

NATURE CONSERVATION

MISSION AND OBJECTIVES – 1999-1997

CALM Annual Report 1998/1999. 1999

CALM Annual Report 1997/1998. 1998

CALM Annual Report 1996/1997. 1997

NOTE: REFER TO ENTRY UNDER ANNUAL REPORT 1992/1993 – SIMILAR WORDING

OPERATIONS MANUAL – 1997

NOTE: FOR UPDATES ISSUED IN 1997 REFER TO ENTRIES UNDER THE FOLLOWING-

Fire Operations Manual : Volume 1. 1993

Fire Operations Manual : Volume 3 : Fire Protection Instructions. 1993

SILVICULTURE GUIDELINE – 1997

Silviculture guideline 1/97 : Fire as a Silvicultural Tool in the Jarrah forest

NOTE: THIS GUIDELINE SUPERCEDES SILVICULTURE GUIDELINE 1/91

4.6 Crop Tree Protection

“The burning of harvesting tops has the potential to damage the retained components of the forest (crop trees, habitat trees, habitat logs). Their protection by the removal of woody material (> 7.5 cm diameter) to a distance of at least 1 metre reduces the risk of damage in subsequent burning. This task must be completed by harvesting contractors.” (p. 6)

MISSION AND OBJECTIVES – 1996

CALM Annual Report 1995/1996. 1996

NOTE: REFER TO ENTRY UNDER ANNUAL REPORT 1992/1993 – SIMILAR WORDING

TIMBER HARVESTING ... 1996 ED. – 1996

Timber Harvesting in Western Australia ... 1996 Ed. 1996

PART 1 : CODE OF LOGGING PRACTICE

Section 7 : Environmental Protection

Rare Flora and Fauna

NOTE: REFER TO ENTRY UNDER 1987 EDITION, CODE OF HARDWOOD LOGGING PRACTICE (SIMILAR WORDING) EXCEPT FOR REMOVAL OF CLAUSE –

“7.44 A contractor shall take all necessary steps to minimise damage to all species of protected native fauna.” (p. 17 of 1993 edition)

PART TWO : MANUAL OF HARVESTING SPECIFICATIONS

Section 2 : Roding

Specification 2.3 : Road Construction

NOTE: POINT 10. OF PREVIOUS EDITIONS NOT IN 1996 EDITION

Section 4 : Coupe Management

Specification 4.1 : Coupe Demarcation

NOTE: THIS ENTRY HAS BEEN AMENDED TO THE FOLLOWING-

“3 Sensitive boundaries including river, stream and fixed travel route (road) zone boundaries must be identified prior to cutting in the same way as coupe boundaries, that is with white painted crosses facing the cutting area. Diverse ecotype zones will be similarly marked where appropriate. The exact location of boundaries of river, stream and fixed travel route zones is decided by the Forest Officer in Charge, using the following guidelines:-

3.1 River and Stream (Riparian) Zones

Native Hardwood Forests:-

<i>STREAM ORDER</i>	<i>WIDTH EITHER SIDE (APPROX.) (M)</i>	<i>TOTAL WIDTH (APPROX.) (M)</i>	<i>MINIMUM WIDTH EITHER SIDE (M)</i>
<i>First</i>	30	60	20
<i>Second</i>	30	60	20
<i>Third</i>	30	60	20
<i>Fourth</i>	75	150	50
<i>Fifth upwards</i>	200	400	100

(p. 37)

3.3 Diverse Ecotype Zones

“The mosaic of heath, sedge and herb vegetation, rock outcrops, swamps, lakes, wetlands and woodland formations which occur throughout the forest are important sites for wildlife conservation and are often significant landscape features.

To protect these sites:

- (i) Diverse vegetation communities must be excluded from timber harvesting. Associated activities such as roading must be minimised. Rock outcrops (>0.2 hectares in size), lakes, swamps and other wetlands, heath, sedge, herb and woodland communities must be kept free of disturbance apart from necessary roading.
- (ii) Transitional vegetation (ecotones) must be kept undisturbed for a distance of up to 50m from the edge of the feature and ecological characteristics must be used to determine the boundary of these zones.”

