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DUPLICATE

1995

ANNUAL REPORT

1994



DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

WHAT WE DO

CALM's Mission:

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

Western Australia has a beautiful, diverse and supportive natural environment which provides material, aesthetic and spiritual benefits. It is an essential part of Western Australians' livelihood and quality of life.

In keeping with our mission, the Department of Conservation and Land Management has the following objectives.

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

Value and Use of Resources: To optimise the value and economic return to the community of wildlife, lands, waters and resources entrusted to the Department without compromising conservation and other management objectives.

Tourism and Recreation: To identify and provide opportunities and services to the community which allows them to enjoy the wildlife, lands, waters and resources entrusted to the Department without compromising conservation and other management objectives.

Knowledge: To seek and provide an up-to-date and sound scientific and information basis for the Department's conservation and land management activities.

Community Support: To promote community awareness and appreciation of the values of the wildlife, lands, waters and resources entrusted to the Department, and to develop community understanding and support for the Department's conservation and land management activities.

Human Resources: To recruit, develop, reward and retain knowledgeable and talented staff, and to provide a stimulating, safe, productive and supportive work environment where staff can pursue individual goals consistent with those of the Department.

Corporate Efficiency: To optimise the efficiency, effectiveness and responsiveness of the Department in the achievement of conservation and other management objectives.



CALM is committed to developing a range of services which meet the needs of our many customers, and at the same time are consistent with our responsibilities for conservation and land management in WA.

Hon 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.

Syd Shea
EXECUTIVE DIRECTOR
30 August 1995

HIGHLIGHTS

- Gilbert's potoroo rediscovered (pp. 5, 8)
- Major strategy announced for marine conservation reserves (pp. 2, 9)
- More bluegum plantations (p. 19)
- 16 million seedlings produced by CALM nursery (p. 20)
- Major visitor facilities under way in the south-west forests (p. 29)

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MAKING A DIFFERENCE

It is ironic that one of the most exciting events of the past year had nothing to do, at first, with any of the land management or conservation tasks assigned to the Department. It had to do with the fact that for the first time CALM became a net appropriation agency: one that retains its own revenues while receiving a community services allocation from the government.

Having control of our own funding has made an enormous difference to the way we operate and the manner in which we can tackle a whole range of land management or conservation challenges. To the outsider, the least obvious difference is that our level of financial indebtedness is now under the Department's direct control and is already starting to decline significantly under our new debt-reduction program.

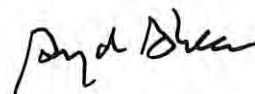
Other differences are much more apparent, especially to members of the community who are witnesses to what happens when the Department acts effectively in a matter of conservation or land management. From the revenue we retained last financial year, we were able to supply some \$500,000 in extra funding for fire hazard reduction, and meet the \$3.3 million in extra costs fighting fires in one of the worst fire seasons in CALM's history; the success of the CALMfire unit can be assessed by looking at their performance indicators in this report (see Facts and Figures). Similarly, a number of urgent conservation projects also received a much-needed boost. An excellent example is the planned recovery of Toolibin Lake east of Narrogin, the most important freshwater system remaining in the Wheatbelt. This is the Department's most ambitious recovery initiative, one that is attracting international interest in the fight against increasing salinity. In land management or conservation matters, our ability to intervene through these and other projects has been significantly advanced by the injection of funds from retained revenue.

CALM is, and always will be, committed to this sort of intervention. More and more we are finding opportunities to conserve the lands and waters under our stewardship, often in partnership with others. Such an opportunity exists in the north of the State, where the newly launched Ibis Aerial Highway is opening up the remarkable Kimberley countryside to thousands of tourists a year, yet with almost no impact on the environment. Our partners in this venture include shires, tourist associations, private operators and local pastoralists. Without our intervention with the aerial highway, the only alternative to allowing increasingly heavy vehicle access would be to 'lock up' the whole of the area and deny admittance to all but a few.

Nature-based tourism elsewhere in the State has also benefited from the intervention of a combined land management and conservation agency. CALM is pushing ahead with a tourism initiative in the south-west, among the tingle trees in the Valley of the Giants near Walpole. We are creating new facilities, including an intriguing walkway through the tree-tops, to help increasing numbers of visitors enjoy the tingle forest with minimum impact upon it. This is made possible partly because of our Forest Resources program, which is designed not only to maintain a reliable timber resource for community needs, but also to maintain the forests themselves as thriving ecosystems; in this case the money for developing the Valley of the Giants comes from Forest Resources revenue.

Perhaps the strongest intervention of all has been the broadening of our already successful fox-baiting project, Operation Foxglove. Not only has this been extended throughout much of the south-west, but its techniques have now been put to formidable use in a new program: Project Eden. In a bold but carefully planned move, CALM staff have begun a two-year feral-animal control program on the Peron Peninsula in the Shark Bay World Heritage Area, which has already cleared huge numbers of foxes. When this phase of the project is successful, the peninsula will be repopulated with species that once lived there, which include woylies, banded hare wallabies, rufous hare wallabies, western barred bandicoots, red-tailed phascogales, and other threatened species from our conservation havens on offshore islands. The place may become an area in which Australians can see large numbers of native animals otherwise extinct on the mainland.

Apart from the stimulation created by retaining our revenue, the fact that we can pursue our goals so vigorously is due to two things. One is the ongoing partnerships we continue to create and enjoy with other users of the land we manage on behalf of the people of Western Australia. The other is something that I never, never tire of saying: the enthusiastic commitment of so many CALM people. Without them, the vigorous intervention required of this Department would not be possible at all.



Syd Shea
EXECUTIVE DIRECTOR
30 August 1995

That was the Year . . .

1994–1995

CALM is an integrated agency. The Department manages lands and waters to conserve the native plants and animals they sustain, for the recreation and tourism they can support, and for the renewable resources they provide. CALM's primary responsibility is to manage these lands and waters on an ecologically sustainable basis so that the needs of the present are met without compromising the choices of future generations.

The three Program sections in this annual report describe some of CALM's achievements in detail. This section looks at some of the highlights of the year that took the public's attention.

A FIERY SUMMER — REFLECTIONS OF '61

The summer of 1994–95 had CALM's fire managers thinking back to the same period in 1961 when forest wildfires destroyed three communities and much of the town of Dwellingup. The spring to autumn period in 1994–95 was the driest in 34 years and meant the Department's forest fuel hazard reduction program — especially in the northern jarrah forest — was closed about eight weeks earlier than usual.

The long dry was to prove a test for the Department's fire protection branch, which was restructured into a new organisation — CALMfire. As part of the new group's preparations for summer, 50 additional staff were taken on and trained as fire crews. New lookout towers were established at Bickley and Walyunga; Diamond Tree near Manjimup was upgraded and reintroduced into the fire surveillance network. The combination of lookout towers and aircraft, including the fast-flying Eagle, provided a highly effective and cost-efficient integrated fire spotting system.

It didn't take long before the benefit of these pre-season preparations was recouped. Big wildfires in Avon Valley National Park in November were the forerunners of what was to be a record number of wildfires attended by CALM crews. By the time the winter rains brought respite in May, CALM had attended 583 fires, of which nearly one-quarter were on private property. Fires in the Gngangara pines on New Year's Eve and again on February 20 burned through almost 4000 hectares of plantations

and woodlands before they were brought under control. The fires on February 20 stretched CALM's resources to the limit as crews were brought up from as far as Walpole. National parks in and around the metropolitan area were closed because staff were needed to fight the fires, and the State Government responded to a request from CALM and declared a bush fire emergency in the south-west for the rest of the week.

The year also saw new developments in equipment, and a replacement program for the Department's heavy duty trucks and pumper units was instigated. Technological advances also were made in using helicopters in fuel hazard reduction burning, particularly in difficult strategic burns such as buffers to protect areas of high conservation value and softwood plantations.

TOURISM — NATURALLY

An Aboriginal Nature Based Tourism, Education and Training Unit was established to help develop nature-based tourism projects which recognise the State's cultural and heritage values, particularly those of Aboriginal people. Experience at major attractions such as Geikie Gorge, Karijini National Park and Yanchep National Park has shown there is enormous interest in Aboriginal culture, and the new unit reflects the Department's commitment to increasing the participation of Aboriginal people in the tourism programs for the lands and waters CALM manages. The unit's purpose is to provide training and expertise for people who will become involved in Aboriginal culture as it relates to nature-based tourism.

CALM also began negotiations with Notre Dame University to develop specialist courses to give nature-based tourism operators a better understanding of the State's natural attractions, including the dynamic — and often bizarre — relationships between our native plants and animals and their ecosystems. By extending training opportunities in partnerships with institutions such as Notre Dame, the knowledge and skills of people involved in the tourism industry can be improved, which in turn will enhance the experiences of visitors to our State.

Another major tourism highlight of the past year included the start of a \$2.5 million program to develop tourist 'icons' in the southern native forests. These projects, such as the Tingle Tree canopy walk and the Ancient Empire discovery walk in the Valley of the Giants, and the Great Karri Forest Trees Drive in the Shannon National Park, will help foster the region's overall tourism industry as well as provide opportunities for the commercial sector.

The introduction of visitor fees in additional national parks at the beginning of January also has had a major impact on the Department's ability to provide improved facilities for visitors as well as funding nature conservation programs. For example, the fee introduced for people visiting the Gloucester tree is being used to finance improvements to parks in the Pemberton area, including new bridges at the Beedelup Falls and the upgrading of the Bicentennial Tree for the public to climb.

IBIS TAKES TO THE AIR

A concept two years in the making became a reality in August when the Ibis Aerial Highway officially took off. 'Ibis' is a joint initiative among CALM, the Kimberley Tourism Association, the WA Tourism Commission and Kimberley air charter operators that allows visitors to get to previously inaccessible destinations quickly and easily. The venture combines air charter flights, ground tours and sea charters. CALM has provided landing strips at the main visitor points, such as Bell Creek and Windjana Gorges and Purnululu National Park. Some of the key sights along the 'highway' are the Bungle Bungle landforms in Purnululu National Park north-east of Halls Creek, the moss-covered waterfalls in the Prince Regent Nature Reserve in the North Kimberley, and the Kimberley's remarkable sites of Aboriginal culture.

A FOCUS ON CUSTOMERS

CALM's relations with the general public and the Department's Business Unit clients entered a new era with the adoption of the Department's first Customer Service Charter (see p. 33) in January. The Charter sets out CALM's role as well as the services the Department provides. It also explains the standards of services our customers can expect and invites feedback from the

public at large on ways those standards can be improved. The Charter is part of CALM's commitment to developing services that meet the needs of the Department's many customers in line with the overall responsibility to conserve and manage the State's wildlife, lands, waters and resources which the Department manages on behalf of the Western Australian public.

A major achievement during the year was to increase access to the services the community requires from the Department. Among the initiatives were a new office at Mersey Point to better service the needs of visitors to the Shoalwater Islands Marine Park and Penguin Island near Rockingham, and the stationing of rangers at Cape Range National Park, Fitzroy Crossing and Halls Creek to provide advice to the many thousands of people who tour the Kimberley.

At Yanchep National Park, Penguin Island and The Hills Forest, walkways, trails and facilities for visitors needing wheelchair access have been provided. A telephone-typewriter also has been installed at the public information counter at the Department's Operational Headquarters in Como to enable people who are profoundly deaf to have access to information on CALM's activities.

NEW DIRECTIONS ON THE MARINE HORIZON

The future management and conservation of Western Australia's 12 500 km of coastline was highlighted during the year with the State Government's announcement of a comprehensive marine management strategy. The strategy was launched in conjunction with a major review of a representative marine reserve system prepared by the Marine Parks and Reserves Selection Working Group. That report was the result of seven years' work by a panel of eminent marine scientists who recommended a number of areas around the coast that should be studied with a view to establishing additional marine conservation reserves.

The key elements of the marine management strategy are to create a new Marine Parks Authority in which marine conservation areas will be vested, with CALM continuing to be responsible for their management; the creation of three tiers of marine reserves to cater for the diverse uses of the marine environment; and to set out access guidelines for the various marine-based industries such as petroleum, mining, fishing and tourism. Amendments to the CALM Act are being prepared to give effect to these initiatives. CALM is establishing a specialist Marine Branch to support the new Authority, and a scientific advisory committee comprising scientists from the Government and non-government sector also

will be set up to provide technical advice on marine reserve management.

The launch of the New Horizons in Marine Management strategy also included an announcement by the State Government that drilling and production of petroleum is not allowed in Ningaloo Marine Park, one of the State's greatest natural attractions.

BUDGET PROVIDES A NEW DIRECTION

The year was the turning point for the way in which the State Government financed Western Australia's conservation estate. The 1994-95 State Budget applied the principle of net appropriation, which meant the Department retained the revenue it earned and received a community service obligation allocation from the Consolidated Revenue Fund. This meant that for the first time in its 10-year history, CALM did not have to borrow funds for capital works. It also meant a significant reduction in the net cost to Government of CALM's major programs.

The changes mean that by the year 2003 CALM will have substantially retired all outstanding debt, and by 2004 the Department will largely have become a self-funding agency. They also mean that nature conservation, tourism and recreation programs can be funded through cross-subsidisation from income earned through forest resource management and the Government's community service obligation payment.

The change in the way in which the Department was funded also gave CALM much greater flexibility to encourage private sector involvement and partnerships in a wide range of areas, including tourism and recreation and tree-crop establishment.

GENTLE GIANTS OF THE SEAS

The annual migrations of humpback and southern right whales along the south and west coasts are now providing a spectacle that is attracting increasing interest from nature-based tourism operators. This is especially so in Esperance, Albany and Perth, where whale watching is becoming extremely popular and attracts 35 000 people a year. Consequently, CALM prepared guidelines for the industry to observe so that the gentle giants are not unduly disturbed.

However, the increase in whale numbers, estimated at 10 per cent a year, has brought with it additional management problems for the Department. Marine animal entanglements are becoming more common, due in large part to the increased whale numbers. Six officers from CALM's Wildlife Protection Branch and Swan

Region Marine Operations Group have formed a Marine Animal Entanglement Team which can quickly respond to incidents in which animals such as whales become entangled in lines such as those attached to craypots. The group has put together an array of equipment that can be readily despatched to the scene. This equipment includes inflatable buoys that can be attached to the lines and used to slow the animal so the officers can get close enough to cut the ropes.

In a three-week period in June, the team responded to two whale and one leatherback turtle entanglements. In one incident involving a young humpback off Cervantes, CALM's nature conservation vessel *Pseudorca II* was used as the operations centre while divers attached the buoys from a high speed 'rubber duck'. The rescue was an outstanding success and attracted interest around the nation.

ADDING VALUE TO NATIVE TIMBERS

Value-adding to the State's native timbers through downstream processing forged ahead during the year. Since the new sawlog sales contracts with companies were signed early last year, the WA sawmilling industry now is ahead of its obligations to add value to at least 50 per cent of the jarrah sawlog resource by 1997. The industry's value-adding average now is more than 51 per cent for jarrah sawlogs.

The gains made with jarrah are being recognised by the market, and the value-adding techniques are now being applied to other native timbers, such as karri and marri and many of the timbers of the inland forests of the Goldfields.

Research by CALM in consultation with two local furniture manufacturers has achieved remarkable results in using karri and marri to produce a range of furniture products that may have world-wide appeal. Not only will it increase the value of our native hardwoods, it will replace timbers such as cherry-wood and oak that currently are imported and create more jobs in the timber processing industries. It also will give the furniture industry greater choice and flexibility in using native hardwoods, which until now have been used mainly in the construction or wood pulp industry.

In June, a range of furniture produced from karri and marri by BVR Furniture of O'Connor and Jensen Jarrah of Busselton was unveiled. The timber, kiln-dried by CALM's Wood Utilisation Research Centre at Harvey, was used for dining room tables and chairs, coffee tables, 'Welsh' dressers and outdoor settings. Karri has long been renowned as a great structural timber

because of its high strength, but difficulties with seasoning, machining and gluing have meant the manufacturing industry largely has overlooked it as a timber for fine furniture and other uses. Marri has good strength and finishing properties, but because it is a bloodwood with extensive gum veins and imperfections, it has not gained wide acceptance among furniture manufacturers. This is despite the fact some of these imperfections add character to the beautiful golden tones of the timber.

The CALM team at the Wood Utilisation Research Centre now is overcoming these problems. The team has been investigating the conditions needed to kiln-dry the various timber dimensions used by the industry, the adhesives that will provide strong, long-lasting glue joints, and the dressing, sanding and finishing techniques for the dried timber.

CALM also is establishing a special Karri and Marri Network. It will include people involved in the timber and furniture industry who want to develop strategic market opportunities for karri and marri.

FROM EDEN TO PARADISE

Those introduced scourges, the European fox and feral cat, are predators which know no boundaries except perhaps the shoreline. It has been the shoreline that has ensured a few islands off the Gascoyne coast remain havens for several native animal species that have become all but extinct on the mainland. These species include the Shark Bay mouse, banded hare wallaby, rufous hare wallaby, boodie and western barred bandicoot which now occur on the islands of Dorre and Bernier off Shark Bay.

The Peron Peninsula, a 100 000-hectare prong which juts into the Bay, once was habitat for these species as well as others which today are locally extinct, such as the woylie, chuditch, red-tailed phascogale, stick-nest rat and mulgara. The reason is the fox, the cat and other introduced ferals such as rabbits and goats.

Since the François Peron National Park was declared in the northern part of the peninsula in 1991, CALM has been systematically removing feral goats. Last year, the attack on the fox and cat began in earnest with the launch of Project Eden, a program designed to turn the peninsula into a paradise for native animal species. The program drew on experience from CALM's major fox control initiative, Operation Foxglove, which covers almost 500 000 hectares of jarrah forest between Julimar (near Bindoon) and Collie. The program involves dropping dried meat baits containing 1080 poison along specially selected transects along the peninsula. The poison occurs naturally in *Gastrolobium* spp. (the poison peas). Native

animals have developed high levels of tolerance, but 1080 is lethal to foxes and cats.

Monitoring before and after the first aerial fox-baiting run in April showed the program has reduced fox numbers by 95 per cent. Further baiting for foxes, and for cats using a special medium developed by CALM scientists, will be carried out in September. As well, CALM is building a three-kilometre-long feral barrier fence across the Taillefer Isthmus at the southern end of the peninsula.

When the monitoring shows that fox and cat numbers have been brought under control, populations of animals such as woylies will be reintroduced to the area. (Woylies, because they are prolific breeders, are very good 'indicator' species and already have been reintroduced into parts of the jarrah forest covered by Operation Foxglove.) Other species will be reintroduced so that ultimately Project Eden will win back the region's biological diversity that the fox and the cat so nearly destroyed.

A TREASURE IN THE WHEATBELT

Toolibin Lake, east of Narrogin and 200 km south-east of Perth, is the last remaining freshwater wetland in the Wheatbelt. It is a breeding site for 24 species of waterbirds, and a further 17 species have been recorded feeding at the lake. Its international significance is such that it is listed under the Ramsar Convention. But the lake is threatened by increasing salinity caused by surface run-off and rising water tables.

As part of the effort to conserve the lake's integrity, last October CALM released a 10-year recovery plan. This represents a partnership under which CALM will work with the Department of Agriculture, the Water Authority, the Australian Nature Conservation Agency, and private landowners in the surrounding catchment. The plan involves a combination of engineering and agronomic tactics. Farmers in the catchment already have begun replanting trees, including mallees selected by CALM for their high eucalyptus oil content.

Earlier this year, CALM installed a 5.5 km by-pass channel to divert highly saline surface water from Toolibin Lake to a saline-affected nature reserve system downstream. Nearly 100 000 tonnes of earth were moved to create a channel along the edge of the lake and through private property. Specially designed gates made from wandoo planks and steel were installed to divert run-off from early season rains into the nearby saline Taarblin Lake. These gates can be altered to enable fresh water run-off to be channelled into Toolibin Lake, thereby helping to minimise any build-up of salinity. Other engineering solutions include pumping groundwater to lower water tables.

The Toolibin Lake recovery plan is the first such plan to be prepared for a whole ecosystem in WA.

REDISCOVERIES FROM THE PAST

The first week of December, 1994 will long be remembered by a group of CALM scientists who flew to Albany to identify a small marsupial that had been found at Two Peoples Bay. The animal had been found by University of WA students Elizabeth Sinclair and Adrian Wayne, who were undertaking quokka research in the nature reserve.

They hadn't found quokkas but had trapped several small rat kangaroos. The CALM scientists identified the animals as Gilbert's potoroos — a species thought extinct for the past 120 years. Gilbert's potoroos were first discovered by Europeans in 1840 at King George's Sound by John Gilbert, who collected mammals and birds in WA for the prominent naturalist, John Gould.

Apart from Gilbert's specimens only two others had been sent to museums between 1840 and 1869, when the last known recording was made. A search for the animal by one of CALM's predecessors in 1975 failed to turn up anything and the animal was considered extinct.

It is now thought the species may have survived in such small numbers that they were previously undetected, but fox control in the reserve since 1988 has allowed them to increase to levels where they have now turned up in live-capture traps set for other species such as quokkas.

The rediscovery means the number of mammals now thought extinct in WA has fallen from 11 to 10.

TREE CROPS TO WIN BACK THE FARM

Farm forestry is among Western Australia's fastest-growing agricultural industries. To keep pace with this rapidly growing interest in tree crops, CALM established a Farm Forestry Unit to provide independent advice to landowners interested in tree crops. The new unit brings together former advisory service staff and three of CALM's most experienced farm foresters. It sharpens CALM's focus on producing trees with environmental and commercial benefits, and is providing advice to the rural community on all aspects of trees on farms.

The unit's main activities are to develop new tree crop species and technology as well as providing technical support to farmers to implement innovative farm forestry plans. It also coordinates activities with other extension agencies and farm management advisers, and establishes demonstration farms to promote farm forestry.

The formation of the Farm Forestry Unit completed the restructure of CALM's Plantation Group, set up in 1994. The group is responsible for the commercial management of the State's hardwood and softwood plantations as well as providing tree-farming advice to landowners.

Nature Conservation and Wildlife

Management Program I

HIGHLIGHTS

- Gilbert's Potoroo rediscovered at Two Peoples Bay Nature Reserve (p. 8)
- Wyalkatchem Foxglove survival enhanced by the reintroduction of 119 propagated seedlings (p. 8)
- Ten captive-bred western swamp tortoises reintroduced to Twin Swamps Nature Reserve (p. 8)
- A major marine conservation reserves strategy announced (p. 9)

OBJECTIVE

To conserve indigenous plants, animals and ecological processes in natural habitats throughout the State.

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 wildlife interactions (e.g. 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 liaison programs.

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

Lands and waters are reserved and managed to conserve 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.

The Program focuses on three areas:

1. conservation of the State's wildlife;
2. planning and research, to provide the basis for management;
3. public awareness and liaison, to enhance appreciation of nature conservation needs and processes, and private contributions to nature conservation.

The Roadside Conservation Committee operates within the overall Nature Conservation and Wildlife Management Program 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. CALM meets the cost of servicing the Committee and obtains contributions towards the Committee's operations from Main Roads Western Australia and Westrail.

CONSERVATION OF WILDLIFE

Threatened and Rare Wildlife

The Minister for the Environment approved changes to the Schedule of Declared Rare Flora recommended by the Endangered Flora Consultative Committee. Two species were added to the Schedule after survey work had shown that these species were threatened with extinction. Four species were deleted from the Schedule after survey work showed that they were more common than previously thought. One was deleted because of taxonomic clarification.

The Priority Flora List was revised. A total of 119 taxa were added because they were determined to be in need of further survey in order for CALM to adequately assess their conservation status. Another 26 were deleted after taxonomic clarification of their true identity, or because surveys have determined that they are not as rare or threatened as previously thought. As at 30 June 1995 there were 274 taxa listed as extant declared rare flora, 39 as presumed extinct declared rare flora, 1 461 as poorly known and requiring further survey, and 210 as rare (but not threatened) and requiring monitoring.

CALM's Threatened Fauna Scientific Advisory Committee met once during the year and considered recommendations for 75 fauna taxa. Changes to the gazetted list of specially protected fauna (including fauna threatened with extinction, fauna presumed extinct and fauna otherwise requiring special protection) were recommended for consideration by the Minister for the Environment, along with changes to CALM's Reserve list of fauna taxa.

At the end of the year there were 21 recovery teams coordinating the recovery of threatened species of plants and animals, and one recovery team coordinating work on a threatened ecological community. Recovery teams in operation during 1994-95 included those for Corrigin grevillea, matchstick banksia, Swan Region threatened flora, Merredin District threatened flora, Central Forest Region threatened flora, Southern Forest Region threatened flora, Geraldton District threatened flora, Lancelin Island skink, western bristlebird, and Thevenard Island mouse.

Considerable progress has been made with the implementation of Recovery Plans. Some highlights are:

Western swamp tortoise: In September 1994, ten captive-bred tortoises, aged three to four years, were reintroduced into Twin Swamps Nature Reserve. This is the first release of captive-bred animals, with more planned in the future.

Woylie: Western Australian woylie populations have continued to thrive. Translocations took place to the northern jarrah forest (three locations), Julimar Conservation Park (in the area covered by the fox control program, Operation Foxglove) and Karakamia (a private sanctuary).

Noisy scrub-bird: The Mount Manypeaks population now makes up more than 50 per cent of the total population, and the birds from that area have spread as far as the Waychinicup River through natural dispersal. Birds were also translocated to Bald Island and Torndirrup National Park.

Gilbert's potoroo: In November 1994 Gilbert's Potoroo was rediscovered by two University of Western Australia zoology students working in Two Peoples Bay Nature Reserve. Gilbert's potoroo was last recorded in 1869. Research has commenced to determine the population size, distribution and habitat requirements of the population. A captive population has been established and young have been raised already. Larger facilities are currently being constructed to accommodate the new animals.

Wyalkatchem foxglove: The conservation status of this species was significantly improved when 119 plants propagated by the Kings Park and Botanic Gardens were planted out in a reserve in the Wyalkatchem Shire in June 1995. The propagated plants will enhance the existing wild population of three plants. The research and propagation work for this recovery plan were funded in part from income from the BankWest *LANDSCOPE* Conservation Visa Card scheme.

Matchstick banksia: One hundred and forty seedlings of this species have been raised to establish a new population on farmland in the Quairading Shire, and a further 45 seedlings have been raised for reintroduction into an existing population within the shire. Seed has also been collected for long-term storage at CALM's Threatened Seed Centre of the WA Herbarium.

Toolibin Lake: A 5.5 km by-pass channel has been constructed to divert highly saline surface water from Toolibin Lake to a salt-affected reserve system downstream. The work was a cooperative effort between CALM, the WA Water Authority, the Department of Agriculture, private landowners around the lake and private contractors.

Additionally, threatened southern brown bandicoots (quendas) were successfully reintroduced to Tutanning Nature Reserve and Dongolocking Nature Reserve in the southern wheatbelt.

A Threatened Flora Management Program has been published and implemented for Albany District. Further programs are in draft form for Esperance, Moora and Katanning Districts. Surveys and preparation of similar programs for the Narrogin and Geraldton Districts, and the Southern and Central Forest Regions, have also begun.

