have a great deal of autonomy. Each is responsible for developing the region's annual works program under general direction as to priority and for managing the budget allocation. Liaison with local groups, especially formal Aboriginal communities, other Government agencies and the community in general, is extensive. There are often advisory committees established with a focus on parts of CALM-managed lands and waters. The committees make input into the preparation of management plans and, after their approval, advise on management. It is mostly the regional manager who has responsibility for this important interface with the local community.

The table on the next page shows expenditure and resources applied by CALM's regions.

As well, 14 research programs were being conducted throughout the State during 1991-92. All regions were involved to a greater or lesser degree. Some responsibility for program resources remains with research centres at Woodvale and Como.

SPECIALIST AND SERVICE BRANCHES

Operations throughout the State are directed by the Corporate Executive and supported by specialist and service branches located in Perth. The responsibilities of the specialist and service branches are as follows.

Economics Branch - advises the Executive Director on economics, socio-economics and long-term strategic management planning across all functions and activities of the Department. The work directly influences the magnitude of the Department's revenues and expenditures, and the management of forests and other resources.

Public Affairs and Community Education - plans, coordinates and implements CALM's public information and public relations activities, produces publications, displays, media releases and audio-visuals, coordinates community education programs, conducts public affairs and market research.

Internal Audit - responds directly to the General Manager, providing regular management-oriented appraisals of financial operations and activities within the Department.

Wildlife Branch - provides information and advice on wildlife protection and management throughout the State, administers wildlife licences and permits, enforces regulations, and maintains and manages databases on wildlife resources and conservation status.

REGIONAL EXPENDITURE AND RESOURCES 1991-92

<i>Region</i>	<i>Staff (full-time equivalent)</i>	<i>Consolidated Revenue Fund \$'000</i>	<i>Capital \$'000</i>
<i>Swan</i>	417	14 922	945
<i>Central Forest</i>	239	24 782	4 685
<i>Southern Forest</i>	162	27 209	2 017
<i>South Coast</i>	46	2 330	1 340
<i>Kimberley</i>	22	1 437	70
<i>Wheatbelt</i>	30	1 522	29
<i>Greenough</i>	19	1 567	5
<i>Pilbara</i>	16	1 185	59
<i>Goldfields</i>	13	932	0
<i>Gascoyne</i>	11	723	54
TOTAL	975	76 610	9 204

Environmental Protection Branch - prepares guidelines and procedures for protection from dieback, weeds and vermin, evaluates mining proposals, and advises on implementation and rehabilitation of CALM land.

Planning Branch - prepares management plans in draft and final form according to requirements of the Act and provides planning advice.

Recreation and Landscape Branch - provides recreation and landscape planning and design assistance, recreation planning research and management advice.

Policy and Extension Branch - provides policies and strategies for recreation, tourism and other visitor services and for Aboriginal and special interests on CALM lands and waters. Coordinates CALM Volunteers, conducts market research.

Timber Production Branch - controls and monitors the harvesting of timber and collection of royalties; advises on timber quality, wood technology and related matters.

Inventory Branch - services management operations of the Department with resource information and plans for forest production, and disease protection; develops associated computer systems.

Silviculture Branch - develops silvicultural guidelines and practices, advises on their implementation and manages nurseries and seed supplies.

Fire Protection Branch - prepares fire protection and suppression plans, provides detection and aerial prescribed burning services, and conducts fire training courses.

Research - there are 14 scientific research programs designed to provide specialised information which will support conservation of flora and fauna, land and resource management planning in discrete areas of the CALM estate. In particular, issue plans and wildlife management programs are based on research findings which are related to operational practice.

Land Information Branch - plans and coordinates development of CALM's Integrated Land Information Systems; provides a geographic related information service, digital and analogue, within the Department and externally as required.

Information Systems Branch - plans, implements and coordinates management of CALM's information technology systems, facilitates computerisation of corporate information and its flow throughout the organisation.

Library Services - provides a corporate book and scientific literature reference service to CALM staff, serves as a reference source for information on wildlife, forestry and conservation to external parties.

Records Management Branch - controls the Records Management System, associated hard copy file information, research reference and Parliamentary Question databases, ensures the flow of information.

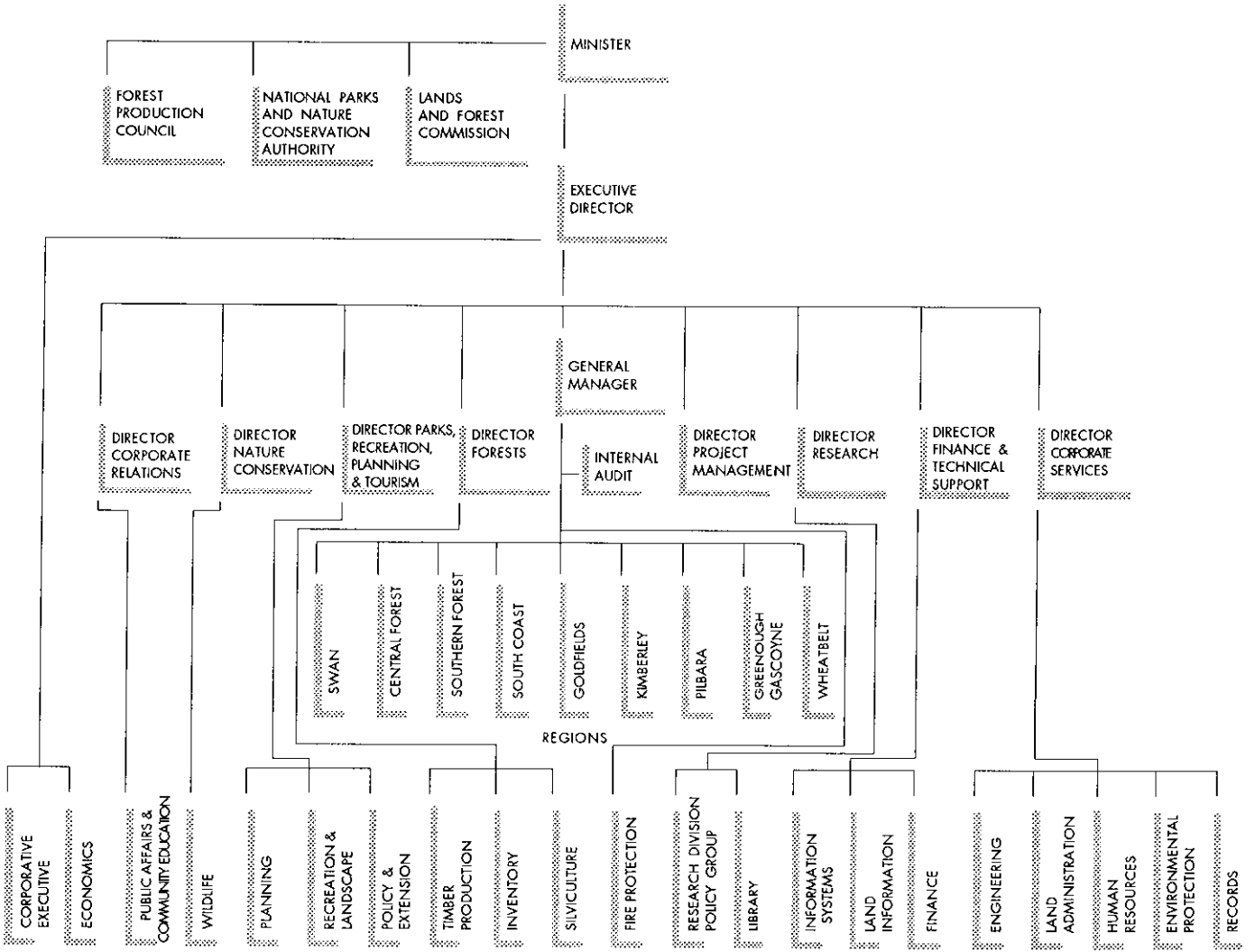
Human Resources Branch - provides human resource management through coordination of selection and training of staff, liaison with unions and industrial associations, conducting a safety, health and welfare program, and maintaining staff records.

Finance Branch - maintains, operates and develops financial systems and procedures and provides users with financial training, expertise, reports and budgeting information.

Engineering Branch - administers the vehicle fleet, houses and buildings, and stores, and consults on the engineering of various projects.

Land Administration Branch - administers land and marine tenure and transactions, as well as applications, leases, permits and offences within CALM-managed lands and waters.

**FIGURE 1
ORGANISATIONAL STRUCTURE**



SENIOR DEPARTMENTAL OFFICERS

EXECUTIVE DIRECTOR

S R Shea PhD, MSc, BSc

GENERAL MANAGER

R J Underwood M For, BSc, Dip For

DIRECTOR NATURE CONSERVATION

K J McNamara B Nat Res (Hons)

DIRECTOR PARKS, RECREATION,
PLANNING AND TOURISM

C D Haynes BSc

DIRECTOR FORESTS

D J Keene BSc, Dip For

DIRECTOR RESEARCH

J A Armstrong PhD, BSc Agr

DIRECTOR PROJECT MANAGEMENT

F H McKinnell PhD, BSc, Dip For

DIRECTOR CORPORATE SERVICES

A G Errington AFPAA, AIT

Pub Admin

DIRECTOR CORPORATE RELATIONS

R A Kawalilak BA

DIRECTOR ECONOMICS

G Malajczuk PhD, MSc, MPhil, M For, Bsc

DIRECTOR FINANCE AND TECHNICAL
SUPPORT

J C Byme* PhD, MBA, FCPA

REGIONAL MANAGER, SWAN

E A Jenkins BSc, Dip For

REGIONAL MANAGER, CENTRAL FOREST

D Spriggins BSc

REGIONAL MANAGER, SOUTHERN FOREST

K R Vear BSc For

REGIONAL MANAGER, SOUTH COAST

J R Watson PhD, BSc, ARIC

REGIONAL MANAGER, GOLDFIELDS

I G Kealley BSc

REGIONAL MANAGER, KIMBERLEY

C C Done BSc

REGIONAL MANAGER, PILBARA/
GASCOYNE

H W Chevis BSc

REGIONAL MANAGER, GREENOUGH/
GASCOYNE

E G Leaman B App Sc

REGIONAL MANAGER, WHEATBELT

K J Wallace BSc (Hons), Dip Ed

MANAGER, WILDLIFE BRANCH

Vacant

MANAGER, ENVIRONMENTAL
PROTECTION BRANCH

F E Batini MSc, BSc, Dip For

CHIEF WILDLIFE OFFICER

D J Mell AATA

MANAGER, PLANNING BRANCH

A J Williamson M For, MSc, BSc, Dip For

MANAGER, RECREATION AND
LANDSCAPE BRANCH

W G Schmidt M For, BSc

MANAGER, POLICY AND EXTENSION
BRANCH

J R Sharp M Ed, Dip Phys Ed

MANAGER, TIMBER PRODUCTION
BRANCH

J H Murch BSc (Hons)

MANAGER, INVENTORY BRANCH

H Campbell BSc

MANAGER, SILVICULTURE BRANCH

F J Bradshaw BSc, Dip For

MANAGER, FIRE PROTECTION BRANCH

R Sneeuwjagt MSc, BSc

PRINCIPAL OPERATIONS OFFICER

P C Kimber BSc For (Hons)

DIRECTOR, WA HERBARIUM

N Marchant* PhD, BSc (Hons)

SENIOR PRINCIPAL RESEARCH SCIENTIST

P E Christensen PhD, BSc (Hons)

SENIOR PRINCIPAL RESEARCH SCIENTIST

Vacant

MANAGER, LAND INFORMATION
BRANCH

P J Bowen Grad Dip S&M, Dip Cart, MAIC

MANAGER, INFORMATION SYSTEMS
BRANCH

B J Kerr B Bus (Admin), Dip Comp Prog

LIBRARIAN

H F Clift MA (Hons), AALIA, Dip Lib

MANAGER, HUMAN RESOURCES BRANCH

R G Cooper BA

MANAGER, FINANCE BRANCH

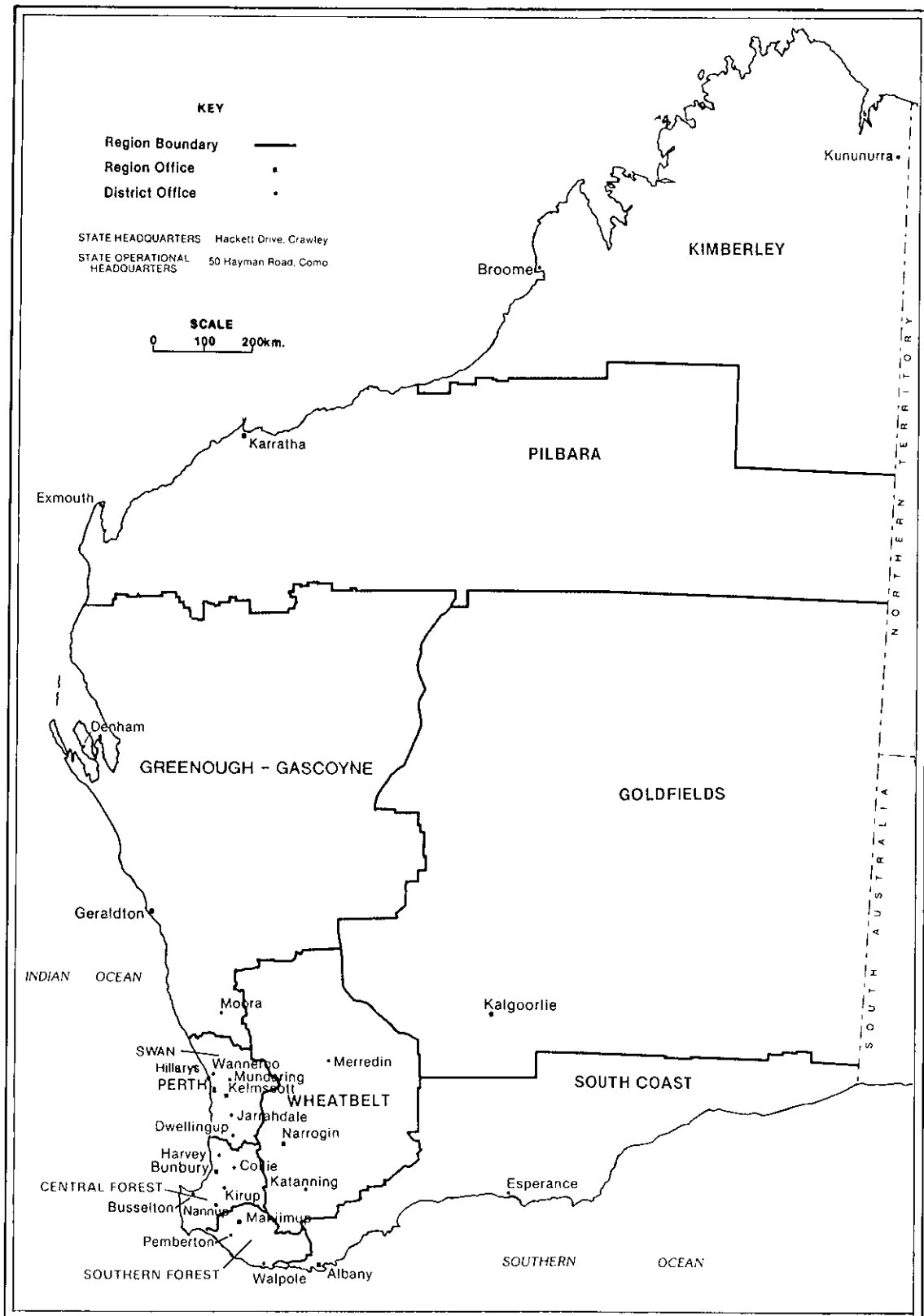
Vacant

MANAGER, ENGINEERING SERVICES
BRANCH

I R Darragh AIT Mech Eng MAIE

* Acting

FIGURE 2
CALM ADMINISTRATION



**LANDS AND WATERS MANAGED
BY CALM**

TOTAL ESTATE

As at 30 June 1992 the total area under CALM's care was 19 892 040 hectares. This was an increase of 873 456 hectares during 1991-92.

The terrestrial area (i.e. not including marine reserves) is 7.4 per cent of the land area of Western Australia.

NATIONAL PARKS

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

The area of the 60 national parks as at 30 June 1992 was 4 891 448 hectares, an increase of 42 243 hectares during the year.

NATIONAL PARKS VESTED IN THE NATIONAL PARKS AND NATURE CONSERVATION AUTHORITY

NATIONAL PARK	AREA (ha)	NATIONAL PARK	AREA (ha)
<i>Alexander Morrison</i>	8 501	<i>Mount Augustus</i>	9 169
<i>Avon Valley</i>	4 367	<i>Mount Frankland</i>	30 830
<i>Badgingarra</i>	13 121	<i>Nambung</i>	18 319
<i>Beedelup</i>	1 726	<i>Neerabup</i>	1 069
<i>Boorabbin</i>	26 000	<i>Peak Charles</i>	39 959
<i>Brockman</i>	49	<i>Porongurup</i>	2 511
<i>Cape Arid</i>	279 415	<i>Purnululu (Bungle Bungle)</i>	208 723
<i>Cape Le Grand</i>	31 578	<i>Rudall River</i>	1 569 459
<i>Cape Range</i>	50 581	<i>Scott</i>	3 273
<i>Collier Range</i>	277 841	<i>Serpentine</i>	4 363
<i>D'Entrecasteaux</i>	58 789	<i>Shannon</i>	52 598
<i>Drovers Cave</i>	2 681	<i>Sir James Mitchell</i>	497
<i>Drysdale River</i>	448 264	<i>Stirling Range</i>	115 661
<i>Eucla</i>	3 342	<i>Stokes</i>	9 743
<i>Fitzgerald River</i>	329 039	<i>Tathra</i>	4 322
<i>Frank Hann</i>	61 420	<i>Torndirrup</i>	3 936
<i>Geikie Gorge</i>	3 136	<i>Tuart Forest</i>	1 785
<i>Goongarrie</i>	60 356	<i>Tunnel Creek</i>	91
<i>Gooseberry Hill</i>	33	<i>Walpole-Nornalup</i>	15 861
<i>Greenmount</i>	58	<i>Walyunga</i>	1 812
<i>Hassell</i>	1 265	<i>Warren</i>	2 982
<i>Hidden Valley</i>	2 068	<i>Watheroo</i>	44 474
<i>John Forrest</i>	1 508	<i>Waychinicup</i>	3 983
<i>Kalamunda</i>	375	<i>West Cape Howe</i>	3 517
<i>Kalbarri</i>	186 050	<i>William Bay</i>	1 738
<i>Karijini (Hamersley Range)</i>	606 597	<i>Windjana Gorge</i>	2 134
<i>Leeuwin-Naturaliste</i>	18 966	<i>Wolf Creek Crater</i>	1 460
<i>Lesmurdie Falls</i>	56	<i>Yalgorup</i>	12 889
<i>Lesueur</i>	26 987	<i>Yanchep</i>	2 842
<i>Millstream-Chichester</i>	199 736	TOTAL	4 891 448
<i>Moore River</i>	17 543		

Major changes to the national park estate during 1991-92 were the creation of Lesueur National Park (26 987 hectares) and the addition of 12 358 hectares to Drysdale River National Park. Additions were also made to Karijini, Leeuwin-Naturaliste, Yalgorup and Yanchep National Parks. Excisions were made from Karijini, Neerabup and Watheroo National Parks.

A number of amendments were made to the published areas of several national parks following an audit of boundaries and recalculation of their areas.

CONSERVATION PARKS

This is a new category of reserve created by an amendment to the CALM Act in August 1991.

Conservation parks have the same purposes as national parks, but they do not have the same national or international significance. They have significant local or regional value for conservation and recreation. The first conservation parks were gazetted in June 1992.

The area of conservation parks as at 30 June 1992 was 25 685 hectares.

NATURE RESERVES

Nature reserves are for the purposes of wildlife and landscape conservation, scientific study and preservation of features of archaeological, historic or scientific interest. Wildlife values may not be commercially exploited, and no recreation which damages natural ecosystems is allowed.

The area of nature reserves as at 30 June 1992 was 10 756 774 hectares, an increase of 323 220 hectares during the year.

STATE FOREST

State forest is managed for multiple uses, including water catchment protection, recreation, timber production on a sustained yield basis, and conservation. It also provides for public utilities and mineral production, where these activities are imposed.

The area of State forest as at 30 June 1992 was 1 747 558 hectares, a decrease of 2 909 hectares during the year. The decrease was mainly due to the revocation of State Forest No. 45 at Boranup. This area has since become part of the Leeuwin-Naturaliste National Park.

TIMBER RESERVES

Timber reserves declared under the CALM Act are managed on the same basis as State forest. The category is 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 as at 30 June 1992 was 141 933 hectares, a decrease of 2 354 hectares during the year. The decrease was mainly due to the cancellation of a timber reserve near Quindinup, with the area being added to an adjacent nature reserve.

MARINE PARKS AND MARINE NATURE RESERVES

Marine parks are managed for marine conservation and recreation, with areas zoned for commercial fishing on a sustained yield basis.

Marine nature reserves are managed for the conservation of marine and terrestrial flora and fauna and their habitats. Fishing and collecting are not permitted.

The area of marine parks as at 30 June 1992 was 1 012 400 hectares (approximately), an increase of 140 hectares during the year.

The area of marine nature reserves as at 30 June 1992 was 132 000 hectares (approximately). There was no change during the year.

CONSERVATION/RECREATION RESERVES

The CALM Act has provision for a miscellaneous category of land which covers those areas that do not readily fall within any of the above discrete categories. The purposes of reserves within this category are varied, but normally involve recreation and/or conservation.

The area of conservation/recreation reserves as at 30 June 1992 was 189 512 hectares, an increase of 584 hectares during the year.

OTHER LAND

The area of freehold land held by the Executive Director as at 30 June 1992 was 32 531 hectares, an increase of 53 hectares during the year. The major portion of this land is committed to commercial forestry operations.

The area of pastoral leases held by the Executive Director as at 30 June 1992 was 879 720 hectares, an increase of 404 418 hectares as a result of the purchase during the year of the Mt Hart and Charnley River leases.

The area of other miscellaneous reserves of varying purposes under the control and management of CALM as at 30 June 1992 was 82 521 hectares.