(p. 38)

Specification 5.5 : Protection of Declared Rare Flora and Specially Protected Fauna

NOTE: THE FORMER SPECIFICATIONS - SPECIFICATION 5.6 : PROTECTION OF DECLARED RARE FAUNA AND SPECIFICATION 5.8 : PROTECTION OF SPECIAL HABITAT HAVE CHANGED TO THE FOLLOWING –

Specification 5.5 : Protection of Declared Rare Flora and Specially Protected Fauna

“In these matters personnel involved in timber harvesting and road construction should refer to and implement where appropriate the relevant section of:

- *Policy Statement No. 9 – Conservation of Threatened Flora*
- *Policy Statement No. 33 – Conservation of Threatened and Specially Protected Fauna*
- *Policy Statement No. 44 – Wildlife Management Programs” (p. 75)*

MISSION AND OBJECTIVES – 1995

CALM Annual Report 1994/95. 1995

NOTE: REFER TO ENTRY UNDER ANNUAL REPORT 1992/93 – SIMILAR WORDING

GUIDELINES – 1995

Guidelines For Forest Landing & Snig Track Design & Management. 1995

Introduction

“The following set of guidelines provides instructions for all phases of landing, snig track and in-coupe shunt operations from planning through to rehabilitation. [...]” (p. 1)

Planning And Design

- *“Landings will be located outside the possible area of influence of reserves and special care zones as defined in the Regional Management Plans and Manual of Timber Harvesting in Western Australia. Areas of influence being that area likely to be affected by mud overflow into reserve, damage by burning off operations, etc.” (p. 1)*
- *“Landings will be located in natural forest openings, where possible, with no undue impact on environmental values. [...]” (p. 1)*

Construction

- *“No woody debris will be pushed closer than 1 metre to retained vegetation. No debris will be heaped within 5 metres of retained vegetation. Retained vegetation refers to vegetation planned for retention, i.e. – crop & habitat trees, visual amenity vegetation, etc.” (p. 3)*

Protection Of Retained Landscape Elements

- *“Damage to retained trees, including vegetation screens, rock outcrops and landform immediately surrounding landings and in-coupe roads is to be avoided.” (p. 3)*

SILVICULTURE GUIDELINES – 1995

Silviculture Guidelines 2/95 : Silvicultural Practice in the Karri Forest. 1995

NOTE: SUPERSEDES SILVICULTURE SPECIFICATION 6/89

Appendix 2 : Growing Habitat Trees

“‘Old tree’ habitat in State forest karri is provided for within:

- *retained stream zones;*
- *strips of forest retained along specific roads;*

- additional patches of mature forest retained every 400m.

However, to ensure continued recruitment of habitat trees, it is desirable to develop potential habitat trees of an intermediate age between the generally mature patches and the developing regrowth.

This can be done by retaining immature trees (say 40-80 years of age) and growing them in a way that will enhance the development of hollows at an earlier age than would normally occur.” (p. Appendix 2)

2.2.3 Clearfelling Without Seed Trees

“[...] Harvesting is to remove all merchantable trees within the demarcated coupe (except retained habitat trees – see Appendix 2, which will be trialed in selected areas and for a period of time as determined by the Executive Director).” (p. 4)

SILVICULTURE GUIDELINES – 1995

Silviculture Guidelines 1/95 : Silviculture Practice in the Jarrah Forest

NOTE: SUPERSEDES SILVICULTURE SPECIFICATION 2/91

4. Treemarking

4.5 Marking in stands with small patches

“Where gaps are small and cannot be extended without considerable loss of crop trees, retain trees and avoid creating a gap. These large trees will frequently be required as habitat trees.” (p. 6)

Silvicultural Treatment

5.5 Treatment of Gaps

Techniques

Gap Size 0.25-2ha

*“Remove any unmarked non-crop trees <50cm in diameter and mature *Banksia grandis* by felling, pushing down or notching. Do not treat within 5 metres of habitat trees.” (p. 8)*