Interim Wildlife Management Guidelines are being prepared for 20 threatened plant taxa.

CALM Policy Statement Number 50 ('Setting Priorities for the Conservation of Western Australia's Threatened Flora and Fauna') was adopted during the year. A scientific ranking panel was established under this policy

and met for the first time in April 1995 to allocate all threatened plant and animal taxa in Western Australia to internationally accepted threat categories. The panel's report was with the Minister at the end of the year for endorsement of the proposed rankings.

Fencing of additional populations of declared rare flora on private land continued, with the cooperation and assistance of property owners. CALM also continued to liaise with other government instrumentalities to ensure that declared rare flora on Crown land is protected.

The Threatened Species and Communities Consultative Committee met on three occasions during the year. This committee provides a forum for consultation between voluntary conservation organisations and CALM on issues related to the conservation of threatened species and threatened communities.

MARINE CONSERVATION

The Premier, the Hon Richard Court MLA, announced a comprehensive marine conservation strategy in July 1994. The strategy confirmed the Department of Conservation and Land Management as the leading management agency for marine conservation in Western Australia. A new Marine Parks Authority is to be established under the *Conservation and Land Management Act 1984* as the vesting body for marine parks and other marine conservation reserves. There are to be three categories of such reserves so that the diverse interests and uses of marine conservation areas can be properly catered for. A scientific advisory committee is also to be established to provide technical advice on marine conservation reserve management. The strategy included guidelines for access to the reserves by marine-based industries such as petroleum, mining, fishing and tourism. The Premier also announced that drilling and production of petroleum is not allowed in Ningaloo Marine Park.

The launch of the marine strategy coincided with the release of the major investigation and review report on proposals for a representative marine reserve system, prepared by the Marine Parks and Reserves Selection Working Group. The report was the result of seven years' work by a panel of eminent marine scientists, chaired by Dr Barry Wilson, a former CALM Director of Nature Conservation. The report identified key marine conservation areas along the State's 12 500 km coastline and is likely to be the basis of marine reserve planning within the State for many years to come.

The Department of Conservation and Land Management is to establish a new Marine Branch within the Nature Conservation Division to support the new Authority and

to coordinate Departmental marine planning and management activities.

Commercial Use of Wildlife

The WA Flora Industry Advisory Committee (WAFIAC) met on two occasions during the year to consider the management of the wildflower industry. WAFIAC provides a forum for consultation between the industry and other interested parties, and provides advice on industry management to CALM and the Minister for the Environment. Issues discussed included the management of boronia harvesting, research projects, licensing requirements, the harvesting of *Dryandra formosa*, flora harvesting in the proposed Mount Roe National Park, and the development of an updated management program for the commercial harvesting of protected flora in Western Australia.

The Boronia Management Program has been completed and is being implemented. Research into the conservation and cultivation of the cauliflower bush *Verticordia eriocephala*, which began in 1993, has been completed. As a result of this research, commercial harvesting of this species is now prohibited on Crown Land.

Management of the commercial harvesting of kangaroos continued throughout the year, with input from the Kangaroo Management Advisory Committee, and under revised management programs approved by the State and federal Ministers for the Environment for the period 1995-97. Under these programs commercial harvest quotas were set for each harvested species for the 1995 calendar year. The 1993 population estimates for the three harvested species of kangaroo in the surveyed areas are shown below, along with the 1994 commercial harvest quotas, 1994 commercial harvest, and the quotas set for 1995.

	KANGAROO SPECIES		
	Red	Western Grey	Euro
1993 population estimate	1 363 000	432 000	>168 000
in surveyed areas			
1994 quota	220 000	60 000	10 000
1994 commercial harvest	151 822	50 399	9 847
1995 quota	220 000	60 000	10 000

The management program for saltwater crocodiles and freshwater crocodiles in Western Australia was revised and approved during the year, by both the State and Federal Ministers for the Environment. The management program covers all aspects of crocodile management, including problem crocodiles, population surveys and regulation of crocodile harvests, farming, processing and export.

Australia made a successful submission to have the international conservation status of saltwater crocodiles

(*Crocodylus porosus*) in Australia changed from Appendix 2 (ranching only) of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) to Appendix 2 (standard requirements). This is a significant achievement and recognises that management of wild crocodile populations in Australia has been successful in recovering the species in suitable habitat. The CITES decision also recognises that commercial farming and ranching of crocodiles in Australia is being conducted in a way that benefits the wild populations of crocodiles.

Under the management program approved for crocodiles in Western Australia, commercial harvests of live animals for farm breeding stock development, and limited harvest of eggs and hatchlings, can be approved. For management purposes these harvests are primarily restricted to the Cambridge Gulf area. Cambridge Gulf crocodile populations are monitored to ensure that wild crocodile populations are conserved. Surveys were again undertaken of saltwater crocodile and freshwater crocodile populations in the Cambridge Gulf-Lake Argyle area during the year. Development of the helicopter survey technique, with calibration against boat-spotlight counts, was completed.

The emu farming industry continued to expand in Western Australia with 79 farms licensed at the end of the year, an increase of 23 over the previous year.

Dieback, Mining and Weeds

CALM staff cooperated with the Northern Sandplains Dieback Working Party to produce an educational video to assist with its landcare activities. Implementation of the South Coast Region Dieback Protection Plan has continued, with research groups investigating additional sites within parks and reserves in the South Coast Region.

Staff from CALM, Western Power, Main Roads, Optus, Worsley Alumina and the public have continued to receive training in dieback disease management.

A project to investigate the effectiveness of satellite remote sensing for the mapping of the vegetation condition of jarrah forest was completed and a Master's thesis submitted. Analysis and mapping also was carried out for the Ministerial Dieback Review Panel.

Liaison with the mining industry continued, with CALM having representation on the Petroleum and Environment Liaison Group, the Mining and Environment Group, the State Gravel Supply Strategy Group, and the Department of Minerals and Energy's reviews of the reports on rehabilitation in the gold and mineral sands industries. One hundred and twenty-three mining tenements and three geoscientific permits were processed and

appropriate environmental conditions imposed. Twenty-two proposals for exploration were approved after detailed environmental review. Three mining proposals on C-class nature reserves were approved by the NPNCA or EPA. Comment was made on 27 mining proposals formally assessed by the EPA, and on three major reports to government. There was also considerable interaction with the petroleum industry, including review of 10 proposals for seismic and drilling work. CALM provided support to the NPNCA and Lands and Forest Commission on several matters and assisted the Shire of Gingin in locating and accessing gravel for road construction.

A total of \$1 900 000 was received in mining compensation payments.

The Department has continued to be involved in Zone Control Authorities and Regional Advisory Committees set up by the Agriculture Protection Board for liaison and coordination of weed and feral animal management. Management of major weed infestations on CALM-managed public lands continued, in particular with date palms, cotton palms, *Parkinsonia* and oleander in Millstream-Chichester National Park, and ruby dock in Karijini National Park. African boxthorn is being targeted in Stokes National Park, Woody Island, Mullet Lake Nature Reserve and other nature reserves. Other weed species being targeted include bridal creeper, freesia and blackberry.

Foxes and Other Feral Animals

Fox-baiting programs have continued in selected areas across the State, resulting in security for populations of threatened fauna. The programs are now being expanded to a large-scale operation over 670 000 ha of the jarrah forest, between Gingin and Collie, under Operation Foxglove. This predator control has permitted the reintroduction of the woylie to several areas of the forest, in addition to removing predator pressures from many other species of forest fauna.

Feral animal control has continued throughout the State in conjunction with the Agriculture Protection Board and local Land Conservation District Committees. At Kalbarri National Park 649 goats, 25 pigs and seven sheep were removed, while a further 1 000 goats and 49 pigs were removed from land on the park boundaries. Aerial shooting programs removed 3 149 goats from the Zuytdorp Nature Reserve and another 4500 goats from the Kennedy Ranges National Park. House mouse infestations on Barrow Island and Varanus Island, associated with mining operations, were the subject of eradication programs. At this stage both programs appear to have been successful. Cat and rat eradication programs have begun on the Montebello Islands.

Project Eden was initiated to control feral animals on Peron Peninsula. Already 1 200 goats, more than 150 foxes and several cats have been removed. If the feral animal control program is successful a number of threatened species will be reintroduced to the area. However, reintroduction will not be attempted until the foxes, cats, rabbits and goats have been effectively controlled and a vermin-proof fence constructed to prevent these species re-invading the peninsula.

General Wildlife Management and Research

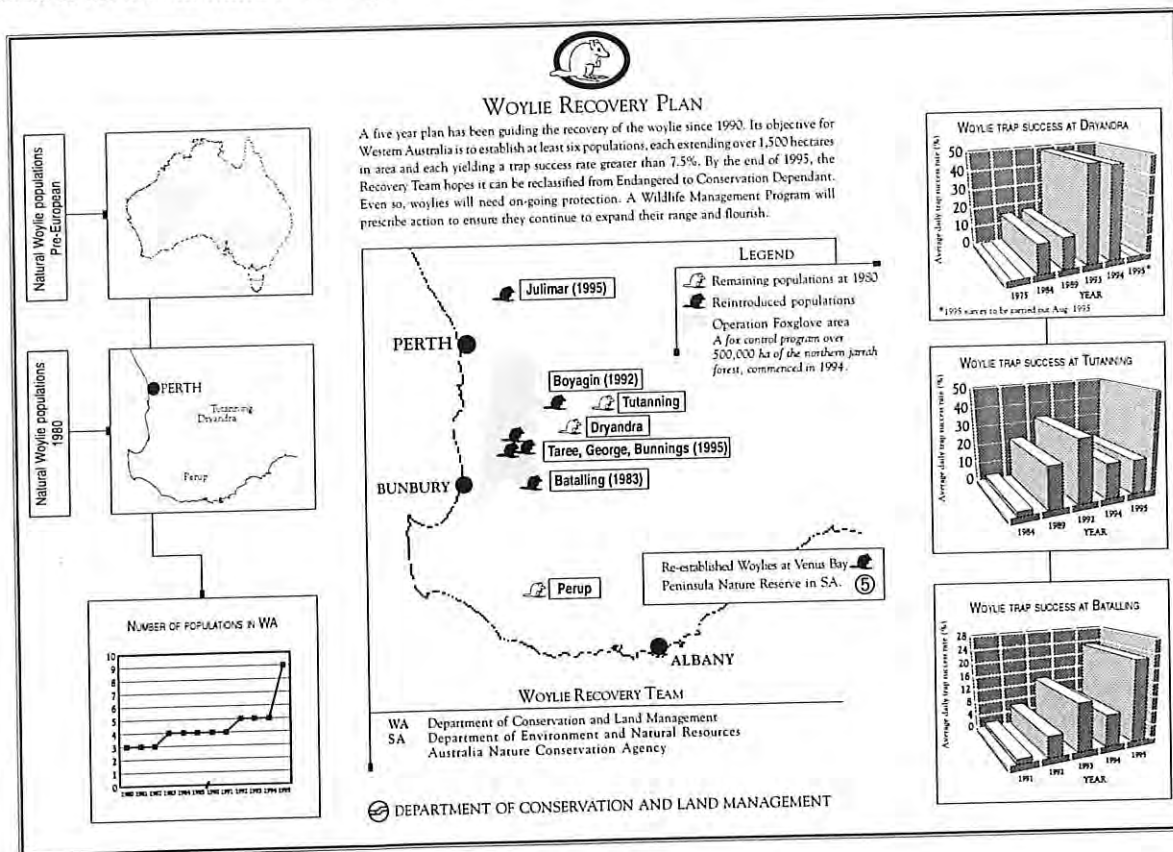
Departmental officers attended 25 reported whale and dolphin strandings, involving both live and dead animals. These strandings involved 30 individual animals, representing nine species. In three instances, six of the stranded animals were successfully returned to the sea. Officers also attended 11 seal and sea lion strandings, including six subantarctic fur seals, three Australian sea lions, one southern elephant seal, and one New Zealand fur seal diagnosed with tuberculosis. In most cases, these animals were ill or injured. Four of these animals were successfully returned to the sea.

Two humpback whales, a bottlenose dolphin and a leathery turtle were reported entangled in fishing gear, including crayfish pot ropes. All except one humpback whale were freed by Departmental officers. The second humpback whale was not located after a comprehensive search of the area in which it was reported.

Research into the population ecology and reproductive biology of three *Lambertia* and four *Grevillea* species of threatened flora is continuing, and similar research has begun on three *Dryandra* species. These studies will provide the necessary information for the management of these species and others with similar ecological characteristics. Similar research on five *Davesia* species, six *Eremophila* species, *Banksia brownii* and *Banksia verticillata* has been completed and will be reviewed to determine the requirements for the preparation of recovery plans for the species and identification of management actions.

Wildlife Interactions, Licences and Compliance with Legislation

Wildlife interaction-based industries continued to be managed by the Department. A total of 35 licensed whale watch boat tour operators conveyed over 35 000 passengers (a 388% increase on 1993-94) from various centres around the State, but principally from Perth. While these tours were primarily based on humpback whales, the increased number and accessibility of southern right whales, particularly in the Albany area, resulted in increased interest in whale watching. A new close season notice and licensing provisions for whale shark tours were overseen in Ningaloo Marine Park, where 15 licensed operators conveyed passengers to dive with whale sharks. Dolphin interactions continued at Monkey Mia, Cockburn Sound and Bunbury.



A report reviewing dolphin management at Monkey Mia was completed. It made a number of recommendations which have led to a refinement of policies relating to the public feeding of dolphins at that location.

The Department ensures that wildlife-based activities are licensed, in accordance with the *Wildlife Conservation Act 1950*, and conducts monitoring and investigations to ensure compliance with the legislation and the licences issued.

The total number of damage licences issued for control of birds (other than emus) causing problems was 316, an increase from 161 in 1993–94. The number of damage licences for emus rose from 43 in 1993–94 to 161 for 16 674 birds in 1994–95, reflecting increased emu numbers in the north-eastern wheatbelt. See Appendix 15.

The issue of emu management along the northern barrier fences arose following a major emu build-up throughout mid to late 1994. The Minister for the Environment established an Emu Management Committee to review the practical actions that could be taken for emu management in such areas and to provide advice accordingly. The Committee was established with representation from CALM, the Agriculture Protection Board, the Western Australian Emu Farmers' Association, the Pastoralists and Graziers Association, the Western Australian Farmers Federation and the Conservation Council of Western Australia. An initial meeting of the Committee was held during the year.

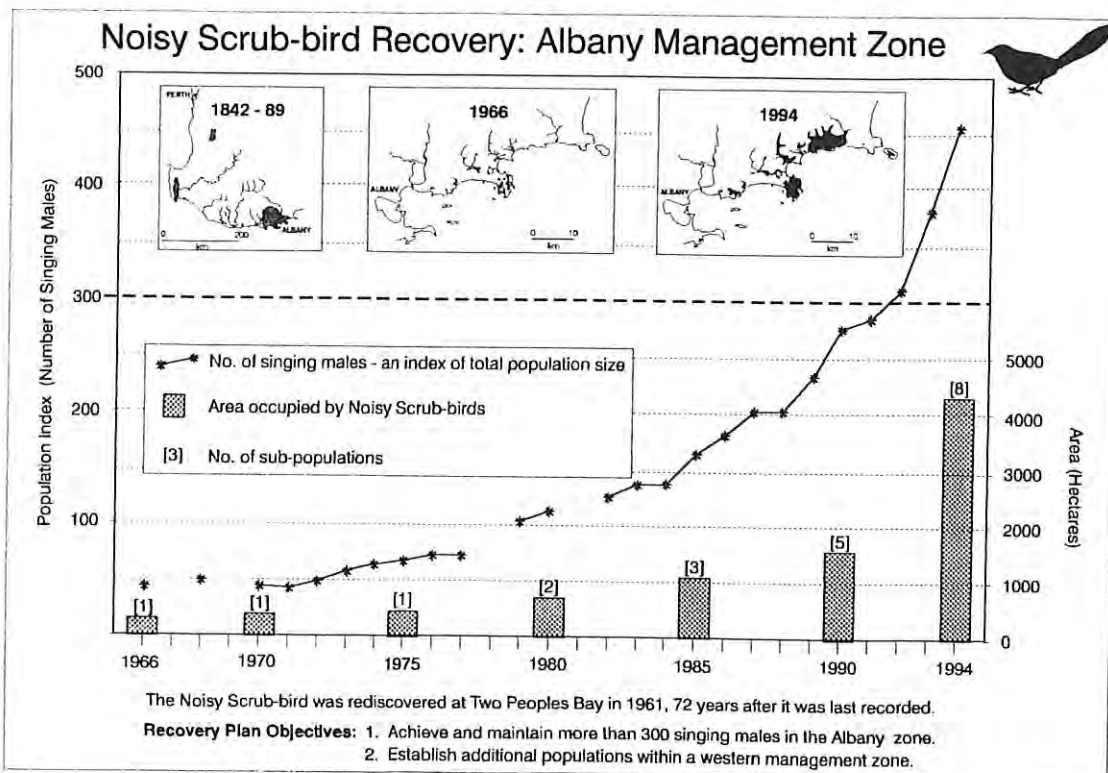
Flora licences issued by the Department increased by 8.8% from those issued in 1993–94. This increase was mostly attributable to the 648 Commercial Purposes licences (to pick on Crown lands) — a rise of 10.2%. Private property Commercial Producers licences continued to increase, rising by 24.3% to 430.

A total of 7 328 fauna (other than damage) licences were issued during the year, an increase of 6.9% over the previous year (see Appendix 14). The principal increases were realised through further increases in emu farming licences, scientific research licences and education/public purposes licences.

There was an increase in the number of licensed aviculturists from 3 632 in 1993–94 to 4 098 in 1994–95, and these licences still made up the majority (55.9%) of fauna licences issued (excluding damage licences).

Thirty-four reports of problem crocodiles were received by officers in the Kimberley region, but none was reported in the Pilbara. Nine saltwater crocodiles were captured and relocated to crocodile farms because of the threat they posed to public safety.

Departmental officers contacted more than 2 300 people about offence-related matters. Advice and guidance were provided to the majority of these people. Verbal warnings were issued as appropriate, and 236 offences were the subject of written reports (see Appendix 16). To date, legal action in 93 matters has been completed.



	1993-94 Reported Offences		1994-95 Reported Offences	
	30-6-94	Revised	30-6-95	
Total Offences			Total Offences	
Reported	256	256	Reported	236
Convictions	42	75	Convictions	11
Dismissals	1	2	Dismissals	0
Letters of Warning	64	117	Letters of Warning	63
No further Action	11	30	No further Action	19
Pending	138	32	Pending	143
Total Fines	\$14 650	\$28 485	Total Fines	\$10 000
Total Costs	\$8 183	\$9 539	Total Costs	\$1 118

Note 1: Figures for 1993-94 reported offences are updated from those included in last year's report under the Revised column. An error occurred last year in the number of offences recorded for 1993-94 in that 256 were reported, not 209 as listed in the 1993-94 report. This has been corrected, above.

Note 2: See Appendix 16 for details of 1994-95 offences.

Area Management

Draft management plans were prepared for the Shark Bay Marine Reserves and Lesueur National Park. These areas have significant nature conservation values that will be managed under the plans and guidelines that have been prepared.

In collaboration with the Department of Agriculture, the digitising and validation of the Beard 1:250 000 mapping of the State's original vegetation distribution is nearing completion. As part of an ongoing project, CALM has continued analysis of CALM-managed estate for the Interim Biogeographical Regionalisation of Australia (IBRA) to determine representativeness of the reserve system.

The Herbarium

CALM's WA Herbarium mounted 7 953 new specimens, adding them to its database. The total number of records in the WAHERB specimen database is now 356 409. One of the highlights of the year was the completion of the specimen database. All of the State collection's specimen data, apart from new incoming material, is now available in electronic form. This completes the first phase; geocode validation and data standardisation of all records have now begun.

The Western Australian Census of Plants (WACENSUS) is an electronic database of WA plant names, both current names and synonyms. The operation is recognised as a high priority project within the Species Resources Section. The aim of the project is to create a corporate database which stores information on the nomenclature of the State flora and provides easy access to names. The database now comprises a total of 14 358 records. The number of names in current use totals 9 539 formally published names, 1 016 manuscript names and 776 informal phrase names.

WACENSUS is a key to the conservation role of the herbarium and is now fundamental to three other departmental databases. These are WAHERB (Western Australian specimen database), SEDIT (a species editing utility database) and the Declared Rare Flora and Priority dataset of the Wildlife Branch. An important recently established protocol is a monthly downloading of WACENSUS to SEDIT, ensuring that other staff databases reflect any relevant name changes. Currently work is in progress to fully link the WAHERB and WACENSUS databases. Once this is completed all new herbarium collections will only be allocated current and valid names, and spelling anomalies of names and authors will be a thing of the past.

A total of 5 000 plant specimens were identified for researchers. There were a total of 960 visitors to the Herbarium. Specimen loans were transacted with 77 national and international institutions, with 5 148 WA specimens being loaned, and 6 154 herbarium specimens received on loan from other herbaria. Also 1 306 herbarium specimens were distributed on exchange to other institutions, and 2 109 herbarium specimens of WA flora were received from other institutions to add to the collection.

The Herbarium library has recorded 1 071 loans and 129 inter-library loans. New accessions total 369 (books, journals, reprints and microfiche). Computer cataloguing is now progressing steadily; 1 542 books are now catalogued and 2 563 entries have been made to the taxonomic index. Full electronic cataloguing of all books is expected by the end of the year.

The public access Reference Herbarium now comprises 8 136 specimens vouchered and linked to a databased specimen in the main herbarium collection. It was consulted by 768 recorded visitors, including CALM staff, tertiary students and amateur and professional botanists.

WACENSUS, the database of plant names for the State, now comprises a total of 12 819 records. The number of names in current use totals 10 809, of which 10 170 are formally published names and 639 are manuscript or phrase names for taxa yet to be formalised. Protocols have been established for maintenance of the Census entries, which are now directly linked to information in the herbarium collection.

The regional herbarium at Manjimup was officially opened during the year, and is linked through the computer network to the main collection. The regional herbaria at Karratha and Albany also continue to provide decentralised access to herbarium facilities, with the Albany herbarium currently housing 12 170 specimens.

Equipment was purchased to establish a regional herbarium at Geraldton. Volunteer support for the herbaria has remained strong through the year.

The Department again assessed the applications to the Remnant Vegetation Protection Scheme under which the Department of Agriculture provides funding assistance for the fencing of remnant vegetation for nature conservation. A total of 85 applications were assessed this year. Sixty-one applications were funded to fence off a total of 3 334 hectares of remnant vegetation. \$228 381 were provided for fencing subsidies, at a cost effectiveness of \$68.50 per hectare protected.

CALM also coordinated the State assessment of the Commonwealth-funded Save the Bush component of the national Landcare program. Forty-nine applications were assessed, and 35 were funded. The funding provided to Western Australia under Save the Bush decreased from \$221 009 in 1993–94 to \$214 085 for 1994–95. A further three projects were funded under the provisions of the new Coast Care Program (\$15 890), and one project received Commonwealth funding under the provision of the Drought Landcare Program (\$41 495). The Drought Landcare funding will be used to fence remnant native vegetation at Wooramel Gorge in the Upper Murchison area. All of these funding schemes provide an important nature conservation contact for the Department with the community, and in particular the Land Conservation Districts. This contact is further strengthened by the continued appointment of a rural nature conservation officer, funded by the Save the Bush program.

ROADSIDE CONSERVATION COMMITTEE

The mapping project for roadside conservation value has continued with support from an ANCA Save the Bush Grant. Maps produced provide Councils, Landcare and community groups with a valuable planning and management tool. By overlaying data from other government agencies, especially CALM and the Department of Agriculture, the value of these maps is further enhanced.

The Committee continued to have close liaison with local government, community groups and government agencies. Displays were mounted at Wagin Woolarama, Dowerin Field Day, the annual Local Government Conference, and Kings Park Wildflower Display. The

Executive Officer also attended a number of country centres to convene roadside mapping workshops or provide information regarding the value and management of roadside vegetation.

A new initiative by the RCC in the past year has been to provide training workshops for local government personnel on roadside conservation matters. With the assistance of the Municipal Training Service, workshops were held in Wickiepin and Morawa. These workshops provide a useful venue for all spheres of local government personnel to disseminate information on roadside management and establish networks with peers and government agencies. Further workshops are planned for the year ahead.

In October 1994 the Executive Officer of the RCC was invited by the NSW Roads and Traffic Authority to travel to Sydney to participate in discussions and planning for the establishment of a Roadside Conservation Committee in NSW.

This year's RCC Roadside Awards, which are presented to individuals or organisations that have illustrated sympathetic management of rail or roadside vegetation, were presented by the Hon K J Minson, then Minister for the Environment, at the Local Government Conference. This conference was held at the Perth Concert Hall and the award ceremony was hosted by Mr John Colwill, ABC Radio gardening expert.

Winners of this year's awards were:

Local Government Roads Category: Mullewa Shire for a roadside regeneration project on the Mingenew–Mullewa Road, including the voluntary setting back of fences by adjoining landholders.

State Government Roads Category: Main Roads Bunbury Division for direct seeding at Pallingup on the SW Highway.

Gravel Pit Rehabilitation: Hamersley Iron Pty Ltd, Dampier Operations This is a new category. It was won by for landform rehabilitation of a section of the company's 386 kilometre corridor containing a road and rail link from the port at Dampier to the minesite inland. The project was carried out by Aboriginal trainees and provided participants with a useful project as a basis for their training.

Forest Resources

Management Program 2

HIGHLIGHTS

- Five business units created (this page)
- A fungal isozyme laboratory established to improve identification of *Phytophthora* isolates (p. 17)
- 2 187 hectares of Tasmanian bluegum plantations established (p. 19)
- 260 hectares of Tasmanian bluegums planted in one of the biggest effluent-disposal plantation projects in Australia (p. 19)
- 16 million seedlings produced by the CALM nursery at Manjimup (p. 20)

OBJECTIVE

The objective of the Forest Resources Management Program is to sustain, regulate and profitably manage the forest resources entrusted to the Department in ways compatible with conservation and other management objectives.

DESCRIPTION

The program includes sustainable harvesting, regeneration, protection and management of native forests and plantations without causing serious long-term effects to nature conservation, water, recreation, landscape or other values; managing the sandalwood industry on Crown land; and developing public awareness, understanding and community support for the Forest Resources Management Program.

FOREST MANAGEMENT

In accordance with a recommendation made in the Report of the Independent Commission to review Public Sector finances, five semi-autonomous business units were established to manage the commercial activities associated with native forests, plantations and the sandalwood industry. Each business unit looks after the initial establishment or regeneration of the forests or woodlands, their silvicultural maintenance, commercial harvesting and timber sales. Details are provided under various headings over the next few pages.

The majority of the work required by the business units is provided by private contractors selected by a public tender process. The balance is provided by CALM's Regional Services Division and other specialist branches using staff and equipment maintained to provide essential fire control requirements for the Department and neighbouring landowners. The business units are required to pay full price for all the resources and services they consume.