PURCHASES

The Department purchased the following areas of freehold property for addition to various categories of the land estate:

- ◆ 474 hectares north of Lake Grace to be set aside as a nature reserve.
- ◆ 230 hectares north-west of Wongan Hills to be set aside as a nature reserve.
- ◆ 171 hectares west of Bolgart to be set aside as a nature reserve.
- ◆ 65 hectares south of Mount Barker for tree-growing trials and timber processing.
- ◆ 50 hectares east of Augusta to be set aside as a nature reserve.
- ◆ 10 hectares west of Bengier to add to Bengier Swamp Nature Reserve.
- ◆ 6 hectares at Upper Swan to add to Ellen Brook Nature Reserve.

- ◆ 3 hectares south-west of Gingin to add to Bampanup Nature Reserve.
- ◆ 2 hectares west of Manjimup to become part of a proposed conservation park.

In addition, the following pastoral leases were purchased:

- ◆ Mt Hart, north of Fitzroy Crossing, being about 368 793 hectares in area, for the purpose of creating a new national park.
- ◆ Charnley River, north of Fitzroy Crossing, being about 35 625 hectares in area, for inclusion in the proposed Walcott Inlet National Park.

NATURE CONSERVATION & WILDLIFE MANAGEMENT PROGRAM

PROGRAM OBJECTIVE

To conserve the indigenous plants, animals and communities of the State and the ecosystems which support them.

PROGRAM DESCRIPTION

This program involves the production and implementation of land management plans, policies and management programs for wildlife (fauna and flora) conservation and protection. It also involves research into wildlife and communities and regulation of human activities with protected wildlife, including aviculture, commercial whale watching and scientific research licensing, as well as encouragement for conservation initiatives on private property and roadsides, prevention of illegal taking of protected wildlife, emergency actions such as rescues of stranded whales or oiled seals, and public information and communication programs.

Wildlife management programs are developed for species and communities which are threatened, are commercially harvested, or have a high public profile or public interaction interest, according to the principles of ecological conservation and sustainability.

Reservation and management of lands and waters are undertaken for the conservation of viable representative samples of the State's natural ecosystems and their inherent natural processes, as well as for the protection of their flora and fauna.

Within the overall program, three objectives have been identified:

- ◆ a research objective, to provide the basis for protection and ongoing management;
- ◆ a conservation management objective, for the management actions put in place; and
- ◆ an information objective, to enhance appreciation of nature conservation needs and processes.

A major achievement within the program this year has been the preparation of a draft nature conservation strategy. A fuller description is contained in the **THAT WAS THE YEAR** section of this annual report. A second achievement is the endorsement by Cabinet of preparatory work aimed at repealing and replacing the Wildlife Conservation Act (1950), which is expected to lead in due course to the drafting of a bill.

RESEARCH

Successful conservation depends on the extent to which the biology and management requirements of native species are understood. Research must give priority to those areas or species in greatest need of conservation, protection or rehabilitation.

Biogeography

A number of specific areas were surveyed and reports produced. Areas covered included Stirling Range, Porongurup, John Forrest, Serpentine, Warren and part of Karijini National Parks, the proposed addition to Goongarrie National Park, Cooloomia, Dragon Rocks and Victoria Rock Nature Reserves, the Swan Coastal Plain, vacant Crown land east of Kalbarri, Barlee Range and the islands of Shark Bay, Monte Bello and Exmouth Gulf.

A substantial book on Kimberley rainforests was published. It was based on work done since 1987, with support from the Commonwealth Government through the National Rainforest Conservation Program. Together with a companion volume for the lay reader, the book provides an overview of Kimberley rainforests and their conservation significance,

and includes recommendations for improvements in the conservation reserve system and for management of rainforest in Western Australia. The publication, *Flora of the Kimberley Region*, which includes flora keys, descriptions and illustrations, has been finalised for production.

Digitisation of Beard's 1:3 000 000 State Vegetation Map was completed and will be provided to the WA Land Information System.

Herbarium

Updating of the State flora collection has continued with specific emphasis on the lower plants - mosses and liverworts. 10 000 plant specimens were mounted, databased and incorporated into the collection during the year. The ongoing task of databasing the entire collection has continued with grants from the Environmental Resources Information Network (ERIN) and the Australian National Parks and Wildlife Service (ANPWS), supplemented by CALM resources. A further 75 000 records were added to the WAHERB specimen database, including 45 000 specimens of groups deemed to be susceptible or vulnerable to infection by dieback disease, *Phytophthora*. To date, 190 000 specimens, approximately 42% of the estimated total holdings, have been entered into the WAHERB database.

The public access Reference Herbarium was used by 535 recorded visitors, including professional and amateur botanists, students and CALM staff. Herbarium staff and volunteers have completed a stocktake of the Reference Herbarium, which comprises 6 204 specimens, each linked to a databased specimen in the State Collection.

Regional herbaria at Karratha and Albany have also been maintained, partly with the aid of volunteers.

Flora and Fauna Conservation

A research project on the regeneration and survival of the declared rare *Acacia aphylla* has been commenced, while research into *Diuris purdiei* has continued with field translocation trials.

Funds (\$13 065) were successfully sought from the ANPWS to produce a Research Phase Recovery Plan for ground parrot, western whipbird and western bristlebird. Previously unrecorded populations of red-tailed phascogale, a threatened species apparently restricted to the wheatbelt, were discovered at three more nature reserves in the Narrogin District this year. This ANPWS-funded project has now resulted in the capture of live phascogales at eight sites where populations were previously unknown.

A project to determine the conservation status of the State's butterflies has commenced, with work being conducted in the Stirling Range and wheatbelt.

The major field program for the 1991-92 marine turtle nesting season, focussed at established study sites, was maintained with the assistance of a large group of volunteers, as in past seasons. In addition, a new project segment focussing on the loggerhead turtle rookery on the Muiron Islands was able to begin as a result of information gained from project work done in previous seasons. The loggerhead is now considered to be the most vulnerable of the marine turtle species breeding in the Australian region.

A major ANPWS-funded survey of secretive waterbirds, fishes, frogs, aquatic invertebrates and fringing and aquatic flora of permanent wetlands of the south coast, from Cape Naturaliste to Albany, was undertaken. Knowledge of the conservation values of the wetlands of the south coast has been substantially improved by this work. Funding was also obtained for follow-up surveys of waterbirds and frogs in 1992-93.

Field work was completed for the Swan Coastal Plain waterbird study, and relationships between waterbird usage and the environmental characteristics of wetlands were analysed.

A project funded by the federal Save the Bush Program was undertaken on the south coast to investigate vegetation corridors for the movement of fauna. A follow-up project is planned to assess areas where movement restrictions are suspected.

Fire Research

Research into the effect of fire on flora and fauna was undertaken at Stirling Range and Karijini National Parks, Gibson Desert Nature Reserve, and Perup State Forest. The Stirling Range research has elucidated aspects of fire behaviour in mallee/heath vegetation types, which will assist in developing fire prediction models in these vegetation types.

Work also began on the development of a quantitative model to predict the impact of fire on small vertebrates. As part of this process, a major review of the impact of fire on small vertebrates in mallee woodlands and shrublands throughout Australia was completed. Currently the model is being validated against empirical data.

CONSERVATION MANAGEMENT

One objective of the program is to manage wildlife and communities for their conservation and protection, consistent with research findings and the most effective use of available

resources. The following achievements were recorded this year, increasing the chances of survival for threatened and other species, and for communities.

Area Management Plans

The South Coast Region and draft Goldfields Region Plans were prepared, and the Forest Strategy revised, with recommendations for nature conservation management and land tenure changes to improve the nature conservation estate.

The preparation of the Marmion Marine Park and Walpole-Nornalup National Park management plans has been completed, while final plans for Purnululu National Park and the Shoalwater Islands are being prepared. These plans contain specific management recommendations for nature conservation.

Implementation of the conservation strategies in the management plan for the Dampier Archipelago began with two projects: fox baiting to protect the Rothschild's rock wallabies, and censuses of nesting seabirds and turtles.

Interim Management Guidelines were prepared for Walyunga, Cape Le Grand and Cape Arid National Parks and Hillman Nature Reserve.

Flora Conservation

Two meetings of the Endangered Flora Consultative Committee were held during the year, following which three species were declared as rare flora: *Acacia leptalea* ms, *Caladenia busselliana* ms and *Grevillea flexuosa*. A further six species that were presumed to be extinct were rediscovered during the year: *Eucalyptus rameliana*, *Gonocarpus intricatus*, *Grevillea batrachioides*, *Hypocalymma longifolium*, *Meziella trifida* and *Verticordia plumosa* var. *ananeotes*. In each case these represent the rediscovery of the only presumed extinct species of the respective genera, and, in the case of the *Meziella*, the only presumed extinct genus in Western Australia.

A further four species of presumed extinct flora were removed from the Declared Rare list following taxonomic revisions: *Cryptandra nudiflora*, *Cryptandra tubulosa*, *Spyridium kalganensis* and *Spyridium microcephalum*. One species, *Wurmbea drummondii*, was deleted from the list of declared rare flora. The new list of declared rare flora contains 263 extant plus 43 presumed extinct taxa.

The Priority Flora List was also amended, with 1 296 taxa being listed as rare or poorly known. The total number of threatened, rare or poorly known taxa is thus 1 602.

The threatened-flora database continues to be developed, with 43% of the species' records having been upgraded and validated. During the year, 94 enquiries were made of the database, of which 64 were commercial, principally for mining or property development purposes. Income generated was \$4 440.

Threatened flora recovery plans were prepared for *Acacia anomala*, *Banksia cuneata*, *Eucalyptus rhodantha* and *Stylidium coroniforme*. Funding of \$76 000 was received from the Australian National Parks and Wildlife Service to implement the plans for *Eucalyptus rhodantha* and *Stylidium coroniforme*.

Implementation of Wildlife Management Program No 5 (*Declared Rare Flora and Other Plants in Need of Special Protection in the Northern Forest Region*) is progressing, and is being monitored with the help of an implementation database.

Final drafts of rare, threatened and poorly known flora management programs were prepared for Merredin District and the Perth metropolitan region. Survey work has continued on the Moora District program, while collation of data for programs covering Southern Forest Region and Katanning and Narrogin Districts has commenced.

In addition, \$88 000 in funding was received from the Australian National Parks and Wildlife Service to commence survey work for a management program on rare, threatened and poorly known flora in Albany and Esperance Districts. \$18 000 was also received from the ANPWS for the preparation of a recovery plan for the threatened freshwater ecological community of Lake Toolibin and surrounding nature reserves in the wheatbelt.

Two areas of land acquired for addition to the conservation estate have provided the first land reservation for seven species of declared rare flora. Lesueur National Park has reserved populations of *Acacia forrestiana*, *Banksia tricuspis*, *Eucalyptus lateritica*, *Eucalyptus suberea* and *Thelymitra stellata*, while also providing major reservation enhancement for *Asterolasia drummondii* and *Hakea megalosperma*. Land acquired at Scott River reserves populations of *Darwinia ferricola* ms and *Lambertia orbifolia*.

The Department, in association with the Broome Botanical Society and the pastoral leaseholder, has commenced a program to protect the threatened *Pandanus spiralis* var. *flammeus* in the Kimberley Region. Protective measures include the establishment of mobile cattle barriers and an alternative water source out of the restricted gorge habitat of this species. A contribution of \$5 500 in funding was acquired from the ANPWS Save the Bush Program for this work.

Populations of the declared rare species *Acacia depressa* and *Caladenia cristata* were fenced off from grazing threats, with Departmental resources.

Fauna Conservation

A threatened fauna database has been developed to manage population and distribution data. A report form has been developed and data will be input as it becomes available.

Threatened fauna recovery plans were prepared for the orange-bellied frog and white-bellied frog, brush-tailed bettong, chuditch and Shark Bay mouse. Funding of \$322 200 to implement these plans was received from the Australian National Parks and Wildlife Service.

Implementation of the Western Swamp Tortoise Management Program is continuing, with successful captive breeding in conjunction with the Perth Zoo. Monitoring of the first nests to be found in the wild has provided valuable data on the breeding habitat requirements of this species.

A chuditch translocation project has commenced in Julimar Conservation Park as part of the recovery plan. Tammar habitat has been regenerated in Central Forest Region in preparation for reintroductions.

A captive breeding program for naretha bluebonnets was successfully undertaken by private bird breeders. This program will reduce the pressure on wild populations from illegal poaching, and will provide resources for further wildlife management programs.

Departmental officers attended 40 whale and dolphin strandings involving 40 animals, both live and dead, during the year. Only four stranded whales were considered to be capable of returning to the sea, and each of these was successfully rehabilitated. Ninety per cent of stranded animals were measured and had tissue samples taken for analysis. One stranding was a first recording for the spinner dolphin.

Thirteen pinnipeds, including Australian sea lions, New Zealand fur seals and a sub-Antarctic fur seal, became stranded on south-west beaches during 1991-92.

Threats to Wildlife

The program aims to protect native wildlife and ecosystems from the adverse impacts of fire, disease, noxious weeds, feral animals and mining.

Fire: Aerial protective burning was used in the Kimberley Region to protect the conservation estate from wildfire. Protective patch burning was also undertaken in the Goldfields, Pilbara and South Coast Regions.

A conference on fire was held at Kununurra, involving practising land managers from areas across the north of Australia.

Plant Diseases: Canker fungi continue to pose a threat to native flora. Pathogenicity studies are continuing.

Funding (\$440 000) has been provided by the Australian National Parks and Wildlife Service for research on the biology and control of *Phytophthora citricola* and *P. megasperma* in native plant communities and on the biology and control of *Diplodena* canker in *Banksia coccinea*.

The efficacy of phosphorous acid in controlling *Phytophthora* species in native plant communities has now been demonstrated. Future priorities are to determine the longevity of phosphorous acid within the plants, and to develop dosage requirements and selection of surfactants suitable for application.

A Dieback Protection Plan is being developed for Perth District. This plan will augment the existing plans for South Coast Region and Moora District.

The Northern Sandplains Dieback Working Party, on which CALM is represented, has completed two comprehensive surveys of the northern Swan Coastal Plain, and has conducted several seminars and training field days for local land users and interest groups.

Research has continued into the application of airborne and satellite remote sensing for monitoring and mapping vegetation condition, with reference to coastal heathlands. Remote dieback analysis has been undertaken for Cape Le Grand and Stirling Range National Parks and Two Peoples Bay Nature Reserve.

A draft document addressing policy and operational guidelines for the management of dieback was produced and issued to the Western Australian Municipal Association through the Department of Local

Government. The document is intended to assist local authorities to formulate their own policies and procedures.

More than 3 000 people from other Government departments, local government, academic institutions and community groups have received dieback education from the Department.

The Department provided significant input into the Parliamentary Select Committee into dieback.

Fox Control: The Department is a member of the national Cooperative Research Centre for the Biological Control of Vertebrate Pests. The CRC was created to devise biological means for controlling rabbits and foxes. CALM scientists will be researching relevant aspects of fox biology, demography, ecology and social structure.

Fox baiting programs have continued in several fauna priority areas: Dryandra State Forest; Boyagin, Tutanning and other nature reserves in the wheatbelt; Dolphin Island and Burrup Peninsula in the Pilbara; Fitzgerald River and Stirling Range National Parks in the South Coast Region; and Bitalling and Hillman Blocks in the Collie District. Monitoring of these areas has shown a positive response in rare fauna populations that has been attributed to the fox control program.

A fox control program was instigated to prepare a predator-free zone around a study site in the Gibson Desert Nature Reserve, for the reintroduction of two marsupial species from Barrow Island in 1992. This work was funded through the ANPWS Endangered Species Program as part of the Desert Dreaming project.

Fauna surveys have been undertaken in Katanning District to identify priorities for management, particularly fox control.

Other Feral Animal Control: A policy document and feral animal control manual were produced for use by operational staff in the management of feral animals on the CALM-managed estate.

CALM is co-operating with the Department of Agriculture in an Australia-wide program to remove feral cattle from conservation lands. A cattle and donkey control program in Purnululu National Park has been successful in reducing the numbers of these animals to a manageable level. A similar program has also begun at Millstream and on Mt Hart Station. A cooperative State-wide goat eradication campaign has also begun, in conjunction with the Agriculture Protection Board and Land Conservation District Committees. Systematic eradication programs have been started on Peron Peninsula, Toolong Nature Reserve and the proposed Kennedy Range National Park.

A successful black rat eradication program was conducted, with support from WAPET, on Barrow and Middle Islands.

Involvement of community volunteers in a pilot feral pig control program in Central Forest has resulted in more than 150 being culled at no cost to CALM.

Weeds: A Bushland Weeds Task Force was established within the Department to develop policy and provide coordination for the management of bushland weeds. A policy statement has been drafted.

An eradication program was conducted at Millstream for the introduced date and cotton palms. The major infestation was treated and only follow-up palm removal is now required.

A box thorn eradication program was conducted on Doubtful Island and Woody Island on the south coast.

Mining: The Department has continued liaising with individual mining companies, the Department of Mines and the Environmental Protection Authority over mining activities that impact, or have the potential to impact, on the nature conservation values of CALM-managed estate. Specific involvement has been with Marandoo, D'Entrecasteaux National Park and the flora species *Eucalyptus argutifolia* and *Regelia megacephala*.

Under the Resolution of Conflict Policy, the Department negotiated conditions to protect nature conservation values on 256 tenements, which were approved on either CALM-managed land or other lands of conservation value that were potential CALM-managed lands. Revenue for compensation for mining of public land under Departmental control totalled \$1.35 million.

Triennial and annual reports were reviewed and compliance monitoring was conducted for petroleum bases on Varanus, Thevenard and Airlie Islands. Field inspections for compliance monitoring were carried out for several seismic programs in the Perth Basin.

An Oil Spill Contingency Plan has been prepared for the North-West Shelf. CALM staff were involved in the incident with the *Kirki*, an oil tanker that was damaged off the north-west coast.

Guidelines for the management and rehabilitation of gravel pits were produced. The program for gravel pit rehabilitation on CALM-managed lands continued.

Beekeeping: Three meetings were held of the Beekeepers Consultative Committee. A Departmental policy statement has been finalised and approved for issue.

Compliance: The program is charged with the responsibility of ensuring that compliance with wildlife conservation and protection legislation is within acceptable limits.

Over 2500 contacts with people were made for offence-related matters. In most instances, advice or guidance was provided and, where appropriate, verbal warnings were given. Some 317 offences were the subject of written reports, which are summarised in the table on the next page.

Twelve per cent of reported offences involved the unlawful taking of protected fauna, and 19.6% the unlawful taking of protected flora. Unlawful possession of fauna represented 6.3% of cases. Offences involving threatened fauna and flora represented 2% and 1.3% of cases respectively. Compared with 1990-91, these figures represent a 7% reduction in reports of the unlawful taking of fauna and a 7% reduction in the taking of protected flora.

Fauna smuggling continues to be of concern. Wildlife officers in conjunction with Federal agencies were involved in the detection of four cases involving the attempted export of birds and eggs and one case of illegal importation of exotic birds.

The claims of some aviculturists for the successful breeding of black cockatoos declined dramatically this year. This was the result of applying DNA technology developed during 1990-91, and of the ensuing publicity surrounding nine cases involving false claims of breeding.

In addition to the application of DNA technology, a number of cases involving the unlawful possession of dugong meat, the illegal cutting of 'bean sticks' from nature reserves and State forest, the illegal felling of timber, and the killing of protected fauna, were all brought to a successful conclusion due to the use of modern technology, including pathology and forensic science.

1990-91 Reported Offences

1990-91 Reported Offences		1991-92 Reported Offences	
Total Offences Reported	215	Total Offences Reported	317
Convictions	73	Convictions	72
Dismissals	-	Dismissals	0
Letters of Warning	108	Letters of Warning	90
No Further Action	25	No Further Action	-
Prosecutions Pending	9	Prosecutions Pending	155
Total Fines	\$45 250	Total Fines	\$14 700
Total Costs	\$4 202	Total Costs	\$1 106

In accordance with Government policy, no duck shooting season was declared in 1991-92. Increased incidents of illegal duck shooting were detected in the south-west and adjacent pastoral areas. Amendments to the Wildlife Conservation Act to ban recreational duck shooting were passed by Parliament and came into effect on the Governor's assent on 16 June 1992.

Flora offences, involving unlicensed pickers and implicating some flora wholesalers, continue at a level which is of concern.

A further five law-enforcement courses for Departmental staff have now been completed, bringing the total to 20. To date, 213 staff have completed the course.

Wildlife officers dealt with 103 complaints of magpie attacks on people. Seventy-eight licences were issued and 14 magpies were destroyed.

In the north of the State, 31 crocodile reports were received, with 19 reports of problem crocodiles being attended. Eleven troublesome crocodiles were captured and relocated.

Wildlife Utilisation

The program is responsible for managing the harvesting of resources within desired conservation parameters.

Wildflowers: A total of 661 pickers were licensed to take flora for commercial purposes from Crown lands, and 259 private landowners were licensed to sell flora taken from their land. This represents a 14% increase in Crown land licences from the 578 last year, and a minor reduction in private property licences from the 284 last year.

The revenue generated from licence fees was used to fund a position to review Departmental management procedures and policy for the wildflower industry. A draft Wildlife Management Program for *Boronia megastigma* has been implemented on a trial basis for the current season.

Improved liaison between the Department and the wildflower industry has been a feature of the year, with contacts being made with individuals and a developing number of representative industry groups. An investigation into the conservation status of *Banksia coccinea* and *Banksia baxteri* revealed that the species were being threatened by dieback and aerial canker infections across their range. As a consequence, *Banksia coccinea* harvesting has been banned from Crown lands, and the harvesting of *Banksia baxteri* is being closely monitored.

A study into the effect of commercial harvesting on *Banksia hookeriana* was completed, with information being gathered on the effect on seed supply, plant form and nutrient status. The results of this study will be used in the future management of this and similar species.

Sandalwood: A management program for sandalwood has been published and implementation commenced.

Kangaroos: Revised management programs for the red kangaroo, the western grey kangaroo and the euro were prepared by CALM and approved by the Federal Minister for the Arts, Sport, the Environment and Territories for a period of three years from 1 January 1991.