Gap Size >2ha

“As for the above, but only remove the following unmarked culls:

- *DBH 20-50cm only if within 15 metres of other trees, including crop or habitat trees or other remaining culls.*
- *DBH 10-20 cm if within 7 metres of other trees.*

Consider trees less than 3 metres apart as one tree. See Appendix 6 for interpretation.” (p. 8)

Appendix 5 : Criteria for Management of Fauna Habitat

1. Objective

“To ensure the sustained availability of suitable refuge hollows for fauna through the retention of a sufficient number and age structure of trees and ground logs within timber harvesting coupes.” (p. 1)

2. Standing Trees as Habitat

2.1 Characteristics of Habitat Trees

2.1.1 Definitions

“Two types of habitat trees are recognised, viz primary habitat trees, being those which currently may offer refuge to fauna; and potential habitat trees, being those which may develop suitable refuges for fauna in the future.

Depending on the silvicultural objective of harvesting both types of habitat tree may need to be retained to ensure the sustained availability of refuges.

2.1.2 Primary habitat trees

- Priority must be given to trees that have obvious signs of use by fauna (eg, possum scratch-tracks) and /or contain visible holes and/or broken branch stubs with the potential to develop hollows.
- [...]
- No tree species preference need be shown

2.2 Rate of Retention

- On all areas harvested an average of 4 primary habitat trees are to be retained per hectare.
- [...]
- Where suitable trees are not present on every hectare, a retention rate of 20 primary habitat trees per 5 hectares must be retained.

NOTE: If insufficient primary habitat trees exist which meet the above criteria, retain mature to senescent trees as potential habitat.

The required number of primary habitat trees must be regardless of their commercial value. [...]" (p. 2)

2.3 Pattern of retention

- “[...]”
- In areas harvested to gaps and TEAS strips:
[...]
 - primary habitat trees at the boundary of the gaps are to be considered as part of the retained rate per hectare
- If trees which meet the required criteria are not positioned to facilitate marking as a group, mark individually at the required retention rate. The emphasis is on habitat quality rather than pattern of retention.
- In forest which consists of small thinning patches and regeneration gaps of one hectare or less, aim to mark habitat trees to form groups near the boundaries of these patches.” (p. 2)

3. Ground habitat

“Ground habitat in the form of hollow logs, stumps and leaning trees are also important refuge sites for forest fauna such as Chuditch, Brushtail Possum and Quenda.

3.1 Characteristics

“Logs:

Diameter: 30-100cm

Pipe diameter: 6-15cm diameter extending into log

Length of log: pipe at one end – 1.5 metres minimum
pipe at both ends – 3 metres minimum

Stumps and Leaning Trees:

Stumps which have been lifted creating a protection underground cavity due to a leaning tree or some other agency.” (p. 3)

3.2 Rate of Retention

“Where available, retain at least one suitable ground habitat log or stump per hectare, even if it shows no obvious sign of use.” (p. 3)

5. Refuge Site Protection

“As for protection of crop trees, tops and other residues larger than 7.5 cm diameter are to be removed for at least 1 metre from around habitat trees and groups and ground refuge sites to ensure subsequent protection from fire.” (p. 3)

MISSION AND OBJECTIVES – 1994

CALM Annual Report 1993/94. 1994

NOTE: REFER TO ENTRY UNDER ANNUAL REPORT 1992/93 – SIMILAR WORDING

POLICY STATEMENT – 1994

Policy Statement No. 50 : Setting Priorities for the Conservation of Western Australia’s Threatened Flora and Fauna. 1994

1.Operational Objective

“To ensure that conservation resources are allocated on a priority basis to the most threatened taxa of plants and animals.” (p. 1)

3.Background

“The Department of Conservation and Land Management (CALM) has statutory responsibilities for ensuring the survival of Western Australia’s plant and animal taxa and of the ecological communities they form. The Department’s effectiveness in fulfilling this task will depend to a large degree on its ability to direct its expertise and resources and marshal other resources to those species and communities that are most threatened with extinction.” (p. 2)

“It is clear that many species and communities are currently threatened and in recent years there has been much scientific research aimed at clarifying conservation status and prescribing remedial action.