Following the calling of tenders, the processing, marketing and export aspects of sandalwood produced from Crown land were restructured on a fee-for-service basis. An increase in the net revenue from the industry has resulted.

A number of legal challenges to the Department's forest management activities were launched during the year. One case and a subsequent appeal which challenged the validity of the *Forest Management Plan 1994-2003* were dismissed by the Supreme Court. Other cases were not resolved by the end of the financial year.

The Commonwealth Government procedure for approving licences to export woodchips in 1995 resulted in significant disruption to forest harvesting activities. In accordance with the National Forest Policy Statement, the State Government has agreed to cooperate with the Commonwealth to reach a Regional Forest Agreement covering all south-west forests. Unfortunately, the

SILVICULTURE

The Jarrah Forest

Harvesting in the jarrah forest is undertaken using a variety of silvicultural objectives (silviculture is the art and science of establishing and tending forests). Where there is a predominance of vigorously growing trees, the stand is thinned; where this is not the case the stands are harvested with the object of regenerating them. This is achieved either by harvesting in a way that 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 by selective cutting. In some areas harvesting precedes clearing for mining or the construction of public utilities such as reservoirs or power lines. Cleared areas are not regenerated immediately but where possible are rehabilitated later.

The Karri Forest

Karri forest harvesting is also dependent on the structure and age of the existing forest, though it is less complex than jarrah harvesting. Patches of even-aged and vigorously growing forest 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 by commercial harvesting. No further tending is necessary.

Mature forests and forests of mixed structure created by past logging activities are harvested under a clearfelling system. Regeneration following harvesting is achieved within the following year or two by means of 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.

procedure laid down by the Commonwealth for finalising a Regional Forest Agreement is complex and progress has been slow.

A Farm Forestry Unit was established to integrate research projects with extensive planting of mallee eucalypts in the Wheatbelt. Such tree-planting activities in the drier parts of the State will complement the expanding commercial tree-growing activities on cleared agricultural land where the annual rainfall averages more than 600 mm.

A welcome increase in private investment in commercial hardwood plantations has occurred which, together with overseas investment in two projects managed by the Department, will result in an estimated 24 million tree seedlings being planted in the 1995 season.

NATIVE FOREST

State Forest Resources Business Unit

The State Forest Resources Business Unit is responsible for the commercial harvesting, associated regeneration

and commercial sales of log timber from native hardwood on State forests and timber reserves in accordance with the *Forest Management Plan 1994-2003*.

In 1994, 14 100 ha of jarrah forest were harvested for the following reasons:

	Hectares
Thinning	2 430
Release of regeneration	5 110
Establishment of regeneration	3 550
Single tree selection	1 040
Selective	1 700
Other	270
TOTAL	14 100

Regeneration of 2 810 ha of the above area was achieved by the commercial harvesting operations. Regeneration of a further 8 110 ha harvested in this or previous years was completed by follow-up treatment.

In 1994, 1 440 ha of karri forest were clearfelled or cut to seed trees. Regeneration was completed on 2 300 ha harvested in either this or previous years by the following methods:

	Hectares
Hand planted	1 350
Natural seed fall	950
TOTAL	2 300

Disease and Pests in Native Forest

Dieback disease (*Phytophthora cinnamomi*) must be mapped prior to forest-based operations and the provision of mining and public utilities such as power lines.

In 1994–95, 29 400 ha (100%) of the shadowless photography program over areas of future forest operations was achieved and photographs covering 17 400 ha were acquired on behalf of Alcoa of Australia.

CALM staff mapped the presence and predicted impact of dieback on 15 290 ha of jarrah forest and rechecked 11 310 ha previously mapped. Alcoa-sponsored interpreters under CALM supervision mapped 6 350 ha and rechecked 80 ha.

A further 1 940 ha were mapped on a recoup basis for mining companies and others providing community services (e.g. roads, power lines and telecommunication).

A fungal isozyme laboratory has been established to improve the work of CALM's Vegetation Health Service. This facility permits more reliable and more rapid identification of isolates of *Phytophthora*. CALM now has a firm basis on which to evaluate both the extent of variability in *P. cinnamomi* and the importance of other species of *Phytophthora* as pathogens of native vegetation. So far the laboratory has revealed that species groups previously designated (on morphological grounds) *P. citricola*, *P. cryptogea/drechleri* and *P. megasperma* contain two or more species.

Fire in Native Forests

Below-average rainfall in winter 1994 preceded the driest spring, summer and autumn period in 34 years. Higher than average drought throughout the fire season resulted in very dry forest fuels. This saw significant increases in the severity and numbers of wildfires and reduced opportunities for fuel reduction burning in the Swan Region. During the 1994–95 fire season CALM firefighters attended 197 fires which burned over 10 000 ha of the State's native forests.

Wood Utilisation

Manufacturing of VALWOOD® continued in a pilot plant at the Wood Utilisation Research Centre at Harvey. Further stability testing was carried out, including a comparison of VALWOOD® with large boards which were either face-glued or edge-glued.

The Department called tenders for a commercial interest to manufacture, market and install CALM solar-assisted kilns. Commercial drying on a fee-for-service basis was done to assist sawmillers who plan to install kilns of their own as part of the requirement by the Department for increased value-adding in the timber industry.

Basic research was done at Harvey on the assessment of wood quality and the working properties of regrowth karri and karri oak. Similar research with Wheatbelt-grown trees is intended to find species suitable for tree-planting by farmers, which can provide a commercial return as well as ameliorating salinity effects. Staff are also involved in the Goldfields Timber Research Project, which has the objective of developing a viable specialty timber industry based on a large area of woodland which has regenerated since the early goldmining operations.

Hardwood Sawlog and Veneer Log Production from Crown Land 1994–95

Species	Premium and high grade feature logs	1st Grade Sawlogs	Other logs	Veneer logs	Short logs	Total
	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)
Jarrah	3 124	364 912	94 213		1 144	463 393
Karri	795	170 216	74 558	142	17	245 728
Marri	85		12 080			12 165
Other Species	186	4 049	731			4 966
Total	4 190	539 177	181 582	142	1 161	726 252
	(tonnes)	(tonnes)	(tonnes)	(tonnes)	(tonnes)	(tonnes)
Jarrah	4 084	472 985	121 163		1 418	599 650
Karri	985	211 059	91 449	175	21	303 689
Marri	105		14 979			15 084
Other Species	218	4 361	951			5 530
Total	5 392	688 405	228 542	175	1 439	923 953

Hardwood Chipwood Production from Crown Land and Private Property 1994-95

	Crown Land		Private Property		Total	
	(m ³)	(tonnes)	(m ³)	(tonnes)	(m ³)	(tonnes)
Marri Logs:-						
bolewood	505 311	618 338	49 230	60 789	554 541	679 127
branchwood	344	427			344	427
Karri Logs:-						
bolewood	158 997	193 263	8 989	10 908	167 986	204 171
branchwood	7 922	9 824	58	72	7 980	9 896
Other Logs:-						
bolewood			529	656	529	656
branchwood					0	0
Total	672 574	821 852	58 806	72 425	731 380	894 277

Log Timber Sales

The quantity of log timber harvested from Crown land was 1 450 056 m³, comprising veneer logs, sawlogs, specialty logs, poles, fencing, firewood and chiplogs.

Residue Production 1994-95 (tonnes)

Log Source	1993-94	1994-95
Forest Residue		
from Crown land		
- Firewood	54 090	36 871
- Charcoal logs	57 052	95 423
from Private property		
- Firewood	339	1 294
- Charcoal logs	4 198	2 952
TOTAL	115 679	136 540
Sawmill Residue		
from Crown land	386 330	* 218 388
from Private property	223	476
TOTAL	386 553	218 864

* July-Dec 1994 figures only, Jan-June 1995 data not yet available.

Sawmill figures for 6 months July-Dec 1993 published in the 1993-94 Annual Report have been updated to include January to June amounts.

Above data includes all sawmill residue produced for:- Solid wood, Bark, Sawdust and Shavings, Wood Chips, Edgings, and Other — for sale, own use and not used.

Sandalwood Business Unit

Sandalwood is harvested throughout the pastoral and arid areas of the State under an approved management plan, ensuring that the industry and species are both sustainable.

In 1994-95, sandalwood industry restructuring was completed with the successful introduction of a new processing and marketing contract. Harvesting and carting was also conducted on contract, including full-time contractors, part-time pastoral and Aboriginal community contractors.

New initiatives under the Sandalwood Management Plan implementation and the Sandalwood Conservation and Regeneration Program include the purchase of Goongarrie Pastoral Lease to achieve conservation through reservation, and expansion of the Indian sandalwood trial plantation in the Ord irrigation area. Improved inventory techniques (management and resource level inventory) were developed to permit greater planning of operations.

Softwood Production from Crown Land 1994-95

SPECIES	SAWLOGS				Sub-total Sawlogs	Veneer logs	Industrial Wood	Pine Rounds	Grand Total
	Scanner Logs	2nd Grade	3rd Grade	Small					
RADIATA m ³	169 500	2 870	450	17 003	189 823	3 721	191 057	4 891	389 492
	tonnes	169 500	2 870	450	17 003	189 823	3 721	191 057	4 891
PINASTER m ³	15 958	1 733	1 045	25 884	44 620	1 722	141 347	1 664	189 353
	tonnes	15 958	1 733	1 045	25 884	44 620	1 722	157 321	1 664
TOTAL m ³	185 458	4 603	1 495	42 887	234 443	5 443	332 404	6 555	578 845
	tonnes	185 458	4 603	1 495	42 887	234 443	5 443	348 378	6 555

The production of sandalwood for 1994–95 is shown below compared with that for 1993–94.

	1993–94	1994–95
From Crown land		
green sandalwood	859	1 024
dead sandalwood	927	871
From Private Property		
green sandalwood	85	91
dead sandalwood	125	107

Exports for 1994–95 totalled 1 568 tonnes compared with 2 032 tonnes the previous year.

PLANTATIONS

The plantations sub-program consists of a group of three business units. The group aims to manage the State's plantation resources in such a manner that an adequate sustainable return is yielded.

Softwood Business Unit

A total of 1 465 ha of State-owned coniferous plantation forest was established during 1994. This included replanting of 1 015 ha following harvesting in existing plantations on public land and 395 ha established on private property under sharefarm agreements.

The total area of State-owned coniferous plantation at 31 December 1994 was 72 230 ha (see Appendix 3 for details).

During 1994–95 the Department began a new initiative to establish *P. pinaster*, on a sharefarming basis, on the Swan Coastal Plain north of Perth. Private afforestation companies reported the establishment of 100 ha of *P. radiata* as commercial plantation and 45 ha of *P. radiata* and *P. pinaster* incorporated into farmland as timberbelts. The total area of private pine plantations reported to the Department to 31 December 1994 was 16 688 ha.

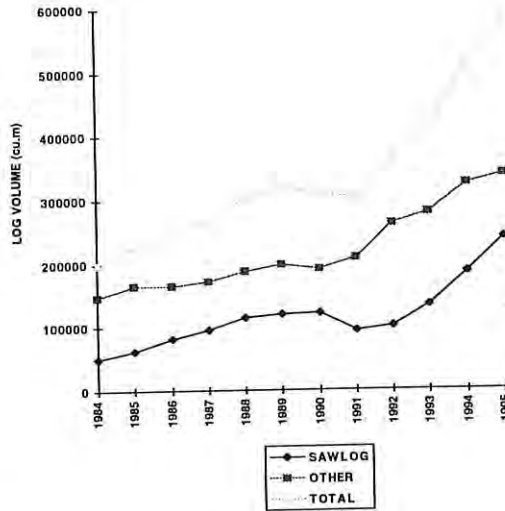
As part of the Department's strategy to optimise growth and returns from its existing plantation estate, some 17 500 ha were fertilised.

Work began on the development of a new computer system to model the growth and yield of pine. The new model will improve CALM's capacity to predict the consequences of changes to silvicultural practices on future timber supplied. The first stage of the project has involved the calibration of a new site productivity rating system for all CALM pine plantations.

During the summer of 1994–95, 1 160 ha of plantation were burnt in 73 wildfires. This amounted to 1.6% of State-owned plantations. These were the worst plantation fires in the Department's history. The impact of the fires

on future supplies will be clearer when a major inventory of the plantations is completed in 1995–96. Salvage logging of the burned estate was completed and potential losses minimised.

The demand for all softwood log products continued to be strong during 1994–95. As a result there was continued growth in sales (see graph). The future for sales looks good and the volume of sawlogs should continue to increase as capitalisation at the Wespine Sawmill continues.



Hardwood Plantation Business Unit

During the winter of 1994 CALM established a total of 2 187 ha of Tasmanian bluegum plantations, including 1 836 ha on behalf of overseas investors Albany Plantation Company of Australia Pty Ltd and Hansol Australia Pty Ltd.

Approximately 260 ha of bluegum were established on behalf of the Water Authority of Western Australia on a site near Albany. The site has been designed for the disposal of the town's effluent. This project is one of the biggest effluent-disposal plantation projects within Australia and certainly the biggest based on eucalyptus plantations. A further 42 ha were established by CALM in the Upper Denmark Catchment, along with 35 ha by the Farm Forestry Unit.

The total area of State-managed hardwood plantation at 31 December 1994 was 17 868 ha (see Appendix 4 for details).

CALM, in conjunction with farmers, established 771 km of eucalyptus oil species hedge plantings at a range of sites between Morawa and Esperance.

Production from CALM-Owned Hardwood Plantation

SPECIES		Sawlogs	Veneer	Industrial wood	Particleboard Logs	Chiplogs	Fencing material	Firewood	TOTAL
Globulus	m ³	463	23	752	101	2 076			3 415
	tonnes	551	27	895	121	2 429			4 023
Muellerana	m ³	125							125
	tonnes	149							149
Mallet	m ³	479					271	1 327	2 077
	tonnes	594					335	1 327	2 256
Total	m ³	1 067	23	752	101	2 076	271	1 327	5 617
	tonnes	1 294	27	895	121	2 429	335	1 327	6 428

The area of *E. globulus* planted in plantations (larger than 5 ha) reported by commercial growers and contractors for 1994 was 8 900 ha. Of this about 1 000 ha was designed in belts, strips or as small integrated plantings to accommodate other concurrent primary production activity in association with the trees. A further 140 ha were planted to mixed commercial eucalypt species. The total area of private hardwood plantation reported to the Department at 31 December 1994 was 28 235 ha.

Plant Propagation Business Unit

Orders placed at the Plant Propagation Centre, Manjimup for the 1994-95 season were as follows:

Hardwoods	12 339 010 seedlings
Softwoods	3 676 850 seedlings

Orders by Species:

Species	CALM Use	Private Use	Total
<i>E. globulus</i>	98 848	3 761 744	3 860 592
Western Bluegum	4 000	2 406 812	2 410 812
<i>E. diversicolor</i>	4 298 826	2 588	4 301 414
Oil Mallees		1 003 584	1 003 584
<i>P. radiata</i>	2 425 500	26 500	2 452 000
<i>P. pinaster</i>	980 000	244 650	1 224 650
Mixed species	239 644	523 164	762 808
TOTAL	8 046 818	7 969 042	16 015 860

The above figures underline the trend of continuing hardwood investment in the private sector, with the Western Bluegum being produced in large amounts for commercial use for the first time. They also highlight CALM's commitment to regeneration of native hardwood forests. Replanting in State-owned softwood plantations is reflected in the softwood seedling order of 3.4 million seedlings.

The CALM Nursery at Narrogin had orders of 1.15 million seedlings, with part of the order filled at Manjimup. The main market for Narrogin is for rural re-vegetation programs; Narrogin produced 600 000 oil mallee seedlings as part of their order. Oil mallee production from CALM nurseries is expanding. Oil mallees are being developed as a farm tree-crop of the Wheatbelt in a project managed by CALM. The program seeks to develop an industry producing eucalyptus oil in the Wheatbelt. Tree crops in this area could also be a major force in the treatment of land degradation.

The nursery at Broome produced 20 000 seedlings for sale during the 1994-95 season.

Seed Handling

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

Other than seed orders within Australia, seed was exported to Fiji, Kuwait, New Zealand and Thailand.

A total of 1 058 kg was acquired.

<i>E. diversicolor</i>	164 kg	<i>P. pinaster</i>	130 kg
<i>E. marginata</i>	50 kg	Leguminosae species	
<i>E. calophylla</i>	160 kg	(e.g. Acacias, Kennedias)	174 kg
<i>E. globulus</i>	59 kg	Proteaceae species	
Other Eucalyptus species	185 kg	(e.g. Banksias, Hakeas)	5 kg
<i>P. radiata</i>	79 kg	Other species	52 kg

Seed disbursement (mostly to nurseries) totalled 1 038 kg.

Orchards

A total of 3 000 *E. globulus* (Western Bluegum) grafts have been planted over an area of 9 ha at the Manjimup Plant Propagation Centre. Furthermore, an additional 100 *E. camaldulensis* (river gum) grafts have been planted for salt tolerance and form.

Sawn Production From Crown Land and Private Property 1993-94

	Hardwood m ³	Softwood m ³	Total m ³
Sawn Timber Production			
- Crown land	23 1 179	71 484	302 663
- Private property	4 608	15 173	19 781
Sawn Sleeper Production			
- Crown land	19 928		19 928
- Private property	397		397
Total	256 112	86 657	342 769

Final figures for 1994-95 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.

Log Production From Crown Land and Private Property 1994-95

TYPE	Crown Land		Private Property		Total	
	(m ³)	(tonnes)	(m ³)	(tonnes)	(m ³)	(tonnes)
SAWLOG TIMBER ⁽¹⁾						
Jarrah	463 393	599 650	3 045	3 865	466 438	603 515
Karri	245 728	303 689	3 354	4 129	249 082	307 818
Marri	12 165	15 084	1 782	2 210	13 947	17 294
Blackbutt	933	1 198	212	268	1 145	1 466
Wandoo	851	1 119	454	563	1 305	1 682
Sheoak	3 051	3 051	20	20	3 071	3 071
Other	131	161	19	23	150	184
Total Native Hardwood	726 252	923 952	8 886	11 078	735 138	935 030
Total Exotic Hardwood	1 090	1 321	555	633	1 645	1 954
Pine	239 886	239 886	59 777	59 777	299 663	299 663
TOTAL SAWLOGS	967 228	1 165 159	69 218	71 488	1 036 446	1 236 647
OTHER LOG MATERIAL ⁽²⁾						
Hardwood ⁽³⁾	679 502	830 256	92 896	112 358	772 398	942 614
Softwood	338 959	354 933	86 931	87 184	425 890	442 117
Total Other Material	1 018 461	1 185 189	179 827	199 542	1 198 288	1 384 731
TOTAL LOG TIMBER	1 985 689	2 350 348	249 045⁽⁴⁾	271 030⁽⁴⁾	2 234 734	2 621 378

⁽¹⁾ Sawlog timber from all sources, including veneer, but not including chiplogs, particleboard, industrial wood, firewood, fencing material, poles, piles and minor forest products.

⁽²⁾ Includes chiplogs, particleboard logs, industrial wood, pine rounds.

⁽³⁾ Hardwood residue also includes:-

	m ³	tonnes
Crown land		
Globulus chiplogs	2 076	2 429
Globulus industrial wood / particleboard logs	853	1 016
Marri industrial wood / particleboard logs	4 000	4 960
Private property		
Globulus chiplogs	33 413	39 094
Marri particleboard logs	677	839

⁽⁴⁾ Includes 49 395 m³ (49 648 t) produced by CALM.

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

Tourism and Recreation

Management Program 3

HIGHLIGHTS

- Major visitor facilities planned for the south-west forests: the Tree Top Walk and the Great Southern Tree Drive (p. 25)
- Extensive tourism and recreation facility upgrade and redevelopment in the south-west (pp. 25–26)
- Aboriginal Nature Based Tourism, Education and Training Unit established (p. 29)
- Substantial funds generated for the program from external agencies (p. 30)

OBJECTIVE

The objective of the Tourism and Recreation management program is to identify, provide and maintain opportunities and services to the community which allow them to enjoy the wildlife, lands, waters and resources entrusted to the Department without compromising conservation and other management objectives.

DESCRIPTION

This program deals with tourism and recreation in the natural environment on lands and waters managed by CALM. It includes preparing and implementing management plans and the provision, management and maintenance of appropriate access, recreation opportunities and facilities, protecting visitors and facilities from fire, training of staff and CALM volunteers, designing and initiating educational information and activities concerning tourism and recreation in the natural environment, and developing public awareness, understanding and support for the tourism and recreation management program, services and policies.

RECREATION PLANNING AND DESIGN

Area and Regional Plans

Final management plans for West Cape Howe National Park and Yalgorup National Park have been approved by the Minister for the Environment and will be gazetted

later this year. The final Goldfields Region Management Plan was approved by the Minister and gazetted early in 1995. Draft management plans covering more than five conservation reserves were released for public comment in accordance with CALM Act requirements. Work continued on a further 20 plans. All of these plans provide recreation and conservation strategies. Particular effort has been focused on the Midwest Region, with plans in preparation for the Shark Bay World Heritage Area.

The following tables list the area of each tenure category managed by CALM for which management plans are now completed. It also lists the status of plans which are in preparation or already approved as at 30 June 1995.

Areas Covered by Management Plans

Tenure classification	Area covered by plan (ha)	Total tenure area (ha)	% covered
National Park	603 840	4 870 828	12.4%
Nature Reserve	17 519	10 781 954	0.2%
Marine Reserve	235 064	1 145 940	20.5%
Other Reserves	51 683	262 554	19.7%
Total CALM			
Conservation Estate	908 106	17 061 276	5.3%

Regional Management Plans

CALM region	Area (millions of ha)	% of WA (total area)
Swan	2.1	0.8%
Central Forest	1.8	0.7%
Southern Forest	1.4	0.6%
South Coast	20.0	7.9%
Goldfields	82.0	32.5%
Total	107.3	42.5%

Note: Regions are as delineated in Forest Management Plan 1994–2003 for Forest Regions

CALM Management Plans: Status at 30-06-95

Approved management plans	Date of gazettal	Final plans in preparation	Draft plans in preparation
NATIONAL PARKS			
Cape Range	23-03-90	Purnululu	Karijini
Fitzgerald River	19-06-91	Nambung	Serpentine
Leeuwin Naturaliste	24-04-89	Lesueur	Stirling/Porongurup
Shannon & D'Entrecasteaux	08-01-88		François Peron
Walpole-Nornalup	29-09-89		
Yanchep	29-09-89		
John Forrest	19-08-94		
West Cape Howe	(not yet gazetted)		
Yalgorup	(not yet gazetted)		
NATURE RESERVES			
Benger Swamp	12-02-89	Two Peoples Bay	Lake Muir Unicup
Dampier Archipelago	31-08-90	Coomallo	Perup
Forrestdale Lake	10-07-87	Wanjarri	Esperance Lakes
Mooradung	21-02-86	Wanagarren	
Nature Reserves of the Shire of Wyalkatchem	21-02-86	Nilgen	
Nature Reserves of Shires of YorkNortham	10-07-87	South Beekeepers	
MARINE PARKS			
Ningaloo Marine Park	24-11-89	Shark Bay Marine Park	Shark Bay Terrestrial
Marmion Marine Park	15-05-92	Shoalwater Marine Park	Swan Estuary
OTHER RESERVES			
Lane Poole Reserve	14-12-90	Leschenault Peninsula	Canning River Regional Park
Matilda Bay Reserve	21-05-93	Monkey Mia	Shark Bay World Heritage
Shoalwater Islands	20-10-92		
STATE FOREST			
Logue Brook Reservoir and Catchment Area	16-03-90	Dryandra Woodlands	
Waroona Reservoir and Catchment Area	16-03-90		
REGION PLANS			
Central Forest Region	12-02-88		Kimberley Region
Northern Forest Region	12-02-88		Wheatbelt Region
South Coast Region	13-03-92		
Southern Forest Region	12-02-88		
Goldfields Region	24-02-95		

Landscape Management

Landscape resource mapping was completed for Swan, Central and Southern Forest Regions. All data was digitised for the Department's Geographic Information System and compilation maps produced for distribution to the regions. Landscape assessments were undertaken with the Department of Planning and Urban Development and the Shire of Busselton for the Ridgeland, Smiths Beach and Wyadup areas to determine appropriate development levels for critical areas close to the Leeuwin-Naturaliste National Park. A report which details the landscape character types of Western Australia, titled *Reading the Remote*, was published and distributed to supporting agencies, libraries and CALM personnel.

Draft guidelines were prepared for prescribed burning, roading and scrub rolling to minimise landscape impact and ensure amenity values are not compromised from operations and new works. The first phase of an integrated land-use management plan was completed for Alcoa's Wagerup farmlands and refinery. Landscape planning support was also provided for a number of park management and timber harvesting plans, afforestation and farming projects.

Recreation Site and Facility Plans

Recreation master plans were prepared this year for Lake Cave Eco-Museum (Margaret River), Logue Brook Caravan Park (Harvey), Little Lagoon and World Heritage

Centre (Denham), Peron Homestead (François Peron National Park), Coalseam Conservation Park (Mingenew), Matilda Bay Reserve (Perth), Perup Forest Ecology Centre (Perup Nature Reserve), the Great Forest Trees Drive (Shannon National Park) and Narrogin Nursery.

Recreation site development plans were completed and are progressively being implemented for the Wellington Discovery Forest (Collie), Stepping Stones at Black Point (D'Entrecasteaux National Park), Wrights Bridge (Nannup), Mirima (Hidden Valley), The Pinnacles (Nambung National Park), Karijini Visitor Centre and Mt Bruce Trail (Karijini National Park), Rocky Pool and Glen Brook Dam (John Forrest National Park), Point Ann (Fitzgerald River National Park), Bluff Knoll and Moingup Springs (Stirling Range National Park), Tree in Rock, Stirling View and Castle Rock (Porongurup National Park), Hilltop, Coalmine and Conspicuous Cliffs (Walpole-Nornalup National Park), Diamond Tree (Manjimup), Bicentennial Tree and Gloucester Tree (Pemberton), River Bend Picnic Area (Coalseam Conservation Park), Old Mill Dam (Dryandra Woodland) and entry stations for François Peron, Kalbarri, Millstream and Karijini national parks.

Conceptual plans were prepared for Boddington Goldmine, Ludlow Tourist Village, Stromatolite Interpretation Area (Yalgorup National Park) and planting at Shannon townsite. Assistance was provided for the preparation of several draft area management plans: Lesueur-Coomallo National Parks, Esperance Lakes Nature Reserve, Nambung National Park, Stirling Ranges National Park, Porongurup National Park and Alfred Cove Nature Reserve. Design and construction drawings were prepared for a wide range of building and furniture items, including information shelters, a self-registration envelope dispenser, an entry sign for Shark Bay World Heritage Area, camping kitchens, self-registration stations, fee collection pillars, hikers' huts, composting toilets, boardwalks and birdhides, the Matilda Bay Rotunda, and Yanchep entry pergola.

An Advanced Recreation Planning and Management course was conducted for CALM staff at Point Walter.

