

COMO RESOURCE CENTRE
DEPARTMENT OF CONSERVATION
& LAND MANAGEMENT
WESTERN AUSTRALIA



*CONSERVATION AND
LAND MANAGEMENT*

**1988
ACCOMPLISHMENTS**

CALM'S 1988 ACCOMPLISHMENTS

A few months ago CALM regional, branch, district and research leaders were asked to review some of their major achievements during 1988. Not everyone responded, but most did, and the results are enclosed.

To my mind these reports are a wonderful demonstration of the energy and drive of CALM people and of the range of our interests and responsibilities. Huge progress is being made wherever one looks.

As has been said before, it's easy to dwell upon "problems" or areas where we still have miles to go. I hope all staff will also take a few minutes to read through these reports and dwell upon what has been achieved.



SYD SHEA
EXECUTIVE DIRECTOR
10 April 1989

WOOD UTILIZATION RESEARCH CENTRE

Research and development with edge and face glued panels at the Wood Utilisation Research Centre has demonstrated regrowth jarrah and karri trees as an expanding resource of wood suitable for furniture.

An economic computer model for sawmilling has been developed and is being used to demonstrate the commercial benefits to sawmillers of converting a proportion of their production into dry added value timber.

The Wood Utilisation Research Centre has developed a low cost low volume dryer designed to enable the numerous small sawmillers to participate in the value adding program.

Seven WURC Reports were published in 1988.

PHIL SHEDLEY

GREENOUGH/GASCOYNE REGION

1. Opening of the Milyering Bicentennial Visitor Centre.
2. Negotiating the Abrolhos Island Planning Strategy through to final report stage.
3. Landscape development work at Monkey Mia, and the good relations that have been developed with the Shark Bay Shire.
4. Site development work (Kalbarri National Park). This work includes
 - . new coastal walk trail
 - . new access roads to coastal features
 - . new and redeveloped car parks at both coastal and inland sites
5. Appointment of Marine Park Officer (Exmouth) and Landscape Planner (Geraldton) to the region.

GEOFF MERCER
REGIONAL MANAGER,
17 January 1989

HUMAN RESOURCES BRANCH

PERSONNEL AND INDUSTRIAL SECTION

1. Negotiated, for approval by Government and the Industrial Commission, 4% productivity packages for all CALM personnel.
2. Completion of an Equal Employment Opportunity Management Plan and formation of a CALM EEO Consultative Committee.
3. Finalised Broadbanding Determination for Field Staff in January 1988.
4. Carried out extensive reviews of Forest Act Field Staff positions and successfully had 41 positions reclassified on a work value basis.

TRAINING AND DEVELOPMENT SECTION

1. Established the Certificate in National Park Management accredited with the W.A. Council of Tertiary Awards.
2. Replaced the promotional examinations for some groups with fully identified training and development needs through a detailed job analysis approach.
3. Developed a new performance appraisal system to the stage where a pilot programme can be undertaken for Operations Field Staff.
4. Established a framework for a fully integrated Performance Management System, i.e.
 - . identification of areas of competence for job families
 - . establishment of performance criteria for job families
 - . new performance appraisal system
 - . publication of a training and development manual
 - . record of training and development for all personnel on PIMS
 - . new approach to training and development budget.

This framework will be further developed during 1989.

SAFETY SECTION

1. Reduction from 1382 days of lost time accidents in 1986/87 to 590 days lost in 1987/88. A 57% reduction in one year.
2. The all injury frequency rate of 60 is the lowest annual rate ever recorded in the history of the Occupational Health and Safety program within CALM.
3. One hundred and twelve units successfully qualified for the IFAP/FAI Insurance Safe Way Achievement Awards. The second most successful company in Western Australia.
4. Introduction and implementation of the new Occupational Health, Safety and Welfare Act and Regulations has proceeded without disruption.
5. Information sessions on this Act were provided to 95% of CALM personnel before proclamation of the ACT on 16 September 1988.

R G COOPER
MANAGER,
13 January 1989

METROPOLITAN REGION

1. Sustained input to the planning and development of urban parks and reserves (e.g. Planning Studies for Beeliar and Canning River Regional Parks completed, draft formal management plan of the Shoalwater Bay Islands completed, management proposals at Yangebup Lake and Alfred Cove Nature Reserve completed, formal management plans at Herdsman Lake and the Alfred Cove Nature Reserve initiated);
2. Significantly increased commitment and interagency acknowledgement of CALM's role in urban development programmes and environmental protection (e.g. urban rezoning and drainage management at South Jandakot);
3. Substantial improvements in protection management, particularly fire and feral animal control;
4. Improved interagency management of marine reserves. (e.g. strategies for abalone taking 1988/89 were amended by the Department of Fisheries based on conservation advice from CALM); and
5. The draft preparation of the Metropolitan Region Strategic Plan.

D A HASWELL
MANAGER
20 January 1989

WALPOLE DISTRICT

PRESCRIBED BURNING

The District achieved its full programme of fuel reduction (40,000 ha), karri slash (400 ha) and jarrah tops (460 ha) burning with no major hopovers.

Excellent quality fuel reduction was achieved, notably in the mixed karri fuel types in wattle block and the difficult tingle forest in the Walpole Nornalup National Park which were subject to intense scrutiny from conservation groups.

EDUCATION AND INTERPRETATION

There was excellent public response and comment about the Holiday activity programmes conducted during summer last year by National Park Rangers and this year by all District CALM staff and volunteers.

Activities included bushwalks, short interpretive walks, spotlighting, information talks on wildflowers, fishing, ethics of bushwalking, 4WD and tours.

ROADS

The District managed to obtain MRD funding which has allowed upgrading of strategic access roads. Recent road works have been achieved to high quality specifications in Walpole Nornalup National Park and Mt Frankland National Park without attracting criticism from conservation groups.

COALMINE BEACH HERITAGE TRAIL

The Coalmine Beach Heritage Trail was completed and remarks are very complimentary.