“[...] As a result of the introduction of many plants and animals, Australia’s biodiversity is, in some places, probably higher now than it was 200 years ago; however, these introduced species have often caused a loss of indigenous species at both local and national levels. The loss of many endemic species has meant that our contribution to global biodiversity has decreased.

The goal of biodiversity conservation is to conserve all three levels of biodiversity: ecosystem diversity, species diversity and genetic diversity.

While it will not be possible to document and manage, on an individual taxon basis, all the biodiversity that exists among the non-vascular plants (e.g. the many thousands of species of mycorrhizae) and invertebrates (it has been estimated that over 95% of all living taxa are invertebrates), we should aim to conserve all taxa of vascular plants and vertebrate animals and endeavour to conserve as many species of non-vascular plants, invertebrates and micro-organisms as possible. In most cases, non-vascular plants, invertebrates and micro-organisms are best conserved by the protection and management of ecological communities in conservation reserves and on private land, but where particular taxa within these groups are identified as threatened they will be ranked and managed.

CALM has procedures in place for listing flora and fauna as threatened (see Policy Statements 9 and 33) and has many scientific research projects and management projects that are addressing the conservation of particular species or communities. This Policy Statement adopts a system for setting priorities for the management of threatened species and lays down procedures to ensure that resources are directed in the most

efficient way to conserve threatened species. A ranking system for ecological communities will be developed in the future.

It is important to note that there is not, and probably never will be, a perfect system for ranking threatened taxa. The system adopted here is designed to be simple and the resulting rankings easily grouped into readily understood categories. The rankings are modifiable as necessary according to scientific, social, and political priorities.” (p. 3)

“[...] Animal and plant species whose biology and ecology are well understood and are being successfully managed by CALM (often in conjunction with other agencies and individuals) tend to score lower than those for which few data and/or management actions exist. The score sheet and resulting rankings produce priorities for future allocation of resources; comparatively low scores for currently-managed species such as the Numbat, Noisy Scrub-bird and Rose Mallee will not necessarily mean that resources currently allocated to their management should be removed - reallocation could mean that such species will immediately start to increase in rank, i.e. they will become more threatened with extinction.” (p. 2)

“This Policy completes Strategy 5.1 of Policy Statement 44.” (p. 3)

4.Policy

“The Department will:

- 4.1 At least every two years, rank threatened taxa according to the procedures laid down in this Policy Statement.*
- 4.2 Ensure that all taxa identified as Critical are conserved, through the preparation and implementation of Recovery Plans or Interim Wildlife Management Guidelines (see Policy Statement No 44) and that taxa identified as Endangered and Vulnerable are allocated research and management resources in priority order.*
- 4.3 Ensure that conservation action for taxa identified as Critical commences as soon as possible and always within one year of endorsement of that rank by the Minister.” (p. 3)*

5.Strategies

“To accomplish the above objective and policies, the Department will:

- 5.1 Set up a Ranking Panel consisting of six to ten scientists, from CALM or other organisations as appropriate, with a wide knowledge of the conservation status of the Western Australian fauna and flora. Each threatened taxon will be scored using a scoring sheet; the current one is provided at Appendix 1. The Panel will then review the scores by asking questions such as:*
 - (i) Is there a single over-riding threat, eg, Phytophthora, predation or habitat destruction, that is likely to lead to the early extinction of the taxon? If so, the score will be compared with those of other taxa, and increased in rank as appropriate.*
 - (ii) Is the taxon rare and geographically restricted, but not subject to immediate threats? If so, the score will be compared with those of other taxa, and decreased in rank as appropriate.*
 - (iii) Does the taxon exist only in small remnant(s) with no suitable habitat elsewhere? If so, the score will be compared with those of other taxa, and increased in rank as appropriate.*
 - (iv) Does the taxon have a high degree of habitat specificity and is that habitat rare or threatened? If so, the score will be compared with those of other taxa, and increased in rank as appropriate.” (p. 3)*

“The Panel will then allocate all declared threatened taxa with populations known to occur in Western Australia to the following categories, using the scores and the draft IUCN criteria (Appendix 2) as guidelines: Critical (CR), Endangered (EN), Vulnerable (VU), Susceptible (SU) and Conservation Dependent (CD).