TOURISM AND RECREATION OPPORTUNITIES

This year, there was significant improvement of facilities to enhance recreation opportunities and services for visitors. Major projects included the following.

South Coast: Campsites were redeveloped at Point Malcolm and Quoin Head. Visitor facilities were improved at two campsites in Stokes National Park and

picnic facilities provided at Woody Lake Nature Reserve. A platform and ladder were installed at Cocklebidy Cave and the carpark was demarcated. Thirty-two kilometres of walk track and 426 kilometres of road and verge maintenance were carried out throughout the region. Six kilometres of new road were constructed in Fitzgerald River National Park and a new carpark constructed at Point Ann. The Culham Inlet Road was reopened and the ranger station at East Mt Barren was manned. Two Aboriginal staff were employed under the Community Development Employment/Department of Education, Employment and Training/Department of Conservation and Land Management (CDC) program to carry out maintenance in national parks. Visitor fees were introduced at five national parks. Three hundred kilometres of firebreak were constructed and maintained and 2 900 hectares of prescribed burning undertaken in national parks. An interim lease was finalised for private recreation developments on Woody Island at Esperance.

Southern Forest: Diamond Tree was repegged and the site renovated with new carparks, toilets and picnic tables. Hartley picnic site was redeveloped and access improved with new trails and interpretation signage at Perup Forest Ecology Centre. Work began on upgrading the site of the Bicentennial Tree whilst site rehabilitation and improvements were completed at the Cascades. A new bridge and boardwalk were installed at the waterfalls in Beedelup National Park and roading and carpark upgrades carried out in D'Entrecasteaux and Shannon National Parks. The Valley of the Giants benefited from the installation of protective boardwalks around old tingle trees, construction of information shelters and completion of planning for the Great Tree Top Walk. Carpark upgrades and boardwalks and stairs were installed at Coalmine Beach and Conspicuous Beach. Trails and improvements were also constructed at the Hilltop Big Tingle Tree.

Central Forest: At Leeuwin-Naturaliste National Park, parking areas and a universal access walktrail were constructed at Ellensbrook. Twelve and a half kilometres of walktrail were upgraded and the Cape Naturaliste walktrail will be completed by this summer. One abseiling site was improved with extensive steps and surface hardening. The Wellington Discovery Forest parking areas, walktrails and signposting were completed and work was begun on the construction of the Discovery Centre. The second stage of Wrights Bridge picnic and camping ground was started, and Black Point was upgraded with the provision of toilets, carparking and access steps to the rocks and beach. The Golden Valley Homestead has been restored and negotiations are under way to have the historic Ferndale Homestead improved through a lease agreement with the private sector.

Swan Region: The primary focus for the region was to continue implementing and developing the Perth Outdoors strategy to encourage more people to get outdoors and enjoy nature. Yanchep National Park continues to be upgraded with the restoration of McNess House as a visitor information centre, extensive improvements to the koala viewing compound, parking and roading for cars and buses, and construction of a new entry station. A \$1 million New Works Opportunities program involving up to 80 people began and will make a significant contribution to the standard of visitor facilities. The Hills Forest Activity Centre in Mundaring continues to be expanded through assistance by Westrek and community groups. Walktrails, campsites and lookouts have been constructed. Track construction and maintenance were undertaken in all national parks and an Aboriginal Heritage Trail was completed in Walyunga National Park. The Bibbulmun Track redevelopment project began with the assistance of the Ministry of Justice and prisoners from Wooroloo and Bandyup Prisons. Penguin Island is being upgraded with the construction of a penguin-viewing facility and design for a research and management facility supported by Western Mining Corporation. Matilda Bay Reserve was upgraded with new barbecues, seating, walkways, toilets and irrigated lawns. Two hundred metres of terraced retaining wall were constructed to protect and improve the foreshore. A commemorative memorial gazebo donated by the Catalina pilots and crew of World War II was erected on the reserve.

Wheatbelt: Dryandra Woodland Management Plan was finalised after reviewing comments from the public on the draft release last year, and is expected to be released this year. Work began on Dryandra Audio Drive and there was continuing liaison with the Lions Dryandra Forest Village (Inc). Old Mill and Congelin Dam were upgraded.

Goldfields: Care and maintenance of recreation sites continued with graffiti removal and visitor signposting at Cave Hill. The Mt Elvire Homestead upgrade continued and the facility was used for *LANDSCOPE* tours. Kalgoorlie Arboretum Bridge was completed with the assistance of LEAP-funded workers. Yeo Lake Homestead was upgraded and now acts as a remote area shelter.

Midwest: Stage one of a recreation development at Coalseam Conservation Park was completed with road upgrades, toilets, picnic facilities and information displays. A further three kilometres of road were sealed in Nambung National Park and the carpark was significantly upgraded. Efforts to drill for borewater supplies to enable flush toilets to be installed were unsuccessful but other options are being considered.

Shark Bay World Heritage Area visitor sites continued to receive upgrading and signage with completion of works at Peron Homestead and Big Lagoon in François Peron National Park. In Kalbarri National Park maintenance of 157 kilometres of fire access tracks was completed. The visitor entry to the park was upgraded and an automated ticketing machine installed which is proving to be a cost-effective system for collecting visitor fees.

Pilbara: Karijini National Park Visitor Centre was re-established in conjunction with the Aboriginal Economic Development Organisation, Karijini Aboriginal Corporation and the Pilbara Development Commission. Works continued on the Mt Bruce Trail with assistance from the Australian Trust for Conservation Volunteers, Hamersley Iron and the Federal Department of Tourism. A memorandum of understanding for joint management of Commonwealth waters of the Ningaloo Marine Park was signed by CALM, Fisheries Department and the Australian Nature Conservation Agency and their respective Ministers, enabling CALM to carry out effective integrated management of the park with the adjacent Cape Range National Park. Commercial operations licences were issued for whale shark tourist operators and a research program initiated. Further research was conducted on the abundance of *Drupella cornus* infestation of the reef and influence of human interaction with turtles at North West Cape.

Kimberley: The Ibis Aerial Highway that provides air linkages to many of the Kimberley's most attractive tourist destinations is fully operational, with Mt Hart Station, Bells Creek campground, Mango Gardens campground being completed. Scenic helicopter flights are now conducted at Bell Gorge. The West Kimberley Environment and Education Centre is nearing completion and the route approved for a dune access track to Cable Beach. New information bays were installed and carparking facilities significantly upgraded. Mirima National Park roads were upgraded and information bays installed at Parrys Lagoon Nature Reserve, and the Kununurra Arboretum walking track was completed.

Commercial Tourism Interests

CALM increasingly calls for expressions of interest from the private sector to deliver services and opportunities for visitors. Leasing and licensing are the preferred means of meeting the rising demand for services, ensuring that financial contributions flow directly to CALM to assist the expense of managing the natural resource. CALM, as custodian of our natural resources, identifies the needs and standards for tourist services and then proceeds to secure private sector cooperation and involvement in their delivery.

Commercial leases for visitor services have been finalised for Woody Island Nature Reserve and Hamelin Bay Caravan Park. Negotiations are continuing with proponents for Logue Brook Caravan Park, Dwellingup Caravan Park, Yanchep Inn, John Forrest Tavern and Tearooms and Pickering Brook Ropes Course site. During the year some difficulties arose with the Yanchep Inn lessees. CALM terminated the lease and installed a caretaker manager at the Inn. The caretaker will continue to provide a skeleton service until an alternative arrangement can be made. A lease was finalised for the Royal Perth Yacht Club and negotiations for a lease renewal are continuing with the Royal Freshwater Bay Yacht Club.

All private tour operators conducting commercial tourist activities on conservation areas are required to obtain a licence in accordance with the CALM Amendment Regulations 1993. CALM has received, in response to public advertisements this year, expressions of interest to conduct tourist activities in Marmion Marine Park. The submissions covered both existing operations and new proposals, and negotiations with proponents are continuing.

An 'experience pass' system was introduced for licensed whale shark tours in Ningaloo Marine Park. Tour operators issue the passes to each paying passenger. The passes explain CALM's role in managing whale shark tourism and how licence charges assist in paying for whale shark management and research programs. The passes are high-quality collectables and are linked to a brochure designed to provide passengers with interpretive information and, through a tear-off questionnaire, elicit feedback on visitors' experience.

At 30 June 1995, a total of 146 commercial tour operators were licensed with CALM. This is an increase of 82 operators or 128 per cent over the previous year.

CALM continued its attention to nature-based tourism on CALM-managed lands and waters. A draft directory of investment opportunities was prepared during the year and it is expected that will be finalised and released in the latter half of 1995.

Leasing and Land Administration

The review of rental fees for agreements such as forest leases, gravel leases and apiary site permits continued. Approximately eight new forest leases and 10 short-term grazing leases were issued. Maintenance of forest and gravel lease registers continues. The number of apiary site permits issued numbered approximately 200 with

the total number of permits being 2 703. Approximately 272 permits were transferred and 83 permits cancelled. Prosecution action has been taken against 13 individuals for offences in respect of the CALM Act, its Regulations or National Parks Authority Regulations. Some of these are still pending final outcome. A number of other offences were processed resulting in a warning. Offences included firewood removal, unauthorised entry into dieback quarantine areas, log delivery note details, and conduct in national parks.

Bibbulmun Track Project

The Bibbulmun Track Project was established by CALM in October 1993 to oversee a significant upgrade, realignment and extension to the track, WA's only true long-distance walk. The future track will deviate away from its current course in many areas, ensuring that it traverses the most scenic and interesting locations on the journey from Albany to Perth.

This financial year has seen the project progress from an early planning stage to detailed route finalisation and the initial stages of construction. A joint venture involving the Ministry of Justice enabled construction of the first new campsite and associated trails during spring of 1994. This work, carried out by prisoners from Woorlooloo and Bandyup Prisons, was subsequently dedicated by the Hon Premier on 8 November 1994.

The joint venture has continued, with prisoners prefabricating campsite facilities in a range of prison workshops. This has led to a considerable cost saving for the project.

Construction work is also occurring in the northernmost section of track, from Kalamunda to the Brookton Highway.

A LEAP project based in Albany began work on the southernmost campsite and section of the new track in March 1995. A range of community meetings have taken place throughout the south-west, offering local people the opportunity to have input to the project, and establishing the basis for future community-based work programs on the track.

The Bibbulmun Track Project enjoys the support of many corporate sponsors, including Cullity Timbers, Worsley Alumina, Paddy Pallin, Mountain Designs, OKA Motor Company and Alcoa Australia. In addition, members of various bushwalking clubs spent a large number of days helping finalise the route. This broad-based community support has been crucial to the project.

VISITOR INFORMATION SERVICES

CALM staff were trained in visitor information and interpretation as part of the Advanced Recreation, Planning and Management Course at Point Walter. CALM's Ecology Courses continued to attract interest. At Dryandra 30 people attended two courses. A Tour Operators' Workshop was held at Kununurra for East Kimberley operators; it was an evolution of that previously held specifically for Purnululu.

Interpretive facilities are installed to help visitors understand aspects of the environment and how CALM manages the resource. Each facility is tailored to meet the needs of the site and the questions that most frequently come to the minds of enquiring visitors. In the case of the stromatolites of Hamelin Pool the information and explanations focus upon geology, geomorphology and marine biology. In Karijini National Park greater attention is given to the floristic diversity and cultural heritage of the area. These two examples demonstrate how we strive to help the visitor understand what gives the area its sense of place, what special and interesting features are there, and how CALM manages the area.

Interpretation plans and services were prepared for: Mirima National Park, Silent Grove, Broome Bird Observatory, Mount Bruce and the Karijini National Park Visitor Centre tent, World Heritage Display at the Overlander Roadhouse gateway to Shark Bay, Monkey Mia, Dryandra, Porongurups, Norseman and Wellington Discovery Forest.

Regular visitor activity programs that aim to achieve the same result of improving environmental understanding were conducted at Yanchep National Park, The Hills Forest 'Go Bush' Program and the Leeuwin-Naturaliste 'On the Ridge' Program.

About 40 000 people took part in the activity programs this year. Other information services include:

South Coast: Schools-based education programs in seven schools in the Fitzgerald River Biosphere Area. Ranger-guided walks in Cape Le Grand National Park and continued involvement with 'Ribbons of Blue', maintaining programs involving 12 wetlands.

Central Forest: Concept plans were developed for several areas including Wellington Forest, Batalling Field Study Centre and Leschenault Peninsula. Abseiling permits and cave management systems were revised and an advisory committee established to consider how to apply a user-pays system at Willyabrup. The successful 'On the Ridge' activity program continued, using four casual staff.

Swan Region: Over 50 000 Perth shoppers passed through CALM's nature display, which was rotated around major suburban shopping centres. Almost 1 500 children took part in special activities at The Hills Forest Activity Centre, while 3 200 participated in the 'Go Bush' Program. All the activities conducted at The Hills Forest are self-funded or supported by community organisations, and the centre has been successful in recovering its costs of operation. Visitor information and displays were installed in Yanchep National Park and assistance continues with major events such as the Avon Descent, Rally Australia and the national Rogaining Championships.

Southern Forest: The Perup Forest Ecology Centre continued to conduct environmental education programs.

Wheatbelt: One Dryandra Woodland Ecology Course was conducted during the year and planning finalised for the sounds of Dryandra Woodland drive trail.

Midwest: Considerable liaison and consultation continued with local government, industry and community organisations about the management and planning for the Shark Bay World Heritage Area and the Abrolhos Islands. The Moora sign workshop employed one part-time employee funded by the Wheatbelt Aboriginal Corporation and manufactured approximately 100 signs to order for placement throughout the region.

Pilbara: Information and goods for sale were available from the Karijini National Park Visitor Centre. The 'whale shark experience pass' was introduced at Ningaloo Marine Park to enhance visitor understanding of the unique experience of swimming with the world's largest fish.

Kimberley: Visits to Purnululu National Park increased by 30 per cent in 1994-95. Regular slide shows and talks by park rangers once again proved to be very popular, with over 4 500 attending for the year. A seasonal interpretations officer was employed at Kununurra to undertake public contact programs and activities at Mirima National Park, local nature reserves and in the local community. Two Aboriginal cultural guides were employed to run the Darngku Heritage Cruise at Geikie Gorge National Park and regular contact was maintained with Kimberley tour operators.

VISITOR RESEARCH

The 1994-95 visitor research program continued, with 128 sites monitored for visitor levels by means of traffic counter surveys, staff observation counts and informal surveys. Basic data provided by these monitored sites do not represent the total number of visits to all CALM-

managed lands and waters, but provide indications which can be compared on a year-to-year basis and examined for variations and trends.

There were 4.9 million recorded visits for the 64 parks, State forests and reserves throughout the State during the year. This represents a small increase from the previous year's recorded figures, which were amended from 4.5 to 4.8 million visits after additional data became available.

The estimated total number of visits for 1994-95 is 5.9 million. This reflects continuous interest by the public in visiting natural areas.

Recorded Visits to CALM-Managed Land and Waters

Year	No. of data collection sites	Recorded visits	Estimated no. of visits to CALM-managed estate ¹
1990-91	107	4.5 million	4.8 million
1991-92	115	4.4 million	4.7 million
1992-93	116	4.4 million	4.8 million
1993-94	124	4.8 million ²	5.8 million ²
1994-95	128	4.9 million ³	5.9 million ³

¹ As visitor data are collected only at certain times and at selected sites, it is necessary to extrapolate to estimate the total number of visits to CALM-managed areas.

² Amended from last financial year as additional data became available.

³ Provisional estimate, based on limited data and subject to future amendment.

The Visitor Comment Card Survey (Pilot Study) continued in 1994-95 and was designed to obtain feedback from the public on their recreational experiences and the facilities and services provided by CALM. Twenty national parks, State forests and reserves were included in this survey. On average 88 per cent of respondents stated that they 'enjoyed their visit very much' and that the main reason for visiting the areas was the appreciation and enjoyment of the naturalness of those areas. The main requests for facilities and services related to improvement of access roads, campsites, ablution blocks, picnic and shelter areas and information. The presence of staff was much appreciated by the public.

Other surveys and observation studies were also carried out during the year, including a survey for the Esperance Lakes Reserves as part of the management planning process.

A year-long survey was developed and completed by the Swan Region with the assistance of two Westrek LEAP programs in April of 1995. The study surveyed users and non-users of national parks, marine parks and regional parks in the greater Perth metropolitan area. User patterns, preferences, reasons for visiting and not visiting, demographics, and a wealth of other information was

gleaned from the studies. It will provide valuable baseline data to establish CALM's effectiveness in managing for tourism and recreation.

COMMUNITY INVOLVEMENT

CALM encourages public cooperation to assist in the management of recreation and tourism projects. Community groups and individuals are encouraged to take part in the development of appropriate tourism and recreation projects on conservation lands and waters.

Aboriginal Employment and Training Programs

CALM continues to involve Aboriginal people in its land management responsibilities through consultation, employment and training projects.

The demand for CALM's Aboriginal heritage programs within Western Australian national parks has prompted the establishment of an Aboriginal Business Unit (Aboriginal Nature Based Tourism, Education and Training Unit) within CALM. This unit will coordinate and cater for those wishing to experience Aboriginal culture.

CALM has participated in oral history information-gathering projects relating to Aboriginal use of natural resources. To date, Aboriginal people have recorded Aboriginal history and mythology surrounding some south-west parks and nature reserves. It is hoped this information will be used as interpretation material for these sites.

Various employment and training programs were developed and implemented to cater for a variety of situations to suit Aboriginal people seeking employment and training within CALM. These programs are coordinated and conducted in cooperation with other government agencies and Aboriginal corporations.

A Local Environment Action Project involving several Aboriginal youths was carried out on the Leeuwin-Naturaliste National Park at Yallingup. This project was coordinated by the Bibelman Mia Aboriginal Corporation and involved construction of walktrails and a whale watching lookout.

CALM South Coast Region entered an agreement with the Southern Aboriginal Corporation and the Department of Education Employment and Training to train and employ two Aboriginal men over a two-year period to obtain a Certificate and Advanced Certificate in Land Management Skills. Components of the course are taught through TAFE, and other components are taught in house.

Aboriginal traineeships for 1994–95 included: Australian Vocational Certificate clerical trainee — Narrogin Regional Office; Jobskills trainee — Policy and Extension Branch; two Certificates in Land Management Skills trainees — CALM South Coast Region/Southern Aboriginal Corporation/DEET/TAFE; two in-work trainees — Nannup under the Lake Jasper Project; trainee ranger — Millstream-Chichester National Park; and trainee tour guide — Geikie Gorge National Park.

In other employment initiatives, a construction and maintenance worker was employed at John Forrest National Park under Jobstart's TAP (Training for Aboriginals Program), a work experience placement at Woodvale Research Centre, a reserves maintenance worker at Wanneroo, and a trainee cave guide at Yanchep National Park.

The Department received grants from the Australian Nature Conservation Agency (ANCA) under its Contract Employment Program for Aboriginals in Natural and Cultural Resource Management (CEPANCRM) for projects on CALM-managed lands. These grants totalled \$133 453 for five projects during 1994–95 as well as funding for continued projects.

CALM continued to work with numerous Aboriginal corporations throughout the State, including the Karijini Aboriginal Corporation, Southern Aboriginal Corporation, Manjimup Aboriginal Corporation, Lake Jasper Project, Narrogin Aboriginal Corporation, Wheatbelt Aboriginal Corporation, Bibelmen Mia Aboriginal Corporation, Kuljak and Purnululu Aboriginal Corporation.

Advisory Committees

CALM's commitment to involve the public in the management of the CALM estate is reinforced with the continuing work of advisory committees. The committees meet regularly to discuss items of concern and issues of interest to CALM and the community, to assist in information exchange and to advise the Department about management proposals.

The committees usually consist of local representatives, State and local government officers and are appointed by the Minister for the Environment. Currently, there are 25 advisory committees relating to the management of CALM lands and waters and the flora and fauna on the CALM estate.

Volunteers

The Department's Community Volunteer Program continues to be a cost-effective way to involve people in important conservation work. The volunteers are one of

the Department's success stories, demonstrating how the Government and the community can work together for the benefit of the environment.

During the period, 25 new projects were initiated. These new projects, coupled with ongoing or renewed projects, maintain a wide variety of opportunities for community involvement. Seven hundred and fifty-three volunteers contributed a total of 38 000 hours to the Department. The program contracted slightly because the volunteer Turtle Tagging Project (worth some 7 000 volunteer hours) did not proceed; however, the number of volunteers registered with the Department increased to 1 921. Interestingly, *LANDSCOPE* Expeditions, which are wonderful examples of ecotourism, expanded with more projects available and a greater interest and response from the public. Volunteer hours in this area more than doubled.

Volunteer activities include assisting at information centres with the provision of information and interpretation, forest and wildlife research, care and rehabilitation of sick, orphaned and injured wildlife, campground hosting, park rehabilitation, flora surveys and general curation at the Herbarium.

CALM Volunteers

Year	No. registered	Hours contributed
1990–91	980	31 000
1991–92	900	40 000
1992–93	1 260	40 000
1993–94	1 773	44 000
1994–95	1 921	38 000

There is a time lag between registration as a volunteer and when actual project work takes place and is recorded. Hence the difference between the contributing number and the registration number.

External Funding

CALM receives grants from several Commonwealth agencies over a range of programs, including the Endangered Species Program, the National Reserves System Cooperative Program, the Feral Pests Program and the National Ecotourism Program. In 1994–95 such grants totalled \$4.95 million, an increase of almost \$1 million (25 per cent) from the previous year.

Commonwealth Grants

Year	Amount (million \$)
1989–90	2.70 m
1990–91	1.70 m
1991–92	2.25 m
1992–93	3.06 m
1993–94	3.98 m
1994–95	4.95 m

CALM also received some \$1 million in special purpose grants from State agencies.

The Department continues to receive valued support from the corporate sector for conservation, education and infrastructure projects. Major new initiatives include Western Mining Corporation's sponsorship of the Western Mining Research and Management Centre on Penguin Island, and CRA Australia's involvement with the saving of a remote population of the endangered black-flanked rock wallaby. Alcoa of Australia continues to be a major supporter of recreation and conservation projects within the Swan and Central Forest Regions. Sponsorships and support were also received from Midland Brick, Kodak Australia, ICI Australia Operations, BHP Petroleum, RAC Insurance and Paddy Pallin.

The BankWest *LANDSCOPE* Visa Card raised more than \$20 000 for endangered species conservation in 1994–95. Seven thousand seven hundred dollars has been allocated from the trust fund to conservation projects for the Lancelin Island skink, Wyalkatchem foxglove, Trigwell's rullingia, the black-footed rock wallaby and the Toolibin Lake Recovery Plan.

Also, CALM received a further \$0.96 million in special purpose grants from State agencies such as Main Roads Western Australia and the South West Development Commission.

FIRE MANAGEMENT

CALM attended 30 wildfires which burned over 2 500 hectares in south-west national parks. To protect visitors and tourist and recreation facilities in parks, CALM conducted prescribed burns in more than 18 000 ha in the Albany, Pemberton, Perth, Manjimup and Busselton areas.

Facts and Figures

General Information

WHAT STANDARD OF SERVICE CAN OUR CUSTOMERS EXPECT?

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

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

More specifically, our customers can expect that:

- CALM staff will be well trained, competent and helpful; will wear name badges when in direct contact with the community; and will identify themselves by name when answering the telephone.
- Requests for information or assistance will be met directly or referred to the appropriate person for answering as soon as possible.
- Telephone calls to our main offices will be answered on average within six rings. Telephone messages will normally be returned by the next business day.
- A contact name, address and telephone number will be given in all correspondence for future enquiries. Where it is not possible to respond to correspondence fully, an acknowledgement will be sent, advising of the current situation and when a reply may be expected.
- Brochures and other information materials will be easily understandable, accurate and up-to-date.
- Recreational facilities in national, conservation and marine parks, reserves and State forests will be well maintained and kept clean.

The Department is headed by an Executive Director, who is also a member of the Lands and Forest Commission, a member of the National Parks and Nature Conservation Authority, and Chairman of the Forest Production Council. In keeping with the varied interests of CALM there is also a Corporate Executive, which consists of seven directors working with and reporting to the Executive Director. Regional, branch and other specialist officers often attend meetings of the Corporate Executive.

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

The detailed structure of divisions, regions and branches is shown in Figure 1. The names and qualifications of the officers occupying senior positions are shown in the nearby list.

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 offices, as well as the types of lands and waters the Department manages.

Management structures are in place at nine regional, 20 district, four sub-district offices and two district outstations. Within the regions there are national park rangers at 32 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 5.9 million visitors (1994–95 figures) to CALM-managed lands and waters, drawn from interstate and overseas as well as from all over Western Australia, are largely in their hands. Regional staff are also responsible for the conservation of native flora and fauna within regional boundaries. The three forest regions in the south-west of the State have a large commitment to manage wood resources, and to regenerate and protect the forests for a wide range of other values. The Goldfields region has a similar commitment to sandalwood resources, as have the South Coast and Wheatbelt regions to economic tree crops that can be integrated into farming practice.

Regional managers have a degree of autonomy. Each is responsible under corporate direction for developing the region's annual works program, and for managing the region's budget allocation. Liaison with local groups, especially Aboriginal 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 managers and their staff who are responsible for this important interface with the local community.

SPECIALIST AND SERVICE ACTIVITIES

Operations throughout the State are directed by the Corporate Executive and supported by specialist and service staff. Their responsibilities are as follows.

Science and Information Division provides up-to-date, scientifically sound information to uphold effective conservation and land management in Western Australia. Four science groups address CALM's scientific needs: to discriminate and document the biota, ecological processes and biological resources of the State; to conserve threatened species and ecological communities by minimising inimical processes; and to ensure that lands, waters and biological resources are used sustainably.

Corporate Relations Division plans, coordinates and implements CALM's public information and public relations activities, produces publications, displays, media releases and audiovisuals, coordinates community education programs, and conducts public affairs and market research.

CALMfire sets fire management standards, coordinates the preparation of fuel reduction and suppression plans, provides detection communications, aircraft and other fire support services, and conducts fire training.

Economics Branch advises the Executive Director on economics, socio-economics, financial planning 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.

Environmental Protection Branch prepares guidelines and procedures for protection from dieback, weeds and feral animals, evaluates mining proposals, and advises on rehabilitation of CALM-managed lands and waters.

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

Forest Management Branch develops silvicultural guidelines and practices for native forests and advises on their implementation. It services the forestry operations of the Department with resource information and plans for forest production and disease protection, and develops associated computer systems.

Forest Resources Services Branch manages tenders, contracts, payments to contractors and revenues from timber, and provides legal advice. It also provides a timber inspection service to the industry.

Human Resources Branch provides policies, advice and coordination in the areas of personnel management, labour relations, training and health, safety, and welfare.

Information Management Branch plans, coordinates and implements the development of CALM's integrated Geographic Information System (GIS), and provides a land-related information service, information systems support, and record management.

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

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

Park Planning and Tourism Branch incorporates Policy and Extension Branch. It develops policies and strategies for recreation, tourism and visitor services, including business development, external funding and community involvement. It coordinates policies and programs concerning Aboriginal and other special interests, and visitor research and surveys.