The opening of the Heritage Trail was a great success. 300 people from the Walpole community heard speeches from Jack Edmonds, an early pioneer and Walpole primary school children and then participated in a walk along the trail and a barbeque at Coalmine Beach Caravan Park. There was a lot of positive feedback from the community about the organisation by CALM District personnel and how enjoyable the day was.

WALPOLE NORNALUP NATIONAL PARK MANAGEMENT PLAN

Two very successful public workshops for the preparation of the Walpole Nornalup National Park were conducted in October and December.

Fifty invited people at the first workshop and 30 at the second, representing a full diversity of interest groups, were impressed with the conduct of the workshops and the opportunity they have had to date for input into the plan.

The workshops also provided an opportunity for a number of District staff to gauge public opinion about issues in National Park Management.

SAFETY

The Walpole District has achieved 2½ years free of Lost Time Injury Accidents to date. The District also received a safeway award for a 25% reduction in MTA's in a six month period. The number of MTA's in the last 12 months is 6.

LFO BUS

Walpole has purchased an ex MTT bus which is being fitted to serve as an LFO bus.

This innovative approach is attracting much interest.

District staff have developed the interior design with input sought from Fire Protection Branch and other CALM staff.

The bus will be ready for use in the latter half of this fire season. Further fitting and improvements will be made before next fire season.

SILVICULTURE

The Regional requirements for karri seed collection were mainly met within the Walpole District.

OFFICE ADMINISTRATION

A new PABX phone system has been installed. This has greatly improved communication efficiency within the office, slightly reduced the workload on clerical staff and improved our telephone image with the public.

LOGGING

Staff have responded well to the Timber Strategy which is being progressively implemented with some difficulties but no major hiccups.

P HANLY
DISTRICT MANAGER

CENTRAL REGION

PLANNING

1. Publication of a Strategic Plan for the Central Forest Region setting out key objectives, strategies and assessments of performance for the principal functions and services carried out by CALM in the Central Forest Region.
2. Kemerton

There has been a breakthrough with planning for the industrially complicated Kemerton estate. A Government sponsored structure plan prepared by a consultant has recommended the proportional allocation of land to CALM and ILDA. Our Department will look after the western half, which is mostly native woodland and the eastern part will be an industrial zone. When approved by Government the plan will clear the last obstacles to CALM producing a management plan and establishing a stable pattern of operations. The Park will remain an unusual mix of natural values and developments which will challenge our customary perceptions of Park management.

It was pleasing to see the consultants plan strongly influenced by CALM's previous planning for the estate. CALM has received much support and appreciation for its land use ideas at Kemerton from the Harvey Shire.

Leschenault Peninsula

The two advisory committees for this proposed park are working well. the preferred suggestions have been adopted and will help to guide the formation of the management plan.

3. Harvey District

Implementation of Benger Swamp Nature Reserve Management Plan.

ESTATE

Busselton District

There were significant additions to the National Parks and Nature Reserves estate in the district.

PROTECTION

1. Whale rescue at Augusta.- In September CALM and volunteers combines together again to mount, another successful whale rescue. Some 32 whales were collected from the coast east of Augusta, ferried across the Blackwood River, and transported to Flinders Bay where after several attempts the survivors were put out to sea.
2. Nannup District -
Folly pine fire: successfully suppressed a 200ha pine fire without loss of life or property. The area contained recent falling debris and combined with strong, hot winds and dry conditions the suppression task could not have been much more difficult. The area involved has been salvaged, stabilised, cleared and prepared for planting. 30 ha of planting was achieved last planting season.
3. Busselton District -

Successful removal of two steel shipping containers from the coastline of the Leeuwin - Naturaliste National Park at no cost to the Department.

4. Collie District -

Successful completion of a large Prescribed Burning Program

- . 22 538 ha Aerial Burning (Increase of 9,000 ha on previous 5year average).
- . 1 962 ha Hand Burning.
- . Highlights
- . Little/no edging, due to lack of suitable weather.
- . No major escapes or hop overs.
- . A first class burn in the Lower Collie Valley with very steep slopes and 9 - 12 year old fuels.

SAFETY

Lowest ever L.T.A. frequency rate for the Central Forest Region achieved, ie. 8. This compares well with the Departmental average of 13. Combined L.T.A. and M.T.A. frequency rate for C.F.R. stands at 57 which is well below that of other forest regions.

Collie District -

Twelve months L.T.A. free on 15th December, 1988.

Nannup District -

The District has pulled itself out of a safety performance doldrum and is now approaching 2 years LTA free with a very positive attitude.

REFORESTATION & REHABILITATION

1. Successful planting of approximately 1500 ha of Blue Gum in the Region with Regional staff.
2. Mining Rehabilitation

Tin: After 100 years of mining at Greenbushes a rehabilitation plan for the highly disturbed minesite is underway. Greenbushes Ltd. and CALM, with the assistance of the Mines Department have completed a Working Arrangement agreement which addresses all aspects of rehabilitation. Company management, along with production and environmental supervisors, are now "tuned in" to the prevailing techniques and standards for mine rehabilitation on State forest. They are progressively rehabilitating a backlog of historical disturbance as well as their own more recent operations. Although much remains to be done and there are some very difficult technical problems, both organisations feel they are making progress on a previously intractable problem.

Mineral Sand: A.M.C. at Capel have produced their first mine management and rehabilitation plan. This resulted from a condition on their renewed leases and encouragement from CALM and the Mines Dept. The Company is strongly committed to the wetlands rehabilitation project but a little backward with the dry "uplands". The combination of their new environmental officer, their management plan and continued close interest by CALM and the Mines Dept. should ensure some early progress on this lingering problem.

3. Collie District - Successful completion of a large planting program.

- . 60 ha pine (first plantings in Collie since 1979)
- . 620 ha Wellington Catchment Reforestation.
- . 100 ha *E. globulus* (Bluegum) Sharefarming on WAWA land.