The 1991 calendar year commercial kangaroo harvest quotas and actual harvests were as follows:

Species	Quota	Harvest
Red kangaroo	290 000	185 117
Western grey kangaroo	45 000	37 847
Euro	10 000	5 399

As a result of a review of the kangaroo processing industry, conducted for CALM and the Department of State Development by ACIL Australia Pty Ltd, the previous ceiling on the number of kangaroo processing licences on issue was lifted. A further six processing licences were issued.

Emus: The emu farming industry continued to expand during the year, with the number of licensed farms rising from 24 to 37. Farm returns at the end of December 1991 gave the total captive emu stock at 22 650 birds.

Landholders experiencing damage to crops from emus were able to reduce the number of emus damaging their properties through damage licences.

Crocodiles: Progress was made in the completion of the crocodile management program begun in the previous year. Plans were drawn up for ongoing population survey requirements, with the assistance of Graham Webb Pty Ltd, which is responsible for the crocodile monitoring operations in place in the Northern Territory.

The total number of crocodile farms remained at three, Wyndham, Broome and Fremantle, although farm stocks increased significantly to over 1 600 saltwater crocodiles (up from 800) and over 2 400 freshwater crocodiles, sourced predominantly from interstate purchases, captive breeding and limited wild harvesting.

Wildlife Interactions: Commercial whale watching licence numbers remained steady over the past year. Surface vessel licences included 19 in Perth waters, three in Albany and Denham, and one in Broome and Exmouth. Three aircraft licences were issued for Perth, Denham and Geraldton, and five photographic licences were issued for Perth and Denham. Over 500 private vessels participating in whale watching were contacted during the season.

PUBLIC AWARENESS

One of CALM's objectives is to provide the information necessary to enhance public awareness and support for nature conservation and wildlife management. To that end, the Department has developed programs to increase awareness, understanding and support for wildlife management and nature conservation programs, services and policies.

Public Information

Four issues of the Departmental magazine, *LANDSCOPE*, were produced. One article won the inaugural Alex Harris Medal for excellence in science and environmental writing. *LANDSCOPE* was also awarded a gold medal for excellence in design and printing at the Ninth National Print Awards in Sydney. Paid subscriptions increased by 20% during the year.

Wildflower Country, a guide to the natural environment and significant places of the area north of Perth, including the Greenough and Murchison areas, was published as the fourth in a series of nature guide books.

The Department produced over 145 news releases and information bulletins, and 104 new publications including 53 technical/research publications.

More than 6 000 public telephone enquiries on wildlife matters were dealt with by the provision of advice and guidance.

Rural Vegetation Conservation

The Department continued its role in assessing applications to the State Remnant Vegetation Protection Scheme, and the Federal Save the Bush Program. Both schemes provide funding to the community for vegetation protection and management, and are an avenue for liaison between the Department and the rural community. Input was also provided into an evaluation report on the Remnant Vegetation Protection Scheme prepared by the Department of Agriculture.

Funding was obtained through the Save the Bush Program for the production of management guidelines for remnant vegetation in agricultural areas. The guide is expected to provide practical assistance to the rural community to manage areas of remnant vegetation.

The preparation of this guide provided the basis for extensive rural liaison. This liaison will continue with the establishment in the Department of a rural nature conservation officer. This officer will provide advice on remnant vegetation management.

Community Liaison

Displays and other promotions were mounted throughout the State for such events as Arbor Day, Sea Week, WA's Wildflower Festival, Advance Australia Fair, West Week, and a variety of local community festivals.

Liaison on nature conservation issues also continued with involvement in Land Conservation Districts, schools and other community groups. Eight university extension courses on nature conservation were conducted at the Perup Field Ecology Centre.

As part of a continuing program to develop nature conservation material for school-age children, three upper primary school education/resource programs were developed: *LANDSCOPE's Urban Wildlife Antics*, *Earth Caretakers*, and *Discovering Hills Forest*.

More than 7 000 primary school students from more than 140 schools entered a CALM-sponsored Arbor Day poster competition. A wheatbelt school poster competition attracted over 250 entries, and formed the basis of a rural show display.

An Avon Nature Conservation Advisory Committee was established.

Aboriginal Liaison

An Aboriginal liaison officer has been appointed to the Wheatbelt Region to assist in promoting nature conservation within the Aboriginal community throughout the south-west of the State.

Extensive liaison and cooperative work programs have been undertaken with local Aboriginal communities associated with Karijini and Rudall River National Parks, the Great Victoria Desert, Gibson Desert and Wanjarri Nature Reserves, and the Carnarvon Range.

OBJECTIVE

To provide, regulate and sustain the supply of wood resources for the satisfaction of long-term social and economic needs in a manner that minimises the impact of resource use on other values and provides maximum returns to the State for resources used.

PROGRAM DESCRIPTION

The program includes producing and implementing timber production prescriptions for hardwood State forests (where this is the designated land use), including regeneration and silvicultural treatment, establishing and growing softwood plantations, developing and managing hardwood and softwood sharefarming schemes, controlling the sandalwood industry in WA and the conservation of sandalwood on Crown land, protecting forest resources from adverse effects of fire and disease, supplying log products from CALM-managed lands to the timber industry and integrating the supply of logs from sharefarmed land, providing the community with seeds, seedlings, firewood and other minor forest produce, providing advice on tree planting for timber production on a commercial basis, and developing public awareness, understanding and support for CALM forest resource management programs, services and policies.

FOREST MANAGEMENT

The Department manages forests designated for timber production for the long-term maintenance of each ecosystem, to improve forest productivity, and to develop and manage alternative timber resources.

CALM finalised its review of management strategies for the south-west forests of Western Australia, and the results were released in draft form in February 1992 for a public comment period of four months. The review was based on the principles of ecologically sustainable development, and on proposed additions to the reserve system, the introduction of visual resource management zones, changes to silvicultural practice, and better protection measures to preserve biological diversity.

Under Part IV of the Environmental Protection Act, CALM submitted proposals to the Environmental Protection Authority (EPA) to amend the 1987 Forest Management Plans and the Timber Strategy, and submitted proposals to meet Ministerial conditions on its regional plans and on the Environmental Review and Management Program (ERMP) of the Western Australian Chip and Pulp Co. (WACAP).

An assessment of the Southern Forest Region's national estate values was conducted with the Australian Heritage Commission (AHC). Five volumes of proposals have been published for comment. A State/Commonwealth Memorandum of

Understanding has been negotiated regarding the process for the listing on the national estate register of areas of significance in public forests.

Corporate databases were expanded and Geographic Information Systems (GIS) technology was further developed. This ensured that spatial data analysis could be used with confidence to support forest management decision-making.

Jarrah Forest Management

Sixteen thousand five hundred hectares of jarrah forest were inventoried in 1991-92, completing stage one of the 1.4 million hectare program which began in 1988. Analyses of the data and sustained yield calculations were completed for inclusion in the draft Forest Management Strategy.

Harvesting in the jarrah forest is undertaken using a complex of silvicultural objectives and practices. 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 will release existing lignotubers to grow unimpeded into saplings; or, where there are inadequate lignotubers, 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 on the basis of single tree removal. 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.

In 1991, 10 910 ha of jarrah forest were harvested for the following reasons (see table).

	<i>Hectares</i>
<i>Thinning</i>	2 540
<i>Release of regeneration</i>	6 180
<i>Establishment of regeneration</i>	390
<i>Single tree selection</i>	1 440
<i>Mining</i>	350
<i>Other clearing</i>	10
TOTAL	10 910

Tending operations were carried out on 2 850 ha of jarrah forest harvested in either this or previous years.

The Forest Improvement and Rehabilitation Scheme (FIRS), which is funded by Alcoa, aims to rehabilitate areas of jarrah forest adjacent to bauxite mining areas. This will increase the capacity of the land to support long-term land uses and minimise the effects of dieback disease. In 1991, 220 ha of jarrah forest were treated under this scheme.

Karri Forest Management

Karri forest harvesting is also dependent on the structure and age of the existing forest, though it is less complex than the situation in the jarrah forest. Patches of even-aged and vigorously growing forest which are greater than two hectares in size are identified for thinning. When the stand is old enough to yield saleable products it is thinned to an appropriate density. The harvesting operation completes the silvicultural objective and no follow-up treatment is necessary.

Mature forest and forest of mixed structure created by past logging activities are programmed for harvesting under a clearfelling system. Regeneration following harvesting is achieved within the following year or two by means of temporarily retained seed trees, by planting with nursery-raised seedlings, or by broadcast seeding. Seed trees are the preferred method but planting is used in the years when there are inadequate seed crops available in the karri forest. Broadcast seeding is only used to a limited extent.

In 1991, 2 150 ha of karri forest were harvested as follows:

	<i>Hectares</i>
<i>Regrowth forests</i>	
- <i>thinned</i>	230
<i>Mature forests</i>	
- <i>clearfelled</i>	520
- <i>cut to seed trees</i>	1 400
TOTAL	2 150

Regeneration was completed on 1 390 ha harvested in either this or previous years by the methods shown below:

	<i>Hectares</i>
<i>Natural seed fall</i>	550
<i>Hand planted</i>	730
<i>Broadcast seeding</i>	110
TOTAL	1 390

Note: The trend in the areas of native forest harvested and karri forest regenerated is shown in Appendices 1 and 2.

Visual Resources Management

During the year, the Department built on earlier work to enhance the visual effect of some of CALM's activities. Examples include the building of roads in State forest and the construction of buildings in national parks. Visual Resource Management (VRM) projects contributed increasingly during 1991-92 to improving the visual impact of forest operations in particular.

Wood Utilisation

Several Eastern States eucalypts were assessed for their suitability for the VALWOOD® process, in which high-value panels are manufactured by edge- and face-gluing thin boards. The species included mountain ash from Victoria, and rose gum, blackbutt and spotted gum from Queensland. Blackwood from Tasmania and cypress pine were also assessed.

The Department leased the VALWOOD® pilot plant at Harvey to Karrivale Pty Ltd from January 1992, so that the company could confirm the commercial viability of the process.

Sandalwood Management

The Sandalwood Management Plan was published and implemented, and operational plans for harvesting by contractors were introduced.

Licences to obtain sandalwood were issued to 48 contractors. The production of sandalwood was as follows:

	1990-91 tonnes	1991-92 tonnes
<i>From Crown Land</i>		
green sandalwood	775	902
dead sandalwood	833	891
<i>From Private Property</i>		
TOTAL	1 822	1 975

Exports for 1991-92 totalled 1 912 tonnes compared with 2 004 tonnes for the previous year.

Hosts have been planted in Katanning and Narrogin districts for trial woodlots for sandalwood. Planting has continued on land in the Ord River irrigation area in the Kimberley to assess silvicultural methods and techniques. Initial survival and subsequent damage by corellas are still problem areas where urgent research is required. Research on the regeneration capacities of sandalwood, including coppicing, continued at Shark Bay.

Disease Management in Native Forests

The presence of dieback disease (*Phytophthora cinnamomi*) and of its predicted impact is mapped before

logging and mining operations in the jarrah forest. This is done either from interpretation of large-scale colour photographs or intensive ground stripping. The photographs need to be taken under full cloud cover so that indicator species in the understorey are not in shadow.

Only 22 000 hectares or 55% of the 1991/92 photography program was achieved because of the absence of suitable cloud condition. Interpreters mapped the occurrence and impact of dieback on 36 600 hectares of forest.

The occurrence of extensive browning of jarrah crowns by leafminer in Collie District in October 1991 allowed a more objective definition of jarrah resistant to leafminer. Surveys established that an average of 10% of jarrah trees are resistant. Some trees were marked for future studies of water relations and collection of seed for genetic studies.

Fire Management in Native Forests

Of a total of 446 wildfires attended by CALM forces, 171 occurred on State native hardwood forests, burning 3 320 hectares.

The fire season was highlighted by a spate of lightning strikes throughout the south-west of the State during January 1992. These resulted in 70 lightning-caused forest fires within a week, which placed a great strain on the fire suppression resources in the forest districts. A record 26% of all fires attended were the result of lightning strikes.

Fire emergency response plans were reviewed and implemented in all district and regional management areas. Fire training was provided for selected fire-fighters and fireline supervisors. This training was extended to logging contract employees, as well as other industry employees and some bushfire brigade members, as part of an overall program to increase the strength and capability of CALM's supplementary fire-fighting resources.

Fire in the form of prescribed burning was used as a management tool over 162 000 ha of State forest to provide wildlife habitat, regenerate cut-over areas, and reduce fuels in State forests.

Note: Trends in the area of prescribed burns and the causes of wildfires over the last three years are shown in Appendices 9 and 10.

Public Awareness

Many public affairs and community activities cross program boundaries between the Nature Conservation and Wildlife Management Program, the Forest Resources Management Program, and the Recreation Management Program; this is in the true spirit of the integrated management philosophy that underpins the operation of CALM. For a brief summary of these, see PUBLIC AWARENESS in the Nature Conservation and Wildlife Management section of this report. Public affairs and community education activities relating primarily to the Forest Resources Management Program included the following.

A series of 'Go Bush' activities were conducted in the Northern Jarrah Forest during the October school holidays to introduce people of all ages to recreation and learning experiences in the forest.

A 650 ha section of jarrah forest in Collie District has been set aside to be managed primarily for people to obtain an understanding of some of the basic components of the jarrah forest and its current management practices. To illustrate silvicultural systems used in current timber production practices, logging of about 30 ha of the forest was completed last summer.

Results of a study of the extent, condition and management of remnants of native vegetation on farms in WA were published in the proceedings of the 'Role of Trees in Sustainable Agriculture' conference held at Albury, NSW. The study provides an up-to-date reference for land managers on the need to conserve native vegetation on farms, and reports on the success of schemes to encourage its preservation.

The geology, wildlife and politics of one of the world's tallest hardwood forests was brought together in a comprehensive new book published by CALM in March. The book, entitled *The Karri Forest* by Dr Per Christensen, examines the ecosystems of WA's southern forests in detail, together with the conservation and management of

karri, and the three major public controversies which have raged over the karri forest this century.

Afforestation

During 1991, 1 767 ha of coniferous and 104 ha of broadleaved State-owned plantations were established. The majority of the planting was on private property under sharefarm agreements and replanting of previously clearfelled plantation areas.

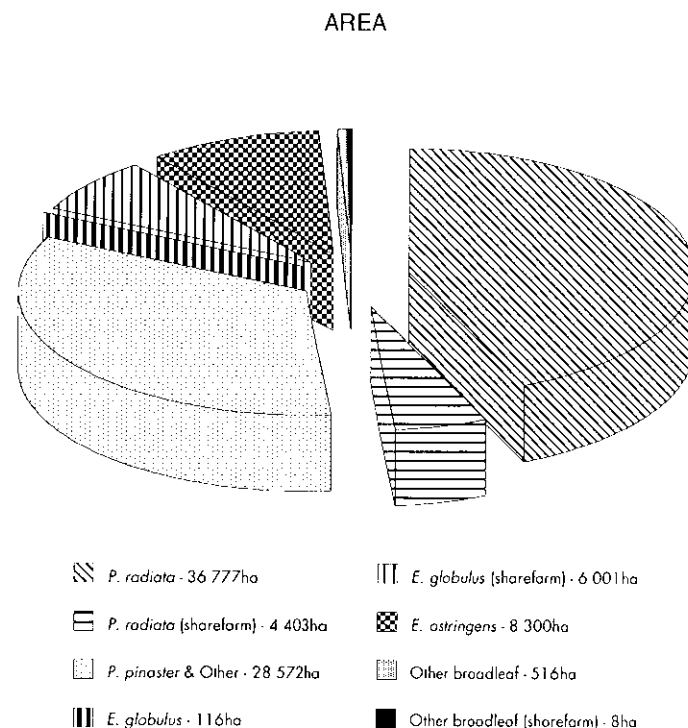
The total area of State-owned plantations at 31.12.91 is 69 752 ha of coniferous and 14 841 ha of broadleaved. The species distribution is represented in the diagram below.

Privately owned plantations fall into two categories - those established

under the timberbelt sharefarming scheme under the guidance of the Department's Vegetation and Tree Planting Advisory Service (VATPAS), and those established by afforestation companies or by private individuals on their land. In the former category the Department maintains an interest in the trees through a legal agreement.

During the winter of 1991, 820 ha were planted on 65 sites from Darkan to Albany under the timberbelt sharefarming system. The system was designed to bring investors into partnership with farmers to grow commercial trees in patterns which are complementary to agriculture, and also to deliver environmental benefits. There is strong farmer interest in this form of tree planting.

TOTAL AREA OF STATE-OWNED PLANTATIONS AS AT 31.12.1991



Note: Areas by planting year are shown in Appendices 3 and 4.

Private afforestation companies have reported the establishment of 1 800 ha of eucalypts and 230 ha of softwood plantation on private land during 1991. This brings the total area of private plantations (excluding timberbelt sharefarms) reported to the Department to 8 890 ha of eucalypts (mainly *E. globulus*) and 17 790 ha of pine (mainly *P. radiata*).

Information from a series of experiments examining the effect of timing, phosphate application, and the interaction between nitrogen, phosphorous and potassium on the growth of young *P. radiata* has been used to recommend fertiliser application for plantations on the south coast.

A grant has been obtained under the National Forest Inventory Program to carry out an inventory of private pine forests.

Disease Management in Plantation Forests

A Plantation Health Service has been established. This is providing a diagnostic pathology (and other) service for CALM. The service is also available, for a fee, to people involved in growing trees outside CALM.

Analysis of trap-tree monitoring records gathered by each forest District indicates that Western Australia continues to be free of Sirex woodwasp.

Resistance in *P. radiata* to *Phytophthora cinnamomi* is under strong genetic control. Field trials have shown that a genetic gain of 23% in basal area can be realised on *P. cinnamomi*-infested sites, using seed from the *P. cinnamomi*-tolerant source from the Manjimup orchard compared with the general collection from the Manjimup orchard.

Fire Management in Plantation Forests

Of the 446 wildfires attended by CALM forces, 56 occurred on State plantations and burned 250 hectares.

Prescribed burning for plantation establishment and fuel reduction was carried out on 1 310 hectares and 3 340 hectares respectively.

Trends in the area of prescribed burns and the causes of wildfires are shown in Appendices 9 and 10.

Tree Breeding

The first HAPSO (Hedged Artificially Pollinated Seed Orchard) cone collection was made in May 1992. This cone crop resulted from artificial mass pollination in July 1990, using a pollen mix of 10 genotypes with proven high performance in growth rate, tree form and *Phytophthora cinnamomi* disease tolerance. Using this seed, it has been calculated that plantations will produce 17% more basal area, stems will be 14% straighter, and branch size will be reduced by 13%. Wood density should be marginally increased. These gains will apply across all sites. Gains on *P. cinnamomi*-infested sites will be greater because of selection for this trait.

More than 52 000 pedigree *E. globulus* trees growing in nine Breeding Population Tests were measured for volume and assessed for stem and crown quality. Information was immediately used for backward selection of top performance families, and their seed was sown at the Manjimup nursery.

Plant Propagation

Thirteen million seedlings were dispatched by CALM Nurseries during the year. This included over 12 million from the Plant Propagation Centre at Manjimup (details shown below), 441 000 from Narrogin (including 100 000 produced at Manjimup), and 22 000 from Broome. The Narrogin and Broome nurseries are primarily commercial nurseries which have continued to grow plants suitable for rural revegetation, roadside and minesite rehabilitation, community projects, and amenity purposes.

Seeds of principal species needed for Departmental forest plants, rehabilitation and conservation projects, as well as for public sales, were acquired, processed and stored at the Manjimup Plant Propagation Seed Centre.

Seed was sent to Pakistan and the United Kingdom as well as around Australia.

A total of 506 kg was acquired.

<i>E. diversicolor</i>	44 kg
<i>E. marginata</i>	157 kg
<i>E. calophylla</i>	76 kg
Pinus species	79 kg
Other species	128 kg

Seed disbursement totalled 655 kg. Of this total, 172 kg of seed of 283 species were sold, mainly to commercial nurseries.

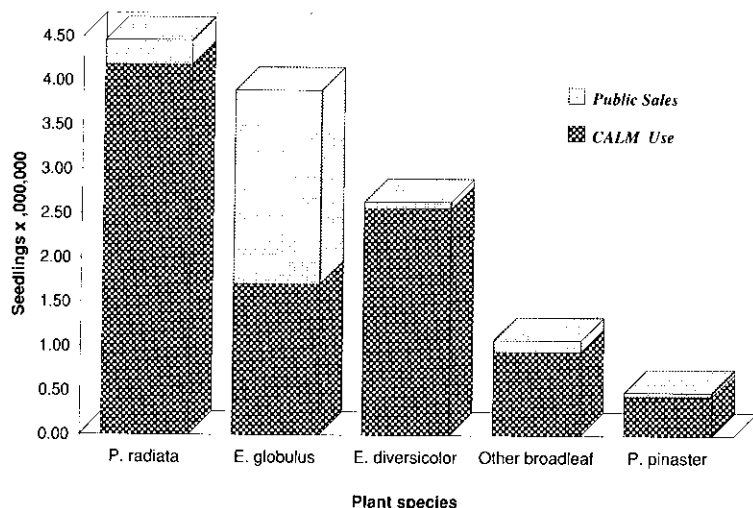
Receipts from sales of seeds: \$38 036.00.

TIMBER SUPPLY

CALM ensures a negotiated and even flow of log products to the timber industry while recovering costs for the service supplied, establishing and growing the replacement resource, and maximising profit to the State.

Native forests have been harvested in accordance with approved silvicultural prescriptions to provide resource as identified in the Timber Strategy to timber companies under contractual agreements. The logging operations were integrated wherever possible and planned according to the principles of management for the long-term maintenance of each ecosystem. A long-term integrated hardwood and softwood strategic roading plan was completed and used by local authorities and the Main Roads Department to plan future roading requirements. CALM harvesting contractors continued to assume greater responsibility for regeneration and tending in accordance with integrated logging plans.

SEEDLING DISPATCH FROM THE MANJIMUP PLANT PROPAGATION CENTRE, WINTER 1992



The volume of hardwood timber harvested and supplied to the timber industry was lower than production targets identified in the 1987 Timber Strategy, due to the downturn in the Australian economy. However, the actual amount of timber harvested from Crown land was 1 349 000 m³ compared with the 1991-92 estimate of 1 482 000 m³. This includes sawlogs, chiplogs, particleboard logs and firewood as shown in the following tables plus an additional 9 000 m³ of minor forest products such as fencing material and bridge timbers.