Planning and Visitor Services Branch incorporates Land Administration, Planning and Recreation and Landscape Branches. This branch prepares management plans, undertakes site planning and design, conducts landscape management training, coordinates visitor and interpretation services, and administers land acquisitions, leasing and licensing.

Plantations Group develops silvicultural guidelines and practices for coniferous and broadleaved plantations and advises on their implementation. It manages CALM nurseries and seed supplies.

Sandalwood Business Unit manages the sandalwood industry including research into plantation development for Western Australian and Indian sandalwood.

State Forest Resources Business Unit controls and manages the harvesting of timber and the collection of royalties and other charges. It advises on timber quality, wood technology and related matters.

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

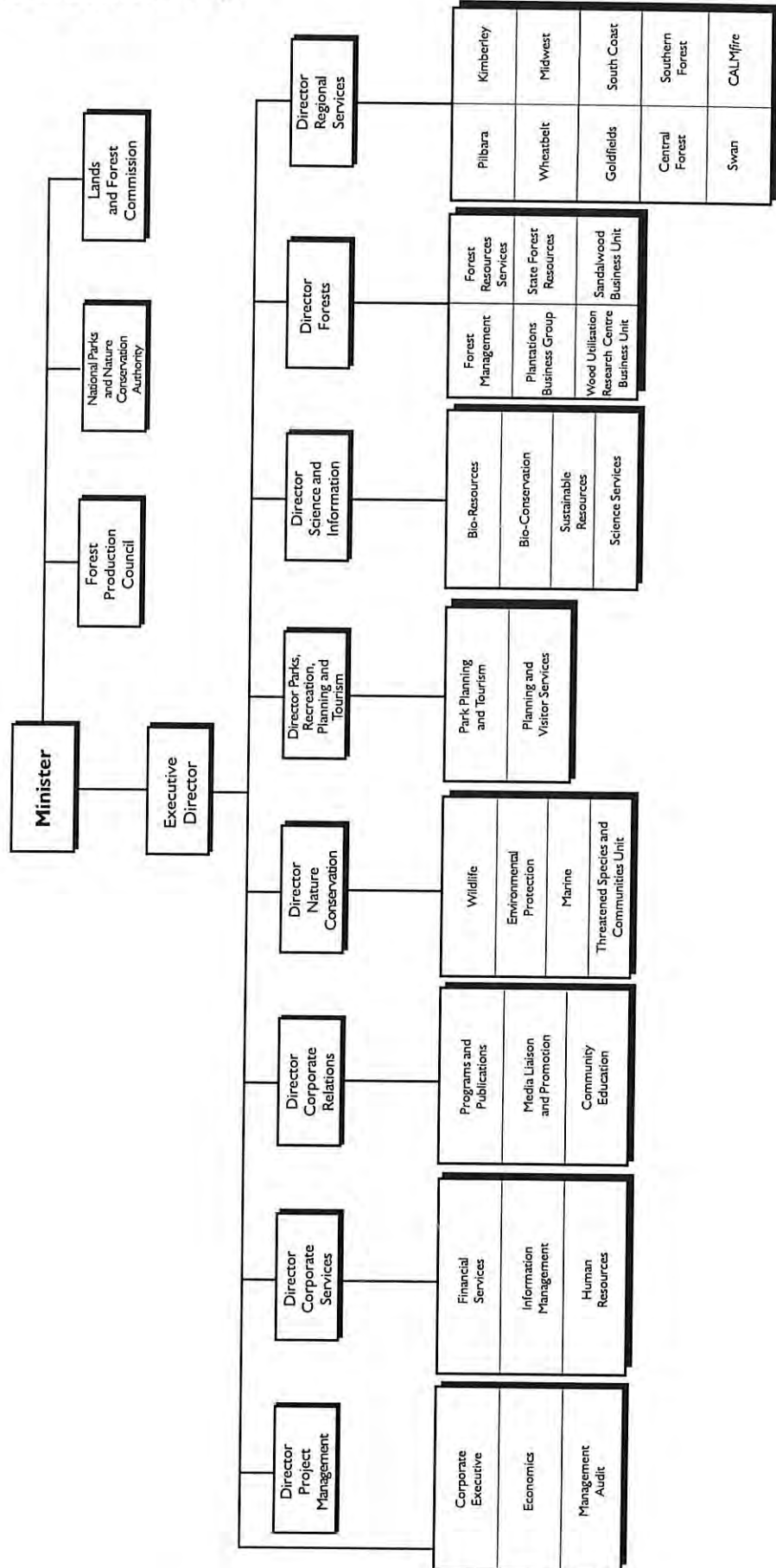
Wood Utilisation Research Centre Business Unit conducts research and develops commercial applications which increase the utilisation and value-adding of the State's timber resources.

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



CALM staff can call on a wide range of expertise, talent and background in their pursuit of the Department's goals.

FIGURE I
ORGANISATIONAL STRUCTURE



CORPORATE EXECUTIVE

EXECUTIVE DIRECTOR
S R Shea BSc, MSc, PhD

DIRECTOR, REGIONAL SERVICES
C Haynes* BSc

DIRECTOR, NATURE CONSERVATION
K J McNamara B Nat Res (Hons)

DIRECTOR, PARKS, RECREATION, PLANNING &
TOURISM
J R Sharp* B Ed, Dip PE, M Ed

DIRECTOR, FORESTS
D J Keene Dip For, BSc

DIRECTOR, SCIENCE & INFORMATION
J A Armstrong BSc Agr, PhD

DIRECTOR, PROJECT MANAGEMENT
F H McKinnell Dip For, BSc, PhD

DIRECTOR, CORPORATE SERVICES
J C Byrne MBA, PhD, FCPA

DIRECTOR, CORPORATE RELATIONS
R A Kawalilak BA

OTHER SENIOR STAFF

DIRECTOR, ECONOMICS
G Malajczuk BSc, MSc, MPhil, M For, PhD

REGIONAL MANAGER, CENTRAL FOREST
R Chandler BSc

REGIONAL MANAGER, GOLDFIELDS
I G Kealley BSc

REGIONAL MANAGER, KIMBERLEY
C C Done BSc

REGIONAL MANAGER, MIDWEST
E G Leaman B App Sc

REGIONAL MANAGER, PILBARA
C Muller Dip For, BSc For

REGIONAL MANAGER, SOUTH COAST
J R Watson BSc, Grad. Dip. Rec., PhD

REGIONAL MANAGER, SOUTHERN FOREST
K R Vear BSc For

REGIONAL MANAGER, SWAN
A W Walker BSc For (Hons)

REGIONAL MANAGER, WHEATBELT
K J Wallace Dip Ed, BSc (Hons)

MANAGER, ENVIRONMENTAL PROTECTION
BRANCH
F E Batini Dip For, BSc, MSc

MANAGER, FINANCIAL SERVICES BRANCH
M J Neilson BCom, CPA

MANAGER, CALM^{fire}
R Sneeuwjagt BSc, MSc

MANAGER, FOREST MANAGEMENT BRANCH
F J Bradshaw Dip For, BSc

MANAGER, FOREST RESOURCES SERVICES
John Clarke BSc

MANAGER, HUMAN RESOURCES BRANCH
A A Scott BA

MANAGER, INFORMATION MANAGEMENT
BRANCH
P J Bowen Dip Cart, Grad Dip S&M, MAIC

MANAGER, MANAGEMENT AUDIT BRANCH
P Jones* BSc For

MANAGER, MARINE BRANCH
Vacant

MANAGER, PARK PLANNING AND TOURISM
BRANCH
C B Ingram* B App Sc

MANAGER, PLANNING & VISITOR SERVICES
BRANCH
A J Williamson Dip For, BSc, M For, MSc

MANAGER, PLANTATIONS GROUP
G B Inions BSc For (Hons), PhD

MANAGER, PROGRAMS & PUBLICATIONS
R F Bailey BA (Hons), PhD

MANAGER, STATE FOREST RESOURCES
J H Murch BSc (Hons)

MANAGER, WILDLIFE BRANCH
G J Wyre B Nat Res (Hons)

MANAGER, WOOD UTILISATION RESEARCH
CENTRE BUSINESS UNIT
G. Siemon BSc For (Hons), PhD

HEAD, BIO-CONSERVATION GROUP
A N Start* BSc, PhD

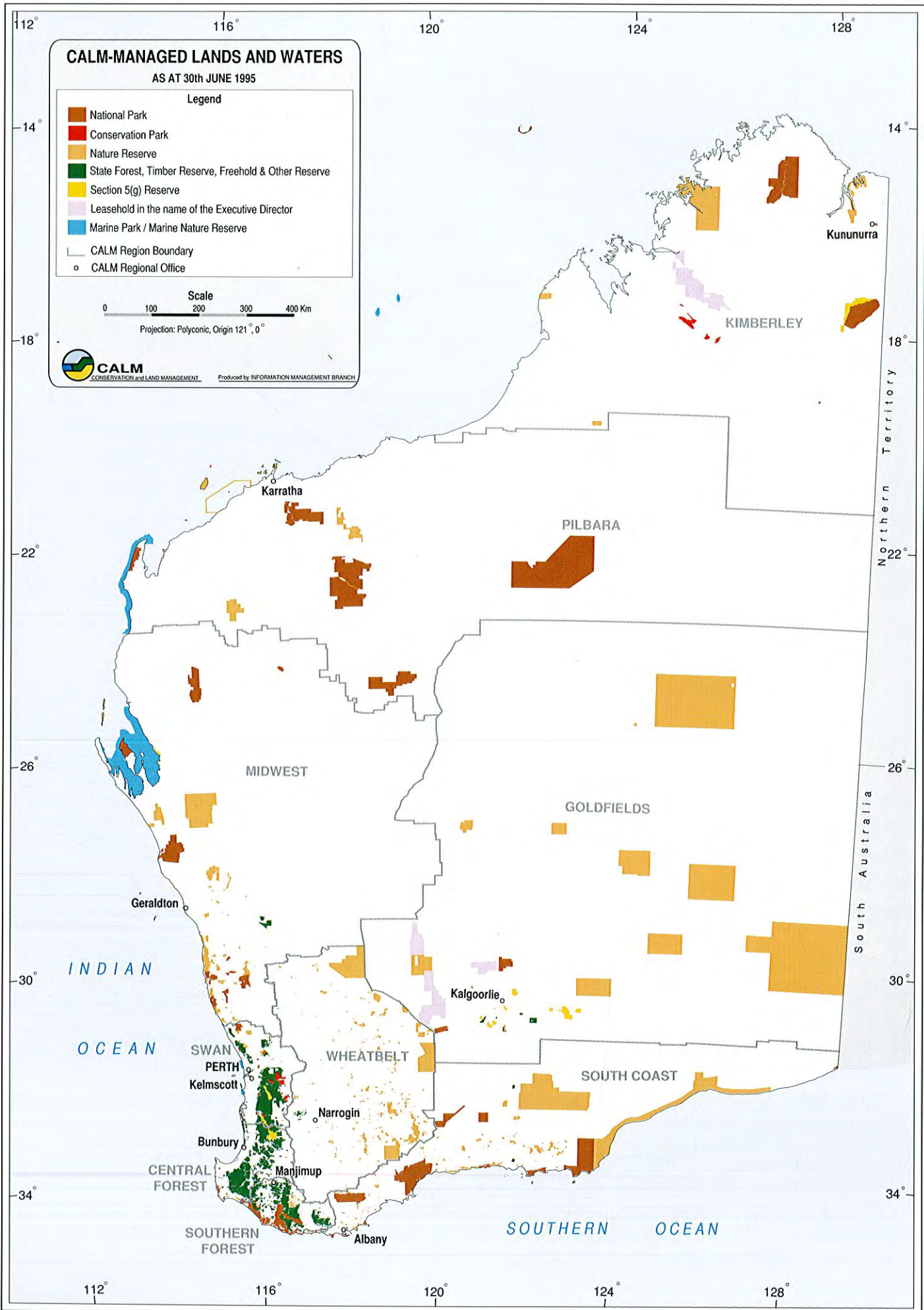
HEAD, BIO-RESOURCES GROUP
N G Marchant BSc (Hons), PhD

HEAD, SUSTAINABLE RESOURCES GROUP
P E Christensen BSc (Hons), PhD

HEAD, SCIENCE SERVICES GROUP
I J Abbott BSc (Hons), PhD, DSc

DIRECTOR, WA THREATENED SPECIES &
COMMUNITIES UNIT
A A Burbidge BSc, PhD

* Acting



CALM-MANAGED LANDS AND WATERS

The area figures reflected in the following statements represent the gazetted or legal areas and include additions and excisions. A number of amendments have been made to previously published areas, the result of frequent validation undertaken with the Department of Land Administration.

Total Estate

As at 30 June 1995 the total area under CALM's care was 20 064 886 ha. This was an increase of 128 101 ha during 1994-95.

The terrestrial area (i.e. not including marine reserves) is approximately 7.5 per cent of the land area of Western Australia.

The table below provides a summary of all tenure classifications.

CALM-Managed Lands and Waters as at 30 June 1995

Tenure Classification	(ha)
National Park	4 870 828
Conservation Park	117 253
Nature Reserve	10 781 954
Marine Park	1 013 940
Marine Nature Reserve	132 000
State Forest	1 724 882
Timber Reserve	141 487
5g reserve	232 167
Miscellaneous Reserve	12 971
Freehold (Exec Dir)	33 688
Leasehold (Exec Dir)	1 003 716
Totals	20 064 886

Source: Information Management Branch (TENIS)

National Parks

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

The area of the 63 national parks as at 30 June 1995 was 4 870 828 ha.

Major changes to the national park estate consisted of an increase to the area of Frank Hann National Park (6 146 ha) following recalculation, an addition to Purnululu National Park (31 000 ha) from an adjoining conservation reserve, and an excision from Kalbarri National Park (3 046 ha) required for local council infrastructure.

Conservation Parks

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 area of conservation parks as at 30 June 1995 was 117 253 ha, representing an increase of 30 134 ha in 1994-95. Notable additions in this category were Wandoo reserve (29 765 ha) and Lake Leschenaultia area (432 ha).

Nature Reserves

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

The area of nature reserves as at 30 June 1995 was 10 781 954 ha, representing an increase of 12 255 ha in 1994-95. Notable additions were Leda (439 ha), Scott Reef (11 542 ha, a correction of the original gazettal area), and an unnamed reserve in Kimberley Region (3 547 ha).

State Forest

State forests are managed for multiple purposes, including water catchment protection, recreation, timber production on a sustained yield basis, and conservation. Provision is also made for public utilities and mineral production, where these activities are imposed.

Within State forests, designated areas are managed for specific purposes, such as conservation or optimum yield of exotic plantings.

The area of State forest as at 30 June 1995 was 1 724 882 ha, a decrease of 24 001 ha for the year. The major decreases were the excisions of 23 347 ha from State Forest 13 for reservation of Wandoo Conservation Park, an area of 206 ha from State Forest 65 for Ellenbrook subdivision, and the revocation of State Forest 68 for reservation of Conservation Park (Lake Leschenaultia).

Timber Reserves

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

National Parks Vested in the National Parks and Nature Conservation Authority

NAME	AREA (ha)	NAME	AREA (ha)
Alexander Morrison	8 500	Millstream-Chichester	199 736
Avon Valley	4 366	Moore River	17 540
Badgingarra	13 121	<i>Mount Augustus</i>	9 168
Beedelup	1 786	<i>Mount Frankland</i>	30 830
Boorabbin	26 000	<i>Nambung</i>	18 362
Brockman	49	Neerabup	1 069
<i>Cape Arid</i>	279 382	Peak Charles	39 959
Cape Le Grand	31 578	Porongurup	2 511
Cape Range	50 581	Purnululu	239 723
Collier Range	235 162	Rudall River	1 283 706
D'Entrecasteaux	114 566	Scott	3 273
Drovers Cave	2 681	Serpentine	4 363
Drysdale River	448 264	Shannon	52 598
<i>Eucla</i>	3 342	Sir James Mitchell	497
Fitzgerald River	329 039	Stirling Range	115 920
Francois Peron	52 529	Stokes	9 726
Frank Hann	67 550	Tathra	4 322
Geikie Gorge	3 136	<i>Torndirrup</i>	3 936
Gloucester	875	Tuart Forrest	2 049
Goongarrie	60 397	<i>Tunnel Creek</i>	91
Gooseberry Hill	33	<i>Walpole-Nornalup</i>	15 861
Greenmount	58	<i>Walyunga</i>	1 812
Hassell	1 265	Warren	2 982
Hidden Valley	2 068	Watheroo	44 474
John Forrest	2 676	<i>Waychinicup</i>	3 982
Kalamunda	375	<i>West Cape Howe</i>	3 517
Kalbarri	183 004	William Bay	1 734
Karijini	627 445	Windjana Gorge	2 134
Kennedy Range	141 660	Wolf Creek Crater	1 460
<i>Leeuwin-Naturaliste</i>	19 119	<i>Yalgorup</i>	13 001
<i>Lesmurdie Falls</i>	56	Yanchep	2 842
<i>Lesueur</i>	26 987	TOTAL	4 870 828

* Names shown in italics are not yet gazetted

The area of timber reserves as at 30 June 1995 was 141 487 ha. There were no changes during the year.

Marine 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 1995 was 1 013 940 ha (approximately). The area of marine nature reserves as at 30 June 1995 was 132 000 ha (approximately). There were no changes during the year.

5(g) Reserves

Within the meaning of the CALM Act, land categorised as 5(g) reserve is land reserved under the Land Act (1933) which is vested in the NPNC or the LFC. These reserves are not national park, conservation park, nature reserve

or marine reserve. Immediately before the commencement of the CALM Act some were vested in, or under the control and management of, the National Parks Authority but not as a national park, e.g. Matilda Bay Reserve. Predominantly they have a conservation/recreation purpose.

The area of 5(g) reserves as at 30 June 1995 was 232 167 ha. The major decrease was due to an excision of 31 000 ha, which was added to Purnululu National Park. Other additions resulted in the net decrease for the year being 25 282 ha.

Miscellaneous Reserves

There are some remaining reserves managed by CALM which do not fall within any of the above discrete categories. The purposes of reserves within this category are varied and may include settlements and offices for the Department's operations. The area of miscellaneous reserves as at 30 June 1995 was 12 971 ha, an increase of 53 ha during the year.

Other Land

The area of freehold land held by the Executive Director as at 30 June 1995 was 33 688 ha. There were no changes during the year. The major portion of this land is committed to commercial softwood forestry.

The area of pastoral leases held by the Executive Director as at 30 June 1995 was 1 003 716 ha, an increase of 100 685 ha during the year. This resulted from the acquisition of Goongarrie Pastoral Lease.

Conservation Land Acquisitions

The Department acquired several areas of land for future addition to the conservation estate. The major land purchase for the year was the 100 685 ha Goongarrie Pastoral Lease, north of Kalgoorlie, which will be set aside as State forest and managed for sandalwood conservation and regeneration. Two areas of freehold land were also purchased, as follows:

- 194 ha west of Bullfinch—now set aside as an 'A' class nature reserve.
- 4 ha west of Bengier—for addition to Bengier Swamp Nature Reserve.

In addition, an area of 60 hectares north of Watheroo was purchased for CALM by a mining company, under a mining compensation arrangement. (Both this and the Bengier Swamp above are held in the name of the Crown pending reservation.) The area contains the Declared Rare Flora rose mallee (*Eucalyptus rhodantha*), and will be set aside as a nature reserve. Also, the owner of a 144-hectare property east of Dumbleyung donated the land to CALM so that its conservation values can be protected. The land is now set aside as an 'A' class nature reserve.

EMERGENCY ASSISTANCE

CALM mitigates bushfire threats by contributing to community bushfire planning, reducing fuels on CALM-managed lands, and fighting bushfires on and adjacent to private property. CALM also assists during oil spills, sea and land searches for lost people, and flood and cyclone emergencies. CALM was a major participant in the Ministerial working group investigating the Darling Escarpment hazard and assisted in the suppression of 26 fires over 1 000 hectares of private property in this area. Of these, 21 occurred in the metropolitan area, threatening the community or its assets.

CORPORATE SERVICES

CALM supports its three main Programs by providing corporate services; for example, the management of human resources, financial management, and management of corporate information.

Human Resources

The average staffing level for the Department fell from 1301.52 in 1993-94 to 1228.23 in 1994-95.

The voluntary redundancy program began in April 1994, remaining open for several months into this financial year. A further three salaried personnel accepted an offer and ceased employment between July and November 1994.

Considerable restructuring of the Department occurred during the year with the formation of several business units, the amalgamation of four District offices into two, and various other structural changes. Reallocation of staffing priorities occurred as a result but this was achieved with minimal disruption to either staff or the Department.

The integrated personnel and payroll computerised system that was under development at 30 June 1994 became operational in July 1994. Throughout the year the system has been subject to considerable customisation and refinement, particularly with regard to personnel information. As at 30 June 1995 work was under way to upgrade the system as the new version provides solutions for some of the problems that had been experienced.

Sixty salaried staff achieved career advancement by way of reclassifications and promotion to advertised vacancies.

Standards, Codes of Ethics and Codes of Conduct had not been established as at 30 June 1995; therefore comment on compliance, as required by section 31(1) of the Public Sector Management Act, cannot be made. Appropriate comment will be provided in the 1995-96 annual report.

Industrial Relations

Management, workplace representatives and unions covering employees continue to seek an Enterprise Agreement to progress workplace reform. The negotiating committee has failed to reach agreement on the pay increase, and the Australian Workers' Union are negotiating an agreement separate to the remainder of the single bargaining unit.

'Safety net' pay increases have been awarded to employees in CALM covered by the Australian Workers' Union, the Civil Service Association, the Australian Liquor, Hospitality and Miscellaneous Workers' Union, the Metals and Engineering Union and the Pilots Federation.

There are 90 employees covered by Workplace Agreements, and applications to the Commissioner of Workplace Agreements to register agreements for another 140 employees have been made. Others are being developed and negotiated. The underlying principle of the agreements is a productivity payment in exchange for additional but flexible working hours.

CALM has appeared in the State and Federal Industrial Relations Commission on eight occasions.

Training and Development

CALM has been registered to provide 27 nationally accredited training programs and short courses. These represent two thirds of the inservice training programs available to CALM staff. They were rewritten using Competency Based Training format and were approved by the Skills Standards & Accreditation Board of WA in October 1994. The remaining inservice training courses will be rewritten for national accreditation, which will ensure that the training outcomes conform to national competency standards, where they exist, and that the courses are recognised nationally. As training course participants complete training programs, they will receive a certificate, which will be recognised throughout the industry within Australia.

Risk Management

The Department is developing a risk management strategy to ensure a proactive approach to the management of risk. It presents the basis for a planned program of initiatives and actions that try to minimise risk. This strategy is not intended to be the end means of managing risk but aims to identify areas of risk and develop appropriate action programs. The methods by which CALM intends to manage risk are:

- systematically and continuously identify hazards;
- analyse hazards and risk exposures in terms of frequency and severity;
- develop and implement effective incident prevention and loss minimisation procedures; and
- constantly review management procedures and techniques.

Performance Indicators:

	1994-95	1993-94
Lost Time Injury Frequency Rate	19	18
All Injury Frequency Rate	56	73
Number of Lost Time Incidents	50	38
Number of Days Lost	976	1 198
Annual Workers' Compensation Premium	\$549 540	\$712 491
Rehabilitation Success Rate	83%	80%

Eighty-seven work groups achieved predetermined safety targets and were presented with awards under the IFAP/GIO Safeway Award Scheme. For the second successive year CALM attained top place over competing organisations throughout WA.

Information Management Branch

Information Management Branch was formed in April 1994 as part of the Corporate Services Directorate. It merged Land Information Branch, Records Management Branch and the IT Operations section of Information Systems Branch. Its purpose is to provide geographic and resource-related information, by maintaining records, managing correspondence, and supporting information technology.

The branch continued the Department's outsourcing policy this year by awarding contracts to private-sector organisations for the management of CALM's wide area network (WAN). Progress continued on the corporate tenure enquiry system (TENIS), with further installation in regional offices, and the completed validation of the Spatial Cadastral Data Base from the Department of Land Administration (DOLA). TENIS received a prestigious BHP Engineering Research and Development Technology Award in 1994.

Geographic analysis of south-west forest areas has been carried out to assess their wilderness ratings. New 1:50 000 scale Land Management Series maps were published covering the northern portion of the Lane Poole Reserve, and operational maps are being produced to meet the needs of CALM fire and forest management.

Fire Management

Below average rainfall in winter 1994 preceded the driest spring, summer and autumn period in 34 years. Higher than average drought throughout the fire season resulted in very dry forest fuels. This saw significant increases in the severity and numbers of wildfires and reduced opportunities for fuel reduction burning in the Swan Region.

During the fire season CALM firefighters attended 583 wildfires. This was a 38 per cent increase in the 10-year rolling wildfire average. Of these CALM assisted the suppression of 132 fires (23%) on more than 7 000 ha of private property. Four major native forests fires exceeding 500 ha were attended at Wanneroo, Mundaring, Collie and Walpole. Three fires, incurring significant losses in State plantations, occurred at Gnangara and in the Blackwood Valley. Seven lightning-caused fires exceeding 500 ha also occurred in parks and reserves in the Pilbara and at Geraldton, Moora, and Esperance.

CALMfire PERFORMANCE INDICATORS

Key Effectiveness Indicators

1. Prescribed Burning

The reduction of fuels in Priority 1 zones to a satisfactory condition in 90% of designated areas and in Priority 2 zones in 75% of designated areas in the forest regions.

Region	Priority 1 (%)		Priority 2 (%)	
	1993-94	1994-95	1993-94	1994-95
Swan Region	78	—	66	—
Central Forest Region	70	—	65	—
Southern Forest Region	64	—	67	—
CALM AVERAGE	71	—	66	—

Definitions

- *Priority 1* refers to 'essential prescribed burns' necessary for the protection of human life, community values and rare, threatened and fire vulnerable species of flora and fauna and major forest plantations. *Priority 2* refers to 'important prescribed burns' necessary for the protection of broad nature conservation values.
- *Satisfactory condition* means forest fuels available for burning will not exceed 7.5 to 8.5 tonnes per hectare in jarrah and 15.0 to 19.0 tonnes per hectare in karri. Under these fuel conditions headfire attack will be successful on days except when the fire danger is very high or extreme.
- *The 90% and 75% fuel reduction limits* provide optimum protection of community and nature conservation values.
- *Designated areas* are forests where prescribed burning is an allowed landuse and where areas are available for burning. The need to protect jarrah and karri regeneration after timber harvesting renders these areas unavailable for prescribed burning for up to 20 years.

Notes

This is the profile of an indicator which is still under development. The data for 1993-94 were collected manually from region and district plans, but no reliable data are yet available for 1994-95. This is partly because a component of the Wildfire Threat Analysis from which the indicator is derived is undergoing a thorough review, and partly because the conversion from manual data analysis to a computerised system is incomplete. The indicator will be presented with up-to-date figures in the annual report for 1995-96.