780 ha

PRODUCTION

Busselton District - Completion of the first phase of implementation of the Timber Strategy.

Harvey District - Improved utilisation in jarrah logging through introduction of CALM logging contractors for Gd. 1,2,3 logs and other produce.

SYSTEMS

Successful introduction of computer wages and salaries allocation systems.

PUBLIC RELATIONS AND RECREATION

Busselton District - Successful public relations and information programs including On the Ridge 1989, displays at local shows and improved relations with local government authorities and other special interest groups. We also demonstrated our efficiency, flexibility and effectiveness in acting on suggestions such as the urgent repairs to the Hamelin Bay Boat ramp and Cape Leeuwin waterwheel.

Nannup District - External relations with the Shire, Tourist Association and local Bush Fire Brigades have become very much more positive and productive.

BUSSELTON DISTRICT

1. Completion of the first phase of implementation of the Timber Strategy.
2. Significant additions to the National Parks and Nature Reserves estate in the district.
3. Successful public relations and information programs including On the Ridge 1989, displays at local shows and improved relations with local government authorities and other special interest groups. We also demonstrated our efficiency, flexibility and effectiveness in acting on suggestions such as the urgent repairs to the Hamelin Bay ramp and Cape Leeuwin waterwheel.
4. Successful removal of two steel shipping containers from the coastline of the Leeuwin - Naturaliste National Park at no cost to the Department.

TONY RAVEN
DISTRICT MANAGER
10 January 1989

COLLIE DISTRICT

1. Twelve months LTA free on 15 December, 1988.
2. Successful completion of a large planting program.
 - 60 ha pine (first plantings in Collie since 1979).
 - 620 ha Wellington Catchment reforestation.
 - 100 ha *E. globulus* (Bluegum) Sharefarming on WAWA land.
 - 780 ha Total
3. Successful completion of a large Prescribed Burning Program:
 - 22 538 ha aerial burning (Increase of 9 000 ha on previous 5 year average).
 - 1 962 ha hand burning.

4. Highlights

- . little/no edging, to lack of suitable weather
- . no major escapes or hop overs.
- . a first class burn in the Lower Collie Valley with very steep slopes and 9-12 year old fuels.

NANNUP DISTRICT

1. Folly pine fire: successfully suppressed a 200 ha pine fire without loss of life or property. The area involved has now been salvaged, stabilised, cleared and prepared for planting. Thirty ha was replanted last season.
2. The district has pulled itself out of a safety performance doldrum and is now approaching two years LTA free with a very positive approach.
3. External relations with the Shire, Tourist Association and local Bush Fire Brigades have become much more positive and productive.

R ARMSTRONG
DISTRICT MANAGER

SOUTHERN FOREST REGION

VISUAL RESOURCE MANAGEMENT

During 1988 a Visual Resource Management (VRM) system was developed for the Southern Forest Region.

Broadscale assessment of physical and social attributes of the landscape was completed. Landform, vegetation, waterform, land use, observer travel routes, landscape perception, seen area and distance zones were overlain. Scenic quality and sensitivity were classified and finally a composite Land Management Zoning Plan was produced. Visual quality objectives were set for each zone and operational prescriptions written to achieve these objectives.

WARREN BICENTENNIAL TREE/GLOUCESTER TREE LOOKOUT TOWERS

A new fire lookout tower was pegged and constructed in Warren National Park. The cabin was constructed in the crown of the tree with only two small branches removed. The tree will continue to grow in a healthy condition with the cabin structure in place. A design plan for recreation facilities at the foot of the new tree has also been completed.

The Gloucester Tree, constructed in 1946, has had restoration work completed to prolong the life of this famous tourist attraction. Pruning, sealing and fungicide treatment has been carried out in the crown of the tree. Around the base of the tree the soil has been loosened and a timber deck constructed to prevent root compaction and allow better water penetration. All the work has been carried out under the guidance of a local advisory committee.

LAND ACQUISITION AND DEDICATION

In addition to the announced declaration of new National Parks in the Region (Shannon, Mt Frankland, Giants (addition to Walpole National Park), Brockman, Hawke-Treen (addition to Warren) and Mt Lindesay) there have been significant additions to the D'Entrecasteaux National Park through negotiated land purchases.

Seven freehold locations and three Pastoral leases have been acquired to secure enclaves within the National Park.

A total of 5200 ha of farmer pastoral lease and 1800 hectares of freehold land have been acquired through the joint efforts of Regional and SHQ staff.

PUBLIC PARTICIPATION PROJECTS

CALM's charter embraces the concept of public participation at all levels of management planning and implementation. The Southern Forest Region has a proud record of public involvement projects in 1988:

- . Ongoing monthly meetings of Karri D'Entrecasteaux Regional Advisory Committee.
- . Gloucester Tree Advisory Committee and voluntary work.
- . Public on-site workshop for development of a zoning plan for Lake Jasper.
- . Public workshop to review the fire protection plan for the Denbarker area.
- . A committee to evaluate and recommend action on huts in the D'Entrecasteaux National Park.
- . Volunteer project to build a toilet block at Donnelly River boat landing with Donnelly River Hutowners Association.
- . Two public workshops held as a prelude to the draft management plan for Walpole-Nornalup National Park.
- . King Jarrah Heritage Trail volunteer project with Manjimup Senior High School.
- . Seasonal holiday programme at Walpole-Nornalup National Park.
- . Eight public briefings on CALM's recommendations for review of Road River and Stream Reserves.

INTERPRETATION

An Interpretive Plan for Southern Forest Region was completed.

This is the first of its kind in W.A. An excellent step in planning for visitor information and experiences.

Interpretation has been integrated with recreation developments eg: at Four Aces the concepts, planning and design were all a team effort with District and Regional staff contributions. Five brochures and five posters were published. A significant contribution was made to "Quiet Places Wild Places" and the "Bibbulmun Track" booklet.