Thinning of plantations is essential for both the optimum development of the final crop and the supply of products as identified in the 1987 Timber Strategy. This is in contrast to native forests, where stand improvement is the primary reason for thinning the forest and the acquisition of marketable products is secondary. The harvesting of logs from privately owned plantations is integrated in detailed logging plans. The area of State-owned plantations logged in 1991-92 was as follows:

THINNING AND CLEARFELLING OPERATIONS

Operation	1990-91	1991-92
	ha	ha
<i>Coniferous</i>		
Thinned	2 580	4 810*
Clearfelled	610	510
<i>Broadleaved (E. astringens)</i>		
Thinned	210	290
Clearfelled	20	--

* Includes 60 ha thinned for Christmas trees.

The actual amount of timber harvested from coniferous plantations was 363 000 m³ compared with the 1991-92 estimate of 410 000 m³.

HARDWOOD SAWLOG & VENEER LOG PRODUCTION FROM CROWN LAND 1991-92 (IN CUBIC METRES)

SPECIES	MATURE FOREST						REGROWTH FOREST		TOTAL					
	Premium	1st Grade		2nd & 3rd Grade		Veneer Logs	Short Logs							
	Actual	Projected	Actual	Projected	Actual	Projected	Actual	Projected	Actual	Projected				
Jarrah	591	302 829	459 000	95 369	61 000	0	26 000	244	36 000	399 033	582 000			
Karri		118 204	153 000	44 577	18 000	899		15 657	50 000	179 337	221 000			
Marri	5	0		54 985	30 000	0		142		55 132	30 000			
Other Species	5	2 340		474		0		52		2 871	0			
TOTAL	601	0	423 373	612 000	195 405	109 000	899	0	0	26 000	16 095	86 000	636 373	833 000

Note: Projected intakes are the average for 1991 & 1992 as set out in the Timber Strategy, Tables 14, 15 and 17.

HARDWOOD CHIPLOG PRODUCTION FROM CROWN LAND AND PRIVATE PROPERTY 1991-92

CROWN LAND	Volume m ³
Marri logs from	
- regrowth forests	20 586
- mature forests	424 121
Karri logs from	
- regrowth forests	71 128
- mature forests	92 680
Total from Crown Land	608 515
PRIVATE PROPERTY	
Marri and Karri logs	96 635
Total Crown Land and Private Property	705 150

FIREWOOD PRODUCTION

Log Source	1990-91 tonnes	1991-92 tonnes
FOREST RESIDUE		
From Crown land		
- domestic firewood	33 751	30 123
- industrial firewood	61 989	62 118
Total	95 740	92 241
SAWMILL RESIDUE		
From Crown land	97 258	33 601*
From Private Property	1 053	96*
Total	98 311	33 697

* Does not include figures for January to June 1992.

Note: These figures include solid wood, sawdust, shavings, chips and edgings. They do not include firewood collected privately by members of the public.

SOFTWOOD SAWLOG AND VENEER LOG PRODUCTION FROM CROWN LAND 1991-92
(IN CUBIC METRES)

SPECIES	PROJECTED	ACTUAL SAWLOG PRODUCTION					TOTAL
		1st Grade	2nd Grade	3rd Grade	Small Sawlogs	Veneer	
<i>Radiata</i>	120 000	26 210	30 291	288	14 503	4 090	75 382
<i>Pinaster</i>	55 000		7 504		18 222	17	25 743
TOTAL	175 000	26 210	37 795	288	32 725	4 107	101 125

LOG PRODUCTION FROM CROWN LAND AND PRIVATE PROPERTY
1991-92

Type	Crown Land (m ³)	Private Property (m ³)	Total (m ³)
SAWLOG TIMBER*			
<i>Jarrah</i>	399 033	5 253	404 286
<i>Karri</i>	179 337	10 210	189 547
<i>Marri</i>	55 132	7 796	62 928
<i>Blackbutt</i>	1 534	33	1 567
<i>Wandoo</i>	266	508	774
<i>Sheoak</i>	590	0	590
<i>Other</i>	481	122	603
Total Hardwood	636 373	23 922	660 295
<i>Pine</i>	101 125	9 364	110 489
TOTAL SAWLOGS	737 498	33 286	770 784
OTHER LOG MATERIAL**			
<i>Hardwood***</i>	611 354	96 634	707 988
<i>Softwood</i>	262 296	76 047	338 343
TOTAL LOG TIMBER	1 611 148	205 967	1 817 115

* Sawlog timber from all sources, including veneer, but not including chiplogs, firewood, piles and minor forest products.

** Includes chiplogs, pine particleboard material, pine rounds and pine industrial material.

*** Hardwood residue includes 2 809 cm of marri particleboard and 29 cm of jarrah particleboard logs.

Note: The trends in the production of logs are shown in Appendices 5 and 6.

SAWN PRODUCTION FROM CROWN LAND AND PRIVATE PROPERTY

	1990-91 (m ³)
Sawn Timber Production	
- Crown land	218 007
- Private Property	12 662
Sawn Sleeper Production	
- Crown land	31 257
- Private Property	1 463
Total	263 389

Final figures for 1991-92 not yet available. These will be published in the next annual report.

Note: The trend in the production of sawn timber is shown in Appendix 7.

RECREATION MANAGEMENT PROGRAM

OBJECTIVE

To facilitate the public enjoyment of the natural attributes of lands and waters managed by CALM in a manner that does not compromise conservation and other management objectives.

PROGRAM DESCRIPTION

This program deals specifically with recreation in the natural environment and includes the provision of appropriate recreation opportunities and facilities on CALM-managed lands and waters; protecting visitors and recreation values from fire; training of staff, Aboriginal people and CALM volunteers in recreation management; designing and initiating educational information programs and activities concerning recreation in the natural environment; and developing public awareness and support for CALM recreation programs, services and policies.

RECREATION PLANNING AND RESEARCH

Program staff investigate and plan for existing and future demands for recreation, determine priorities for development, and decide the extent to which recreation may compromise or enhance conservation or other management objectives. As a result, different types of plan are produced and implemented.

AREA MANAGEMENT PLANS

Most plans completed and in preparation during 1991-92 involve national parks, recreation reserves

and marine parks, all of which include recreation as a major component. Final management plans for the Marmion Marine Park, Walpole-Nornalup National Park and the South Coast Region were approved by the Hon Minister for the Environment. A draft management plan for Matilda Bay Reserve was released for public comment during the year.

For a list of approved plans and the area they cover, see the two tables on the next page.

SITE AND FACILITY DEVELOPMENT PLANS

Seventeen major planning and design projects were completed during the year. These included the development of a new vehicle-based tent camping area in State forest on Lake Navarino (Waroona Dam); preparation of a master plan as part of the draft management plan for Matilda Bay; planning and development of camping and day-use facilities at Honeymoon Pool in the Lower Collie River Valley; and, at Purnululu

National Park, preparation and implementation of a site development plan for a new campground and the redevelopment of the existing Bellburn camping area to accommodate tour operators.

VISUAL RESOURCES MANAGEMENT PLANS

Studies were undertaken for the visual resource management component of the John Forrest National Park Management Plan. Landscape assessment was conducted of telecommunication tower services at Milyering Visitor Centre, Cape Range National Park.

RESEARCH

The Visitor Information Statistics (VISTAT) program for monitoring visitor use of CALM lands continued. Throughout the State, 23 parks, 18 reserves and nine forest areas were monitored in this program, with 115 sites used to provide the basic data. Observation studies and visitor surveys were also carried out as part of VISTAT. Data were centrally processed and summarised.

VISITS TO CALM-MANAGED LANDS AND WATERS

<i>Year</i>	<i>No. of data collection sites</i>	<i>Recorded Visits</i>	<i>Estimated Total Number of visits to CALM Estate¹</i>
1989-90	85	3.6 million	4.5 million
1990-91	107	4.5 million	4.8 million
1991-92	115	4.3 million ²	4.6 million ²

¹ As visitor data are collected only at selected points it is necessary to extrapolate to estimate the total number of visits to all CALM-managed lands and waters. The accuracy of the estimate has improved with the addition of 30 collection points since 1989.

² Provisional estimate based on limited data. Subject to future amendment.

AREA COVERED BY MANAGEMENT PLANS

<i>Area Management Plans Tenure</i>	<i>Area Covered by Plans (ha)</i>	<i>Percentage of Total Tenure Area</i>
National Parks	528 676	10.8%
Nature Reserves	14 218	<1%
Marine Parks & Marine Nature Reserves	440 000	38%
Other Recreation/Conservation reserves	51 600	27.2
Total CALM Conservation Estate	1 034 494	6.1%

<i>Regional Management Plans</i>	<i>Area of Region (millions of ha)</i>	<i>Area of State (Percentage)</i>
Northern Forest Region	1.97	0.8%
Southern Forest Region	1.44	0.6%
Central Forest Region	1.8	0.7%
South Coast Region	16.3	6.4%
Total	21.5	8.5%

Note: Management plans concentrate on areas where recreation and environmental issues are most pressing. The proportion of the CALM estate covered by plans significantly underplays the degree to which the most important management issues have been addressed. For example, management plans have not yet been completed for Rudall River National Park (1.5 million ha - 32% of the total area of WA's national parks), or Karijini National Park (606 597 ha - 12.4% of the total area of WA's national parks). However, a plan was completed in 1989 for Yanchep National Park (2 842 ha - 0.06% of the total area of WA's national parks), as many significant pressures from recreation and surrounding development activities are placed on this park.

CALM MANAGEMENT PLANS: STATUS

<i>Approved Management Plans</i>	<i>Date of Gazettal</i>	<i>Final Plans in Preparation</i>	<i>Draft Plans in Preparation</i>
NATIONAL PARKS			
Cape Range National Park	23/3/90	Purnululu National Park	John Forrest National Park
Fitzgerald River National Park	19/6/91		Karijini National Park
Leewin Naturaliste National Park	21/4/89		Serpentine National Park
Shannon & D'Entrecasteaux National Park	8/1/88		Stirling Range & Porongurup National Parks
Walpole-Nornalup National Park	3/7/92*		West Cape Howe National Park
Yanchep National Park	29/9/89		Yalgorup National Park
NATURE RESERVES			
Benger Swamp Nature Reserve	12/2/89		Two Peoples Bay Nature Reserve
Dampier Archipelago Nature Reserves	31/8/90		
Forrestdale Lake Nature Reserve	10/7/87		
Mooradung Nature Reserve	21/2/86		
Nature Reserves of the Shire of Wyalkatchem	21/2/86		
Nature Reserves of the Shires of York/Northam	10/7/87		
MARINE PARKS AND MARINE RESERVES			
Ningaloo Marine Park	24/11/89		
Marmion Marine Park	15/5/92		
OTHER RESERVES			
Lane Poole Reserve	14/12/90	Matilda Bay Reserve Shoalwater Islands	Leschenault Peninsula
STATE FOREST			
Logue Brook Reservoir and Catchment Area	16/3/90		Dryandra State Forest
Waroona Reservoir and Catchment Area	16/3/90		
REGION PLANS			
Central Forest Region	12/2/88		Goldfields Region
Northern Forest Region	12/2/88		Shark Bay World Heritage Area (includes Shark Bay Marine Park, Monkey Mia Reserve, Hamelin Pool Marine Nature Reserve, Heirisson Prong Nature Reserve, the proposed Peron National Park and various island nature reserves)
South Coast Region	13/3/92		
Southern Forest Region	12/2/88		

* Approved in 1991-92

There were approximately 4.3 million recorded visits for the 50 parks, reserves and forests monitored during 1991-92. It is estimated that total visits to the CALM estate, including areas not monitored by VISTAT, totalled 4.6 million in 1991-92.

VISTAT information has been applied to improve management and planning of visitor services and in the more efficient collection of revenue in areas such as Nambung National Park.

A paper describing the establishment of the VISTAT system and its use in assisting management of protected areas was presented at the Fourth World Parks Congress in Caracas, Venezuela in February 1992.

PROVISION OF RECREATION OPPORTUNITIES

The program is responsible for facilitating public enjoyment of land entrusted to CALM in a manner consistent with maintenance and restoration of the natural environment, protection of indigenous flora and fauna, preservation of features of special interest and cost effective use of resources including facilities for revenue collection.

There were a number of major development and maintenance projects undertaken during the year:

Goldfields: Recreation developments at Wallaroo Rock (a proposed conservation park) were begun, using community volunteers and sponsorship. The Kalgoorlie Arboretum was further upgraded, with a walk trail finished, further tree planting and other recreation facilities.

Kimberley: The Bellburn camping area was upgraded for use by operators involved in the fly/drive tours to Purnululu National Park, and the Walardi camping area was constructed for use by the general public. The new Geikie Gorge tour boat was launched, increasing passenger capacity by some 80 per cent, and facilities were upgraded to handle the bigger boat.

Pilbara: In the Karijini National Park, a major redevelopment of the roading, day-use facilities and camping area at Dales was completed. Included are a self-registration scheme at the camping area, provision for campground hosts, information on access into the gorges, lookouts and formed pathways, and camping facilities. In the Millstream-Chichester National Park, the Millstream Homestead Visitor Centre was completed and officially opened by the Hon Minister for the Environment in March 1992.

Greenough/Gascoyne: Walktrails to Loop and Z Bend sites in Kalbarri National Park were completed, and information plinths were provided. A carpark and day-visitor facilities for stromatolite viewing were established at the Hamelin Pool Marine Nature Reserve at Shark Bay.

Wheatbelt: An information shelter was completed at Lake Dumbleyung Nature Reserve using park improvement funds.

Swan: The Helena Valley Bridle Trail was established with the help of other Government agencies and the Darling Range Pony Club. Roads and carparks at Yanchep National Park were re-aligned and improved in accordance with the approved management plan to improve visitor safety and recreation experience around Loch McNess, and substantial progress with the refurbishment of historic McNess House was made, including replacement of foundations and re-roofing. Three buildings were relocated from the former Gngangara forest settlement to CALM's Mundaring Weir settlement to form the nucleus of the Forest Activities Centre for the Hills Forest.

On Penguin Island, volunteers, contractors and CALM staff removed old fibro-asbestos buildings and installed new signs.

Central Forest: A small camping area at Black Point in D'Entrecasteaux National Park has been constructed. At Honeymoon Pool near Collie, stages I and II of the camping area were completed (family sites and group sites). Completion of stage III is planned for summer 1992-93.

The Hon Minister for the Environment opened new facilities at Ellensbrook in the Leeuwin-Naturaliste National Park, including a wooden boardwalk brought from historic Ellensbrook House to Meekadarabee Cave.

Southern Forest: Redevelopment of the John Rate Lookout (Walpole-Nornalup National Park) continued. The Big Brook Dam Spillway Bridge was installed, which brings the 'totally accessible trail' at Big Brook near to completion.

South Coast: The Fanny Cove campsite in Stokes National Park was redeveloped. The Bluff Knoll path in the Stirling Range National Park was upgraded. The path and steps leading to the Blowholes in Torndirrup National Park were reconstructed, in a joint project with Skillshare.

ACTIVITY PROGRAMS

Visitor activity programs were conducted in parks, reserves and forest areas throughout the State. These included park interpretive activities in Serpentine, Yanchep,

Leeuwin-Naturaliste, Shannon and Walpole-Nornalup national parks; the 'Go Bush' seasonal activities program in the Hills Forest around Perth; and 'Forest Affair', a one-day special event in Fred Jacoby Park.

CALM also conducted or assisted in the following courses and tours: Outback Safety and Bush Course (Icy Creek - four courses); Earth Education workshop for group leaders; Earth Caretakers for primary students; University extension programs such as 'A Wild Weekend with CALM' at the Perup Forest Nature Reserve; and guided tours at Point Peron, Shoalwater Islands and Shark Bay.

The Geikie Gorge ranger-guided boat tour continued during the 1991 Kimberley tourist season (April-October) with 26 000 visitors.

COMMUNITY INVOLVEMENT

CALM encourages community groups and individuals to take part in the development of recreation and conservation projects on CALM-managed lands and waters.

ABORIGINAL PROGRAMS

CALM continues to work closely with Aboriginal people to ensure their involvement in the management of lands within the CALM estate where appropriate. The development, with traditional owners, of a draft management plan for Karijini National Park, and of a final management plan for Purnululu National Park, is progressing, and there is increasing contact between CALM and Nyungar groups in the south-west of the State.

Some significant developments include the transfer to Narrogin of a Nyungar Aboriginal liaison officer; production of a report examining Nyungar land-use activities in the south-west; negotiation of an Australian Heritage Commission-funded project to develop a predictive model to assist Aboriginal site protection within the Southern Forest Region; CALM's support of the Lake Jasper Project youth development program; development of a TAFE-accredited land management course in the West Kimberley; employment of Aboriginal contractors on 16 land management projects funded through the Australian National Parks and Wildlife Service; and development of improved career path opportunities for existing Aboriginal staff in line with CALM's Aboriginal Employment and Training Plan.

VOLUNTEERS

The Department's Community Involvement program has grown and consolidated over the last 12 months.

The training of staff in volunteer management has allowed an expansion of volunteer programs covering a wider field of situations and skills. Forty-one staff are now trained and liaising and working with volunteers, either on the ground or as regional, district or branch volunteer coordinators.

More than 78 new programs were initiated in 1991-92 and established programs were expanded. More than 900 volunteers contributed a total of 40 000 hours. Although the number of registered volunteers is slightly less than in 1990-91, the total time contributed is 30 per cent greater. This reflects a greater level of commitment amongst CALM volunteers.

Volunteer activities included visitor information and interpretation, erosion control, care and rehabilitation of sick and injured wildlife, park planning, historical research, and surveying large fungi.

CALM VOLUNTEERS

<i>Year</i>	<i>Number Registered</i>	<i>Hours Contributed</i>
1990-91	980	31 000
1991-92	900	40 000

EXTERNAL FUNDING INITIATIVES

Financial support for CALM recreation projects was provided by Alcoa Australia, Gascoyne Trading and Ansett Australia.

The Department completed a study into innovative funding mechanisms for conservation and recreation programs, including the development of policy in the area of external funding and support. The project located potential sources of external revenue for many areas of CALM's operations; identified Federal, State and independent grant schemes for which CALM is eligible, or to which it can arrange access through supporting groups and organisations;

investigated opportunities for corporate sponsorship of CALM programs; identified the need for a Foundation which would generate funds for conservation and land management projects; and coordinated CALM's grant-seeking program.

INTERPRETATION AND VISITOR SERVICES

The Department aims to enrich visitor experiences and promote public awareness, understanding and support for nature conservation, area management, and CALM's recreation services and policies.

Regular interpretation activities programs are now conducted at Yanchep, Walpole-Nornalup, Shannon-D'Entrecasteaux and Leeuwin-Naturaliste national parks and the Hills Forest. An 'Interpretive Activities Training Course' was held at Purnululu National Park for park visitors. In addition, a new system of dieback signs for roads and walk trails was prepared during the year.

Services were improved in the regions:

Kimberley: A display shelter was built in the Parry Lagoons Nature Reserve with a grant from the Australian Geographic Society. Part one of the Geikie Gorge Visitor Centre display was built, giving park and boat tour information.

Pilbara: The Millstream Homestead Visitor Centre and the Homestead interpretive walk trail were opened by the Hon Minister for the Environment.

South Coast: The South Coast Region Interpretation Strategy was developed, and the Stirling Range and Cape Le Grand national parks information shelters installed.

Wheatbelt: An oral history of John Currie, a Dryandra forester, was produced.

Swan: 80 000 people visited the CALM wetland and forests display at the Advance WA Fair. The former Marrinup POW camp near Dwellingup was developed as an interpretation area with assistance from the South West Development Authority.

Greenough/Gascoyne: The Jurien Boat Harbour information shelter and plinth were constructed to provide information about offshore islands and wildlife.

FIRE MANAGEMENT

Protection of recreation areas through strategic prescribed burning was continued in accordance with management plans and interim guidelines.

Recreation sites at Hangover Bay and Kangaroo Point in Nambung National Park were reconstructed following damage caused by an extensive wildfire.

EMERGENCY ASSISTANCE PROGRAM

OBJECTIVE

To provide emergency assistance to the community.

PROGRAM DESCRIPTION

This program includes assistance to shires and community groups in fighting wildfires adjacent to CALM-managed lands, providing assistance in declared emergencies and assistance in other emergencies, i.e. oil spills, accidents, lost people, sea and land searches, floods and cyclones where the use of CALM resources and expertise are appropriate.

Under this program, only fire emergencies were recorded in adjacent properties during 1991-92. The only other incident of note, the spillage of oil from the tanker *Kirki* in July 1991, required no more than a 'standby' response from the Department. It was met by quick mobilisation of staff from CALM, the EPA, the Department of Marine and Harbours and the Department of Fisheries, and was coordinated through the State Committee for Combating Marine Oil Pollution. In the end, the threat to wildlife faded as the seas washed away the oil.

AIIMS

Together with the Bush Fires Board of Western Australia, CALM has joined fire and emergency services throughout Australia to adopt the Australian Interservice Incident Management System (AIIMS). Based on many of the emergency principles that were already in place in CALM's Large Fire Organisation System, the AIIMS brings together autonomous emergency services, each with its separate charter, into a single effective operational team to manage any type of emergency. It will be applied to any emergency in which sections of CALM are involved with other emergency organisations.

This program comprises centralised corporate services which are maintained to support the other programs; for example, the management of human resources, financial management and general administration.

HUMAN RESOURCES MANAGEMENT

The approved staff establishment figure for the Department as at 30 June 1992, expressed in full time equivalents, was 1 402.87. The average staffing level over the whole year was 1 385.83.

As a consequence of budgetary constraints, constant rationalisation of staff deployment and reviews of staffing levels occurred throughout the year. The Government's Voluntary Severance scheme was a timely announcement in achieving permanent reductions in staff numbers and salary/wages expenditure. Administration of the Voluntary Severance Scheme was a major operation because at the time of its announcement CALM had not identified positions that were surplus. To determine which applications for severance could be supported, it was necessary to review the merits of individuals concurrently with staffing structures and identify whether certain work responsibilities had to continue or could cease. Twenty-nine employees accepted redundancy packages.