Prescribed burning achievements relative to CALM's Wildfire Threat Analysis (WTA) were reduced due to (i) limited opportunities for burning caused by the driest fire season in more than a decade; (ii) the withdrawal of significant areas available for burning due to the proposed National Forest Reserve System and mining; (iii) increases in No Planned Burn areas; and (iv) slow fuel accumulation rates, particularly in eastern forest zones, thus delaying the need for prescribed burning after the rotation age nominated in Master Burning Plans.

2. Fire Suppression

The number of times an effective suppression force begins attack under 95 percentile weather conditions before fires exceed 1 ha in Priority 1 areas and 2 ha in Priority 2 areas in the forest regions.

Region	Priority 1 (%)		Priority 2 (%)	
	1993-94	1994-95	1993-94	1994-95
Swan Region	95	98	99	100
Central Forest Region	96	100	97	90
Southern Forest Region	100	100	100	92
CALM AVERAGE	97	99	99	94

Definitions

- *Suppression forces* are prescribed in CALM's Red Book Dispatch Tables for fire crews and equipment and by Wildfire Threat Classes.
- *The 95 percentile weather conditions* are days when fire danger is below very high and extreme. Firefighters work safely and effectively under these conditions in standard forest fuels. The conditions allow consistent comparisons of suppression performance by excluding the 5% of days when fire behaviour is most severe and erratic.

To address the difficult fire season, CALM:

- trained 50 fixed-term summer fire crews to consolidate numbers in the South West Forest Region for prescribed burning and fire suppression;
- achieved major advances in interagency cooperation in fire management in the Swan Region, particularly the establishment of rapid response areas in the Darling Scarp. This arrangement reduced major community asset losses and achieved financial

CALMfire PERFORMANCE INDICATORS

Key Efficiency Indicators

1. Prescribed Burning

The 10-year-averaged rolling cost of achieving prescribed burning to meet Key Effectiveness Indicator #1 should not exceed \$6.50 per ha.

Year	Cost (in 1994-95 \$)	Area (hectares)	Unit Cost (\$/hectare)
1985-86	2 269 941	268 951	8.44
1986-87	Not available	250 360	Not available
1987-88	1 706 982	277 283	6.16
1988-89	2 008 453	242 379	8.29
1989-90	1 567 640	278 364	5.63
1990-91	1 244 120	365 164	3.41
1991-92	1 101 630	309 350	3.56
1992-93	1 100 675	270 682	4.07
1993-94	1 686 545	250 830	6.72
1994-95	2 111 703	260 846	8.09
Averaged Rolling Cost (over nine years)			6.04

Definitions

- Ten Year averaged rolling costs allow comparisons between fire seasons by smoothing environmental variations, operational and budgeting variations.

Notes

Unit costs for prescribed burning were higher this year due to drought indexes in Spring and early summer being 30% in excess of the 10-year rolling average. This reduced opportunities for prescribed burning in the Swan Region (while still maintaining full infrastructure costs) and added significantly to mopping-up costs for edging and aerial/hand ignition operations for burns in the Swan and Central Forest Regions.

2. Fire Suppression

The cost of meeting Key Effectiveness Indicator #2 shall not exceed the 10 year rolling averaged costs for fire suppression and preparedness.

Year	Region	Preparedness Cost (\$)
PREPAREDNESS		
1993-94	Swan Region	827 732
	Central Forest Region	1 543 750
	Southern Forest Region	957 776
Total		3 329 258
1994-95	Swan Region	884 154
	Central Forest Region	1 426 592
	Southern Forest Region	1 134 216
Total		3 444 962

Year	Region	Actual Suppression Cost (\$)
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SUPPRESSION

1993-94	Swan Region	633 469
	Central Forest Region	681 596
	Southern Forest Region	787 900
Total		2 102 965
1994-95	Swan Region	1 634 521
	Central Forest Region	1 069 870
	Southern Forest Region	436 883
Total		3 141 274

Definitions

- Preparedness costs comprise prescribed burning firebreak and water point installation and maintenance, fire detection, the construction and maintenance of firefighting equipment, fire standby and detention, and fire planning and training.

Notes

Effective fire suppression preparedness limits fire suppression activity. The cost of fire suppression preparedness should therefore balance or exceed the cost of fire suppression.

savings in fire suppression costs. During 1994-95 there were no serious injuries to firefighters and many houses were saved in near-urban areas;

- constructed two new fire towers at Walyunga and Bickley, upgraded Diamond Tree as an operational tower and maintained eight other towers throughout the south-west;
- reviewed fire detection and established a highly effective, cost-efficient and integrated tower/spotter system;
- introduced the Eagle aircraft to the fire detection program; and
- continued the mitigation of bushfire hazards despite

the difficult fire season by achieving 140 328 ha of prescribed burning in the Central Forest and Southern Forest Regions. Helicopter burning for fuel reduction and silviculture management was successfully undertaken in pine plantations and native forests.

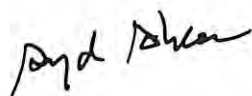
The Fire Protection Section was reorganised into the CALMfire unit, for improved coordination of the use of prescribed fire for community protection, nature conservation and forest silviculture and roading operations on CALM-managed lands in Western Australia. The CALMfire unit ensures that fire management objectives and standards are met and that planning and operations are properly integrated with other land uses.

Legislation and Compliance

1994-1995

STATEMENT OF COMPLIANCE WITH WRITTEN LAW

We have complied with the requirements of relevant written law, as originally enacted and as variously amended. The relevant Acts and amendments are noted in this section of the annual report. At the date of signing we are not aware of any errors or omissions.



Syd Shea
Executive Director
30 August 1995

ACTS ADMINISTERED

- *Conservation and Land Management Act 1984*
- *Sandalwood Act 1929*
- *Wildlife Conservation Act 1950*

On behalf of the people of Western Australia, the Department of Conservation and Land Management (CALM) 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 *Conservation and Land Management Act 1984* established CALM and three State controlling bodies: 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. Their functions are described in separate annual reports.

MINING AND GOVERNMENT AGREEMENTS ACTS

People often ask why the *Conservation and Land Management Act 1984* does not protect land managed by the Department from mining or development projects. Section 4 of the CALM Act states that nothing in the Act shall take away from the operation of any Act relating to minerals or petroleum or any Agreement Act for a

development project. The Agreements Acts (e.g. the Alumina Refinery Agreement Act 1961) are administered by the Minister for Resources Development. The CALM Act cannot 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 following mining and petroleum Acts prevail over the Conservation and Land Management Act: *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 for the Department. The bauxite and coal operations predominantly require permission to be given by the Department for the companies to harvest the timber before mining.

- The Agreements Acts with specific Departmental responsibilities include: *Albany Hardwood Plantation Agreement Act 1993; 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; Dardanup Pine Log Sawmill Agreement Act 1992; 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 RELEVANT ACTS

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

- Other State Acts which have relevance to CALM: *Aboriginal Heritage Act 1972; Acts Amendment and Repeal Act (Industrial Relations) Act (No. 2) 1984; Aerial Spraying Control Act 1966; Agriculture and Related Resources Protection Act 1976; Agriculture Protection Board Act 1950; Constitution Act 1893; Country Areas Water Supply Act 1947; Dividing Fences Act 1961; East Perth Cemeteries Act 1932; Environmental Protection Act 1986; Equal Opportunity Act 1984; Explosive and Dangerous Goods Act 1961; Financial Administration and Audit Act 1985; Fisheries Act 1905; Freedom of Information Act 1992; Government Employees Housing Authority Act 1964; Health Act 1911-79; Heritage of Western Australia Act 1990; Industrial Relations Act 1979; Industrial Relations Amendment Act 1993; Land Act 1933; Land (Titles and Traditional Usage) Act 1993; Metropolitan Water Supply, Sewerage, and Drainage Act 1909; Minimum Conditions of Employment Act 1993; Occupational Health, Safety and Welfare Act 1984; Occupiers' Liability Act 1985; Rights in Water and Irrigation Act 1914; Public Service Act 1978 (up to 30 September 1994); Public Sector Management Act 1994 (from 1 October 1994); Soil and Land Conservation Act 1945; State Employment and Skills Development Authority Act 1990; State Energy Commission Act 1979; State Supply Commission Act 1991; Swan River Trust Act 1988; Timber Industry Regulations Act 1926-69; Town Planning and Development Act 1928; Workers' Compensation and Rehabilitation Act 1981; Workplace Agreements Act 1993.*
- Commonwealth Acts relevant to the Department's activities: *Arts, Territories and Environment Legislation Amendment Act 1982; Australian Heritage Commission Act 1975; Conservation Legislation Amendment Act 1988; Endangered Species Protection Act 1992; National Parks and Wildlife Conservation*

Act 1975; Native Title Act 1993; Training Guarantee Administration Act 1990; 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; Convention on the Conservation of Migrating Species of Wild Animals; Convention on Biological Diversity.*

CHANGES IN LEGISLATION

Minor Amendments

The *Statutes (Repeals and Minor Amendments) Act 1994* made minor amendments to the *Conservation and Land Management Act 1984* and the *Wildlife Conservation Act 1950*.

Public Sector Management

The *Public Service Act 1978* was repealed by the *Public Sector Management Act 1994*. Amendment to the *Conservation and Land Management Act 1984* in this respect was made by the *Acts Amendment (Public Sector Management) Act 1994*.

Repeal of the East Perth Cemeteries Act 1932

The *East Perth Cemeteries Repeal Act 1994* repealed the 1932 Act and formally transferred management of the disused cemetery reserve A21054 from CALM to the National Trust of Australia (WA).

Forest Management Amendment Regulations 1995

The *Forest Management Regulations 1993*, made under the *CALM Act 1984*, were amended to accommodate changes required by the timber industry to the registration of timber workers. The recording of the movement of harvested log products was also refined. Fees for firewood collection were extended and an unworkable firewood collection condition was removed.

Performance Indicators

Management Programs

I certify that these performance indicators are based on proper records and fairly represent the performance of the Department of Conservation and Land Management for the year ended 30 June 1994.



Syd Shea
Executive Director
15 August 1995

NATURE CONSERVATION & WILDLIFE Management Program I

Objective

To conserve indigenous plants, animals and ecological processes in natural habitats throughout the State.

Key Effectiveness Indicator

The number of the State's wildlife taxa listed as either threatened or requiring special conservation attention compared to previous years.

Measure

A total of 2 205 taxa (1 992 flora and 213 fauna) were declared to be especially protected, or included on the Department's priority flora/reserve fauna lists, at the end of 1994-95. This represents an increase of 4.3% in the number of taxa listed as requiring special conservation status compared to 1993-94.

Notes

- *A taxon (plural taxa) is a term for any classificatory group of organisms, including species, subspecies and varieties. The indicator refers to the proportion of the State's wildlife taxa declared to be specially protected (rare, likely to become extinct, or otherwise in need of special protection) under the Wildlife Conservation Act 1950, or included in the Department's priority flora or reserve fauna lists, in comparison with previous years.*
- *Under the Wildlife Conservation Act 1950, the Minister for the Environment can list, by Gazette Notice, those taxa of native fauna and flora which warrant special protection. Taxa may be listed as rare, likely to become extinct, or otherwise in need of special protection. CALM also prepares lists of those taxa that require special monitoring or management, through the priority flora and reserve fauna lists. In 1994-95, assessments were made of the status of the State's taxa, with the help of expert committees (Threatened Fauna Scientific Advisory Committee; Endangered Flora Consultative Committee). The Gazetted list of rare flora was amended in August 1994; that for specially protected fauna was last amended in April 1994. The Priority Flora list was also amended during the year.*

Key Efficiency Indicator

The change in number of the State's wildlife taxa on conservation lists, relative to the resources used, compared to previous years.

Measure

Recurrent expenditure in the program totalled \$26.22 million, an increase of 11.4% over 1993-94. This increase was accompanied by an overall increase of 4.3% in the taxa requiring special conservation attention.

FOREST RESOURCES Management Program 2

Objective

To provide regulate and sustain the supply of forest resources for the satisfaction of long-term social and economic needs in a manner that integrates the use of all resources, maximises their return to the State and minimises the impact on all forest values.

Key Effectiveness Indicators 1, 2, 3

1. The Forest Resources management program will be managed profitably.

Measure

Comparison between Program revenue and operating expenditure.

Year ending 30th June	Revenue	Recurrent Operating expenditure	Operating Profit
1992	\$83 976 547	\$83 584 196	\$ 392 351
1993	\$93 310 376	\$88 230 740	\$ 5 079 636
1994	\$97 793 385	\$95 748 007	\$ 2 045 378
1995	\$121 741 249	\$111 766 103	\$ 9 975 146

Note

The above expenditure and revenue figures are for the Recurrent Fund only and exclude recoupable projects and grants. The profit for 1991–92 was reduced and that for 1992–93 increased by the Government decision to grant timber companies extra time to pay their accounts during the period from December 1990 until December 1992.

2. The quantities of sawlogs harvested each year from native forest on Crown land will be regulated by Contracts of Sale.

Measure

The actual quantities of sawlogs harvested compared with the quantities specified in contracts of sale.

	Jarrah	Karri	Marri
Contract quantity (m ³)	518 982	255 623	56 500
Actual quantity harvested 1994–95 (m ³)	463 393	245 728	12 165
Quantity harvested as a % of contract quantity	89%	96%	22%

Notes

- Contract sawlog quantities are expressed in terms of annual averages, so the actual quantities may be above or below the agreed annual average in any particular year.
- The contracts regulate harvesting from the forest at levels that can be sustained indefinitely. In 1994–95 some sawmillers did not require their full entitlement of jarrah (in particular) or karri. With respect to marri, there was insufficient sawlog-quality marri available in the coupes cut over.

3. The harvest from the native hardwood forest will be maintained at a sustainable level.

Measure

The quantity of log timber harvested compared with the quantity predetermined by Government, based on the estimated sustainable yield.

Year ending 30 June	Log timber harvested from Crown land (m ³)	Quantity Predetermined by Government (m ³)
1994	1 378 720	2 336 000
1995	1 441 790	2 336 000

Notes

- The quantities predetermined by Government shown above are as adopted in the Hon. Minister's determination for the period 1.1.94 to 31.12.2003, and are expressed in the annual sustainable gross bole volume.
- The log timber harvested was below the quantity predetermined by the Government. This was mainly because of the large quantity of lower grade and small sized jarrah available for harvesting if suitable markets could be found.

FOREST RESOURCES Management Program 2

Key Efficiency Indicators 1, 2, 3, 4

1. Area managed for the whole Forest Resources management program per employee.

Measure

The area of existing and proposed State forest managed by CALM, designated for timber production on a sustained yield basis, divided by the number of CALM employees working for the Forest Resources management program.

Year ending 30 June	Area managed by the Forest Resources Program (ha)	Employees (full time equivalents)	Hectares per employee
1992	1 730 100	739	2 341
1993	1 733 000	693	2 501
1994	1 730 800	654	2 646
1995	1 766 500	612	2 886

Note

The above figures relate to the whole program and include native forest and plantation areas. The figures show an improving figure trend in efficiency from 1991-92 to 1994-95.

2. Area managed for native forest management per employee.

Measure

The area of native forest (mainly jarrah, marri, wandoo and karri) divided by the number of CALM employees working on native forest management.

Year ending 30 June	Area of multi-use native forest (ha)	Employees (full time equivalents)	Hectares managed per employee
1992	1 647 000	N/A	N/A
1993	1 646 000	400	4 115
1994	1 639 800	366	4 480
1995	1 676 000	432	3 880

Note

The 1995 figures include employees previously operating under the now discontinued timber supply sub-program.

3. Area managed for afforestation (plantation) management per employee.

Measure

The area of plantation (mainly pine, bluegum and mallet) divided by the number of CALM employees working on afforestation management.

Year ending 30 June	Plantation area (ha)	Employees (full time equivalents)	Hectares per employee
1992	83 106	N/A	N/A
1993	86 953	215	404
1994	90 980	196	464
1995	90 448	180	501

Note

The figures show an improving trend in efficiency from 1992-93 to 1994-95. The 1995 figures include employees previously operating under the now discontinued timber supply sub-program.

4. The cost of supplying log timber from Crown land.

Measure

The expenditure on timber supply (converted to today's \$ values) divided by the volume of timber supplied from Crown land and CALM produced logs from private property.

Year ending 30 June	Timber supply expenditure in nominal \$	Timber supply expenditure in 1994-95 \$	Volume of timber supplied m ³	Cost per m ³ nominal \$	Cost per m ³ in 1994-95 \$
1991	\$43 988 143	\$47 001 603	1 487 437	\$29.57	\$31.60
1992	\$49 153 081	\$52 123 617	1 667 646	\$29.47	\$31.26
1993	\$48 461 226	\$51 244 780	1 701 321	\$28.48	\$30.12
1994	\$53 427 106	\$55 298 286	1 932 483	\$27.65	\$28.62
1995	\$60 828 108	\$60 828 108	2 086 026	\$29.16	\$29.16

Notes

- Nominal \$ means the dollar values of the year in question. When comparing figures for a number of years it is appropriate to adjust the figures to today's dollar values (1994-95 \$) by use of the Consumer Price Index to remove the effects of inflation.
- The figures for cost per cubic metre (cost per m³) indicate an improvement in efficiency from 1990-91. The 1994-95

cost per m³ increased by 1.9% over the 1993-94 cost and can be largely attributed to an additional \$1 million (approximately) caused by Commonwealth Government decisions which disrupted forest harvesting activities. The expenditure figure for 1994 and 1995 excludes expenditure for supply of sandalwood, which in earlier years was costed to native forest management.

TOURISM AND RECREATION Management Program 3

Objective

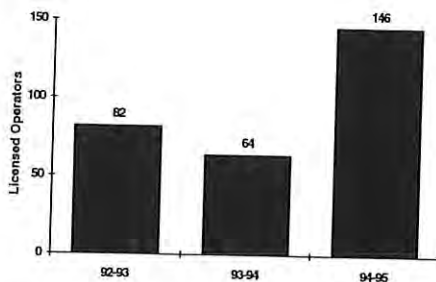
To identify, provide and maintain opportunities and services to the community which allow them to enjoy the wildlife, lands, waters and resources entrusted to the Department without compromising conservation and other management objectives.

Key Effectiveness Indicator 1

I. The provision of appropriate recreation opportunities and services for the enjoyment of the public.

Measures

- Twenty-four new recreation sites were developed, and facilities and public access were significantly upgraded at an additional 42 sites. This total of 66 new or improved recreation areas compares with the previous year's total of 52. The level of expenditure and the quality of upgrade has increased as a direct result of the introduction of visitor charges at 15 additional national parks.
- The number of commercial tour operators licensed under the *CALM Act Amendment Regulations 1993* for the year ending June 30 1995 totalled 146, with 19 applications pending assessment. At 30 June 1994 there were 64 approved licences with 50 applications pending assessment. This year's figure represents an increase of 82 registered operators over last year, and an increase of 64 operators over the number registered at 30 June 1993, before the implementation of the new regulations. Operators provide approved tours and activities for visitors in conservation areas according to the terms and conditions of their licences.



- Nineteen different visitor activity programs were provided by CALM across the State in 1994-95. Two of these were new programs. These activity programs are provided as a service to the public to enhance the enjoyment of their visit and increase appreciation for natural and cultural values.

Notes

- A *recreation area* is a place, usually with improved access and facilities, in which the public participate in leisure-time activities or experiences, e.g. camping and picnic areas. A *recreation facility* is a physical means or equipment associated with a recreational area or experience, e.g. roads, tables, bird hides, toilets.
- CALM is establishing a State-wide recreation and tourism facility database to provide an inventory of new and existing facilities and services. One regional and two district databases were trialed in 1993-94. As a result the concept was expanded and a prototype computer program was developed and successfully field tested in 1994-95. Detailed computer programming is now being undertaken to ensure that the database is compatible with CALM's existing financial management systems. The database will inventory facilities, recreation sites and features; record budgets for asset management and maintenance; and incorporate visitor statistics and research data.
- Visitor activity programs are provided where appropriate as a service to visitors to enhance their enjoyment and appreciation of natural and cultural values. They include interpretive experiences, outdoor education activities, cultural tourism activities, outback safety and bushcraft courses, ecology courses, LANDSCOPE Expeditions,

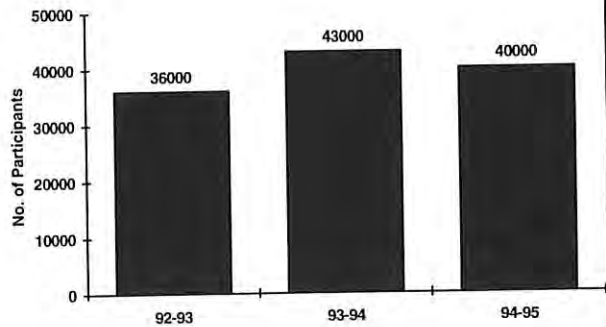
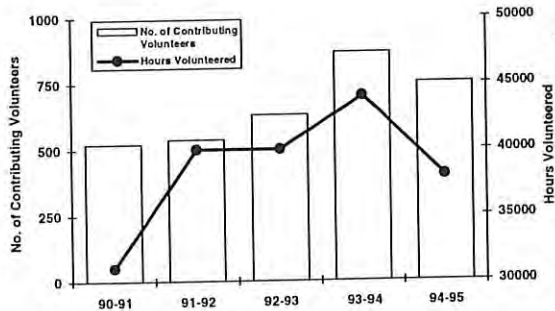
TOURISM AND RECREATION Management Program 3

Key Effectiveness Indicator 2

2. The extent to which the public has shown interest/support for CALM's tourism and recreation program.

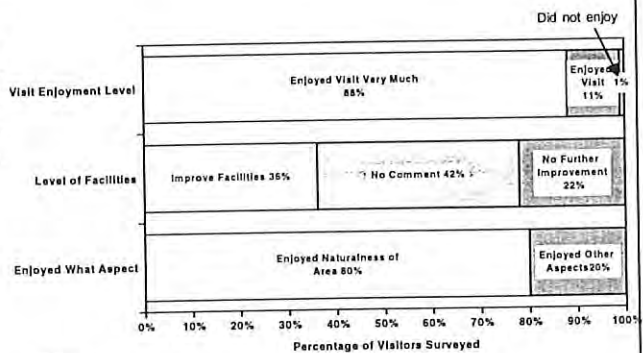
Measures

- The total number of new community volunteer projects in 1994-95 was 25. The number of volunteer hours spent on tourism and recreation programs this year was 38 000. The number of registered volunteers has increased to 1 921 while the number of contributing volunteers fell by 114.



- The number of participants in CALM visitor activity programs was 40 000 (including about 26 000 people who took the Geikie Gorge boat tour, led by a national park ranger). This represents a 7% decrease in participation in CALM visitor activity programs compared with last year.

- CALM conducted visitor surveys at 20 CALM-managed areas throughout the State. On average 88% of visitors enjoyed their visit very much, 80% especially enjoyed the naturalness of the areas, but 36% would like to see improved facilities and services; in particular, better access roads, toilets and other recreation site facilities were requested.



Note

There has been a slight reduction in the numbers of volunteers and participants measured; funding for one research project was halted, which led to a reduction of 7 000 volunteer hours. The reduction in participants is marginal and may reflect some temporary buyer resistance due to prevailing economic conditions and increased application of the 'user pays' principle towards full cost recovery for visitor activity programs.

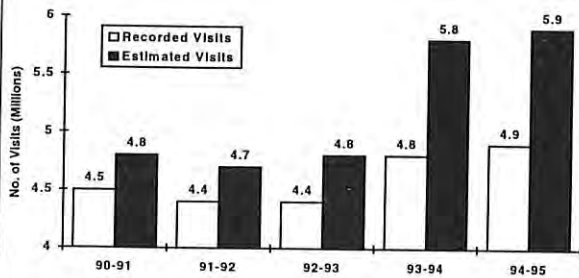
TOURISM AND RECREATION Management Program 3

Key Effectiveness Indicator 3

3. The number of visits to CALM-managed areas.

Measure

Visitor statistics indicate that the number of recorded visits to CALM lands and waters for 1994–95 was 4 891 000. This is a two per cent increase over last financial year's recorded visits of 4 752 000.



Note

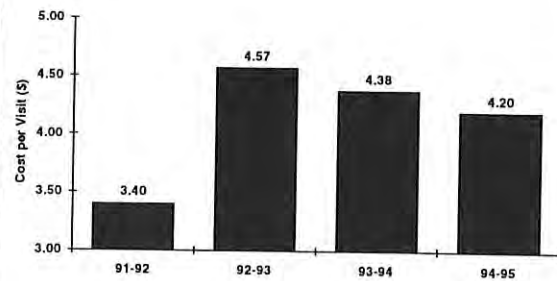
Data are only collected at certain times and selected sites, so the number of recorded visits does not represent the complete number of visits to the whole CALM-managed estate; but an estimated total can be calculated by extrapolation from recorded figures. The total estimated number of visits in 1994–95 is 5.9 million as compared with an estimated total of 5.8 million in 1993–94.

Key Efficiency Indicator

Cost per visit.

Measure

The cost of providing CALM's tourism and recreation services/recorded visits in 1994–95 was \$4.20 per recorded visit. This represents a decrease of 4.1% on the previous year's cost of \$4.38 per recorded visit.



Note

The index of efficiency is based on the total recurrent expenditure for the Program in relation to the total number of recorded visits to CALM-managed lands.



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, 1995

Scope

The Financial Administration and Audit Act 1985 requires the accountable officer 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.

I have reviewed the performance indicators reported by the Department of Conservation and Land Management for the year ended June 30, 1995 in accordance with the approach outlined in the Auditor General's First General Report for 1993. During my review, I have assessed the relevance of the reported indicators to the objectives of the Department, as well as the appropriateness of the indicators, to assist users to assess performance. I have also assessed whether the Department is reporting on all appropriate objectives. Where I have formed the view that the indicators are relevant and appropriate, I have also examined, on a test basis, the relevant information systems to determine whether the information reported in the indicators is verifiable and free from significant bias.

Audit Assessment

It is my view that, although the indicators reported are relevant to the stated objectives, they would benefit from further development before they will be appropriate for assisting external users to assess performance.

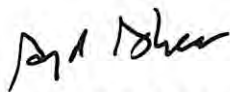
H M BLAKE
ACTING AUDITOR GENERAL
October 11, 1995

Financial Statements

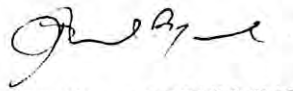
1994-1995

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 1995 and the state of affairs as at 30 June 1995.