RECREATION MANAGEMENT

Much progress has been made in upgrading the recreation facilities within the Southern Forest Region to meet the requirements and expectation of the community.

Regional and District priorities and goals have been reviewed to set the direction of recreation management.

Examples of this has been supported by extensive training of staff and employees through formal schools and field exercises. Successes include Cascades, Big Brook, One Tree Bridge, King Jarrah, Walpole Heritage Trail and Four Aces.

The Four Aces area has been designed to complement the One Tree Bridge and Glenoran Pool redevelopment work and will serve as a focus for tourist coaches in the new conservation park. New facilities include a looped access road, coach parking areas, septic toilets, large sheltered information bay, interpretive walk trails and picnic areas.

The quality of the redesigned facility is a credit to the co-operative effort by District staff and employees, contractors, consultants and specialist staff.

WEST MANJIMUP NURSERY

A major expansion of the West Manjimup Nursery has been achieved to boost the number of container (jiffy pot) stock from 1 million in 1986/97 to 8.9 million in 1988/89.

New storage and work sheds were constructed. A high speed seeder and new stream sterilizer was installed. New soil bins and soil mixing facilities were built and seed tray handling systems installed. New drainage and irrigation systems, raised benches and shade cloth areas were constructed. Surrounding areas have been bitumized and designed for effective nursery hygiene.

All of this redevelopment work has been carried out at very short notice to accommodate important new initiatives such as the "Tree Trust". In addition important research work has continued such as the new "painted pots" container system which could revolutionize the growing of eucalypt seedlings in temperate climates.

SUPPLY OF SMALL KARRI SAWLOGS

The thinning of karri regrowth forests has expanded to more than 120,000 m per annum. A new sawmill at Pemberton is now working up to operating capacity of 20,000 m per year of small sawlogs. Together with 18,000m per annum to Monier Busselton mill this has increased the production target for small sawlogs to 38,000 m per annum. This will increase to 50,000 m in 1989 with the commencement of the new small log line at Greenbushes. The work by staff and contractors to implement new log segregation procedures to maintain supplies to customers has been an outstanding effort.

ALAN WALKER
REGIONAL MANAGER
11 January, 1989

SOUTH COAST REGION

1. Collation of historical information for each park of region and completion of South Coast Heritage Trails Network (Sandiford).
2. Trainee ranger programme up and running after many years of trying.
3. Successful suppression of wildfire at Two Peoples Bay Nature Reserve despite absence of Reserve Manager Danks and Operations Officer Maher.
4. Progress with Fitzgerald River National Park Management Plan (Moore) and cohesive nature of advisory committee.
5. Good progress with production of interim guidelines in both Albany and Esperance District.

List provided by Assistant District Manager, Albany:

1. Pine planting
2. Brigade training - pine manual
3. District set up reasonably well
4. Road through Frank Hann National Park
5. Dieback programme
6. Interim guidelines.

JOHN WATSON
REGIONAL MANAGER
13 January 1989

KIMBERLEY REGION

TOUR OPERATORS FORUM

This exercise was held prior to the visitor season to brief operators on what was happening in the Bungle Bungle area. Some 30 people attended the three day forum during which there was a good exchange of ideas. The forum was a precursor to a probable operators accreditation course for this park.

TRAINEES

Two Trainees in office procedure have completed a successful year. One was employed under the Department of Employment & Training scheme and the other under the Training for Aborigines scheme. Six Aboriginal men have commenced their training to become rangers for the Purnululu (Bungle Bungle) National Park.

COMPUTERIZATION

A fairly smooth entry into the world of computers.

AERIAL BURNING PROGRAM

A successful program was carried out and as a result major bushfires in the area were diverted from the Prince Regent River Nature Reserve and protection was given to other parts of the CALM estate.

CDONE
REGIONAL MANAGER

LAND INFORMATION

With the establishment of the Section in October, an organizational framework was achieved that will provide appropriate and timely land information for CALM's future requirements.

Milestones achieved in 1988 being:

1. Successful completion of the 3 Forest Regional Management Plans.
2. Completion of major publications - "Beating About the Bush", "Wild Places Quiet Places", and the revision of "A Guide to the Bibbulmun Track".
3. Major involvement in the Jarrah Inventory Project.
4. Continued development and output from CALM's Geographic Information System.

PETER BOWEN
MANAGER
12 January 1989

KIRUP DISTRICT

1. Winner of the inaugural Regional Gang Fire Training Competition held at Nannup on 12 December 1988.
2. Safety achievement of one year L.T.A. free on 9 January 1988 and subsequent achievement of two years L.T.A. free on the 9 January 1989.
3. Development and acceptance of a working arrangements document between CALM and Greenbushes Tin Ltd.
4. Commencement of a program of broad scale treatment of blackberries within Ferndale Pine Plantation. Total area covered in first season of treatment 230 ha.

A P SEYMOUR
DISTRICT MANAGER
12 January 1989

INVENTORY BRANCH

1. JARRAH INVENTORY PROJECT

With contributions from the Fire Protection and Computer Branches, a helicopter borne, aerial photographic system was developed. The system comprises synchronised twin cameras, a satellite navigation system and a radar altimeter. The functions of the equipment are co-ordinated by an on-board computer system.

Using the photographic system, photosample plots were established at about 8000 precisely defined locations in the jarrah forest of the Northern and Central Forest Regions.

The interpretation of the photoplots is in progress. They will provide gross - bole volume estimates of the wood resource.

About 10% of the photoplots were visited on the ground and measured precisely by relascope. The ground measurement data will provide estimates of resources by log products.

Gross-bole volume resource estimates have been prepared for about 330 000 ha of the Central Forest Region.