- 5.2 *For those Western Australian taxa categorised as Critical or Endangered, list and prioritise for conservation action each known population.*
- 5.3 *Forward the rankings allocated by the Panel to CALM’s Corporate Executive for endorsement and then to the Minister for approval.*
- 5.4 *Immediately rank any presumed extinct taxa that are rediscovered.*
- 5.5 *Review all rankings at least every two years.*
- 5.6 *Prepare Recovery Plans or Interim Wildlife Management Guidelines for all taxa ranked as Critical and for as many taxa ranked as Endangered as resources permit.*
- 5.7 *Annually review resource allocation in CALM to threatened species and communities and ensure changes as appropriate.*
- 5.8 *Ensure that applications by CALM for external funding for research into or management of threatened taxa are in accordance with determined priorities.*
- 5.9 *Monitor the development of internationally accepted criteria for listing threatened species and modify the method of allocating species to categories as necessary once IUCN adopts a new system.*
- 5.10 *Revise the score sheet and ranking system described herein if experience suggests it can be improved.*
- 5.11 *Disseminate information concerning the ranking of taxa and about the conservation actions being undertaken to conserve threatened species.” (p. 4)*

Appendix 2 : New Criteria for Listing Species on the IUCN Red List

“CALM will monitor the development of internationally accepted criteria for listing threatened species and modify its method of allocating species to categories as necessary once IUCN adopts a new system.” (p. 7)

MANAGEMENT PLAN – 1994

Forest Management Plan 1994-2003. 1994

Vision Statement

“The Government requires that the State’s forests are managed so as to provide in perpetuity for biodiversity, fresh water, timber, recreation and tourism, heritage values and other products such as honey and wildflowers.” (p. i)

2. The Strategies for the Sustainable Management of Native Forests

Managing Native Forests for Multiple Purposes

Diverse Ecotype Zones

- “1. *Diverse vegetation communities will be excluded from timber harvesting. Associated activities such as roading will be minimised. Rock outcrops (>0.2 hectares in size), lakes, swamps and other wetlands, heath, sedge, herb and woodland communities will be kept free of disturbances apart from necessary roading.” (p. 27)*

3. Managed Forest Values

Nature Conservation

Ecological Processes

“This Forest Management Plan will ensure that the ecological processes continue to be maintained by:” (p. 42)

- *“ensuring that the level of timber removed from the forest is constrained within the growth capacity of the forest.
[...]*
- *ensuring that all areas of forest which are harvested or disturbed by other activities are regenerated with the same mix of forest species which was present prior to the disturbance.”* (p. 43)

Other Natural Resources

Honey Production

“A greater emphasis will be placed on the strategic deployment of beehives in multiple purpose forests to promote seed production, which will make regeneration techniques in the forest more efficient. Liaison with beekeepers and timely placement of hives will ensure the maximum opportunity for seed set and seed fall in areas programmed for harvest and regeneration. Liaison with beekeepers and timely placement of hives will ensure the maximum opportunity for seed set and seed fall in areas programmed for harvest and regeneration.” (p. 49)

4. Monitoring

(b) Monitoring the impact of disturbance-causing activities

“[...] Clearly, all species of the biota cannot be studied, and research is concentrated on what are believed to be keystone species.

Species known to be rare or under threat are given special emphasis in research, and in operational planning procedures. Threatened flora management programs will be progressively developed and implemented.” (p. 52)

(c) Monitoring ecosystem change through periodic measurement of an extensive system of permanent plots and selected vertebrate and invertebrate species.