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
15 August 1995



PRINCIPAL ACCOUNTING OFFICER
15 August 1995

**CONSERVATION AND LAND MANAGEMENT FUND
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94	ACCOUNT	1994-95
\$		\$
<u>4 685 525</u>	Balance as at 1 July	6 693 644
	This is represented by:	
852	Recurrent Account	422
661 348	Tree Planting Trust Fund Account	432 477
587 465	Capital Works Account	760 459
154 667	Nature Cons & Nat Parks Trust Account	175 011
3 067 748	Specific Purpose Trust Account	4 725 995
42 222	World Wildlife Grants Trust Account	-
155 956	Wood Utilisation Research Trust Account	243 763
15 267	Kal/Boulder Urban L/Care Trust Account	26 065
-	Sandalwood Cons & Regen Trust Account	329 452
	Receipts	
142 238 014	Recurrent Account	163 947 543
1 386 880	Tree Planting Trust Fund Account	1 362 967
12 849 462	Capital Works Account	13 211 428
139 951	Nature Cons & Nat Parks Trust Account	159 296
5 890 339	Specific Purpose Trust Account	8 848 776
-	World Wildlife Grants Trust Account	-
487 820	Wood Utilisation Research Trust Account	-
77 043	Kal/Boulder Urban L/Care Trust Account	70 829
329 452	Sandalwood Cons & Regen Trust Account	95 892
<u>163 398 961</u>		<u>187 696 731</u>
168 084 486		194 390 375
	Payments	
142 238 444	Recurrent Account	163 931 935
1 615 751	Tree Planting Trust Fund Account	1 795 444
12 676 468	Capital Works Account	13 244 023
119 607	Nature Cons & Nat Parks Trust Account	111 828
4 232 092	Specific Purpose Trust Account	7 084 856
42 222	World Wildlife Grants Trust Account	-
400 013	Wood Utilisation Research Trust Account	243 763
66 245	Kal/Boulder Urban L/Care Trust Account	18 547
-	Sandalwood Cons & Regen Trust Account	425 344
<u>161 390 842</u>		<u>186 855 740</u>
6 693 644	Balance as at 30 June	7 534 635
	This is represented by:	
422	Recurrent Account	16 030
432 477	Tree Planting Trust Fund Account	-
760 459	Capital Works Account	727 864
175 011	Nature Cons. & Nat Parks Trust Account	222 479
4 725 995	Specific Purpose Trust Account	6 489 915
-	World Wildlife Grants Trust Account	-
243 763	Wood Utilisation Research Trust Account	-
26 065	Kal/Boulder Urban L/Care Trust Account	78 347
329 452	Sandalwood Cons & Regen Trust Account	-

The purpose of the Conservation and Land Management Fund is to hold moneys derived under Sections 64, 68 and 69 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.

**RECURRENT ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95		
Actual		Estimate	Actual	
\$		\$	\$	
852	Balance as at 1 July	-	422	422
RECEIPTS (2)				
-	Revenue Retained - Under Section 23 Financial Administration and Audit Act 1985 (a)	97 739 000	119 005 700	21 266 700
125 938 000	Consolidated Fund	24 085 000	24 070 000	(15 000)
12 589 845	Contributions from Industry and Other Sources	11 879 000	15 366 461	3 487 461
2 118 241	Commonwealth Recoups	2 137 000	3 561 317	1 424 317
1 591 928	Income from National Parks	1 800 000	1 944 065	144 065
142 238 866		137 640 000	163 947 965	26 307 965
PAYMENTS (3)				
621 808	Ministers Office (incl. Env Appeals Committee)	510 000	483 308	(26 692)
23 456 416	Nature Conservation and Wildlife Management	23 209 000	26 220 153	3 011 153
99 290 570	Forest Resources Management	96 177 000	116 678 841	20 501 841
18 869 650	Management for Tourism and Recreation	17 744 000	20 549 633	2 805 633
142 238 444		137 640 000	163 931 935	26 291 935
422	Balance as at 30 June	-	16 030	16 030

* The 1993-94 Annual Report included expenditure authorised by other statutes.

**a) Summary of revenue retained under Section 23 of the
Financial Administration and Audit Act 1985
for the financial year ended 30 June 1995**

1993-94		1994-95	
Actual		Actual	
\$		\$	
17 065 793	Log Royalties	21 386 313	
7 485 472	Chip Log Royalties	8 666 703	
7 156 018	Sandalwood	14 532 990	
706 120	Other Territorial Revenue	917 606	
22 365 665	Pine Conversion Sales	27 758 147	
42 852 998	Hardwood Conversion Sales	48 234 126	
67 774	Other Departmental Revenue	44 310	
97 699 840	GRAND TOTAL	121 540 195	

In previous years these moneys were paid to the Consolidated Fund with the Department receiving an appropriation from the Fund.

For 1994-95 the Executive Director entered into an agreement with the Treasurer whereby these funds were retained by the Department as a source of funds for its operations.

For 1994-95 these funds were allocated as follows:

	\$
Recurrent Account	119 005 700
Capital Works Account	2 534 000
Retained by Treasury	495
	<u>121 540 195</u>

The figures for 1993-94 are for comparison purposes only.

**TREE PLANTING TRUST FUND ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95		
Actual		Estimate	Actual	Variation
\$		\$	\$	\$
661 348	Balance as at 1 July	432 000	432 477	477
RECEIPTS (2)				
1 239 000	Consolidated Fund	1 239 000	1 239 000	-
147 880	Other Income	-	123 967	123 967
<u>2 048 228</u>		<u>1 671 000</u>	<u>1 795 444</u>	<u>124 444</u>
PAYMENTS (3)				
<u>1 615 751</u>	Forest Resources Management	<u>1 671 000</u>	<u>1 795 444</u>	<u>124 444</u>
432 477	Balance as at 30 June	-	-	-

**CAPITAL WORKS ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95		
Actual		Estimate	Actual	Variation
\$		\$	\$	\$
587 465	Balance as at 1 July	760 000	760 459	459
RECEIPTS (2)				
-	Revenue Retained - Under Section 23 Financial Administration and Audit Act 1985	-	2 534 000	2 534 000
-	Consolidated Fund	8 794 000	8 794 000	-
10 000 000	Borrowings (5.1)	1 206 000	-	(1 206 000)
<u>2 849 462</u>	Internal Funds (5.2)	<u>1 290 000</u>	<u>1 883 428</u>	<u>593 428</u>
<u>13 436 927</u>		<u>12 050 000</u>	<u>13 971 887</u>	<u>1 921 887</u>
PAYMENTS (5.3)				
Forest Resources Management Program-				
Hardwood Forests-				
527 680	Access Roads	665 000	338 694	(326 306)
2 756 576	Regeneration	3 220 000	3 150 255	(69 745)
1 225 383	Sharefarming Scheme	1 091 000	1 002 877	(88 123)
Softwood Forests-				
27 362	Access Roads	40 000	-	(40 000)
5 287 279	Establishment and Tending	4 244 000	4 588 000	344 000
1 374 519	Sharefarming Scheme	1 500 000	977 232	(522 768)
Management for Tourism and Recreation Program-				
770 293	Improvement to Tourism Facilities	260 000	2 356 852	2 096 852
Nature Conservation and Wildlife Management Program-				
89 459	Conservation Land Acquisition	200 000	87 647	(112 353)
<u>617 917</u>	Plant and Equipment	<u>830 000</u>	<u>742 466</u>	<u>(87 534)</u>
<u>12 676 468</u>		<u>12 050 000</u>	<u>13 244 023</u>	<u>1 194 023</u>
760 459	Balance as at 30 June	-	727 864	727 864

**NATURE CONSERVATION AND NATIONAL PARKS TRUST ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95
\$		\$
154 667	Balance as at 1 July	175 011
RECEIPTS		
81 715	Flora Licenses and Royalties	91 438
53 005	Gifts, Devises, Bequests and Donations	53 435
5 231	Interest	14 423
<u>294 618</u>		<u>334 307</u>
PAYMENTS		
<u>119 607</u>	Scientific Research Relating to Flora and Fauna	<u>111 828</u>
175 011	Balance as at 30 June	222 479

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 investment. The moneys may be applied for the purpose of scientific research relating to flora and fauna.

**SPECIFIC PURPOSE TRUST ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

PROJECT	OPENING BALANCE	RECEIPTS	PAYMENTS	CLOSING BALANCE
	\$	\$	\$	\$
Commonwealth Projects - ANCA	1 422 227	2 823 791	2 460 448	1 785 570
Flora and Fauna Conservation	440 234	944 877	1 049 810	335 301
Management Plans	41 793	22 922	29 213	35 502
Donations	78 743	45 178	18 175	105 746
Other	2 742 999	5 012 007	3 527 210	4 227 796
GRAND TOTAL	4 725 995	8 848 775	7 084 856	6 489 915

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

The Australian Nature Conservation Authority (ANCA) provides funds for research into endangered flora and fauna. This research is aimed at preventing the extinction of the species and eventual recovery to sustainable numbers.

The Flora and Fauna Conservation item accounts for funds received for projects similar to those assisted by the Australian Nature Conservation Authority.

Moneys for Management Plans include contributions from companies in the area 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.

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.

**WOOD UTILISATION RESEARCH CENTRE TRUST ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95
\$		\$
155 956	Balance as at 1 July	243 763
RECEIPTS		
481 912	Proceeds from Sales	-
<u>5 908</u>	Interest	<u>-</u>
643 776		-
PAYMENTS		
400 013	Wood Utilisation Research	231 944
<u>-</u>	Transfer to Recurrent Account	<u>11 819</u>
400 013		243 763
243 763	Balance as at 30 June	-

The balance of this account was transferred to the Recurrent Account during the financial year, and this account has been closed.

**KALGOORLIE/BOULDER URBAN LAND CARE TRUST ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95
\$		\$
15 267	Balance as at 1 July	26 065
RECEIPTS		
25 000	City of Kalgoorlie-Boulder Grant	25 000
-	Kalgoorlie Consolidated Gold Mines	20 000
5 000	Western Mining Corporation	10 000
46 000	Kaltails Grant	5 000
535	CALM Grant (1)	-
<u>508</u>	Interest	<u>3 149</u>
92 310	Other	<u>7 680</u>
		96 894
PAYMENTS		
66 245	Landcare Projects	18 547
26 065	Balance as at 30 June	78 347

The Kalgoorlie/Boulder Urban Land Care Group is a committee established in Kalgoorlie-Boulder to plan, co-ordinate and implement landcare projects with community consultation, co-operation and participation. 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.

- (1) For 1994-95 CALM did not contribute directly to the Trust Account but provided \$46,000 from its Recurrent Account budget.

**SANDALWOOD CONSERVATION AND REGENERATION TRUST ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95
\$		\$
-	Opening Balance	329 452
RECEIPTS		
515 656	Contribution from Industry	77 024
<u>4 169</u>	Interest	<u>18 868</u>
519 825		425 344
PAYMENTS		
190 373	Sandalwood Projects	310 272
<u>-</u>	Transferred to Specific Purpose Trust Account	<u>115 072</u>
		425 344
329 452	Balance as at 30 June	-

The balance of this account was transferred to the Specific Purpose Trust Account during the financial year this account has been closed.

**CONSOLIDATED FUND - REVENUE COLLECTIONS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94			1994-95	
Actual		Estimate	Actual	Variation
\$		\$	\$	\$
81 440	Territorial	178 000	197 393	19 393
<u>413 321</u>	Departmental	<u>380 000</u>	<u>550 890</u>	<u>170 890</u>
494 761		558 000	748 283	190 283

This revenue relates to licences and fees which are not subject to the agreement entered into for revenue retention under Section 23 of the Financial Administration and Audit Act 1985.

The collections were previously recorded as other revenue under the Territorial and Departmental revenue classifications.

**PRIVATE TRUST FUND ACCOUNT
C.E. LANE POOLE MEMORIAL TRUST
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95
\$		\$
7 347	Balance as at 1 July	14 670
RECEIPTS		
10 650	Donations	-
<u>434</u>	Interest	<u>840</u>
18 431		15 510
PAYMENTS		
578	Printing and Associated Costs	-
<u>3 183</u>	Travel Costs Associated with Award	<u>7 664</u>
3 761		7 664
14 670	Balance as at 30 June	7 846

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
DIEBACK RESEARCH TRUST FUND
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95
\$		\$
23 121	Balance as at 1 July	24 203
RECEIPTS		
<u>1 082</u>	Interest	<u>601</u>
24 203		24 804
PAYMENTS		
-	Transfer to Specific Purpose Trust Account	<u>24 804</u>
24 203	Balance as at 30 June	-

The balance of this account was transferred to the Specific Purpose Trust Account during the financial year and this account has been closed.

**PRIVATE TRUST FUND ACCOUNT CONTRACTOR'S DEPOSITS
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95
\$		\$
1 069 521	Balance as at 1 July	1 256 589
RECEIPTS		
610 332	Deposits Lodged During Year	326 285
<u>44 892</u>	Interest	<u>78 558</u>
1 724 745		1 661 432
PAYMENTS		
<u>468 156</u>	Deposits Refunded During Year	<u>145 025</u>
1 256 589	Balance as at 30 June	1 516 407

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.

**COMMONWEALTH GRANTS AND ADVANCES
WILDLIFE RESEARCH AND DEVELOPMENT
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE FINANCIAL YEAR ENDED 30 JUNE 1995**

1993-94		1994-95
\$		\$
-	Balance as at 1 July	-
RECEIPTS		
2 705 663	Grants received from various Australian Government organisations	4 784 350
PAYMENTS		
2 705 663	Transferred to Specific Purpose Grants Trust Account	4 784 350
-	Balance as at 30 June	-

The purpose of this account is to hold funds received from the Commonwealth pending transfer to CALM.

NOTES TO THE FINANCIAL STATEMENTS

1. ACCOUNTING POLICIES

These financial statements have been prepared on a cash basis. Only collections received and payments made are included.

The statutory requirements of the Financial Administration and Audit Act 1985 and the Conservation and Land Management Act 1984 underlie the presentation of these Financial Statements.

The accounts in the Conservation and Land Management Fund provide details of expenditure and revenue in the Fund as required by Treasurer's Instruction 1004 and the Trust Statement for the Conservation and Land Management Fund. The accounts have not been established under section 69(1) of the Conservation and Land Management Act 1984 or section 9 of the Financial Administration and Audit Act 1985.

Receipts are credited to the Consolidated Fund in respect of Territorial Revenue obtained from royalties and Departmental Revenue received as a result of the department's commercial activities.

Payments are charged against Consolidated Fund Division 72 Items 150, 151 and 226.

2. RECEIPTS

As previously mentioned the Executive Director entered into an agreement with the Treasurer whereby moneys previously paid to the Consolidated Fund were retained by the Department as a source of funds for its operation.

The increase in revenue over the estimate was due to buoyant market conditions and is reflected as increased expenditure in the Forest Resources Management Program.

The Contributions from Industry and Other Sources in 1994-95 comprise:

Recoupable Work	11 447 996
MRD Road Grants	240 858
Contract Salaries	33 588
Saleable Publications	469 769
Nursery Sale	2 776 224
Interest and Other	398 026

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 variations 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.

3. PAYMENTS

3.1 Payments Charged to Programs and Sub-Programs

The Forest Resources Management Program has three sub-programs. The following table shows details of these sub-programs.

	Estimate	Actual
	\$	\$
Forest Resources Management	97 503 000	118 474 285
Native Forest Management	19 589 000	25 998 101
Afforestation Management	24 277 000	27 192 196
Timber Supply	53 637 000	65 283 988

3.2 Payments

The net appropriation agreement mentioned in note 2 provides greater flexibility for the Department to re-arrange its expenditure priorities to meet changed circumstances during the year.

The estimates against the programs were prepared some 15-18 months prior to 30 June, 1995 and are indicators only as to how the Department's programs are expected to be carried out.

The increase in activity in the Forest Resource Management Program is a flow on of the buoyant housing market conditions of 1993-94.

The increased revenue also enabled the Department to reduce its outstanding loan liability by \$3.2m more than budgeted.

NOTES TO THE FINANCIAL STATEMENTS (Cont.)

4. AMOUNT AUTHORISED BY OTHER STATUTES

1993-94		1994-95	
Actual		Estimate	Actual
\$		\$	\$
127 993	Salaries and Allowances Act 1975	124 000	129 790

This expenditure was allocated across the programs as follows:

1993-94		1994-95
\$		\$
25 584	Nature Conservation and Wildlife Management	25 958
89 608	Forest Resources Management	90 853
12 801	Management for Tourism and Recreation	12 979
127 993		129 790

In the 1993-94 Annual Report this was accounted for in the Recurrent Account figures.

5. CAPITAL WORKS**5.1 Loan Liability**

Loan liability at 30 June 1995 was \$120 270 949. The composition is:

	PRINCIPAL 30 JUNE 1994	NEW BORROWINGS	PRINCIPAL REPAID 1994-95	PRINCIPAL 30 JUNE 1995
	\$	\$	\$	\$
WA Treasury Corporation loans	120 053 556	-	7 083 291	112 970 265
Loans taken over by WATC	335 713	-	132 083	203 630
Other borrowings guaranteed by Treasurer	6 456	-	6 456	-
Softwood Forestry Agreements 1966-1983	7 403 937	-	306 883	7 097 054
	127 799 662	-	7 528 713	120 270 949

Interest payments of \$13,319,825 and the principal repayments shown have been included in the Recurrent Account statement.

5.2 Internal Funds

Internal funds in 1994-95 comprise:

Mining Compensation	1 972 735
Cash Order Movement and Other	(142 199)
Interest	52 892
	1 883 428

5.3 Capital Works Payments

For the first time since 1976-77 the Department did not borrow any funds for its Capital Works program.

Instead CALM received an appropriation of \$8 794 000 from the Consolidated Fund and was able to retain a further \$2 534 000 of revenue under

the net appropriation agreement and apply this to Capital Works.

Given that 70% of the expenditure under the Capital Works Account relates to the Forest Resources Management Program for the development of future commercial timber supplies this is seen as a more appropriate source of funding than borrowings.

Overall the Capital Works expenditure was not significantly different to 1993-94 however as mentioned in Note 3.2 the estimates were prepared some 15-18 months before June 30, 1995 and during that time priorities for funding changed. The one line appropriation gives the Department the flexibility to reallocate funds between programs.

NOTES TO THE FINANCIAL STATEMENTS (Cont.)

6. SUPPLEMENTARY FINANCIAL INFORMATION

* Losses of public moneys and public or other property:

	1993-94		1994-95	
	\$	\$	\$	\$
Irrecoverable amounts	2 872		2 814	
Other	<u>422</u>	<u>3 294</u>	<u>3 946</u>	<u>6 760</u>
General (includes thefts reported to Police, lost property and stock-taking deficiencies)		<u>13 043</u>		<u>6 215</u>
		<u>16 337</u>		<u>12 975</u>

* 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.

	1993-94		1994-95	
	\$	\$	\$	\$
Approved by the Executive Director		16 337		12 975
Approved by the Hon. Minister		<u>-</u>		<u>-</u>
		16 337		12 975

* Revenue due but not collected at 30 June 1995 was \$8,907,907. There is a reasonable prospect of recovery all but \$95,114 of this amount.

* Consolidated fund recurrent and capital works expenditure claims on hand but unpaid at 30 June 1995 amounted to \$1,796,941.

* Commitments for which invoices had not been received by 30 June 1995 were \$64,368.

* A Receipts in Suspense Account is kept to hold moneys received pending identification of the purposes for which these 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 Receipts in Suspense Account had a balance of \$500 640 at the end of the financial year.

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.

* A CALM - Payroll Deductions Account is kept to hold all income tax deductions and other payroll deductions from salaries and wages paid to CALM staff. When all deductions for a pay

period have been collected they are paid to the Australian Taxation Office, insurance companies, medical benefit funds and other relevant organisations. The CALM - Payroll Deduction Account had a balance of \$487 286 at the end of the financial year.

The balance of the CALM - Payroll Deductions Account is held as a Private Trust Account at Treasury with the interest being credited to the Government of Western Australia.

* A Withholding Tax Contractors Prescribed Payments Account is kept to hold moneys deducted from contractors prescribed payments in accordance with the Income Tax Assessment Act 1936. The deductions are paid to the Australian Taxation Office at the beginning of the month following the month in which deductions were made. The Withholding Tax - Contractors Prescribed Payments Account had a zero balance at the end of the financial year.

The balance of the Withholding Tax - Contractors Prescribed Payments Account is held as a Private Trust Account at Treasury with the interest being credited to the Government of Western Australia.

NOTES TO THE FINANCIAL STATEMENTS (Cont.)

7. EXPENDITURE BY STANDARD GROUPS (RECURRENT, CAPITAL WORKS AND TREE PLANTING TRUST FUND ACCOUNTS) AND AMOUNTS AUTHORISED BY OTHER STATUTES

1993-94		Estimate	Actual
\$'000		\$'000	\$'000
55 485	Salaries, Wages and Related Staff Costs	46 601	52 880
83 281	Other Operating Costs	83 935	104 980
17 763	Debt Servicing Costs	20 387	21 087
130	Grants, Subsidies and Transfer Payments	130	154
156 659	TOTAL GROSS EXPENDITURE	151 053	179 101

* The 1993-94 Annual Report showed Recurrent Account expenditure only.

8. REMUNERATION OF SENIOR OFFICERS

	1993-94	1994-95
	\$	\$
The total of fees, salaries and other benefits received or due and receivable for the financial year by Senior Officers of CALM:	812 103	788 097

The number of Senior Officers whose total of fees, salaries and other benefits received or due and receivable for the financial year, falls within the following bands:

60 000 - 70 000	1	2
70 000 - 80 000	6	7
80 000 - 90 000	2	NIL
120 000 - 130 000	1	1

9. RETIREMENT BENEFIT

In respect of Senior Officers the following amounts were paid for the financial year.

	1993-94	1994-95
	\$	\$
Contributions to Government Employees Superannuation Act Scheme	79 845	85 297
Redundancy Payments	96 321	NIL

At 30 June 1995, 9 employees of the Department were members of the Superannuation and Family Benefits Act Scheme.

No Senior Officers were members of the Superannuation and Family Benefits Act Scheme.

10. REMUNERATION OF AUDITOR

No fees were payable to the Office of the Auditor General for the financial year.



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, 1995

Scope

I have audited the accounts and financial statements of the Department of Conservation and Land Management for the year ended June 30, 1995 under the provisions of the Financial Administration and Audit Act 1985. The Department has submitted for audit financial statements prepared on a cash accounting basis.

The Executive Director 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. The primary responsibility for the detection, investigation and prevention of irregularities rests with the Executive Director.

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, the controls exercised by the Department to ensure financial regularity in accordance with legislative provisions, evidence to provide reasonable assurance that the amounts and other disclosures in the financial statements are free of material misstatement and the evaluation of accounting policies and significant accounting estimates. These procedures have been undertaken to form an opinion as to whether, in all material respects, the financial statements are presented fairly in accordance with the Treasurer's Instructions.

The audit opinion expressed below has been formed on the above basis.

Audit Opinion

In my opinion,

- (i) the controls exercised by the Department of Conservation and Land Management provide reasonable assurance that the receipt and 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 Statements of Receipts and Payments and the Notes to and forming part of the financial statements are based on proper accounts and present fairly in accordance with the Treasurer's Instructions the transactions for the year ended June 30, 1995.

H M BLAKE
ACTING AUDITOR GENERAL
October 11, 1995

Appendices

1994–1995

- | | |
|--|--|
| 1. Trend in the Area of Native Forest Harvested | 10. Number of Wildfires and Areas by Land Categories |
| 2. Areas of Even-Aged Karri Regeneration | 11. Purpose for Prescribed Burning by Forest Region |
| 3. Area of State-Owned Coniferous Plantations | 12. Number of Prescribed Burns Conducted in Native Forests |
| 4. Area of State-Owned Broadleaved Plantations | 13. Area and Number of Wildfires within the Three Forest Regions |
| 5. Trends in Log Production | 14. Licences Issued |
| 6. Trend in Chiplog Production | 15. Summary of Damage Licences Issued |
| 7. Trends in the Production and Use of Sawn Timber | 16. Offences Under the Wildlife Conservation Act and Regulations |
| 8. Trend for WA Overseas Imports & Exports of Forest Produce | 17. Publications |
| 9. Area of Prescribed Burns 1989–90 to 1992–93 | |

APPENDIX I TREND IN THE AREA OF NATIVE FOREST HARVESTED

	Jarrah Forest	Jarrah/Wandoo Forest	Karri Forest	
	ha	ha	Clearfelled or cut to seed trees ha	Thinned ha
1976–77	32 320	1 170	2 610	-
1977–78	26 020	740	4 450	-
1978–79	25 540	530	2 710	-
1979–80	25 150	860	2 110	60
1980–81	22 930	1 440	2 080	180
1981–82	24 680	610	2 180	320
1982–83	23 740	330	990	190
1983–84	21 540	580	1 490	260
1984–85	20 010	1 440	2 360	500
1985–86	22 640	650	1 590	340
1986	19 340	1 150	1 090	490
1987	17 180	1 380	1 310	700
1988	23 400	490	1 180	840
1989	15 130	200	1 510	910
1990	12 960	100	1 560	340
1991	10 910	-	1 920	230
1992	13 990	30	1 540	310
1993	14 250	40	1 630	80
1994	14 050	50	1 440	-

**APPENDIX 2
AREAS OF EVEN-AGED KARRI REGENERATION**

Year of Regeneration Area (ha)	Multiple Use Forest		Conservation Forest		Totals	
	Annual Total (ha)	Cumulative Area (ha)	Annual Total (ha)	Cumulative Area (ha)	Annual Total (ha)	Cumulative (ha)
Before 1900	60	60	1 200	1 200	1 260	1 260
1900-09	-	60	-	1 200	-	1 260
1910-19	140	200	30	1 230	170	1 430
1920-29	170	370	50	1 280	220	1 650
1930-39	5 800	6 170	460	1 740	6 260	7 910
1940-49	710	6 880	460	2 200	1 170	9 080
1950-59	560	7 440	160	2 360	720	9 800
1960-65	230	7 670	-	2 360	230	10 030
1966	160	7 830	-	2 360	160	10 190
1967	210	8 040	80	2 440	290	10 480
1968	690	8 730	130	2 570	820	11 300
1969	1 290	10 020	310	2 880	1 600	12 900
1970	80	10 100	-	2 880	80	12 980
1971	80	10 180	10	2 890	90	13 070
1972	1 110	11 290	1 380	4 270	2 490	15 560
1973	190	11 480	-	4 270	190	15 750
1974	140	11 620	30	4 300	170	15 920
1975	630	12 250	430	4 730	1 060	16 980
1976	1 770	14 020	50	4 780	1 820	18 800
1977	1 630	15 650	220	5 000	1 850	20 650
1978	1 630	17 280	310	5 310	1 940	22 590
1979	1 920	19 200	310	5 620	2 230	24 820
1980	2 090	21 290	120	5 740	2 210	27 030
1981	2 950	24 240	300	6 040	3 250	30 280
1982	2 310	26 550	150	6 190	2 460	32 740
1983	1 930	28 480	370	6 560	2 300	35 040
1984	1 750	30 230	470	7 030	2 220	37 260
1985	2 400	32 630	-	7 030	2 400	39 660
1986	1 910	34 540	-	7 030	1 910	41 570
1987	1 110	35 650	-	7 030	1 110	42 680
1988	1 460	37 110	-	7 030	1 460	44 140
1989	1 110	38 220	-	7 030	1 110	45 250
1990	1 300	39 520	-	7 030	1 300	46 550
1991	1 270	40 790	-	7 030	1 270	47 820
1992	1 400	42 190	-	7 030	1 400	49 220
1993	1 930	44 120	-	7 030	1 930	51 150
1994	2 300	46 420	-	7 030	2 300	53 450
Totals	46 420	46 420	7 030	7 030	53 450	53 450