2. The Geographic information system, FMIS has been redeveloped to run on the departmental VAX computer. The new system incorporates many new and improved features, including a wide range of functions and userfriendly interfaces.
3. In liaison with Environmental Protection Branch the Manjimup Section developed a dieback hazard rating system for the southern jarrah type.
4. In 1987 the dieback photography programme fell far short of its objectives, due mainly to the failure to exploit every photographic opportunity. In 1988 the Bunbury section organised a cloud observation service and developed the communication and liaison channels with DOLA necessary to overcome the problem. Most of the 1988 programme was achieved. More than 90% of the priority target areas were photographed.

H CAMPBELL
MANAGER
12 January 1989

WILDLIFE AND LAND ADMINISTRATION BRANCH

CONSERVATION LAND PURCHASES

1987/88 was a very successful year for conservation land purchases, with a number of outstanding properties being acquired for subsequent addition to the State's conservation estate. A number of significant purchases have already been finalised in 1988/89, chief amongst these being 4 blocks comprising an enclave property with the Cape Le Grand National Park and a number of further valuable proposals are under consideration.

BAILEY COMMITTEE REPORT: REVIEW OF NATURE RESERVES AND NATIONAL PARKS.

The Government's new policy on exploration and mining in national parks and nature reserves required that Class B and Class C nature reserves and national parks be individually reviewed, with those of sufficient value being re-classified as Class A. The review of these 900 reserves is now complete.

EPA REDBOOK RECOMMENDATIONS

The Department is committed to the implementation of outstanding EPA Redbook recommendations for addition to the State's conservation estate and this Branch is a member of the EPA Taskforce addressing the accelerated implementation of these proposals. Negotiations with affected Departments and local government authorities are working towards resolution of these recommendations on a case by case basis.

THE CREATION OF NEW AND MAJOR NATIONAL PARKS.

- . Shannon National Park
- . Mt Frankland National Park
- . D'Entrecasteaux National Park (Major addition 18,000 ha)

COMPUTER LICENCE SYSTEM

The Branch has now finalised the transition to computer generated licences and is currently using in excess of forty different licence types for wildlife management.

In the area of kangaroo management, a new system which identifies rangeland regeneration areas and directs shooting to those areas of need has been introduced.

MARINE RESERVES

1. Creation of proposed reserves flowing from the Shark Bay Region Plan. These reserves are currently with DOLA for clarification of boundaries and should be declared in early 1989.

HAMELIN POOL MARINE NATURE RESERVE(148,000 HA)

Purpose of declaration: Preservation of the world famous stromatolites, sedimentary processes and geological structures.

MONKEY MIA MARINE PARK (600 HA)

Purpose of declaration: To protect dolphins and secure management objectives with respect to visitors seeking to meet the dolphins.

BIG LAGOON MARINE PARK (600 HA)

Purpose of vesting: Protection of scenic values, public recreation, conservation of flora and fauna, and protection of fish nursery areas.

WOORAMEL DELTA MARINE PARK (26,000 HA)

Purpose of declaration: Protection of dugong and their summer habitat.

2. Creation of proposed Marine Park reserves for two of the atolls of the Rowley Shoals, situated 260 km northwest of Broome. Declaration early 1989.

The Rowley Shoals are important and near pristine atolls which need long term protection. The atolls provide an extraordinary collection of marine life unsurpassed elsewhere on the W.A. coast and are comparable with the best coral reefs in the world.

CONDITION OF ROADSIDE VEGETATION IN RELATION TO NUTRIENT STATUS.

On behalf of the Roadside Conservation Committee, the CSIRO Division of Wildlife and Ecology has undertaken a project to examine the importance of soil nutrient status in determining the condition of roadside vegetation, especially in relation to weed invasion and insect herbivory.

L MARRABLE
ASSISTANT MANAGER
12 January 1989

ESPERANCE REGION

1. The construction and installation of gas barbecues in Cape Le Grand National Park.
2. The purchase of the private property in Cape Le Grand National Park.
3. Closer liaison and co-operation with the Shire especially in regard to coastal management matters and fire control.
4. Roadworks, particularly the Lucky Bay Poison Creek Roads.
5. The biological surveys at Cape Arid and Stokes National Park.
6. Erection of more nature reserve signs.
7. Heritage Walk Trails (Cape Le Grand and Stokes National Parks).
8. Expansion of Helms Arboreta.
9. Completion of Interim Guidelines for Cape Arid and Stokes National Parks.

K. TIEDEMANN
DISTRICT MANAGER

JARRAHDAL DISTRICT

1. Second consecutive year without a lost time accident.
2. Professional handling of J15 fire within Minesite by all personnel involved.
3. Finally obtaining approval to include jarrah and marri as major species mix in the rehabilitation prescription for the minesite, in line with operational trials carried out in Jarrahdale during the preceding two years.
4. Implementation of a successful wandoo regeneration programme on a large operational scale.
5. Preparation of a recreation management plan for Serpentine National Park and Serpentine Conservation Reserve.
6. Implementation of a comprehensive burning programme within Jarrahdale minesite during a very limited season, utilizing the helicopter.
7. Signing of contracts for M.F.P. and firewood after protracted internal discussions during the past 2½ years.
8. Addition of new 4x4 double cab gang truck.

DENISE ALLEN
DISTRICT MANAGER
11 January, 1988

NORTHERN FOREST REGION

MANAGEMENT

Working arrangements between districts, region, specialist branches and other organisations have improved.

A structured approach to implementation of the RMP was implemented.

The "World Rally" event was largely managed by the Region.

Work programmes for "work release offenders" have been initiated with Department of Corrections and Unions.

Region initiated and has helped to develop the Department's Volunteer Project.

Jarrahdale and Kelmscott won Safety Achievement Awards.

OPERATIONS

1. FIRE

An effective interagency fire training programme was completed with Police, Bushfires Board, Shires and WAFB.

Fire gang competitions were very successful.

A strategic fuel reduced buffer system was devised for the Region

The Campaign Fire Organisation developed by this Region was instrumental in the Region's successful suppression of the Lane Poole fire.