“[...] As resources allow, the monitoring program will be steadily upgraded through sophistication of (b) and, finally, full implementation of detailed ecosystem monitoring.” (p. 52)

STRATEGIC PLAN - 1994

Strategic Plan : Southern Forest Region. 1994

4.0 Vision

“The Southern Forest Region is a place of EXTENSIVE VALUES where our PEOPLE ARE MOTIVATED, our UNIQUE ENVIRONMENT SUSTAINED, our RESOURCES are WELL MANAGED and our CUSTOMERS NEEDS are MET.” (p. 2)

7.1 Objectives

“Commencing immediately we plan to have achieved the following by the year 2000. (See 7.2 Action Plans for a description of how we intend achieving each of these objectives).” (p. 4)

Environment and Operational Area

“OBJECTIVE 1 – NATURE CONSERVATION PROGRAM:

We have an effective Nature Conservation Program in place in the SFR.

OBJECTIVE 2 – FOREST MANAGEMENT STRATEGY:

We have successfully implemented the 1994 Forest Management Plan and 1987 Regional Management Plan.”
(p. 5)

“OBJECTIVE 4 – IMPLEMENTATION OF MANAGEMENT PLANS:

We have effectively implemented the priority works defined in the:

- *Shannon D’Entrecasteaux Management Plan*
- *Walpole/Nornalup Management Plan*
- *Various Interim Management Guidelines”* (p.5)

MANUAL – 1994

Fox Control Manual. 1994

1.1 Purpose

“The Department of Conservation and Land Management has recognised the necessity for the use of Sodium monofluoroacetate (‘1080’) for control of foxes. Research has shown that fox control around remnant mammal populations can lead to increases in number and range of these populations (Kinnear et al. 1988; Kinnear 1989, Burbidge and Friend 1990; Friend 1990).

Control of foxes is now considered a pre-requisite for management of fauna species at risk from predation (Burbidge and Friend 1990).

With the exception of some research programs, predator control will be carried out by Regions and Districts. In recognition of this, the manual has been prepared to assist operational staff to:

- *recognise the need for baiting programs;*
- *plan, prepare, implement and review 1080 fox baiting programs;*
- *comply with the relevant provisions of the Agriculture and Related Resources Protection Act; and*
- *ensure all programs comply with the Pesticide Regulations of the Health Act.”* (p. 1)

1.2 Objectives and Goals for Fox Control

“The primary objective for fox control is to protect native fauna from fox predation and enable native fauna populations to increase in number and range.

Interim strategies for protection from predation are aimed at:

- *reducing fox numbers to levels that will allow native fauna populations to be maintained or increase; and*
- *achieving control through cost-effective baiting and monitoring programs.*

1.3 CALM’s Existing Baiting Programs

“In recognition of the benefits provided to native fauna populations, and the requirement for further research, several baiting programs are currently being undertaken on CALM managed estate and elsewhere. As part of each program, the requirement for continued baiting is reviewed annually. Appendix 1 lists areas that are currently baited, areas proposed for baiting and the purpose(s) of each baiting program.” (p. 2)

2.1 Summary of the Requirements for Preparing and Implementing a New 1080 Baiting Program

“Before implementation, all new 1080 fox control proposals will be reviewed by CALM’s Environmental Protection Branch and Science and Information Division and require approval from the Director, Nature Conservation. Approval will only be given to proposals where there is a demonstrated long-term commitment of funding and staffing resources. This commitment applies to survey, monitoring and baiting aspects of proposals.

Proposals must be submitted to Environmental Protection Branch and must use the form supplied ('1080 Baiting Proposal Form' see appendix 2). Proposals must be submitted a minimum of 3 months prior to the proposed date for commencement of baiting. Proposals are assessed by Environmental Protection Branch and Science and Information Division and then forwarded to the Director, Nature Conservation for approval.