The Department has continued to be successful in obtaining funding for salaries and on-costs from a wide range of external (non-Consolidated Revenue Fund) sources. As at 30 June 1992, thirty-three persons funded in this manner were employed in different capacities for fixed periods undertaking specific projects.

Career advancement within CALM has been achieved for forty-nine salaried staff during the year by way of promotion to advertised vacancies and reclassifications.

Work has continued on requiring officers to clear accumulated long service leave in accordance with a Government directive. With careful planning the backlog of 10 officer years at 30 June 1991 has been reduced to 16 officer months at 30 June 1992.

INDUSTRIAL RELATIONS

The development of consultative mechanisms has continued during the year with further training and the introduction of consultative committees in most Districts. The committee structure and constitution will be formalised following union endorsement. This will form the basis for a consultative and participative approach to industrial relations in CALM.

A comprehensive review of the Australian Workers' Union Construction, Maintenance and Services (WA Government) Award, 1987 is nearing completion. A new consolidated award was presented to the Australian Industrial Relations Commission in February and is expected to be finalised during 1992-93.

Demarcation issues have been responsible for an increase in disputes. Together with other matters, CALM has appeared in the State and Federal Industrial Relations Commissions on five occasions for hearings and on eight occasions for conferences.

TRAINING AND DEVELOPMENT

New training courses continue to be developed to meet changes in equipment and procedures and for staff development. New courses have been developed in silviculture, dieback disease management (advanced), rare mammal conservation, botanical collection and plant identification, tractor driving, and many more.

The Department introduced a new policy on the recruitment of field staff which has resulted in the closure of the cadet training centre at Dwellingup. The key outcomes of this policy will be a more flexible approach to recruitment (as vacancies

occur they will be advertised); use of the expertise and resources of universities and TAFE colleges in providing academic training; and use of the cadet training centre's staff, equipment and financial resources for broader training in the Department. The new policy establishes vocational employment opportunities for up to twenty university or TAFE students and continues the development opportunities for CALM employees through the Executive Director's Scholarship.

OCCUPATIONAL HEALTH, SAFETY AND WELFARE

The continued high profile enjoyed by health and safety within CALM is reflected in all phases of the work with a reduction in the overall accident rates; but unfortunately there has been an increase in the number of days lost.

The number of lost time accidents fell from 49 to 40 and the number of medical treatment accidents also fell from 124 to 117, giving a combined reduction of 8% in all claims.

There were 1 017 days lost (including 399 from six accidents in the previous year) - up from 696 the previous year.

Nine of the 24 listed groups on the monthly accident report completed the 1991-92 year with NIL lost time accidents for the year, and four of these also recorded NIL medical treatment accidents.

The all-injury rate has decreased from 71 to 67.

The average days lost per accident increased from 12 to 18.

WORKERS' COMPENSATION

Annual workers' compensation insurance premiums fell from \$572 421 million for 1990-91 to \$545 910 million for 1991-92. New claims for the same periods totalled 237 and 216 respectively.

Rehabilitation of injured employees has played a more prominent role in the system than in the past and formal Departmental policies for rehabilitation and counselling have been put in place.

FINANCIAL SERVICES

A new general ledger and accounts payable system was successfully implemented on 1 July 1991. The system has facilitated further progress with the program management initiative in CALM, and allowed better payment service to suppliers and further improvements to the productivity of the finance function.

An audit committee was formed and meets regularly to consider findings of internal audits and to facilitate liaison with the Office of the Auditor General.



Opinion of the Auditor General

To the Parliament of Western Australia

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT PERFORMANCE INDICATORS FOR THE YEAR ENDED JUNE 30, 1992

Scope

The Financial Administration and Audit Act 1985 requires accountable officers to prepare and submit performance indicators. Treasurer's Instruction 904 requires that key indicators of effectiveness and efficiency be reported for each program. I am required to audit these indicators and state whether in my opinion, they are relevant and appropriate having regard to their purpose and fairly represent the indicated performance.

As stated in my First General Report for 1992, I am of the view that the stage has not yet been reached where I can form an opinion on performance indicators as required by the Act. However, I have reviewed the performance indicators reported by the Department of Conservation and Land Management for the year ended June 30, 1992 in accordance with the developmental approach outlined in my First General Report for 1992.

During my review of the indicators, I have assessed the relevance of the reported indicators to the objectives submitted by the Department based on my knowledge of the Department and have assessed the appropriateness of the indicators for the purpose of assisting users external to the Department to assess performance. Where I have formed the view that the indicators are relevant and appropriate, I have also reviewed the relevant information systems on a test basis to determine whether the information reported in the indicators is verifiable and free from significant bias.

Audit Assessment

It is my view that the indicators listed below are relevant to the stated objectives of the Department of Conservation and Land Management. The indicators are appropriate for assisting users external to the Department to assess its performance and fairly represent the indicated performance.

Nature Conservation and Wildlife Management Program

Effectiveness Indicators

- The quantity and quality of data gathered on the State's biota;
commencing
 - "of the estimated total..."
 - "population records for..."
 - "the declared rare..."
- Management actions which help to conserve the State's biota and Ecosystems;
commencing
 - "new additions to..."
 - "the extension of..."

**Department of Conservation and Land Management
Performance Indicators for the year ended June 30, 1992**

Forest Resources Management Program

Effectiveness Indicators

- The extent to which the State's forests are being managed...;
commencing
 - "the supply of..."
 - "the total amount..."
 - "of a target..."

Recreation Management Program

Effectiveness Indicators

- The number of visits to CALM managed lands.

Efficiency Indicators

- The Cost per visitor.

Emergency Assistance Program

Effectiveness Indicators

- The number of fires contained on adjacent properties either on neighbours' request or by unsolicited intervention.

Efficiency Indicators

- The time needed to respond to fires according to procedures laid down in Fire Emergency Plans.

The remaining indicators reported by the Department require further development before they will be appropriate for users to assess performance.

I am aware that the Department is further developing effectiveness indicators which are intended to illustrate the Department's achievements in relation to meeting its objectives and efficiency indicators which will show the relationship between the resources used and the outputs produced which contributed to the desired outcomes.



D D R PEARSON
AUDITOR GENERAL
October 15, 1992

NATURE CONSERVATION & WILDLIFE MANAGEMENT PROGRAM

OBJECTIVE

To conserve the indigenous plants, animals and communities of the State and the ecosystems which support them.

KEY EFFECTIVENESS INDICATOR

The quantity and quality of data gathered on the State's biota.

MEASURES

- ◆ Of the estimated total of 12 000 species of vascular flora, 7 954 have been formally named. Approximately 450 000 flora specimens are housed in the Western Australian Herbarium, with 10 000 being curated during 1991-92.
- ◆ Population records for 43% of the species in the threatened flora database have been upgraded and validated over the past 18 months. A threatened fauna database has been developed for data entry.
- ◆ A publication on the Kimberley rainforests was produced, and biological surveys undertaken in six national parks, three nature reserves, and seven other areas of conservation importance.
- ◆ The Declared Rare Flora list currently contains 263 extant plus 43 presumed extinct species and subspecies (2.5% of total known). The Priority Flora list contains 1 175 poorly known taxa requiring survey and 121 rare taxa to be monitored.

NOTE

Wildlife management is dependent on adequate data on the species and ecosystems to be managed. Formal naming of species is a basic step in this process of data gathering, which involves the description of species, and often habitat and conservation details. Approximately 13.3% of the total known flora are listed on the Declared Rare and Priority Flora lists, which indicates the scope of the task, for example, for flora conservation.

KEY EFFICIENCY INDICATOR

The efficiency of data retrieval being used for nature conservation and wildlife management.

MEASURES

- ◆ Of the 450 000 flora specimens housed in the Western Australian Herbarium, 190 000 have been computer databased (75 000 during 1991-92) and are accessible for enquiry.
- ◆ The Reference Herbarium now holds 6 204 specimens, and was used in 1991-92 by 535 recorded visitors, thus relieving the pressure on the main collections and on Herbarium staff.
- ◆ During the year, 94 enquiries were made of the threatened flora database, of which 64 were commercial, generating \$4 440 in revenue.

NOTE

The acquisition of nature conservation data is multi-faceted, involving agencies outside of CALM, in addition to the different areas of CALM that may or may not have nature conservation as their prime area of activity. It is thus difficult to quantify an efficiency indicator in this area. Efficiency is nevertheless being achieved in the area of data storage and retrieval through the maintenance of databases and reference collections. Such efficiency cannot be evaluated against previous methods, however, because often the data quality is improved. The above measures are provided as an indication of improved data maintenance efficiency.

KEY EFFECTIVENESS INDICATOR

Management actions which help to conserve the State's biota and ecosystems.

MEASURES

- ◆ New additions to the conservation estate totalled 391 286 ha. Reservations for conservation now comprise 6.2% of the terrestrial area of Western Australia.
- ◆ The extension of the nature conservation estate included the first reservations of populations of seven species of Declared Rare Flora, and a substantial increase in the reservation status for another two species in 1991-92.

- ◆ Three species of extant flora were added to the schedule of Declared Rare Flora, and one removed. Six species of presumed extinct flora were rediscovered, and four removed from the list due to taxonomic revisions.
- ◆ Ten threatened wildlife management programs and recovery plans were completed during the year, three existing programs were implemented, and funding was obtained for the preparation of a further five programs.
- ◆ Inspections of 545 populations of Declared Rare Flora and 420 populations of Priority Flora were undertaken by CALM staff, CALM consultants and other individuals.
- ◆ Conditions to protect nature conservation values were negotiated for 256 mining tenements that were approved on either CALM-managed land or other lands of conservation value.

NOTE

The management of flora, fauna and ecosystems entails many aspects, including land reservation, surveys, inspections and specific actions designed to either conserve existing populations, or to establish new populations. Captive breeding of the western swamp tortoise and translocations of the chuditch are two examples of actions being undertaken under management programs and recovery plans. Further detail is available in the main section of this Report.

KEY EFFICIENCY INDICATOR

The supplementing of CALM resources for nature conservation and wildlife management.

MEASURES

- ◆ Of the total of 954 monitoring reports of Declared Rare and Priority Flora, 778 were submitted by CALM staff, 84 by botanists contracted to CALM under external funding, and 92 by other non-CALM persons.
- ◆ \$1 027 888 was received in external grants for nature conservation and wildlife management.

NOTE

The efficiency by which nature conservation and wildlife management are undertaken is again difficult to quantify because of the long-term nature of results (species extinction or preservation), and because nature conservation components are difficult to measure when undertaken as part of activities with other primary objectives. Management efficiency is being increased with the use of volunteer resources and external funding. The above measures are provided as an indication of improved efficiency in nature conservation and wildlife management.

FOREST RESOURCES MANAGEMENT PROGRAM

OBJECTIVE

To provide, regulate and sustain the supply of wood resources for the satisfaction of long-term social and economic needs in a manner that minimises the impact of resource use on other values and provides maximum returns to the State for resources used.

KEY INDICATOR

The effectiveness and efficiency with which State forests are being managed in accordance with multiple use, and established plantation forests are being managed in an ecologically sustainable manner, while providing a supply of timber products to satisfy the contractual arrangements made within economically viable parameters and in accordance with the State's 1987 Regional Management Plans and Timber Strategy.

MEASURES

◆ A draft Forest Management Strategy for the south-west forests has been prepared and released for public comment. When approved by the Government the results will provide policy guidelines for the Department to manage native forests in a more sensitive ecologically sustainable manner. The draft document provides that the level of timber harvest that can be maintained in perpetuity will remain at the 1991 level set in the Timber Strategy.

Over the next ten years, this will result in the improvement of supply to industry of 24% compared with what had been proposed in the 1987 Timber Strategy.

- ◆ A re-inventory of 1.4 million hectares of jarrah forest has been completed. This measure has confirmed that the sustainable annual volume of jarrah timber which can be harvested in perpetuity is 1 360 000 cubic metres per annum.
- ◆ The supply of log products to timber companies was maintained in line with the reduced demand for timber in the market place. The total quantity of native hardwood log timber harvested was 90.8% of the planned harvest, which was below the level of harvesting allowed in the Timber Strategy. However, the total royalty collection was \$22 633 000, which was 99% of the estimate.
- ◆ The total amount of timber harvested from coniferous plantations was 102% of the planned harvest of 410 000 cubic metres, resulting in an additional \$1 300 000 revenue in excess of the estimate of \$13 900 000.
- ◆ A Sandalwood Management plan has been approved and is being implemented. The plan will ensure that sandalwood harvesting of 2 000 tonnes per annum and subsequent export to Asian markets can be sustained. Exports in 1991-92 returned \$5.4M, or 108% of the estimate, to the State.

- ◆ Of a target establishment of 2 500 hectares of pine plantations, 1 767 hectares were planted, including 1 129 hectares of new plantations in sharefarming agreements with farmers. A further 820 hectares of *Eucalyptus globulus* was established on the south coast and in the Wellington catchment area of a nominal program of 1 000 hectares.
- ◆ A 1991-92 Business Plan was prepared for the Manjimup Plant Propagation Centre, forecasting a total demand of hardwood and softwood seedlings of 12 million trees. In winter 1992 a total of 12.5 million seedlings was actually dispatched, of which 2.4 million eucalypts and 325 000 pine species were sold to private tree planters.

RECREATION MANAGEMENT PROGRAM

OBJECTIVE

To facilitate the public enjoyment of the natural attributes of lands and waters managed by CALM in a manner that does not compromise conservation and other management objectives.

KEY EFFECTIVENESS INDICATOR

The number of visits to CALM-managed areas.

VISTAT data indicates that the number of visits to CALM-managed lands and waters in 1991-92 was approximately 4.6 million, about the same as the previous year.

KEY EFFECTIVENESS INDICATOR

The area covered by management plans.

The area of conservation reserves covered by management plans is now 1 034 494 hectares, 6.1% of CALM-managed conservation lands and waters. Broad-scale regional plans have been completed for four regions of the State, covering 8.5% of the State's land area. Three management plans were approved in 1991-92, making a total of 21 approved plans.

One draft plan was released for public comment and work continued on 14 plans in preparation.

NOTE

Management plans concentrate on areas where recreation and environmental issues are most pressing. The proportion of the CALM estate covered by plans significantly underplays the degree to which the most important management issues have been addressed. For example, management plans have not yet been completed for Rudall River National Park (1.5 million ha - 32% of the total area of WA's national parks), or Karijini National Park (606 597 ha - 12.4% of the total area of WA's national parks). However, a plan was completed in 1989 for Yanchep National Park (2 842 ha - 0.06% of the total area of WA's national parks), as many significant pressures from recreation and surrounding development activities are placed on this park.

Three completed forest region plans include guidelines and prescriptions for the management of forest areas and cover virtually the entire area of State forest (99%) and 59% of the area of timber reserves.

KEY EFFECTIVENESS INDICATOR

Number of sites developed, upgraded or maintained.

Thirty-six recreation areas were developed or upgraded. Maintenance continued at more than 200 established sites.

NOTE

Indicators address the extent to which the demands for nature-based recreation are met by existing facilities, visitor programs and services, and the degree to which future demands have been identified, assessed and planned for.

KEY EFFICIENCY INDICATOR

Cost per Visitor.

Expenditure per visitor in 1991-92 was \$3.40.

KEY EFFICIENCY INDICATOR

Cost Recovery.

Total recreation management revenue was \$3 693 947. This included \$1 459 845 from visitor fees, \$1 523 605 from MRD road grants and \$290 863 from special purpose grants.

Revenue and other external funding was 23.5% of total program cost.

NOTE

It is the Department's policy to collect revenue such as visitor fees wherever possible where expected revenue exceeds collection costs. Expansion of fee collection into new areas generally meets initial public opposition.

NOTE

Indicators are based on the level of resources used to provide and maintain existing facilities and services and to plan for future demands for nature-based recreation.

EMERGENCY ASSISTANCE PROGRAM

OBJECTIVE

To provide emergency assistance to the community.

KEY EFFECTIVENESS INDICATOR

The number of fires contained on adjacent properties either on neighbours' requests or by unsolicited intervention.

MEASURE

CALM fire-fighting resources responded to every fire to which they were called. There were 81 such fires on private property adjacent to lands managed by CALM. The privately owned area burned totalled 7 612 hectares, which was 10 000 hectares less than in the previous year.

KEY EFFICIENCY INDICATOR

The time needed to respond to fires according to procedures laid down in Fire Emergency Plans.

MEASURE

In 95% of cases, CALM firefighting resources responded within predetermined time limits to the need to fight fires on adjacent properties,

containing them within small areas with minimal damage to community assets.

NOTE

CALM has developed District Fire Emergency Preparedness Plans, classifying fires into two zones based on urgency and difficulty of access. The target fire-fighters set themselves is to respond immediately upon notification of a fire in Zone A, and within 60 minutes of notification of a fire in Zone B. The response times and standards vary according to prevailing weather conditions, predicted fire behaviour, values at risk, and pre-existing arrangements with neighbouring response agencies. In October 1992 the Australian Interservice Incident Management System (AIIMS) referred to in the Emergency Assistance Program report will be implemented. A number of emergency organisations, including the appropriate sections of CALM, will work together as a single operational group. It may well be possible for a different set of indicators to be evolved through this procedure.

TERMS OF REFERENCE

To coordinate and promote the conservation and effective management of native vegetation on road and rail reserves for the benefit of the environment and the people of Western Australia.

COMMITTEE MEMBERSHIP

Mr J. Blyth

CALM (Chairman)

Mr G. Norwell

Main Roads Department

Mr J. Robley

Bush Fires Board

Mr P. Bothwell

Westrail

Mr G. Hamilton

Department of Agriculture

Mr B. Loney

Greening Australia

Mr C. Morris

SECWA

Cr J. North

Country Shire Councils Association

Cr I. Purse

Country Shire Councils Association

Ms J. Seabrook

Representative of conservation interests

STAFF

Mr D. Lamont (Executive Officer)

As a consequence of the permanent transfer of Miss P. Hussey to work on remnant vegetation on private land, Mr Lamont's secondment as Acting Executive Officer has been extended indefinitely. The work done by Miss Hussey in the formative years of the RCC is gratefully acknowledged.

MEETINGS

Five meetings were held during the year: 14 October, 9 December, 19 February, 6 April and 8 June.

FINANCE

The Roadside Conservation Committee has no financial administration functions. The Department of Conservation and Land Management meets the cost of servicing the committee and obtains contributions towards this cost from the Main Roads Department and Westrail. During the financial year 1991-92 expenditure of the Committee was:

<i>Executive Officer, Salary*</i>	<i>\$34 600</i>
<i>Members' Fees, Travel</i>	<i>\$10 000</i>
<i>Publications</i>	<i>\$4 500</i>
<i>Research**</i>	<i>\$27 500</i>

*MRD contributed \$17 400.

**MRD contributed \$9 750 and Westrail \$3 000; a further \$5 000 came from the 1990-91 'Save the Bush' grant.

Enhancement and Protection

One of the RCC's objectives is to promote the protection and enhancement of native vegetation on rail and roadsides. During 1991-92, static displays were mounted at a number of venues, e.g. Kings Park Wildflower Exhibition, Mingenev Expo, and the Manjimup Show. A display of promotional material has been made available to country shires, and this has been used in the foyer of many country shows on an extended basis, for example for the Shires of Margaret River and Wickiepin.

Country shires have been canvassed on several occasions during the year to ascertain the use and value of Special Environmental Area markers, and also to encourage the prohibition of wildflower picking and seed collection from road reserves.

Wildflower tour brochures for Boyup Brook and Mingenev/Three Springs are at the final draft stage and are expected to be released in August 1992.

The RCC annually awards the Roadside Certificate of Merit with cooperation from Greening Western Australia. This year the prize was shared by two divisions of the Main Roads Department for rehabilitation work on roadsides. Mr Don Marsh and Mr Alan Grist were the officers responsible for planning and implementing the MRD entries.

* Future reports from this committee will be incorporated into the Nature Conservation and Wildlife Management program.

Information Dissemination

A second objective is to provide information to government at all levels, voluntary organisations and the public on the importance of road and railside vegetation for nature conservation.

Surveys of the conservation value of roadsides have been conducted for several years; the data have provided the basis for Geographical Information System maps of roadsides to be produced. This has been done with the assistance of the Survey section of the Main Roads Department. This year, maps for the Shires of Serpentine/Jarrahdale, Boyup Brook and Wickepin were completed. Data for another 17 shires are in hand.

Burning of roadsides has been a contentious issue amongst community groups. To allow for informed decision-making in this sphere, Chapter 9 (Fire Management) of the Roadside Manual is being reproduced in a separate booklet form and will be distributed jointly by the RCC and the Bush Fires Board.

Workshops and information sessions on roadside conservation and management techniques have been conducted at the request of a number of country shires, e.g. Wickepin, Donnybrook/Balingup, Manjimup, Beverley.

Research

A third objective of the RCC is to develop an understanding of the ecological processes controlling roadside vegetation, and through this to devise better techniques for management of roadside corridors.

Several projects that have a direct effect on road and railside management have been fully or partly funded by the RCC. These are 'Herbicide Effects on Native Vegetation' (Dr E.M. Mattiske and Associates), 'The Decline of *Eucalyptus wandoo* Blakely in the Western Australian Wheatbelt Area' (J. Mercon, Honours project), 'The Use of Logs and Litter by Ground Fauna' (Dr B. Wykes), and a published report: *Banksia goodii, with the Emphasis on Roadside Populations* (Dr B. Lamont).

A survey of the conservation value of the disused rail reserve between Donnybrook and Katanning, conducted by E.M. Mattiske and Associates, was funded by the RCC. The survey results will facilitate informed decision-making regarding the disposal and future use of this land.



Opinion of the Auditor General

To the Parliament of Western Australia

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 1992

Scope

I have audited the accounts of the Department of Conservation and Land Management for the year ended June 30, 1992 under the provisions of the Financial Administration and Audit Act 1985.

The Chief Executive Officer is responsible for keeping proper accounts and maintaining adequate systems of internal control, preparing and presenting the financial statements, and complying with the Act and other relevant written law.