2. MINING

Dieback hygiene procedures have been considerably upgraded through a priority system and new mining prescriptions.

Return of jarrah to mined-over areas is now a current rehabilitation prescription for good quality forest.

3. TIMBER INDUSTRY

New contracts for supply of second grade sawlogs have been implemented.

MFP areas have been tendered to provide market competition and defuse political problems.

A structured programme has been implemented for supply of public firewood in small lots (trailer loads).

Jarrah silviculture has been extended to rehabilitation of poor quality forest after logging. There has been some similar work on wandoo.

CONSERVATION AND RECREATION

There has been considerable progress in locating and identifying rare and endangered flora in the Region.

Work on rare fauna has commenced.

A management plan was produced for Yanchep National Park.

Public participation/relations programmes have been developed for a variety of projects eg. Yanchep Plan, Bibbulmun Track, Regional Recreation Plan (Parkerville seminar), public firewood, media training programme for staff, John Forrest Heritage Trail etc.

Landscape plans were developed for Walyunga and John Forrest NP.

E A JENKINS
ACTING REGIONAL MANAGER
9 January 1989

KATANNING DISTRICT

1. A 64% reduction in the incidence of disruptive or illegal activities on nature reserves over a three year period.
2. The recording and mapping of 115 species of rare or restricted flora, with details of over 250 sites.
3. Maintenance of a safe working environment. The District has lost only two working days from accidents since August 1985, and has had only three minor MTA's during the same period.

W TIEDEMANN
ACTING DISTRICT MANAGER
10 January 1989

WHEATBELT REGION

1. Publication of "Voices of the Bush", and the achievements this represents in relation to a number of Regional objectives.
2. The completion and implementation of a records system for declared rare flora. This system has already proved very valuable.
3. The implementation of a more proactive, rather than reactive, approach to management in the Region. This has resulted from a number of actions including the establishment of Merredin District.
4. The generally high level of commitment by personnel to their work.

Ken Wallace
REGIONAL MANAGER
29 December 1988

NARROGIN DISTRICT

1. Negotiations were completed for the purchase of 128 ha of farmland adjacent to Lake Toolibin Nature Reserve. 20,000 trees, grown at the Narrogin nursery from locally collected seed, were planted in this purchased land. A bore was established in Lake Toolibin to test pump the ground water to lower the salt water table. This work is part of the implementation phase of the North Arthur River Wetlands Rehabilitation Committee findings aimed at retaining the valuable water fowl breeding habitat at Lake Toolibin.
2. Negotiations were also completed for the acquisition of three areas of uncleared farmland adjacent to Boyagin Nature Reserve, a large area adjacent to Pingeculling Nature Reserve, and an area in Beverley Shire. These are all valuable estate additions and ones that have been sought for some considerable time, in the later instances for nearly ten years.
3. A block burn on a reserve in the Kellerberrin Shire was successfully undertaken as part of a CSIRO - CALM long term research project into remnant vegetation. This burn was the culmination of extensive liaison with the local community who were against the burn on environmental grounds.
4. Narrogin District have now taken over the fox baiting on Dryandra State Forest, and Boyagin and Tutanning Nature Reserves from Research Division. This represents a significant phase in wildlife management; whereby a long term research project is now being developed into an operational procedure.

RECREATION AND LANDSCAPE BRANCH

SOCIAL RESEARCH- Visitor Information Statistics (VISTAT) project.

Objectives: to establish levels and patterns of visitor use; to determine public perceptions and attitudes in response to management changes to landscape; to provide a standard approach to data collection, collation and assessment.

Status: Approved October 1988 for implementation by all field units - 55 Parks, Reserves and Forest areas are currently being monitored on a continuing basis.

VISUAL RESOURCE MANAGEMENT

Objectives: to ensure that all land uses and activities are planned and carried out in ways that complement the inherent visual qualities of the natural environment. This is achieved through a systematic inventory and assessment of visual resource elements. Guidelines are written for landscape priority zones to help managers sympathetically alter land through an understanding and application of sound landscape management principles.

Status: One year trial project complete in Southern Forest Region - Resource inventory complete; field trials - harvest, scrubrolling and burning - underway.

Two permanent Landscape Architect/planners to be hired immediately to co-ordinate and implement Visual Resource management throughout CALM managed land.

NEW PUBLICATION - CALM Sign Manual

This is a state-of-the-art guide to communication with the public through effective signing. Topics include: when to sign, composition and siting, preparing a sign plan, maintenance and specifications. The Manual is designed to insure that CALM signage is of a uniformly high standard - thus enhancing CALM's image as an effective land manager.

Status: Released January 1989

BIBBULMUN TRACK

This 2 year project resulted in reconstruction, realignment, construction of campsites, signing and publication of the new Guide to the Bibbulmun Track

Status: Complete.

STAFF TRAINING

The first Advanced Recreation Planning and Management Course was held between 15-19 August at Point Walter Conference Centre. It was designed especially for District Recreation Officers, Park Supervisors, National Park Rangers and District Managers. Content covered leisure politics and policy, recreation resource planning, visitor management, site planning, site plan preparation and site management and maintenance.

Status: 30 graduates; annual commitment.

PARKS IMPROVEMENT PROGRAMME

Site development plans or area master plans have been prepared as part of this major rebuilding initiative for National Parks and recreation areas as follows:

Geikie Gorge, Millstream Chichester, Bungle Bungle, Cape Range, Nambung, Kalbarri, Walylunga, Yanchep, John Forrest, Lesmurdie, Serpentine, Leeuwin-Naturaliste, Cape Le Grande, Fitzgerald River, Torndirrup, Cape Arid, Goldfields Reserves, Penguin Island.

Status: Variable - from complete to under construction. Branch involvement is continuing.

R HAMMOND
ASSISTANT MANAGER

MUNDARING DISTRICT

PUBLIC FIREWOOD AREAS

The preparation of areas within D.R.A. to allow the public to purchase domestic firewood with an incentive for them to purchase it during summer by offering a price reduction per trailer load over the summer months.