APPENDIX 3 AREA OF STATE-OWNED CONIFEROUS PLANTATIONS AS AT 31-12-94

Planting Year	Pinus Radiata			Pinaster & Other Species			All Species					
	First Rotation (ha)	Replanted Areas (ha)	Cumulative Total (ha)	First Rotation (ha)	Replanted Areas (ha)	Cumulative Total (ha)	Year Total (ha)	Cumulative Total (ha)				
<1959	613	-	613	3 981	8	3 989	4 602	4 602				
1959	166	-	779	341	-	4 330	507	5 109				
1960	268	-	1 047	302	-	4 632	570	5 679				
1961	256	-	1 303	517	-	5 149	773	6 452				
1962	358	-	1 661	392	-	5 541	750	7 202				
1963	546	-	2 207	299	-	5 840	845	8 047				
1964	517	-	2 724	593	9	6 442	1 119	9 166				
1965	497	-	3 221	563	-	7 005	1 060	10 226				
1966	642	-	3 863	719	-	7 724	1 361	11 587				
1967	750	-	4 613	943	-	8 667	1 693	13 280				
1968	751	-	5 364	1 262	-	9 929	2 013	15 293				
1969	967	-	6 331	1 568	2	11 499	2 537	17 830				
1970	997	-	7 328	1 314	-	12 813	2 311	20 141				
1971	1 046	-	8 374	865	-	13 678	1 911	22 052				
1972	1 117	-	9 491	1 066	-	14 744	2 183	24 235				
1973	1 224	32	10 747	927	-	15 671	2 183	26 418				
1974	1 313	-	12 060	482	-	16 153	1 795	28 213				
1975	1 247	-	13 307	1 255	-	17 408	2 502	30 715				
1976	1 483	-	14 790	1 132	-	18 540	2 615	33 330				
1977	1 357	-	16 147	862	-	19 402	2 219	35 549				
1978	2 014	13	18 174	490	-	19 892	2 517	38 066				
1979	1 409	422	20 005	550	-	20 442	2 381	40 447				
1980	1 578	12	21 595	921	-	21 363	2 511	42 958				
1981	1 438	122	23 155	885	6	22 254	2 451	45 409				
1982	1 592	87	24 834	637	6	22 897	2 322	47 731				
1983	1 345	48	26 227	697	-	23 594	2 090	49 821				
1984	1 914	3	28 144	514	8	24 116	2 439	52 260				
1985	1 763	162	30 069	519	2	24 637	2 446	54 706				
1986	1 155	-	31 224	612	-	25 249	1 767	56 473				
1987	1 548	(726)	32 927 (726)	785	81	26 115	2 569 (726)	59 042 (726)				
1988	1 817	(1 310)	34 892 (2 036)	174	-	26 289	2 139 (1 310)	61 181 (2 036)				
1989	1 083	(444)	36 437 (2 480)	-	28	26 317	1 573 (444)	62 754 (2 480)				
1990	961	(801)	37 765 (3 281)	-	6	26 323	1 334 (801)	64 088 (3 281)				
1991	1 151	(1 074)	39 448 (4 355)	5	16	26 344	1 704 (1 074)	65 792 (4 355)				
1992	1 781	(1 776)	41 807 (6 131)	-	338	26 682	2 697 (1 776)	68 489 (6 131)				
1993	789	(707)	43 541 (6 838)	-	542	27 224	2 276 (707)	70 765 (6 838)				
1994	450	(395)	44 470 (7 233)	-	536	27 760	1 465 (395)	72 230 (7 233)				
TOTAL	39 903	(7 233)	4 567	44 470	(7 233)	26 172	1 588	27 760	72 230	(7 233)	72 230	(7 233)

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

APPENDIX 4 AREA OF STATE-MANAGED BROADLEAVED PLANTATIONS AS AT 31-12-94

Planting Year	CALM-Owned		CALM-Managed		TOTAL
	<i>E. globulus</i> (ha)	Other Eucs. (ha)	Owned by other Govt. <i>E. globulus</i> (ha)	Privately owned <i>E. globulus</i> (ha)	
<1987	59	6 554	-	-	6 613
1987	-	71	-	-	71
1988	1 520	15	-	-	1 535
1989	3 463	19	-	-	3 482
1990	774	24	65	-	863
1991	444	88	50	-	582
1992	877	1	20	-	898
1993	244	-	30	1 363	1 637
1994	85	-	266	1 836	2 187
Total	7 466	6 772	431	3 199	17 868

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)
1829-1916*									18 783 700
1917-1969							46 841 700	15 844 500	62 686 200
1970	1 040 100	174 170	1 214 270	81 280	1 500	82 780	1 121 380	175 670	1 297 050
1971	1 058 910	160 400	1 219 310	86 250	1 590	87 840	1 145 160	161 990	1 307 150
1972	1 005 480	105 680	1 111 160	90 760	1 310	92 070	1 096 240	106 990	1 203 230
1973	959 940	101 980	1 061 920	100 420	1 010	101 430	1 060 360	102 990	1 163 350
1974	961 070	90 710	1 051 780	123 390	1 170	124 560	1 084 460	91 880	1 176 340
1975	967 270	87 890	1 055 160	129 090	60	129 150	1 096 360	87 950	1 184 310
1976	1 089 100	111 760	1 200 860	105 570	-	105 570	1 194 670	111 760	1 306 430
1977	1 308 630	106 520	1 415 150	120 860	330	121 190	1 429 490	106 850	1 536 340
1978	1 319 910	118 030	1 437 940	125 550	1 680	127 230	1 445 460	119 710	1 565 170
1979	1 312 570	123 540	1 436 110	176 940	6 130	183 070	1 489 510	129 670	1 619 180
1980	1 390 660	160 240	1 550 900	191 360	4 830	196 190	1 582 020	165 070	1 747 090
1981	1 391 960	158 980	1 550 940	201 550	2 990	204 540	1 593 510	161 970	1 755 480
1982	1 218 750	112 990	1 331 740	173 480	14 830	188 310	1 392 230	127 820	1 520 050
1983	1 049 180	97 290	1 146 470	176 620	5 650	182 270	1 225 800	102 940	1 328 740
1984	1 134 760	131 360	1 266 120	198 280	3 560	201 840	1 333 040	134 920	1 467 960
1985	1 290 010	169 930	1 459 940	225 950	18 040	243 990	1 515 960	187 970	1 703 930
1986	1 331 830	127 010	1 458 840	247 640	29 120	276 760	1 579 470	156 130	1 735 600
1987	1 338 700	158 860	1 497 560	266 770	24 830	291 600	1 605 470	183 690	1 789 160
1988	1 427 620	174 520	1 602 140	302 450	31 160	333 610	1 730 070	205 680	1 935 750
1989	1 432 530	135 380	1 567 910	318 530	56 750	375 280	1 751 060	192 130	1 943 190
1990	1 319 250	80 560	1 399 810	312 520	105 860	418 380	1 631 770	186 420	1 818 190
1991	1 170 230	116 580	1 286 810	301 250	85 640	386 890	1 471 480	202 220	1 673 700
1992	1 247 730	120 560	1 368 290	363 420	85 410	448 830	1 611 150	205 970	1 817 120
1993	1 258 250	116 070	1 374 320	412 540	94 660	507 200	1 670 790	210 730	1 881 520
1994	1 261 130	88 940	1 350 070	509 390	115 220	624 610	1 770 520	204 160	1 974 680
1995	1 406 840	102 340	1 509 180	578 850	146 710	725 560	1 985 690	249 050	2 234 740

* Estimated

APPENDIX 6 TREND IN CHIPLOG PRODUCTION FROM NATIVE AND PLANTATION FORESTS

Year Ended 30 June	CROWN LAND						Total Private Property (m ²)	Combined Crown land & Private Property (m ²)	Percentage Private Property to Total (%)
	Sawmill (t)	Residue Branchwood (t)	Subtotal (t)	Marri (m ²)	Bolewood + Karri (m ²)	Other (m ²)			
cumulative* total:	1 711 215	68 278	1 779 493	6 667 278	2 164 279	5 150	8 836 707	9 856 811	10.3
1994	82 684	5 690	88 374	405 111	164 949		570 060	644 455	11.5
1995	91 410	10 251	101 661	505 655	166 919	2 076	674 650	766 869	12.0
Total	1 885 309	84 219	1 969 528	7 578 044	2 496 147	7 226	10 081 417	11 268 135	10.5

* 1976 to 1993 inclusive

Note: In 1994-95 4.6% of the total chipwood volume was produced from plantation forests.

APPENDIX 7 TRENDS IN THE PRODUCTION AND USE OF SAWN TIMBER

Year Ended 30 June	Sawn Production		Total (m ³)	Overseas Timber Exports (m ³)	Apparent Local Use (m ³)
	Hardwood (m ³)	Softwood (m ³)			
1970	425 295	16 893	442 188	96 275	345 914
1971	420 777	21 595	442 372	79 437	362 935
1972	379 006	21 733	400 739	101 191	299 548
1973	375 135	23 283	398 418	111 547	286 871
1974	374 899	26 534	410 433	98 200	303 233
1975	368 844	27 086	395 930	100 127	295 803
1976	383 010	16 258	399 268	94 136	305 132
1977	369 151	16 685	385 836	77 352	308 484
1978	347 111	18 669	365 780	58 833	306 947
1979	331 135	18 145	349 280	66 420	282 860
1980	331 411	21 400	352 811	71 955	280 856
1981	330 863	22 954	353 817	65 109	288 708
1982	320 915	22 190	343 105	48 448	294 657
1983	252 124	13 216	265 340	41 789	223 551
1984	258 861	14 723	273 584	N/A	N/A
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
1992	216 673	42 703	259 376	19 936	239 440
1993	230 945	65 564	296 509	16 644	279 865
1994	256 112	86 657	342 769	18 119	324 650

Source of export statistics: Australian Bureau of Statistics

APPENDIX 8 TRENDS FOR W.A. OVERSEAS IMPORTS AND EXPORTS OF FOREST PRODUCE

Year Ended 30 June	Timber and Wood Manufacture		Essential Oils and Tannin	
	Imports (\$)	Exports (\$)	Imports (\$)	Exports (\$)
1970	10 968 170	9 568 246	447 015	317 553
1971	6 761 806	6 914 644	279 188	343 512
1972	5 578 819	8 809 273	371 749	348 762
1973	8 326 939	9 640 753	592 249	337 736
1974	11 738 861	11 136 170	691 723	433 627
1975	14 053 751	9 212 370	1 107 743	479 019
1976	19 960 421	10 816 236	504 846	214 918
1977	24 857 792	10 355 198	642 962	45 767
1978	24 039 952	13 434 413	913 289	41 422
1979	18 200 508	18 682 636	614 676	61 525
1980	26 801 716	12 857 407	643 045	255
1981	28 691 997	13 746 212	512 254	2 361
1982	26 068 548	11 270 550	572 629	NIL
1983	23 738 070	9 930 788	342 276	300
1984	N/A	N/A	N/A	N/A
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
1992	29 877 000	15 417 000	681 000	N/A
1993	35 873 000	14 391 000	658 000	N/A
1994	44 095 000	20 091 000	858 000	N/A

Source: Australian Bureau of Statistics

APPENDIX 9 AREA OF PRESCRIBED BURNS 1992-93 TO 1994-95

	1992-93	1993-94	1994-95
Indigenous Vegetation - Hand Burning (ha)			
State forest			
• handburns	11 960	10 990	9 413
• slash and regeneration	13 110	12 790	**
• clearing burns	1 160	460	-
National parks	22 980	8 340	5 579
Nature reserves	2 280	1 240	235
Other Crown land and private property	1 100	260	-
Total	52 590	34 080	15 227
Indigenous Vegetation - Aerial Burning (ha)			
State forest	117 720	142 340	133 597
National parks	80 440	34 570	37 386
Nature reserves	-	32 980	15 579
Other Crown land and private property	14 440	2 180	23 881
Total	212 600	212 070	210 443
Indigenous Vegetation - Silviculture Burning (ha) **			
• Jarrah	-	-	26 801
• Karri	-	-	1 516
• Wandoo	-	-	1 300
Total	-	-	29 617
Softwood Plantation - Hand Burning (ha)			
State forest			
• winter burning	5 490	2 180	5 313
• second rotation clearing burns	-	-	246
Total	5 490	2 180	5 559

APPENDIX 10 WILDFIRES 1992-93 TO 1994-95 NUMBER AND AREA BY LAND CATEGORY NUMBER AND PERCENT BY CAUSE

	Number			Area Burnt (ha)		
	1992-93	1993-94	1994-95	1992-93	1993-94	1994-95
State forest						
• native hardwood	132	197	198	6 110	4 470	10 461
• softwood plantation	88	67	73	40	140	1 160
National parks	32	69	65	27 060	37 690	17 977
Nature reserves	25	25	26	53 340	38 570	44 036
Other Crown lands	66	71	90	49 350	101 430	21 018
Private property	66	118	131	8 300	16 900	7 040
Total	409	547	583	144 200	199 200	101 692
CAUSES						
	Number			Per cent		
	1992-93	1993-94	1994-95	1992-93	1993-94	1994-95
Deliberately/illegally lit	213	246	220	52	45	38
Escapes—CALM burns	13	27	22	3	5	4
Escapes—other burning	34	51	49	8	9	8
Accidental—timber industry	2	10	7	1	3	1
Accidental—other industries	27	23	39	3	4	7
Accidental—recreationists	30	35	33	5	6	5
Lightning	42	51	75	26	9	13
Unknown	37	75	107	8	14	18
Other causes	11	25	31	3	5	6
Total	409	543	583	100	100	100

APPENDIX 11 PURPOSES FOR PRESCRIBED BURNING BY FOREST REGION FOR 1994-95

Dominant purpose	Region	Autumn	Winter	Spring	Summer	Years since last burnt
Fuel reduction*	Swan	50	-	11 650	-	5-13
	Central Forest	5 522	-	66 091	-	5-14
	Southern Forest	28 324	-	51 837	10 388	4-22
		33 896	-	129 578	10 388	
Silviculture **	Swan	1 300	-	16 565	-	6-11
	Central Forest	532	-	5 246	-	6-10
	Southern Forest	2 831	-	3 005	210	3-8
		4 663	-	24 816	210	
Nature *** Conservation	Swan	-	-	-	-	-
	Central Forest	4 200	-	6 746	-	7-9
	Southern Forest	6 465	-	-	-	5-13
		10 665		6 746		
Tourism and Recreation	Swan	-	-	-	-	-
	Central Forest	-	-	2 254	-	5-8
	Southern Forest	-	-	-	2 700	13
		-	-	2 254	2 700	
Total (ha)		49 224	-	163 194	13 298	
Total (%)		22	-	72	6	

Notes

- * Fuel reduction burning also protects nature conservation values.
- ** Years since last burnt applies to jarrah silviculture only.
- *** Nature conservation burning also provides community protection benefits.

Data supplied pursuant to the Minister's Statement (24.12.92) under the Environmental Protection Act (1986) that the proposed amendments to the 1987 Forest Regional Management Plan and Timber Strategy may proceed.

APPENDIX 12 NUMBER OF PRESCRIBED BURNS CONDUCTED IN NATIVE FORESTS WITHIN FOREST REGIONS IN EACH SEASON FOR VARIOUS PURPOSES—1994-95

Dominant purpose	Region	Spring		Summer		Autumn		No. of escapes
		Aero	Hand	Aero	Hand	Aero	Hand	
Fuel reduction*	Swan	7	14	-	-	-	1	4
	Central Forest	18	19	-	-	1	2	5
	Southern Forest	7	3	3	3	9	2	9
		32	36	3	3	10	5	18
Silviculture	Swan	8	-	-	-	-	-	1
	Central Forest	2	7	-	-	1	6	5
	Southern Forest	2	22	-	5	2	27	-
		12	29		5	3	33	6
Nature Conservation	Swan	-	-	-	-	-	-	-
	Central Forest	2	1	-	-	1	-	-
	Southern Forest	-	-	-	-	3	-	1
		2	1			4		1
Tourism and Recreation	Swan	-	-	-	-	-	-	-
	Central Forest	1	1	-	-	1	-	-
	Southern Forest	1	-	-	-	-	-	-
		2	1			1		
Total		48	67	3	8	18	38	25
Aero Burns (% by season)		70		4		26		
Hand Burns (% by season)			59		8		33	

* Fuel reduction burning also protects nature conservation values.

Data supplied pursuant to the Minister's Statement (24.12.92) under the Environmental Protection Act (1986) that the proposed amendments to the 1987 Forest Regional Management Plan and Timber Strategy may proceed.

APPENDIX 13 AREA AND NUMBER OF WILDFIRES WITHIN THE THREE FOREST REGIONS—1994–95

Region		State forest native hardwood	State forest softwood plantation	National parks	Nature reserves	Crown lands and private property	Total
Swan	Area (ha)	3 676	1 134	2 443	372	12 249	19 874
	Number	84	66	21	9	107	287
Central Forest	Area (ha)	3 987	26	5	12	1 097	5 127
	Number	73	7	5	1	42	128
Southern Forest	Area (ha)	2 797	-	5	-	1 248	4 050
	Number	40	-	4	-	28	72
Totals	Area (ha)	10 460	1 160	2 453	384	14 594	29 051
	Number	197	73	30	10	177	487

APPENDIX 14 WILDLIFE LICENCES ISSUED IN 1994–95

Fauna Licences	Licences Issued	Fauna Licences (Cont.)	Licences Issued
SCIENTIFIC		CROCODILES	
Scientific Collection (Reg 17)	345	Crocodile Farming (Reg 14)	3
Bird/Bat Banding (Reg 23)	148	Processing (Reg 7)	2
		Dealing (Reg 8)	3
EDUCATION & PUBLIC (to take) (Reg 15)	163	KANGAROO	
		Take Kangaroos for sale (Reg 6)	206
EDUCATION & PUBLIC (to hold) (Reg 16)	116	Deal in carcasses (Reg 8)	37
		Skin Dealing (Reg 10)	24
		Processing (Reg 7)	28
AVIAN FAUNA		EXPORTS INTERSTATE	
Keep & breed in captivity (Reg 12)	4 098	Skins of fauna (or other dead fauna)	234
Deal (Reg 13)	59	Fauna (live) other than emus	371
Breed for Commercial Purposes (Reg 14)	4	Fauna (live emus)	117
Trap (Reg 11)	8		722
Species Trapped Commercially	Number	EXPORT OVERSEAS	
Twenty-eight Parrot	1 993	Skins of fauna (or other dead fauna) from WA	333
Red-capped Parrot	331	Emu eggs or products (personal items) from WA	89
Western Rosella	352	Fauna (avian) from WA (live)	10
			432
FAUNA		IMPORTS INTERSTATE	
Keep in Captivity (Reg 12A)	144	Skins of fauna (or other dead fauna) into WA	3
		Australian fauna (live)	443
EMUS		Live exotic birds and other animals	225
Emu Farming (Reg 14)	79		671
Dealing (Reg 8)	3	Flora Licences	
Dealing (Emu eggshells Reg 13)	17	COMMERCIAL PURPOSES	645
Skin Dealing (Reg 10)	6	COMMERCIAL PRODUCERS	430
Processing (Reg 7)	10	SCIENTIFIC/PREScribed PURPOSES	799
		PERMITS TO TAKE DECL. RARE FLORA	73
			1 950

APPENDIX 15 SUMMARY OF DAMAGE LICENCES ISSUED IN 1994-95

	No. of Licences Issued	Total No. of Each Species Authorised to be Taken		No. of Licences Issued	Total No. of Each Species Authorised to be Taken
WATERFOWL			AVIAN FAUNA OTHER THAN WATERFOWL & EMUS		
Wood Duck	26	490	Australian Raven	18	122
Black Duck	3	92	Brolga	1	20
Magpie Geese	1	20	Cormorant	2	52
Swan	1	20	Corella NLB	3	520
Grey Teal	1	5	Galah	10	325
			Glossy Ibis	1	Scare only
			Kookaburra	1	1
EMUS	161	16 674	Little Corella	29	1 105
			Pea Fowl	1	open
CROCODILES	3	6	Ringnecked Parrots	21	6 861
			Sacred Ibis	1	Scare Only
SEALS			Silvereye	1	500
Australian Sealion	5	Scare Only	Silver Gull	7	1 800
			Wedge-tailed Eagle	3	2
					+ Scare Only
			Welcome Swallow	7	74
			White-tailed Black Cockatoo	8	13
			Western King Parrot	9	360

APPENDIX 16 OFFENCES UNDER THE WILDLIFE CONSERVATION ACT AND REGULATIONS

Charges	Recomm'd Charges	Convictions	Fine \$	Cost \$	Dismissed	Letter of Warning	No Further Action	Pending
WILDLIFE CONSERVATION ACT								
Use of illegal devices in taking fauna.	1	-	-	-	-	1	-	-
Illegal taking or possession of protected fauna.	67	9	9 700	828	-	13	8	37
Illegal importation, selling or taking for sale of fauna.	16	-	-	-	-	8	3	5
Offences relating to the taking or possession of rare or threatened fauna.	2	-	-	-	-	-	-	2
Illegal taking of protected flora.	93	1	200	43	-	24	4	64
Offences relating to the sale of protected flora.	7	-	-	-	-	1	-	6
Taking declared rare flora without the Minister's consent.	5	-	-	-	-	4	-	1
Offences against wildlife officers.	4	-	-	-	-	-	-	4
Failing to comply with licence conditions.	5	-	-	-	-	5	-	-
WILDLIFE CONSERVATION REGULATIONS								
Offences relating to the possession, control and disposal of avian fauna.	13	-	-	-	-	1	1	11
Offences relating to activities on Nature Reserves.	23	1	100	247	-	6	3	13
TOTALS	236	11	10 000	1 118	-	63	19	143

APPENDIX 17 PUBLICATIONS PRODUCED IN 1994-95

GENERAL

A Commitment to Customer Service (leaflet)
 A Guide to National Park Passes (leaflet)
 Annual Report of the Department of Conservation and Land Management 1993-94
 Arbor Day Poster 1995
 Avon Descent Public Information 1994 (leaflet)
 CALM Internal Telephone Directory 1995
 CALM Book News (leaflet, 3 issues)
CALM News (newspaper, 7 issues)
CALM Science Supplement No 4
CALM Science Authors Index Vol 4
CALM Science Supplement No 2
CALM Science Vol 1 No 2 (journal)
CALM Science Vol 1 No 3 (journal)
CALM Science Vol 1 No 4 (journal)
 CALM Volunteers (leaflet)
 Counselling Information for Employees (leaflet)
 Discovering The Hills Forest (leaflet)
 Enterprise Bargaining — Newsflash 2 (leaflet)
 Fighting Fire with Fire (paper)
 Goldfields Region Management Plan — Analysis of Public Submission
 Goldfields Regional Management Plan
LANDSCOPE magazine (four issues)
LANDSCOPE Advertising Insert
LANDSCOPE Calendar 1995
LANDSCOPE Expeditions Program (leaflet)
LANDSCOPE Summer 91/92 (reprint)
LANDSCOPE Urban Wildlife Antics (leaflet)
 Leschenault Peninsula Draft Management Plan
New Horizons in Marine Management (report)
Nuytsia Vol 10 No 1
 Safety in Bush Fire Control: Bulletin No 71 — 1995 edition
 Science and Information Strategic Plan
 Shark Bay Marine Reserves Draft Management Plan
 Training Manual '95
 WA's Natural Advantage (leaflet)
 Wanjarri Nature Reserve Draft Management Plan
 West Cape Howe National Park Management Plan No 28 — Analysis of Public Submissions
 West Cape Howe National Park Management Plan No 28
 Western Australia's Natural Advantage — Capitalising on the Nature Based Tourism Potential of the North
Wild Places, Quiet Places (book reprint)
 Yalgorup National Park Management Plan No 29
 Yalgorup National Park Management Plan No 29 — Analysis of Public Submissions

WILDLIFE MANAGEMENT

Chuditch Recovery Plan—Wildlife Management Program No 13
 Declared Rare and Poorly Known Flora In the Albany District — Wildlife Management Program No 20
 Dryandra Woodland (poster)
 Dryandra Woodland Ecology Course (leaflet)

Greening Your Neighbours (leaflet)
 Guidelines for Planning, Operating and Rehabilitating Borrow Pits — Roadside Conservation Committee. Part 8 (loose leaves)
Guidelines for Planning, Operating and Rehabilitating Borrow Pits — Roadside Conservation Committee (booklet)
Guidelines for the Clearing and Maintenance of Roadside Vegetation by Local Government (booklet)
 Magpies (leaflet)
 Oral Histories Documenting Changes in Wheatbelt Wetlands — Occasional Paper 2/91
 Our Wild Plants (school kit)
 Project Eden (leaflet)
 Project Eden (newsletter)
 The Dibbler (leaflet)
 Western Swamp Tortoise Recovery Plan: Wildlife Management Program No 11
 Wildflowers in Victoria Plains (leaflet)

RECREATION MANAGEMENT

Albany to Denmark Coastal National Parks (leaflet)
 Cage in the Bush (leaflet)
 Cape Range National Park Visitor and Walk Trail Guide (leaflet)
 Discover The Hills Forest (leaflet)
 Dryandra Woodlands Information and Trail Guide (leaflet)
 Dwellingup and Lane Poole Forests and Reserves (leaflet)
 Esperance National Parks (leaflet)
 Experiencing Whale Sharks in Ningaloo Marine Park (leaflet)
Exploring Arid Lands (booklet)
Exploring Wheatbelt Woodlands (Educational Package)
 François Peron National Park (leaflet)
 Geikie Gorge Heritage Cruise (leaflet)
 Go Bush 95 (leaflet)
Goldie and the Riddles of Life — Forest Explorer (booklet)
 Ibis Aerial Highway: Discover the Wild Kimberley (brochure)
 John Forrest National Park — 1895 Swan View Tunnel (leaflet)
 Karijini Calling (magpaper)
 Karijini National Park (leaflet)
 Kennedy Range National Park (leaflet)
More Family Walks in Perth Outdoors (book)
 Mt Hart Homestead (poster)
 Nambung National Park (leaflet)
 Shark Bay (magpaper)
 Sights and Sounds of the Night (leaflet)
 The Hills Forest (magpaper)
 Walpole National Park and Forests (leaflet)
 Whale Watching (leaflet)
 Yanchep National Park (leaflet)

FOREST RESOURCES MANAGEMENT

Facts About WA Forests (newspaper)
 Forest Connections (leaflet)
Grow Bluegums with CALM (booklet)
Grow Bluegums with CALM and Profit in More Ways Than One (booklet)

Grow with Farm Forestry (leaflet)
 Lane Poole Report 1993–94 (report)
Native Trees of Dryandra (booklet)
 Pine Sharefarms (leaflet)
 Preservation of Round Timber Products — Report No 21
 Remnant Native Vegetation Ten Years On — Proceedings of
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 Summer Firewood 1995 (leaflet)
 The Western Bluegums Are Here (paper)
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