My audit was performed in accordance with section 79 of the Act to form an opinion based on a reasonable level of assurance. The audit procedures included examining, on a test basis, evidence to provide reasonable assurance that the financial statements are free of material misstatement and that the controls exercised are in accordance with legislative provisions. The accounting policies and principles used were assessed to determine that they are consistent with the Treasurer's Instructions and relevant accounting concepts and standards. Significant judgements made by management were evaluated for consistency with my understanding of the entity's operations.

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 and the acquisition and disposal of property and the incurring of liabilities have been in accordance with legislative provisions; and
- (ii) the Statement of Receipts and Payments and the notes thereto are based on proper accounts and present fairly the transactions for the year ended June 30, 1992.

D D R PEARSON
AUDITOR GENERAL
October 15, 1992


The accompanying financial statements of the Department of Conservation and Land Management 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 1992 and the state of affairs as at 30 June 1992.

At the date of signing we are not aware of any circumstances which would render the particulars included in the financial statements misleading or inaccurate.



ACCOUNTABLE OFFICER

14 August 1992



PRINCIPAL ACCOUNTING OFFICER

CONSERVATION AND LAND MANAGEMENT FUND
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		Account	1991-92	
\$	\$		\$	\$
<u>1 344 087</u>		Balance as at 1 July		<u>2 602 969</u>
		THIS IS REPRESENTED BY:		
	4 647	Operating Funds Account (1)	28 662	
	-	Tree Planting Trust Fund Account (1)	28 167	
	1 099 906	Capital Works Account	2 052 433	
	168 370	Nature Conservation & National Parks Trust Account	200 930	
	10 000	Specific Purpose Grants Trust Account	192 921	
	-	World Wildlife Grants Trust Account	8 757	
	57 574	Wood Utilisation Research Account	50 170	
	<u>3 590</u>	Goldfields Dust Abatement Account	<u>40 929</u>	
		RECEIPTS		
	120 977 178	Operating Funds Account	127 301 897	
	-	Tree Planting Trust Fund Account	1 412 490	
	17 193 435	Capital Works Account	12 972 919	
	145 157	Nature Conservation & National Parks Trust Account	99 343	
	341 390	Specific Purpose Grants Trust Account	1 939 659	
	44 327	World Wildlife Grants Trust Account	81 968	
	294 689	Wood Utilisation Research Account	120 233	
	<u>95 195</u>	Goldfields Dust Abatement Account	<u>93 133</u>	
<u>139 091 371</u>				<u>144 021 642</u>
140 435 458				146 624 611
		PAYMENTS		
	120 924 996	Operating Funds Account	127 276 311	
	-	Tree Planting Trust Fund Account	1 222 660	
	16 240 908	Capital Works Account	12 863 379	
	112 597	Nature Conservation & National Parks Trust Account	137 444	
	158 469	Specific Purpose Grants Trust Account	320 594	
	35 570	World Wildlife Grants Trust Account	43 638	
	302 093	Wood Utilisation Research Account	170 000	
	<u>57 856</u>	Goldfields Dust Abatement Account	<u>106 209</u>	
<u>137 832 489</u>				<u>142 140 235</u>
<u>2 602 969</u>		Balance as at 30 June		<u>4 484 376</u>
		THIS IS REPRESENTED BY:		
	56 829	Operating Funds Account (1)	54 248	
	-	Tree Planting Trust Fund Account	217 997	
	2 052 433	Capital Works Account	2 161 973	
	200 930	Nature Conservation & National Parks Trust Account	162 829	
	192 921	Specific Purpose Grants Trust Account	1 811 986	
	8 757	World Wildlife Grants Trust Account	47 087	
	50 170	Wood Utilisation Research Account	403	
	<u>40 929</u>	Goldfields Dust Abatement Account	<u>27 853</u>	

The purpose of the Conservation and Land Management Fund is to hold moneys derived under Sections 64 and 68 of the Conservation and Land Management Act 1984.

Details of the various accounts are contained in the statements which follow.

The balance of the Conservation and Land Management Fund is held at and invested by Treasury with the interest being credited to the fund.

Some variation between this and supporting statements may occur due to rounding.

(1) The balance of the Operating Funds Account at 30 June 1991 was \$56 829. Of this \$28 167 was attributable to the Tree Planting Trust Fund Account which is reported on separately from 1 July 1991.

OPERATING FUNDS ACCOUNT
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91 Actual		Estimate	1991-92 Actual	Variation
\$		\$	\$	\$
4 647	Balance as at 1 July	29 000	28 662	(338)
	RECEIPTS (2)			
112 100 000	Consolidated Revenue Fund	112 541 000	118 429 000	5 888 000
5 693 117	Contributions from Industry & Other Sources	4 744 000	6 880 540	2 136 540
1 040 912	Commonwealth Recoups	600 000	532 512	(67 488)
1 234 563	Income from National Parks	1 300 000	1 459 845	159 845
<u>120 073 239</u>		<u>119 214 000</u>	<u>127 330 559</u>	<u>8 116 559</u>
	PAYMENTS (1) (3)			
9 642 000	Corporate Services	9 365 000	10 817 281	1 452 281
16 656 000	Nature Conservation & Wildlife Management	15 976 000	18 138 786	2 162 786
77 798 000	Forest Resources Management	77 337 000	82 361 536	5 024 536
15 824 000	Recreation Management	16 425 000	15 688 681	(736 319)
124 000	Emergency Assistance	111 000	270 027	159 027
<u>120 044 577</u>		<u>119 214 000</u>	<u>127 276 311</u>	<u>8 062 311</u>
28 662	Balance as at 30 June	-	54 248	54 248

TREE PLANTING TRUST FUND ACCOUNT
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91 Actual		Estimate	1991-92 Actual	Variation
\$		\$	\$	\$
-	Balance as at 1 July	28 000	28 167	167
	RECEIPTS (2)			
900 000	Consolidated Revenue Fund	1 239 000	1 215 000	(24 000)
8 586	Other Income	-	197 490	197 490
<u>908 586</u>		<u>1 267 000</u>	<u>1 440 657</u>	<u>173 657</u>
	PAYMENTS (1)			
880 419	Forest Resources Management	1 267 000	1 222 660	(44 340)
28 167	Balance as at 30 June	-	217 997	217 997

NOTES TO OPERATING FUNDS ACCOUNT STATEMENT AND TREE PLANTING TRUST FUND ACCOUNT STATEMENT

(1) PAYMENTS CHARGED TO PROGRAMS, SUB-PROGRAMS AND STANDARD GROUPS

The content and some titles of programs were reviewed and altered with effect from 1 July 1991. Payments for 1990-91 (rounded) are for the revised program content and vary from payments reported in the 1990-91 financial statements.

The Forest Resources Management Program is accounted for in both the Operating Funds Account and Tree Planting Trust Fund Account. The following tables combine the relevant parts of the two accounts.

The Nature Conservation and Wildlife Management Program and Forest Resources Management Program each have sub-programs. Estimates and payments charged to sub-programs in 1991-92 are:

	Estimate		Actual	
	\$	\$	\$	\$
Nature Conservation and Wildlife Management		15 976 000		18 138 786
Flora and Fauna	7 442 000		8 456 117	
Ecosystem Management	<u>8 534 000</u>		<u>9 682 669</u>	
Forest Resources Management		78 604 000		83 584 196
Forest Management	33 315 000		34 431 115	
Timber Supply	<u>45 289 000</u>		<u>49 153 081</u>	

Due to difficulties associated with the change to program content and the introduction of a new General Ledger on 1 July 1991, it has been necessary to apportion much of the expenditure for the Nature Conservation and Wildlife Management Program to the two sub-programs on the basis of 1991/92 Consolidated Revenue Fund Estimates.

The following table provides estimated and actual expenditure for 1991-92 classified by standard group:

STANDARD GROUP	Estimate	Actual
	\$'000	\$'000
Salaries, Wages and Allowances	40 718	44 349
Other Staffing Costs	4 280	4 518
Communications	1 350	1 560
Services and Contracts	47 656	52 545
Consumable Supplies	4 146	6 769
Maintenance of Assets	1 318	973
Purchase of Assets	678	1 173
Grants, Subsidies and Transfer Payments	<u>20 335</u>	<u>16 612</u>
TOTAL GROSS EXPENDITURE	120 481	128 499

(2) RECEIPTS

The Consolidated Revenue Fund Appropriation for 1991-92 was overdrawn by \$5 888 000 due primarily to increased expenditure on timber supply (\$4 000 000), wildfire suppression (\$1 300 000) and the Government Voluntary Redundancy Scheme (\$1 300 000). Savings in other areas of departmental operations partly offset the excesses.

Timber supply activity depends on market demand and

cannot be reliably predicted in advance. The appropriation was based on a conservative estimate of demand. Any increase in demand results in excess expenditure, covered by extra revenue collections for the Consolidated Revenue Fund.

Wildfire suppression activity is not predictable and depends on fire conditions in the fire season. The appropriation does not include full provision for wildfire suppression, which has been funded by an excess each year.

NOTES TO OPERATING FUNDS ACCOUNT STATEMENT AND TREE PLANTING TRUST FUND ACCOUNT STATEMENT (CONTINUED)

The Contributions from Industry and Other Sources in 1991-92 comprise:

	\$
Recoupable Work	4 378 679
MRD Road Grants	1 523 605
Contract Salaries	77 485
Saleable Publications	419 634
Interest	481 137
	<u>6 880 540</u>

With the exception of saleable publications and interest, these moneys are for works of a recoupable nature. Requests are not always known at the time the budget is framed and as a consequence variation can occur between the estimate and the actual amount received.

Commonwealth recoups are grants provided by the Commonwealth Government for wildlife and other research projects. Grants are for specific purposes and do not bear any comparison in dollar terms to grants in the previous year. As the grants are received on a recoup basis they do not affect the draw of moneys from the Consolidated Revenue Fund.

(3) PAYMENTS

Corporate Services payments varied from estimate due to unbudgeted expenditure on the Government Voluntary Severance Scheme (see note (2)).

As mentioned in note (2), Forest Resources Management Program payments varied from estimate due to increased activity in timber supply and due to unbudgeted expenditure on wildfire suppression.

The Emergency Assistance Program is to provide assistance to shires and community groups in wildfire suppression outside of CALM lands and to provide assistance in declared emergencies such as oil spills. The variation of expenditure to budget for this program is a result of Departmental resources being called on to a greater extent than estimated at the time the budget was framed.

The variations to the Nature Conservation and Wildlife Management Program and Recreation Management Program result from improvements to cost allocation, particularly for National Parks which serve both programs, and to an increased emphasis on wildlife management in Departmental operations.

The single line item appropriation enables the Department to rearrange expenditure priorities to meet changes in priorities during the year.

CAPITAL WORKS ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92		
Actual		Estimate	Actual	Variation
\$		\$	\$	\$
1 099 906	Balance as at 1 July	2 052 000	2 052 433	433
RECEIPTS				
14 200 000	Borrowings (1)	12 000 000	12 000 000	-
-	Contribution Main Roads Dept	62 000	62 900	900
2 443 435	Internal Funds (2)	1 300 000	910 019	(389 981)
	Commonwealth Grant			
550 000	- World Heritage Assistance (3)	-	-	-
<u>18 293 341</u>		<u>15 414 000</u>	<u>15 025 352</u>	<u>(388 648)</u>
PAYMENTS (5)				
3 097 587	Estab & Tending H/W Forests	3 087 000	2 331 405	(755 595)
5 358 620	Estab & Tending S/W Forests	5 600 000	3 809 417	(1 790 583)
1 382 998	Access Road - Construction	840 000	684 878	(155 122)
-	Land Purchase Pine Plantings	100 000	121 044	21 044
1 254 101	Land Purchase - Conservation	719 000	577 236	(141 764)
757 361	Plant & Equipment (4)	630 000	294 850	(335 150)
198 738	Buildings	-	-	-
1 469 822	Softwood Sharefarming	2 500 000	2 706 983	206 983
1 679 767	Hardwood Sharefarming	1 600 000	1 628 163	28 163
1 041 914	National Parks Development and Improvement	338 000	709 403	371 403
<u>16 240 908</u>		<u>15 414 000</u>	<u>12 863 379</u>	<u>(2 550 621)</u>
2 052 433	Balance as at 30 June	-	2 161 973	2 161 973

NOTES TO CAPITAL WORKS ACCOUNT STATEMENT

(1) Loan liability at 30 June 1992 was \$114 724 227. The composition is:

	PRINCIPAL 30 JUNE 1991	NEW BORROWINGS	PRINCIPAL REPAID 1991-92	PRINCIPAL 30 JUNE 1992
	\$	\$	\$	\$
WA Treasury Corporation loans	97 089 068	12 000 000	2 890 049	106 199 019
Loans taken over by WATC	711 132	-	138 682	572 450
Other borrowings guaranteed by Treasurer	131 646	-	67 919	63 727
Softwood Forestry Agreements 1966-1983	<u>8 131 578</u>	<u>-</u>	<u>242 547</u>	<u>7 889 031</u>
	106 063 424	12 000 000	3 339 197	114 724 227

Interest payments of \$13 848 761 and the principal repayments shown have been included in the Operating Funds Account statement.

The level of loan liability is of concern. The Department is unable, under existing legislation, to use proceeds from the sale of timber to extinguish loans incurred to establish and tend the forest resource.

NOTES TO CAPITAL WORKS ACCOUNT STATEMENT (CONTINUED)

(2) Internal Funds in 1991-92 comprise:

	\$
Mining Compensation	1 374 507
Cash Order Balance	(676 938)
Plant Management Account	70 694
Interest	40 147
Other	<u>101 609</u>
	910 019

The shortfall of \$389 981 is due primarily to a delay in receipt of part of mining compensation moneys while the compensation rate was negotiated.

The Department operates a plant management account which is designed to charge all items of expenditure on which vehicles or plant are used with the cost of use. Moneys held in this account include proceeds from the sale of existing vehicles and plant and are used to finance replacements.

The balance of \$70 694 represents the surplus after all expenditure and revenue has been brought to account.

Items of expenditure were:

	\$
Purchase of Plant and vehicles	4 492 478
Purchase of Fuel	1 747 189
Spare Parts	830 367
Wages	731 769
Insurance	409 577
Overheads & Other	768 794

This expenditure was financed from sales of plant \$2 995 100 and plant hire \$6 055 768.

(3) The \$550 000 World Heritage Assistance Grant in 1990-91 was to assist with the purchase of Peron Station at Shark Bay.

(4) The underspending of \$335 150 on plant and equipment was due primarily to the non-availability of suitable replacements for the Departmental aircraft. These moneys will be carried over to 1992-93.

(5) Some variation between estimated and actual expenditure occurred due to the requirement to divert personnel to wildfire suppression, which is charged to the Operating Funds Account.

Other variations resulted from an alteration to salary and administration rebates to the Operating Funds Account following the availability of more accurate records from the new Departmental general ledger system introduced from 1 July 1991.

CONSOLIDATED REVENUE FUND REVENUE COLLECTIONS FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92		
Actual		Estimate	Actual	Variation
\$		\$	\$	\$
TERRITORIAL				
13 815 613	Log Royalties	16 900 000	14 565 293	(2 334 707)
6 691 858	Chip Log Royalties	6 000 000	8 067 753	2 067 753
5 182 994	Sandalwood	5 000 000	5 394 683	394 683
<u>687 767</u>	Other	<u>600 000</u>	<u>848 548</u>	<u>248 548</u>
26 378 232		28 500 000	28 876 277	376 277
DEPARTMENTAL				
11 056 542	Pine Conversion Sales	13 900 000	15 216 731	1 316 731
33 371 415	Hardwood Conversion Sales	39 200 000	39 802 525	602 525
595 794	Fees	300 000	372 764	72 764
174 125	Recoupable Projects	250 000	141 033	(108 967)
164 937	Wildlife	150 000	175 059	25 059
<u>9 754</u>	Sale of Assets	-	<u>17 476</u>	<u>17 476</u>
45 372 567		53 800 000	55 725 588	1 925 588
<u>71 750 799</u>	GRAND TOTAL	<u>82 300 000</u>	<u>84 601 865</u>	<u>2 301 865</u>

In December 1990, to ease the impact of the recession, the government granted Timber companies extra time to pay their accounts. The 1991-92 budget was framed with the expectation that the accounts would be returned to 30 days trading by 30 June 1992, however the scheme has been extended to 31 December 1992.

In the meantime increased activity in the timber industry has resulted in out-turns being greater than they would have had this increased activity not occurred.

SUPPLEMENTARY FINANCIAL INFORMATION

- ◆ The financial statements have been prepared on a cash basis. Only collections received and payments made are included. Payments include a net payment of \$169 800 to the Treasury Accrued Salaries Account for accrued salaries and wages.
- ◆ Revenue due but not collected at 30 June 1992 was \$14 156 983. There is a reasonable prospect of full recovery.

CRF expenditure claims on hand but unpaid at 30 June 1992 amounted to \$376 744.

Capital expenditure claims on hand but unpaid at 30 June 1992 amounted to \$116 424.

- ◆ A Receipts in Suspense Account is kept to hold moneys received pending identification of the purposes for which those moneys were received or identification of where the moneys are to be credited or paid pursuant to Section 9(2)(c)(iv) of the Financial Administration and Audit Act 1985. The balance of the Receipts in Suspense Account at the end of the financial year was \$322 154.

The balance of the Receipts in Suspense Account is held at and invested by Treasury with the interest being credited to the Government of Western Australia.

- ◆ Under the Financial Administration and Audit Act the Department is required to report on all trust accounts under its control.

The following trust account had a NIL balance at 30 June 1992 and had no activity during the financial year:

Montebello Islands Conservation Park Program.

Losses of public moneys and public or other property:

	1990-91		1991-92	
	\$	\$	\$	\$
Irrecoverable amounts	3 639		1 163	
Other	<u>9</u>	3 648	<u>482</u>	1 645
General (includes thefts reported to Police, lost property and stock-taking deficiencies)		<u>54 813</u>		<u>4 818</u>
		58 461		6 463

Public and other property, revenue and other debts due to the State written off in accordance with Section 45 of the Financial Administration and Audit Act 1985.

	1990-91	1991-92
	\$	\$
Approved by the Executive Director	594	52 201
Approved by the Hon. Minister	<u>3 129</u>	-
	3 723	52 201

\$9 000 submitted for write off in 1990-91 will be written off in 1992-93.

NATURE CONSERVATION AND NATIONAL PARKS TRUST ACCOUNT
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92
\$		\$
168 370	Balance as at 1 July	200 930
	RECEIPTS	
950	Game Licences	-
68 972	Flora Licences	76 780
51 451	Gifts, Devises, Bequests and Donations	433
23 784	Interest	22 130
<u>313 527</u>		<u>300 273</u>
	PAYMENTS	
-	Cape Barren Goose Survey	1 750
-	Flora Industry	28 481
9 950	Sea lions and fur seals	5 516
21 000	Western Swamp Tortoise	-
22 500	Swan Coastal Plain Wetlands Study	22 500
14 323	Duck Counting	21 982
5 250	Flora Study - <i>Banksia hookeriana</i>	8 750
2 000	Flora Study - <i>Verticordia brownii</i>	-
8 932	Rare Flora Database	24 479
4 750	Dieback - Wildflower Industry Study	-
2 472	Moora Flora Survey and Management Plan	-
13 260	Herbarium Database	-
2 500	Coobidge Creek Wetlands Study	-
5 660	Stick Nest Rat Study	-
-	Western Mouse Phase 2	593
-	South Coast Banksia Study	12 250
-	Ground Parrots	9 143
-	Herbicide Research	2 000
<u>112 597</u>		<u>137 444</u>
200 930	Balance as at 30 June	162 829

Section 68(1) of the Conservation and Land Management Act 1984 established the Nature Conservation and National Parks Trust Account within the Conservation and Land Management Fund.

The account is credited with moneys derived under the Wildlife Conservation Act 1950, gifts, devises, bequests and donations, and income from investments. The moneys may be applied for the purpose of scientific research relating to flora and fauna.

SPECIFIC PURPOSE GRANTS TRUST ACCOUNT
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

PROJECT	OPENING BALANCE	RECEIPTS	PAYMENTS	CLOSING BALANCE
	\$	\$	\$	\$
Management Plans	-	30 104	1 020	29 084
Donations	6 863	26 310	11 419	21 754
Recovery Projects ANPWS	-	986 623	126 781	859 842
Flora and Fauna Conservation	38 930	570 611	52 232	557 309
Other	147 128	326 011	129 142	343 997
GRAND TOTAL	192 921	1 939 659	320 594	1 811 986

The purpose of this account is to hold funds given to CALM for specific purposes.

Moneys for Management plans include contributions from companies in the areas affected by the Management Plan.

Donation boxes have been placed in some National Parks and recreation areas. Moneys received are spent in the National Park or recreation area in which the donation box is located.

The Australian National Parks and Wildlife Service (ANPWS) provide funds for research into endangered flora and fauna. This research is aimed at preventing the extinction of the species and its eventual recovery to sustainable numbers.

The Flora and Fauna Conservation item accounts for funds received for projects similar to those assisted by the Australian National Parks and Wildlife Service.

Other funds are provided from various sources to recoup CALM for work done on behalf of these interests. The organisation provides funds in advance which are invested until used.

All funds in this account are invested by Treasury with the proceeds from the investments credited to the various projects as the investments mature.

WORLD WILDLIFE GRANTS TRUST ACCOUNT
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

PROJECT	OPENING BALANCE	RECEIPTS	PAYMENTS	CLOSING BALANCE
	\$	\$	\$	\$
Chuditch	0	28 262	1 988	26 274
Fox Control	446	(370)	-	76
Fire and Invertebrates	8 932	23 766	17 446	15 252
Western Mouse	(621)	21 911	21 018	272
Nullarbor Quail Thrush	-	8 292	3 186	5 106
Other	-	107	-	107
GRAND TOTAL	8 757	81 968	43 638	47 087

The purpose of this account is to hold funds granted to CALM by the World Wide Fund for Nature.

The balance of this account is invested by Treasury with the interest being credited to the trust account.