WANDOO REGROWTH THINNING

The commercial thinning of regrowth stands with the sale of the produce substantially covering the cost of the thinning operation.

RALLY AUSTRALIA

The use of access within D.R.A. with full control and cleandown of all vehicles entering D.R.A.

PUBLIC PARTICIPATION AND PUBLIC DISPLAYS

Displays were provided for Outdoor Shows and several Shopping Centres. These proved very successful. A Public Participation Day was held regarding John Forrest National Park Development.

PETER KEPPEL
DISTRICT MANAGER

WESTERN AUSTRALIAN HERBARIUM

1. Successful transfer of WA Herbarium from Agriculture to CALM.
2. Dr T D MacFarlane recommended to the position of Australian Botanical Liaison Officer, Kew, London, for 1989-90.
3. Acquisition of the Herbarium holdings of the University of Western Australia.
4. Publication of three issues of our in-house, scientific journals, "Nuytsia" and "Kingia": many new WA plant species described.

B R Maslin
ACTING CURATOR

ECONOMICS BRANCH

1. Development of Hardwood Sharefarming Scheme and processing of Sharefarming applications.
2. Development of the economics of Tree Trust proposal.
3. Development of an operations research model to assist Northern Pinaster timber production planning.
4. Several economic studies dealing with wildlife and recreation (eg. review of wildflower royalties).

GEORGE MALAJCZUK
PRINCIPAL ECONOMICS OFFICER

MAPPING

1. The co-operative efforts of Mapping, Publications and Drew Griffiths and team in the production of the new edition and re-opening of the "Bibbulmun" Track.
2. The standard of products and team effort achieved to publish "Wild Places Quiet Places".
3. The contribution Mapping made to the Rain Forest Project and the assessment project over pastoral lands.
4. The high degree of co-operation by all mapping officers to enable the effective excess production to cope with both routine and special projects, major in nature, during this year.
5. The performance of our regional cartographers during their first year with the Department, both have adapted to their environment and have developed into valuable support personnel.

D EDWARDS
MANAGER

GOLDFIELDS REGION

1. Sufficient co-operation and liaison between Goldfields Regional staff, Manjimup and Woodvale research staff, and aircrew, which are fairly diverse groups, to successfully achieve the pilot project Gibson Desert Nature Reserve aerial burn.
2. In the Goldfields CALM is 'coming out of the woodwork' to the extent that we are asked to have representation at local Soil Conservation District, local Tourist Committee meetings, and provide speakers to mining and educational forums as well as our traditional involvement with Goldfields Dust Abatement Committee. Noticeable is the tendency for CALM involvement in matters outside our traditional estate; e.g. land release to the pastoral industry.
3. Initial negotiation and research for the Sandalwood Conservation and Regeneration Project including purchase of pastoral leases and for the first time the possibility of removal of grazing leases from Goldfields Timber Reserves.
4. In the field of reserve management we now have sufficient personnel and infrastructure for CALM staff to be seen in the field on reserves in a wide variety of tasks, from mining inspections, biological surveys and sign posting. In this region where our profile is still very low, I feel this is extremely important.

ANDREW CHAPMAN
OPERATIONS OFFICER

RESEARCH DIVISION

1. Comprehensive review of all research programs completed.
2. Western Australian Herbarium successfully incorporated into CALM and new Curator appointed.
3. Major expedition conducted to document Kimberley rainforest resources.
4. First operational trials of aerial prescribed burning in spinifex grasslands in a conservation reserve in the deserts of Western Australia. Major research projects commenced on fire ecology in desert ecosystems.
5. First marine research scientist appointed.
6. Research Division attracted \$445 000 in external research grants.
7. Major review of research into *Phytophthora* in jarrah forest completed.

ANDREW BURBIDGE

PILBARA REGION

1. Completion of the Hamersley Range Management Plan to the stage where it can be submitted to NPNCA.
2. Setting up of VHS repeater station in Hamersley Range Natinoal Park.
3. Two successful meetings held with the Aboriginal tribal elders of the country which includes Hamersley National Park and Millstream Chichester National Park.
4. Successful work projects in Millstream National Park with Aboriginal people sponsored jointly by CALM and ANPWS.
5. Construction of the Chichester Range Camel Trail.
6. Progress with the implementation of Prescribed Burning at Millstream and Hamersley Parks.
7. First draft of the Management Guidelines for Thevenard Island Nature Reserve.
8. Installation of satellite dishes to bring radio and television to remote national parks.
9. Awarding of two years without disabling injury Safety Award to the Pilbara Region - visit by Minister and Executive Director.
10. Visit to Millstream National Park by the Governor General Professor Gordon Reid.
11. Successful rescue of a German tourist by Rangers at Hamersley National Parks.

H CHEVIS
REGIONAL MANAGER

B R WILSON

1. Completion and opening of the Milyering Visitor Centre.
2. Aboriginal Ranger Training Program (One Arm Point, Djarinjin and Beagle Bay).
3. Abrolhos Island planning study - successful resolution of potential conflicts between fishing, tourism and conservation.
4. Rare Flora policy.

B R WILSON

ENGINEERING

1. Continued reductions in real terms of Fleet Management costs.
2. Further rationalisation of stock holdings in the Stores Section to deliver savings and identify problem areas. Included in the rationalisation was the reduction of the number of different Departmental forms held by 200. Thanks to all those who assisted.

MANAGER

COMPUTER BRANCH

1. Wages system installed.
2. Salary allocations system installed and operational.
3. Vax computer replaced.
4. Concurrent computer replaced.
5. Outstanding maintenance requests halved.

T MORGAN
MANAGER

FIRE RESEARCH

1. The development of a patch burn strategy for desert conservation reserves using fixed wing aircraft.
2. The development of a wildfire threat analysis system (in conjunction with Protection Branch, Chris Muller and Ian Herford).
3. The development of a prescription for fuel reduction burning in karri regrowth.
4. The commencement of fire effects and fire behaviour studies in heathlands, hummock grasslands and wheatbelt reserves.

NEIL BURROWS

ENVIRONMENTAL PROTECTION

1. Excluding the Kimberley Region, Branch staff visited all Regions, Districts, Research and Inventory offices.
2. Protection plans for dieback control were successfully implemented in the South Coast, Wheatbelt and Greenough Regions.
3. Standard conditions for exploration and mining on various tenures were negotiated with the Mines Department. The provision of "up-front" bonds for Goldfields tenements is now in place.
4. More than \$1.3 million was raised from mining compensation payments. Administrative procedures were revised.
5. Biological control programs for lps and a contingency plan for Sirex were prepared.
6. A number of interim guidelines for necessary operations were finalised.
7. Dieback interpreters in Southern Forest Regions were encouraged to produce a dieback hazard rating system for the Southern Jarrah Forest.

F BATINI
BRANCH MANAGER

RESEARCH METHODS TEAM

RESEARCH QUESTION MAPPING

A systematic approach to research questioning and hence to the planning of whole research programs. May be of help in achieving better communication between managers and researchers - this is being investigated at present. Through the chi-squared statistic we may be able to quantify the 'goodness-of-fit' of the research program to the needs of land managers.

COMMUNITY ATTRITION INDEX

A single index number which can be used to compare the extent of species decline and extinction in different communities, or of different groups of organisms within the same community.

Community Attrition index = $(N+E-S)/2N$

Where N is the number of species

E is the number extinct

S is the number stable

WATERBIRD HABITAT MATRIX

Developed by Matthew Williams for Stuart Halse, this matrix shows clearly that there is a three-way relationship between water salinity, vegetation, and the presence/absence of certain waterbird species.

TRIANGULAR PLOTS FOR ASSESSING FOREST REGENERATION

A rapid survey method developed initially for jarrah and karri regrowth, presently undergoing field testing by Silviculture Branch (J. Bradshaw & D. Goddard). The method has potential for estimating density of slow moving animals such as crown-of-thorns starfish, and size of territory for more mobile animals.

DAVID WARD

RESEARCH METHODS PROGRAM LEADER

FLORA RESEARCH PROGRAM

1. Draft Wildlife Management programs over the last 12 months "*Eucalyptus rhodantha*" and "Declared Rare Flora and Other Plants in Need of Special Protection in the Northern Forest Region" have been prepared and are now in their final stage of preparation for publication. These are the first to deal with the management of rare (or any other flora). They make recommendations for both research and management action necessary to ensure the continued survival of the species in the wild.
2. A Declared Rare Flora workshop was held in August 1-2 1988. There were 71 participants with representation from all CALM regions and 17 speakers including Research, Operations and Administrative staff. The workshop was extremely successful and following a very positive response from the participants it was decided to hold a similar workshop annually.
3. Six species presumed extinct were re-discovered by Flora Program Research staff during field surveys over the last year. They were: *Tetratheca deltoidea*, *Comesperma radnocarpa*, *Darwinia refens*, *Actinotus* sp., *Schoerus natons* and *Opercularia hirsuta*.

D COATES

FIRE PROTECTION BRANCH

Looking back at the achievements of Fire Protection Branch in the past 12 months many highlights come to mind. Not all of them relate to Fire Protection Branch alone, but include the "doers" in the field, from the gang worker to the District Manager and the office staff to the Regional Manager - all have played a vital and valued role.

In terms of Fire Suppression, in what was our longest and driest season for many years, it was a magnificent achievement to successfully contain over 360 fires without a single serious or lost time accident. This feat speaks loudly of our training systems at all levels, and shows that we can rely on well trained staff and employees to do the correct things when faced with extremely dangerous situations. A very good example being the four men in a heavy duty truck which was suddenly and completely overrun by an intense crown fire in dense pine forest at Nannup. Everyone remembered the rules, there was no panic, and all survived without as much as a small blister being reported.

The co-operation and assistance that CALM has received from volunteer Bush Fire Brigades in 1988 has been outstanding. Major brigade involvement occurred at the Walyunga, Denbarker, Lane-Poole, Nannup and Ravensthorpe fires to name but a few. This dependable and resourceful pool of supplementary fire fighters is of major benefit to our Department and we must strengthen and reinforce our ties with district brigades. The willingness of the volunteer brigades in the Shire of Albany to accept the first attack role in our developing joint venture pine plantations is typical of this spirit of co-operation and good will.

The third area of satisfaction lies in the greatly increased area of CALM land for which fire management plans have been put in place. These range from the full Management Plans to Interim Guidelines for Necessary Operations and all show the benefits of carefully considered options to assist in our stewardship of the CALM estate. Although the successful aerial firebreak burning in the Kimberley which kept the huge fire out of the Prince Regent Nature Reserve, and the burns in Gibson Desert Nature Reserve could both well be classed as experimental burns, I believe these carefully planned ventures have opened the door for a wide range of financially achievable land management objectives to be put in place.

Finally the Branch is proud of its Australian and International reputation as competent, professional fire managers. This year we have had the pleasant duty to welcome to CALM and host six very senior fire managers from the US Forest Service and the Canadian Forest Service. In addition we had the pleasure of the company of four senior officials from the Ministry of Forestry of the Peoples Republic of China. Their mission was to examine CALM's approach to fire management following a disastrous fire in Heilongjiang, in which 191 people were killed, and burned an area of over 1 million ha of prime forest. We were also pleased to host seven FAO fire study people from Tanzania, Malaysia, Indonesia and Phillipines.

I was delighted with the response by Eastern States Land Mangement organisations to our invitation to attend our Level 3 (Fire Boss and Controller) Course when we had two Tasmanians and one South Australian come over. Their comments were most flattering but sincere.

J K SMART
MANAGER