WOOD UTILISATION RESEARCH COMMITTEE TRUST ACCOUNT
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92	
\$		\$	
57 574	Balance as at 1 July	50 170	
RECEIPTS			
-	Insurance Recoup	39 094	
210 500	Innovative Marketing Board	-	
62 044	Proceeds from Sales	72 340	
12 000	Pilot Plant	-	
10 145	Interest	8 799	
352 263		170 403	
PAYMENTS			
200 000	Innovative marketing of value-added timber products	170 000	
40 000	Sales	-	
31 700	Fire Recoup	-	
16 000	Miscellaneous Processing	-	
10 000	Pilot Plant	-	
4 393	Technology Exchange	-	
302 093		170 000	
50 170	Balance as at 30 June	403	

The purpose of this account is to hold funds for the Wood Utilisation Research Committee.

The balance of this account is invested by Treasury with the interest being credited to the trust account.

GOLDFIELDS DUST ABATEMENT COMMITTEE TRUST ACCOUNT
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92
\$		\$
3 590	Balance as at 1 July	40 929
	RECEIPTS	
21 500	City of Kalgoorlie-Boulder Grant	20 000
21 500	Chamber of Mines Grant	21 500
42 000	CALM Grant	46 000
4 500	Greening Australia Grant	-
2 580	Other	-
<u>3 115</u>	Interest	<u>5 633</u>
98 785		134 062
	PAYMENTS	
28 156	Salaries	32 889
17 292	Wages and Plant	30 783
4 000	Administration	4 000
-	Vehicle Running	7 790
-	Consumables	6 353
6 416	Regeneration Zones	6 414
1 250	Tree Planting and Rehabilitation	9 105
126	Public Education	270
425	Direct Seeding Trials	-
191	Dust Sampling	-
<u>-</u>	Fencing	<u>8 605</u>
57 856		106 209
40 929	Balance as at 30 June	27 853

The Goldfields Dust Abatement Committee is a community based committee established in Kalgoorlie-Boulder. The purpose of this trust account is to hold the funds for the committee. The balance of the account is invested by Treasury with the interest being credited to the trust account.

PRIVATE TRUST FUND ACCOUNT
 KEYNES FORESTRY PRIZE
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92
\$		\$
439	Balance as at 1 July	498
	RECEIPTS	
<u>59</u>	Interest	<u>42</u>
498		540
	PAYMENTS	
<u>498</u>	Balance as at 30 June	<u>540</u>

The purpose of this trust fund is to provide an award for the most outstanding achievement by a student at the Department's Cadet School.

The balance of this trust fund is held at and invested by Treasury with the interest being credited to the trust fund.

PRIVATE TRUST FUND ACCOUNT
 C.E. LANE POOLE MEMORIAL TRUST
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92
\$		\$
6 742	Balance as at 1 July	8 903
	RECEIPTS	
5 008	Donations	1 198
<u>836</u>	Interest	<u>680</u>
12 586		10 781
	PAYMENTS	
325	Printing and Associated Costs	161
<u>3 358</u>	Travel Costs Associated with Award	<u>-</u>
3 683		161
8 903	Balance as at 30 June	10 620

The purpose of this trust fund is to assist with extending the knowledge and experience of awardees by study and travel in Australia or overseas, on topics of value to the Department of Conservation and Land Management.

The balance of this trust fund is held at and invested by Treasury with the interest being credited to the trust fund.

PRIVATE TRUST FUND ACCOUNT
 RESEARCH CO-ORDINATING COMMITTEE
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92
\$		\$
12 321	Balance as at 1 July	14 033
	RECEIPTS	
<u>1 712</u>	Interest	<u>1 368</u>
14 033		15 401
	PAYMENTS	
<u>-</u>		<u>-</u>
14 033	Balance as at 30 June	15 401

The purpose of this trust fund is to hold moneys for research projects as approved by the Research Co-ordinating Committee.

The balance of this trust fund is held at and invested by Treasury with the interest being credited to the trust fund.

PRIVATE TRUST FUND ACCOUNT
 DIEBACK RESEARCH TRUST FUND
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92	
\$		\$	
17 462	Balance as at 1 July	19 898	
RECEIPTS			
2 436	Interest	1 940	
19 898		21 838	
PAYMENTS			
-		-	
19 898	Balance as at 30 June	21 838	

The purpose of this trust fund is to hold moneys for research projects as approved by the Dieback Research Fund Committee.

The balance of this trust fund is held at and invested by Treasury with the interest being credited to the trust fund.

PRIVATE TRUST FUND ACCOUNT
 CONTRACTORS' DEPOSITS
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92	
\$		\$	
727 274	Balance as at 1 July	528 405	
RECEIPTS			
272 551	Deposits Lodged During Year	274 682	
78 388	Interest	53 207	
1 078 213		856 294	
PAYMENTS			
549 808	Deposits Refunded During Year	195 698	
528 405	Balance as at 30 June	660 596	

The purpose of this trust fund is to hold deposits lodged by contractors to the Department of Conservation and Land Management.

The balance of this trust fund is held at and invested by Treasury with the interest being credited to the trust fund.

PRIVATE TRUST FUND ACCOUNT
 CALM - PAYROLL DEDUCTIONS
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92	
\$		\$	
317 080	Balance as at 1 July	201 213	
RECEIPTS			
12 364 213	Payroll deductions	12 764 915	
<u>12 681 293</u>		<u>12 966 128</u>	
PAYMENTS			
<u>12 480 080</u>	Payments to relevant organisations	<u>12 934 836</u>	
201 213	Balance as at 30 June	31 292	

The purpose of this trust fund is to hold all income tax deductions and other payroll deductions from salaries and wages until the end of the month in which the deductions were made. The deductions are paid to the Australian Taxation Office and insurance companies, medical benefit funds and other relevant

organisations at the beginning of the following month.

The balance of this trust fund is held at and invested by Treasury with the interest being credited to the Government of Western Australia.

PRIVATE TRUST FUND ACCOUNT
 WITHHOLDING TAX - CONTRACTORS' PRESCRIBED PAYMENTS
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

1990-91		1991-92	
\$		\$	
544	Balance as at 1 July	11 982	
RECEIPTS			
21 938	Withholding tax	12 685	
<u>22 482</u>		<u>24 667</u>	
PAYMENTS			
<u>10 500</u>	Payments to Australian Taxation Office	<u>23 645</u>	
11 982	Balance as at 30 June	1 022	

The purpose of this trust fund is to hold moneys deducted from contractors' prescribed payments in accordance with the Income Tax Assessment Act 1936.

beginning of the month following the month in which deductions were made.

The deductions are paid to the Australian Taxation Office at the

The balance of this trust fund is held at and invested by Treasury with the interest being credited to the Government of Western Australia.

COMMONWEALTH GRANTS AND ADVANCES
 SHARK BAY WORLD HERITAGE ASSISTANCE
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

	1991-92
	\$
Balance as at 1 July	-
RECEIPTS	
Grant received Department of Arts, Sport, Environment and Territories	475 000
PAYMENTS	
Transferred to Specific Purpose Grants Trust Account	475 000
Balance as at 30 June	-

See Trust Statement No. 16 on page 73.

COMMONWEALTH GRANTS AND ADVANCES
 WILDLIFE RESEARCH AND DEVELOPMENT
 STATEMENT OF RECEIPTS AND PAYMENTS
 FOR THE FINANCIAL YEAR ENDED 30 JUNE 1992

	1991-92
	\$
Balance as at 1 July	-
RECEIPTS	
Grants received from Australian National Parks and Wildlife Service	983 265
PAYMENTS	
Transferred to Specific Purpose Grants Trust Account	983 265
Balance as at 30 June	-

See Trust Statement No. 14 on page 71.

CONSERVATION AND LAND MANAGEMENT
TRUST STATEMENT NO. 14

NAME An account called the Wildlife Research and Development Program shall be maintained as a Commonwealth Grants and Advances Account at the Treasury.

PURPOSE To hold funds received from the Commonwealth pending transfer to the Department of Conservation and Land Management.

RECEIPTS Such moneys as are received by Treasury, on behalf of the State, for the purpose of the Account, shall be paid into and placed to the credit of the Account.

PAYMENTS The funds in the Account, as received, shall be transferred to the operating Trust Fund account of Conservation and Land Management established under the Conservation and Land Management Act.

ADMINISTRATION OF ACCOUNT The Account shall be administered by the Executive Director in accordance with the Financial Administration and Audit Act, Financial Administration Regulations and the Treasurer's Instructions.

ACCOUNTING RECORDS There shall be maintained by the Executive Director a detailed record of transactions processed through the Account, together with such other accounting records and procedures as prescribed in the accounting manual.

FINANCIAL STATEMENT The Executive Director shall cause to be prepared a statement of cash receipts and payments and such other supplementary information in accordance with the requirements of Treasurer's Instructions.

INVESTMENT OF FUNDS Moneys standing to the credit of the Account may be invested in accordance with Section 38 of the Financial Administration and Audit Act.

DISPOSAL OF FUNDS ON CESSATION Any balance standing to the credit of the Account upon cessation of operations shall be dealt with in such a manner as prescribed by the Commonwealth.

I have examined and approve of the provisions of this Trust Statement.


EXECUTIVE DIRECTOR


ASSIST UNDER TREASURER

DATE: 30/6/92

DATE: 30/6/92

CONSERVATION AND LAND MANAGEMENT
TRUST STATEMENT NO. 15

NAME An account called the Montebello Islands Conservation Park Program shall be maintained as a Commonwealth Grants and Advances Account at the Treasury.

PURPOSE To hold funds received from the Commonwealth pending transfer to the Department of Conservation and Land Management.

RECEIPTS Such moneys as are received by Treasury, on behalf of the State, for the purpose of the Account, shall be paid into and placed to the credit of the Account.

PAYMENTS The funds in the Account, as received, shall be transferred to the operating Trust Fund account of Conservation and Land Management established under the Conservation and Land Management Act.

ADMINISTRATION OF ACCOUNT The Account shall be administered by the Executive Director in accordance with the Financial Administration and Audit Act, Financial Administration Regulations and the Treasurer's Instructions.

ACCOUNTING RECORDS There shall be maintained by the Executive Director a detailed record of transactions processed through the Account, together with such other accounting records and procedures as prescribed in the accounting manual.

FINANCIAL STATEMENT The Executive Director shall cause to be prepared a statement of cash receipts and payments and such other supplementary information in accordance with the requirements of Treasurer's Instructions.

INVESTMENT OF FUNDS Moneys standing to the credit of the Account may be invested in accordance with Section 38 of the Financial Administration and Audit Act.

DISPOSAL OF FUNDS ON CESSATION Any balance standing to the credit of the Account upon cessation of operations shall be dealt with in such a manner as prescribed by the Commonwealth.

I have examined and approve of the provisions of this Trust Statement.


EXECUTIVE DIRECTOR


ASSIST UNDER TREASURER

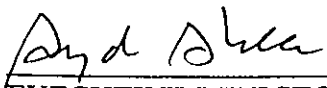
DATE: 30/6/92

DATE: 30/6/92

CONSERVATION AND LAND MANAGEMENT
TRUST STATEMENT NO. 16

NAME	An account called the Shark Bay World Heritage Assistance Program shall be maintained as a Commonwealth Grants and Advances Account at the Treasury.
PURPOSE	To hold funds received from the Commonwealth pending transfer to the Department of Conservation and Land Management.
RECEIPTS	Such moneys as are received by Treasury, on behalf of the State, for the purpose of the Account, shall be paid into and placed to the credit of the Account.
PAYMENTS	The funds in the Account, as received, shall be transferred to the operating Trust Fund account of Conservation and Land Management established under the Conservation and Land Management Act.
ADMINISTRATION OF ACCOUNT	The Account shall be administered by the Executive Director in accordance with the Financial Administration and Audit Act, Financial Administration Regulations and the Treasurer's Instructions.
ACCOUNTING RECORDS	There shall be maintained by the Executive Director a detailed record of transactions processed through the Account, together with such other accounting records and procedures as prescribed in the accounting manual.
FINANCIAL STATEMENT	The Executive Director shall cause to be prepared a statement of cash receipts and payments and such other supplementary information in accordance with the requirements of Treasurer's Instructions.
INVESTMENT OF FUNDS	Moneys standing to the credit of the Account may be invested in accordance with Section 38 of the Financial Administration and Audit Act.
DISPOSAL OF FUNDS ON CESSATION	Any balance standing to the credit of the Account upon cessation of operations shall be dealt with in such a manner as prescribed by the Commonwealth.

I have examined and approve of the provisions of this Trust Statement.


EXECUTIVE DIRECTOR


ASSIST UNDER TREASURER

DATE: 30/6/92

DATE: 30/6/92

APPENDIX 1
TREND IN THE AREA OF NATIVE FOREST HARVESTED

Year	Jarrah Forest	Wandoof/Jarrah 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	32 470	590	2 360	500
1985-86	22 640	650	590	340
1986	19 340	1 150	1 090	490
1987	17 180	1 380	1 310	700
1988	23 400	490	1 180	750
1989	15 130	200	1 510	910
1990	12 960	100	1 560	340
1991	10 910	-	1 920	230

APPENDIX 2
AREAS OF EVEN-AGED KARRI REGENERATION

Year of Regeneration	Multiple Use Forest		Conservation Forest		Total	
	Area	Cumulative Total	Area	Cumulative Total	Area	Cumulative Total
	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)
Before 1900	60	60	-	-	60	60
1900-09	-	60	-	-	-	60
1910-19	130	190	30	30	160	220
1920-29	160	350	60	90	220	440
1930-39	5 650	6 000	520	610	6 170	6 610
1940-49	720	6 720	520	1 130	1 240	7 850
1950-59	510	7 230	180	1 310	690	8 540
1960-65	220	7 450	-	1 310	220	8 760
1966	160	7 610	-	1 310	160	8 920
1967	220	7 830	80	1 390	300	9 220
1968	690	8 520	140	1 530	830	10 050
1969	1 300	9 820	300	1 830	1 600	11 650
1970	80	9 900	-	1 830	80	11 730
1971	80	9 980	10	1 840	90	11 820
1972	1 110	11 090	710	2 550	1 820	13 640
1973	190	11 280	-	2 550	190	13 830
1974	140	11 420	30	2 580	170	14 000
1975	630	12 050	430	3 010	1 060	15 060
1976	1 760	13 810	60	3 070	1 820	16 880
1977	1 630	15 440	250	3 320	1 880	18 760
1978	1 630	17 070	310	3 630	1 940	20 700
1979	1 930	19 000	300	3 930	2 230	22 930
1980	2 090	21 090	130	4 060	2 220	25 150
1981	2 980	24 070	310	4 370	3 290	28 440
1982	2 260	26 330	150	4 520	2 410	30 850
1983	1 930	28 260	370	4 890	2 300	33 150
1984	1 750	30 010	480	5 370	2 230	35 380
1985	2 330	32 340	-	5 370	2 330	37 710
1986	1 950	34 290	-	5 370	1 950	39 660
1987	1 180	35 470	-	5 370	1 180	40 840
1988	1 440	36 910	-	5 370	1 440	42 280
1989	1 230	38 140	-	5 370	1 230	43 510
1990	1 430	39 570	-	5 370	1 430	44 940
1991	1 390	40 960	-	5 370	1 400	46 330

APPENDIX 3
AREA OF STATE-OWNED CONIFEROUS PLANTATIONS AS AT 31.12.91

Planting year	P. RADIATA			P. PINASTER AND OTHER SPECIES			
	First Rotation (ha)	Replanted Areas (ha)	Cumulative Total (ha)	First Rotation (ha)	Replanted Areas (ha)	Cumulative Total (ha)	Cumulative Total (ha)
<1959	1 091		1 091	4 475		4 475	5 566
1959	305		1 396	359		4 834	6 230
1960	557		1 953	300		5 134	7 087
1961	384		2 337	515		5 649	7 986
1962	384		2 721	392		6 041	8 762
1963	600		3 321	298		6 339	9 660
1964	576		3 897	601	9	6 949	10 846
1965	505		4 402	563		7 512	11 914
1966	650		5 052	875		8 387	13 439
1967	740		5 792	1 190		9 577	15 369
1968	764		6 556	1 319		10 895	17 452
1969	977		7 533	1 777	2	12 675	20 208
1970	999		8 532	1 341		14 016	22 548
1971	1 095		9 627	1 301		15 317	24 944
1972	1 117		10 744	1 121		16 438	27 182
1973	1 274	33	12 051	952		17 390	29 441
1974	1 375		13 426	490		17 880	31 306
1975	1 241		14 667	1 259		19 139	33 806
1976	1 541		16 208	1 103		20 242	36 450
1977	1 391		17 599	865		21 107	38 706
1978	2 023	13	19 635	560		21 667	41 302
1979	1 399	432	21 466	562		22 229	43 695
1980	1 592	12	23 070	1 008		23 237	46 307
1981	1 476	121	24 667	987	7	24 231	48 898
1982	1 619	87	26 373	712	5	24 948	51 321
1983	1 339	42	27 754	815		25 763	53 517
1984	1 984		29 738	514	8	26 285	56 023
1985	1 789	160	31 687	519	2	26 806	58 493
1986	1 216		32 903	612		27 418	60 321
1987	1 563 (741)	160	34 626 (741)	785	75	28 278	62 904 (741)
1988	1 881 (1 375)	164	36 671 (2 116)	174		28 452	65 123 (2 116)
1989	1 118 (469)	449	38 238 (2 585)	47	28	28 527	66 765 (2 585)
1990	849 (689)	365	39 452 (3 274)		6	28 533	67 985 (3 274)
1991	1 211 (1 129)	517	41 180 (4 403)	6	33	28 572	69 752 (4 403)

Areas shown in brackets have been established under sharefarm agreements. They are included in the totals.

APPENDIX 4
AREA OF STATE-CONTROLLED BROADLEAVED PLANTATIONS AS AT 31.12.91

Planting Year	<i>E. astringens</i>		<i>E. globulus</i>			Other Species		Total (ha)
	A (ha)	A (ha)	B (ha)	C (ha)	A (ha)	B (ha)	C (ha)	
<1987	8 300	47			319			8 666
1987					71			71
1988		3	1 943		14			1 960
1989		17	3 730	395			56	4 198
1990		45	324	820	24			1 213
1990		4	4	820	88	8		924
Total	8 300	116	6 001	2 035	516	8	56	17 032

A = Plantations established on Public Land.

B = Plantations established on Private Land under Broadscale Sharefarming agreements.

C = Plantations established on Private Land under Timberbelt Sharefarming agreements. These areas may contain up to 10% of other salt tolerant non commercial species.

APPENDIX 5
TRENDS IN LOG PRODUCTION

Year Ended 30 June	HARDWOOD			SOFTWOOD			TOTAL		
	Crown Land (m ³)	Private Property (m ³)	Total (m ³)	Crown Land (m ³)	Private Property (m ³)	Total (m ³)	Crown Land (m ³)	Private Property (m ³)	Total (m ³)
1983	1 049 180	97 294	1 146 474	176 618	5 648	182 266	1 225 798	102 942	1 328 740
1984	1 134 756	131 363	1 266 119	198 281	3 559	201 840	1 333 037	134 922	1 467 959
1985	1 290 011	169 933	1 459 944	225 945	18 042	243 987	1 515 956	187 975	1 703 931
1986	1 331 831	127 006	1 458 837	247 637	29 121	276 758	1 579 468	156 127	1 735 595
1987	1 338 697	158 858	1 497 555	266 766	24 831	291 597	1 605 463	183 689	1 789 152
1988	1 427 624	174 519	1 602 143	302 447	31 161	333 608	1 730 071	205 680	1 935 751
1989	1 432 530	135 381	1 567 911	318 524	56 752	375 276	1 751 054	192 133	1 943 187
1990	1 319 246	80 561	1 399 807	312 520	105 865	418 385	1 631 766	186 426	1 818 192
1991	1 170 227	116 579	1 286 806	301 251	85 640	386 891	1 471 478	202 219	1 673 697
1992	1 247 727	120 556	1 368 283	363 421	85 411	448 832	1 611 148	205 967	1 817 115

APPENDIX 6
TREND IN CHIPLOG PRODUCTION

Year Ended 30 June	- CROWN LAND -			- CROWN LAND -					Total Logs From Crown Land	Logs From Private Property (m ²)	Total Logs From Crown Land & Private Property (m ²)	Percentage Private Property To Total (%)			
	Sawmill (t)	Residue Forest (t)	Subtotal (t)	Marri (m ²)	Karri (m ²)	Other (m ²)	Subtotal (m ²)	Marri (m ²)					Karri (m ²)	Other (m ²)	Subtotal (m ²)
1976								77 655	20 712	3	98 370	98 370	98 370		
1977	32 007		32 007					241 207	135 814		377 021	377 021	377 021		
1978	89 390		89 390					329 190	105 187		434 377	434 377	434 377		
1979	114 766		114 766					353 928	100 168		454 096	454 096	454 096	18 865	4.0
1980	137 503		137 503				4174	439 666	116 975	1 476	558 117	562 291	562 291	53 197	8.6
1981	187 501		187 501				1 794	386 664	105 604	3 448	495 716	515 075	515 075	58 983	10.3
1982	74 561		74 561				1 728	255 069	90 734		345 803	369 207	369 207	16 116	4.2
1983	77 486		77 486				3 137	284 670	100 608		385 278	412 117	412 117	21 835	5.0
1984	87 833		87 833				2 961	339 389	78 371		417 760	445 014	445 014	57 598	11.5
1985	88 297		88 297				2 263	400 828	71 613		472 441	496 880	496 880	91 702	15.6
1986	110 494		110 494				555	428 514	54 448		482 962	514 435	514 435	64 914	11.2
1987	88 111		88 111				500	444 076	52 364		496 440	552 693	552 693	99 923	15.3
1988	104 750	2 200	106 950				764	551 673	72 490		624 163	696 967	696 967	112 884	13.9
1989	102 321	5 270	107 591				4 214	459 775	71 397		531 172	613 297	613 297	91 865	13.0
1990	78 150	3 324	81 474				5 161	376 067	83 603		459 670	534 454	534 454	51 021	8.7
1991	178 659	18 382	197 041				25 379	349 820	77 465		427 285	512 533	512 533	85 789	14.3
1992	84 851	24 383	109 234				20 586	424 121	92 680		516 801	608 515	608 515	96 635	13.7
Cum.Total	1 636 680	53 559	1 690 239	69 334	550 355	181	619 870	6 142 312	1 430 233	4 927	7 577 472	8 197 342	8 197 342	921 327	10.1

Note: Logs from mature forest include forest residue.

APPENDIX 7
TRENDS IN THE PRODUCTION AND USE OF SAWN TIMBER

Year Ended 30 June	SAWN PRODUCTION			Overseas Timber Exports (m ³)	Apparent Local Use (m ³)
	Hardwood (m ³)	Softwood (m ³)	Total (m ³)		
1985	291 683	21 632	313 315	22 112	291 203
1986	295 160	33 816	328 976	21 497	307 479
1987	280 146	36 512	316 658	9 547	307 111
1988	270 723	47 929	318 652	9 356	309 296
1989	289 665	53 240	342 905	12 965	329 940
1990	265 587	56 962	322 549	20 035	302 514
1991	222 125	41 264	263 389	13 220	250 169

Source of export statistics: Australian Bureau of Statistics

APPENDIX 8
SUMMARY OF W.A. OVERSEAS IMPORTS & EXPORTS OF FOREST PRODUCE

Year Ended 30 June	TIMBER AND WOOD MANUFACTURE		ESSENTIAL OILS & TANNIN	
	Imports	Exports	Imports	Exports
	(\$)	(\$)	(\$)	(\$)
1985	37 871 360	7 524 771	460 064	2 099
1986	37 858 904	7 875 694	403 522	318
1987	47 950 173	5 164 413	559 085	n/a
1988	52 762 401	6 386 708	n/a	n/a
1989	38 419 979	7 335 552	630 776	n/a
1990	41 600 052	9 674 191	476 152	n/a
1991	25 301 336	8 915 635	379 765	n/a

Source: Australian Bureau of Statistics

APPENDIX 9
AREA OF PRESCRIBED BURNS 1989-90 TO 1991-92

INDIGENOUS VEGETATION - HANDBURNING (ha)	1989-90	1990-91	1991-92
<i>State forest</i>			
Handburns	15 341	18 596	16 220
Slash and regeneration	4 377	6 653	9 060
Indigenous areas within pine plantation zones	—	—	—
Clearing burns for pine establishment	45	1 095	1 310
National Parks	6 965	3 755	5 400
Nature Reserves	4 189	1 500	8 950
Other Crown Land and Private Property	1 355	4 893	750
Total	32 272	36 492	41 690
<i>INDIGENOUS VEGETATION - AERIAL IGNITIONS (ha)</i>			
State forest hardwood	155 562	170 561	148 750
National Parks	12 175	73 964	44 200
Nature Reserves	70 000	74 730	19 750
Other Crown Lands and Private Property	2 758	6 445	51 620
Total	240 495	325 700	264 320
<i>STATE FOREST SOFTWOODS (ha)</i>			
Winter burning under pines	5 597	2 972	3 340
Total	5 597	2 972	3 340

APPENDIX 10
NUMBER OF WILDFIRES AND AREAS BY LAND CATEGORIES

	NUMBER			AREA BURNT (ha)		
	1989-90	1990-91	1991-92	1989-90	1990-91	1991-92
State Forest Hardwood	111	133	171	1 491	13 640	3 320
State Forest Softwood	44	58	56	165	812	250
National Parks	45	40	43	172 781	486 003	47 240
Nature Reserves	21	30	34	43 509	396 859	113 590
Other Crown Lands	50	83	61	23 290	306 038	107 310
Private Property	54	121	81	5 911	17 750	7 610
Total	325	465	446	247 147	1 221 102	279 320

CAUSES

	NUMBER			PERCENT		
	1989-90	1990-91	1991-92	1989-90	1990-91	1991-92
Deliberately and illegally lit	146	230	181	45	49	41
Escaped from Departmental prescribed burns	24	27	22	7.5	6	5
Escaped from other burning off	39	57	36	12	12	8
Accidental by timber industry	4	9	4	1	2	1
Accidental by other industry	14	22	14	4	5	3
Accidental by recreational visitors	22	27	23	7	6	5
Lightning	39	50	114	12	11	26
Unknown	34	39	37	10.5	8	8
Other causes	3	4	15	1	1	3
Total	325	465	446	100	100	100

APPENDIX 11
LICENCES ISSUED IN 1991-92

FAUNA LICENCES	LICENCES ISSUED	FAUNA LICENCES	LICENCES ISSUED
SCIENTIFIC		EXPORTS INTERSTATE	
Regulation 17	245	Skins of fauna (or other dead fauna)	110
Bird/Bat Banding Reg 23	103	Fauna (live)	278
EDUCATION & PUBLIC (to take)(Reg 15)		388	
EDUCATION & PUBLIC (to hold)(Reg 16)		EXPORTS OVERSEAS	
118		Skins of fauna (or other dead fauna) from WA	102
AVIAN FAUNA		Emu eggs or Emu products from WA (personal items)	107
Keep & breed in captivity (Reg 12)	3 780	Kangaroo skins or products from WA (personal items)	2
Deal (Reg 13)	58	Fauna (avian) from WA (live)	40
Breed for Commercial Purposes (Reg 14)	3	251	
Trap (Reg 11)	4	IMPORTS INTERSTATE	
<i>Species Trapped</i>	<i>Number</i>	Skins of fauna (or other dead fauna) into WA	29
Twenty-Eight Parrot	2 321	Australian fauna (live)	444
Western King Parrot	793	Live exotic birds and other animals	162
Western Rosella	499	635	
Red-browed Finch	69	FLORA LICENCES	
FAUNA		LICENCES ISSUED	
Keep in captivity (Reg 12A)	105	COMMERCIAL PURPOSES	661
EMUS		COMMERCIAL PRODUCERS	259
Emu farming (Reg 14)	37	SCIENTIFIC OR OTHER PRESCRIBED PURPOSES	903
Dealing (Emu eggshells Reg 13)	15	PERMITS TO TAKE DECLARED RARE FLORA	45
Skin Dealing (Reg 10)	1		
To Take (Reg 15)	1		
Processing (Reg 7)	7		
CROCODILES			
Crocodile farming (Reg 14)	3		
Processing (Reg 7)	1		
KANGAROOS			
Take kangaroos for sale (Reg 6)	182		
Deal in carcasses (Reg 8)	33		
Deal in skins (Reg 10)	15		
Processing (Reg 7)	24		

APPENDIX 12
SUMMARY OF DAMAGE LICENCES ISSUED FOR 1991-92

	<i>No. of Licences Issued</i>	<i>Total No. of Each Species Authorised to be Taken</i>
WATERFOWL		
<i>Black Duck</i>	4	40
<i>Magpie Geese</i>	2	130
<i>Mountain Duck</i>	10	170
<i>Pied Cormorant</i>	2	60
<i>Wood Duck</i>	45	873
AVIAN FAUNA OTHER THAN WATERFOWL & EMUS		
<i>Raven</i>	19	177
<i>Galah</i>	8	550
	1	<i>Scare Only</i>
<i>Little Corella</i>	15	563
	7	<i>Scare Only</i>
<i>Long-billed Corella</i>	1	20
	4	<i>Scare Only</i>
<i>Major Mitchell Cockatoo</i>	1	<i>Scare Only</i>
<i>Plover</i>	1	50
<i>Port Lincoln Parrot</i>	49	5 710
<i>Red-capped Parrot</i>	8	315
<i>Welcome Swallow</i>	2	<i>Scare Only</i>
<i>Western Rosella</i>	4	45
<i>White-tailed Black Cockatoo</i>	3	28
	1	<i>Scare Only</i>
EMUS	40	1 320
SEALS		
<i>Australian Sea lion</i>	4	<i>Scare Only</i>
MAMMALS (OTHER THAN SEALS & KANGAROOS)		
<i>Agile Wallaby</i>	1	15
<i>Brush-tail Possum</i>	1	20 (<i>Trap & relocate</i>)

APPENDIX 13
OFFENCES UNDER THE WILDLIFE CONSERVATION ACT AND REGULATIONS

<i>Charges</i>	<i>Recomm'd Charges</i>	<i>Convict- ions</i>	<i>Fine \$</i>	<i>Cost \$</i>	<i>Dismissed</i>	<i>Letters of Warning</i>	<i>No further Action</i>	<i>Pending</i>
WILDLIFE CONSERVATION ACT								
<i>Illegal taking or possession of protected fauna</i>	58	12	6 475.00	561.60		27		19
<i>Illegal importation, selling or taking for sale of fauna</i>	9	2	225.00	56.00		3		4
<i>Illegal taking of protected flora</i>	62	6	1 400.00	306.50		20		36
<i>Offences relating to the sale of protected flora</i>	117	5	6 600.00	182.00		4		61
<i>Taking declared rare flora without the Minister's consent</i>	4					3		1
<i>Offences against wildlife officers</i>	6					1		5
<i>Failing to comply with licence conditions</i>	23					9		14
WILDLIFE CONSERVATION REGULATIONS								
<i>Failure to comply with kangaroo industry regulations</i>	3					2		1
<i>Offences relating to the possession, control and disposal of avian fauna</i>	6					4		2
<i>Keeping fauna in captivity without a licence</i>	3					2		1
<i>Offences relating to activities on Nature Reserves</i>	26					15		11
TOTALS	317	72	14 700.00	1 106.10	0	90	0	155

APPENDIX 14
PUBLICATIONS PRODUCED IN 1991-92

GENERAL

130 Millionth Tree Seedling (Certificate)
Annual Report of Department of Conservation and Land Management, 1990-91
Annual Report of National Parks and Nature Conservation Authority, 1990-91
Arbor Day Poster
Arbor Day, 1991 (leaflet)
Avon Descent, 1991 (leaflet)
Byford Presentation Folders
C.E. Lane-Poole Memorial Trust: A Report to the Trustees by A. Rynasewycz
CALM Book News (leaflet, 4 editions)
CALM News (newspaper, 11 editions)
CALM Presentation Folders
CALM Regional, District and Local Offices (leaflet)
Christmas Catalogue 1991
Collections of a Century (article reprint)
Draft Regional Management Plan: Goldfields Region
Help Grow an Earth Caretaker (leaflet)
Land Managed by CALM (leaflet)
LANDSCOPE (magazine, 4 editions)
LANDSCOPE Binders
LANDSCOPE's Urban Wildlife Antics (booklet)
LANDSCOPE's Urban Wildlife Antics (teacher's manual)
Marine Explorer: Cecil the Sea Anemone (leaflet)
Marmion Marine Park Management Plan No 23
Marmion Marine Park Management Plan No 23: Analysis of Public Submissions
Matilda Bay Reserve Draft Management Plan
Range to Reef (book)
Seaweek Poster
Seaweek Program (leaflet)
South Coast Region Management Plan, 1992-2002
South Coast Region Management Plan: Analysis of Public Submissions, 1992
Staff Counselling: Information for CALM Employees (leaflet)
Staff Counselling: Information for Managers and Supervisors (leaflet)
To a Friend of the Trees (Certificate)
Training and Development Manual, 1992
Tree Killer (article reprint)
Volunteer News (newsletter, 1 edition)
Wagin Woolorama Poster Competition Certificate
Walpole-Nornalup National Park Management Plan No 22
Walpole-Nornalup National Park Management Plan No 22: Analysis of Public Submissions
Walpole-Nornalup National Park: Resource Document to the Management Plan
West Cape Howe National Park Draft Management Plan
Wetland Explorer: Thomas and the Magic Glow (booklet)
Working Together: A Summary of Aboriginal Programmes by the Department of Conservation and Land Management (booklet)

FOREST RESOURCES MANAGEMENT

13th All Australia Timber Congress: The Need For A National Forest Strategy (booklet)
Adding Value to Timber Products - A Western Australian Perspective (booklet)
An Updated Forest Strategy (information sheet)
CALM Occasional Paper No 1/92: Application of Modern Inventory Techniques
Development of Silviculture Techniques under National Afforestation Program Project 15 (booklet)
End of Grant Report on National Afforestation Program Projects 15, 60 and 161 (booklet)
Forests for Australia (booklet)
Forests for the Future (article reprint)
Integration: The Key to the Future of the Hardwood Forest Industries (booklet)
Management Strategies for the South-West Forests of Western Australia: A Review
Marketing: The Incredible Future of the Forest Industries (booklet)
Memorandum of Understanding Between the Australian Heritage Commission and the Department of CALM
National Estate Values in the Southern Forest Region of South West Western Australia: Volume 5
National Estate Values in the Southern Forest Region of South-West Western Australia: Volume 1
National Estate Values in the Southern Forest Region of South-West Western Australia: Volume 2
National Estate Values in the Southern Forest Region of South-West Western Australia: Volume 3
National Estate Values in the Southern Forest Region of South-West Western Australia: Volume 4
Peel-Harvey Catchment Demonstration Farm Hydrological Study Under National Afforestation Program Project 15 (booklet)
Plantation Forestry in Western Australia: Achievements and Prospects (booklet)
Proposals to Amend the 1987 Management Plans and Timber Strategy and Proposals to Meet Ministerial Conditions on the Regional Plans and WACAP ERMP (booklet)
Records of Outbreaks of Defoliating Insects in Jarrah Forest, South-West Western Australia, from 1960 to 1990: Technical Report No 28
Summer Firewood (leaflet)
The Karri Forest (book)
The Winston Churchill Memorial Trust of Australia: Managing Native Forest for all its Values (booklet)
The Woodworks Symposium: Tree Growing and Timber use - Technologies for the 21st Century ((booklet)
Timber Harvesting in Western Australia (booklet)
Trees for Rural Areas: The South-West (leaflet)
Trees: an Investment for the Future (booklet)
Winter Firewood 1992 (leaflet)

WILDLIFE MANAGEMENT

A Nature Conservation Strategy for Western Australia (book)
Aboriginal Activities and Nature Conservation in the South West of Western Australia (booklet)
Application of Dendrochronology, Stem Analysis and Inventory Data in the Estimation of Tree and Stand Ages in Karri Forest: Technical Report No 27
Badgingarra Nature Trail (leaflet)
CALM Briefing Paper 5/91: Dieback Disease in Western Australia
CALM Occasional Paper 3/92: Drupella Cornus: A Synopsis
Desert Dreaming (article reprint)
Desert Dreaming (brochure)
Desert Dreaming (folder)
Future Directions for Nature Conservation (booklet)
Have you seen a Swamp Tortoise (leaflet)
Kingia Volume No 1 List of Contents
Landnote No 2/91: Typha (Bullrush) Management
Marine Turtle Identification and Tagging (leaflet)
Midge Notes No 4
Nuytsia - Volume 6 List of Contents
Nuytsia - Volume 7 List of Contents
Nuytsia Vol 8 No 2
Nuytsia Volume 8 No 1
Occasional Paper 3/91: Management Proposals for the Montebello Islands and Surrounding Waters
Research Plan 1991-96 (book)
Resource Notes No 21 Eucalypts of Perth: Field Keys
Resource Notes No 22 Mapping Plants along a Transect
Shoalwater Islands Marine Park (leaflet)
Suan Estuary Marine Park (leaflet)
The Perup - A Living Forest (booklet)
Wildfires in the Fitzgerald River National Park, Western Australia 1989: Technical Report No 26
Wildflower Killers (article reprint)
Wildlife Management Program No 7: The Chuditch
Wildlife Management Program No 8: The Management of Sandalwood

RECREATION MANAGEMENT

A Field Guide: Recreation Facilities Construction Standards (pocket guide)
A Forest Affair (leaflet)
A Forest Affair: Quiz (leaflet)
Boyinabont Reef Underwater Nature Trail (leaflet)
Dwellingup and Lane Poole Reserve (leaflet)
Esperance National Park (leaflet)
Forest Caretakers: Registration Form
Go Bush in the Hills Forest (leaflet)
Golden Valley Tree Park (leaflet)
Hidden Valley Nature Trail (leaflet)
Karijini, Hamersley Range National Park (leaflet)
Kimberley Parks (information sheet)
Leeuwin-Naturaliste National Park: Cave Permit System (booklet)
Lower Helena Bridle Trail (leaflet)
Marmion Marine Park (leaflet)
Millstream-Chichester National Park (leaflet)
Nambung National Park (leaflet)
Park Notes: Nambung National Park (leaflet)
Parks of the Coral Coast (leaflet)
Recreation Sites of the Goldfields Region (leaflet)
Shark Bay (leaflet)
Stirling Range Heritage Trail (leaflet)
Walyunga National Park (leaflet)
Yanchep National Park (leaflet)
Yanchep National Park: New Entrance Road (leaflet)

GOVERNMENT POLICY & LEGISLATIVE CHANGE

The following Government policy decisions during 1991-92 affected CALM.

Major Amendments to the CALM Act

The Conservation and Land Management Amendment Act came into operation on 23 August 1991. Action being taken under the new powers includes creation of the first conservation parks and appointment of conservation and land management officers to exercise enforcement powers over all lands managed by the Department.

Mining Policy for Marine Reserves

In May 1992 the Premier announced a ban on drilling for and production of minerals and petroleum in marine parks and marine nature reserves. Proposed marine reserves endorsed by Cabinet will also be subject to the ban. The rights of mineral tenements granted prior to November 1990 will be maintained.

Shark Bay World Heritage Property

Shark Bay was inscribed on the World Heritage List in December 1991. Drafting instructions for the Shark Bay World Heritage Property Management Bill are well advanced. Matching Commonwealth legislation will also be prepared.

Creation of Lesueur National Park

Parliament approved the creation of the flora-rich national park late in 1991 and the Class A reserve was gazetted on 24 January 1992.

National Estate Forests

CALM and the Australian Heritage Commission completed the assessment of national estate values of native forests in the Department's Southern Forest Region. The methodology and results were published in February 1992 for a five-month public comment period. When an analysis of the public submissions has been completed, the study will assess the native forests in the Department's Swan and Central Forest Regions.

Ban on Game Shooting for Recreation

The Wildlife Conservation Act and CALM Act were amended to ban the taking of ducks, geese and quail for sport or recreation. The Acts Amendment (Game Birds Protection) Act 1992 came into operation on 16 June 1992.

Regulations to Charge Camping and Parking Fees

Regulations were gazetted on 20 March 1992 to allow fees to be charged for camping on conservation parks and section 5(g) land (e.g. Lane Poole Reserve). Parking fees were also introduced to control parking congestion on the Matilda Bay Reserve.

LEGISLATION AFFECTING CALM

On behalf of the people of Western Australia, the Department of Conservation and Land Management (CALM) directly manages national parks, conservation parks and marine parks, State forests and timber reserves, nature reserves and marine nature reserves, and any associated fauna, flora and forest produce. It is also responsible for conserving flora and fauna throughout the State.

The Department and three statutory controlling bodies were established under the Conservation and Land Management Act 1984. The controlling bodies are the Lands and Forest Commission, the National Parks and Nature Conservation Authority and the Forest Production Council.* All are responsible to the Minister for the Environment.

RELATIONSHIP OF MINING AND GOVERNMENT AGREEMENTS ACTS WITH THE CALM ACT

A frequent enquiry is why the Conservation and Land Management Act 1984 does not protect land managed by the Department from mining or development projects. The reason is the way the State's legislation is structured. Section 4 of the CALM Act states that nothing in the Act shall derogate or take away from the operation of any Act relating to minerals or petroleum or any Agreement Act for a development project. The Agreements Acts are administered by the Minister for State Development, e.g. the Alumina Refinery Agreement Act 1961. The CALM Act does not impose restrictions on mining or on development projects subject to an Agreement Act. The requirements for mining and development projects with respect to land managed by the Department are stated in the Mining Act 1978 and the individual Agreements Acts. The Environment Protection Act 1986 also needs to be satisfied with such projects on land managed by the Department.

The mining and petroleum Acts which prevail over the Conservation and Land Management Act include:

- Mining Act 1978*
- Petroleum Act 1967*
- Petroleum Pipelines Act 1969*
- Petroleum (Submerged Lands) Act 1982*

Agreements Acts which involve clearing land managed by CALM or which require access to forest resources also include specific responsibilities of the Department. The bauxite and coal operations predominantly require permission to be given by the Department for the companies to harvest the timber prior to mining operations. The Agreements Acts with specific Departmental responsibilities are:

- ◆ *Alumina Refinery Agreement Act 1961*
- ◆ *Alumina Refinery (Pinjarra) Agreement Act 1969*
- ◆ *Alumina Refinery (Wagerup) Agreement and Acts Amendment Act 1978*
- ◆ *Alumina Refinery (Worsley) Agreement Act 1973*
- ◆ *Collie Coal (Griffin) Agreement Act 1979*
- ◆ *Collie Coal (Western Collieries) Agreement Act 1979*
- ◆ *Silicon (Picton) Agreement Act 1987*
- ◆ *Wesply (Dardanup) Agreement Authorisation Act 1975*
- ◆ *Wood Chipping Industry Agreement Act 1969*

The Mineral Sands (Western Titanium) Agreement Act 1975 affects the Department's management of the land involved in the project.

OTHER ACTS WHICH AFFECT THE DEPARTMENT'S MANAGEMENT

The Act which probably influences the management of land by CALM most frequently is the Bush Fires Act 1954, which has requirements of the Department with respect to fires on land managed by the Department.

Other Acts which affect CALM's land management are as follows:

- Aboriginal Heritage Act 1972*
- Aerial Spraying Control Act 1966*

Agriculture and Related Resources Protection Act 1976

Agriculture Protection Board Act 1950

Country Areas Water Supply Act 1947

Dividing Fences Act 1961

Environmental Protection Act 1986

Fisheries Act 1905

Heritage of Western Australia Act 1990

Land Act 1933

Metropolitan Water Supply, Sewerage, and Drainage Act 1909

Rights in Water and Irrigation Act 1914

Soil and Land Conservation Act 1945

State Energy Commission Act 1979

Swan River Trust Act 1988

Town Planning and Development Act 1928

Commonwealth Acts relevant to the Department's activities are:

Arts, Territories and Environment Legislation Amendment Act 1982

Australian Heritage Commission Act 1975

Conservation Legislation Amendment Act 1988

National Parks and Wildlife Conservation Act 1975

Whale Protection Act 1980

Wildlife Protection (Regulation of Exports and Imports) Act 1982

World Heritage Properties Conservation Act 1983

International agreements relevant to the Department'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 Agreement).

Convention on International Trade in Endangered Species of Wild Fauna and Flora.

Convention for the Protection of the World Cultural and Natural Heritage.

* The functions of the three controlling bodies are described in separate reports.