Each proposal must address points (i) to (xvi) below. This manual outlines the procedures that will enable these points to be addressed. Each proposal must:

[...]

- (ii) Demonstrate that, where required, pre-baiting fauna survey work has been conducted.*
- (iii) Identify the requirement for baiting and the purpose of the program; for example:*
 - the presence of threatened fauna species and a demonstrated predation impact; or*
 - baiting for areas identified as release sites for translocated fauna; or*
 - baiting to minimise a detrimental predation effect on neighbouring properties.*
- (iv) Identify other existing and proposed operations and activities within or abutting the baiting area that have the potential to influence the proposed baiting program, and/or conversely, have the potential to be influenced by the baiting program.*
- (v) Identify the Regional priority of the proposal.*
- (vi) Identify the bait type to be used.*
- (vii) Specify the proposed baiting distribution intensity (i.e. the number of baits per km²), bait interval and the method of distribution (i.e. aerial or vehicle).*
- (viii) Specify the proposed frequency of baiting.*
- (ix) Specify if and where baits will be stored and demonstrate that all bait transport and storage requirements will be met.” (p. 1)*
- “(xiii) Specify monitoring procedures proposed in terms of:*
 - the species to be monitored;*
 - the type of monitoring to be conducted (i.e. survey techniques proposed);*
 - frequency of monitoring; and*
 - storage, collation and reporting of monitoring results*
- (xiv) [...]*

The duration of all new baiting programs, other than some new research programs, will be until biological control or alternative methods effectively reduce fox populations. Long-term commitment of District and Regional funds is therefore essential prior to approval of new baiting programs.

[...]” (p. 2)

2.2 Identifying the Requirement for Baiting

“The first step is to survey the fauna of the area in question. [...]

Once survey work has been undertaken, the requirement for fox control can be assessed. Priority will be determined from:

- results of surveys;*
- existing information on known declines in number and geographic range of individual and suites of species;*
- the protection likely to be provided by implementing baiting programs;*

- *the co-operation with neighbours that is likely to be achieved;*
- *the conservation, education and information value of allowing fauna to increase in number and become conspicuous to the public; and*
- *the research value of the proposal.” (p. 2)*

2.3.9 Monitoring

“1080 baiting programs require monitoring of fauna within the area baited. Exceptions to this are some baiting programs that have been implemented to reduce fox predation on neighbouring properties. The type and extent of monitoring required will be determined by the objectives of each program and the species, or suite of species, to be protected.” (p. 9)

“All new proposals are to identify monitoring components. A minimum of annual follow-up surveys/monitoring is required.” (p. 9)

GUIDELINES – 1994

Guidelines for Integrated Forest Harvest Planning & Design. 1994

Special Areas

Exclusion Areas

“These are areas set aside from harvesting and are often linked to natural lines and forms eg. rock outcrops and stream zones. Often, however, for silvicultural purposes and the protection of habitat, these exclusion areas are not often linked to such natural lines. It is important that the most natural position is found for these link reserves and that natural lines and forms are followed where these reserves need to be located. (Fig. 5.1.1)” (p. 5)

MISSION AND OBJECTIVES – 1993

CALM Annual Report 1992/93. 1993

“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.” (p. i)

“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.
[...]” (p. i)*

OPERATIONS MANUALS – 1993

Fire Operations Manual : Volume 1. 1993

NOTE: INCLUDES UPDATES ISSUED 1997

Strategies

Use of Fire

“The Department will:

[...]

- *For areas where primary land use is wildlife conservation, the Department will use fire in such a way as to promote a wide diversity of habitats within prevailing physical or financial constraints.*
- *In small conservation reserves and where information on the impact of fire is limited, fire will be used conservatively. In such areas the use of fire will be restricted to:*
 - (i) *Protection of neighbouring community assets.*
 - (ii) *As far as is achievable and within safe limits, ensuring that different successional stages following fire are represented.*

[...]

- *The frequency of fuel reduction measures will be governed by the rate of build-up of fuels; the degree of risk to human lives; the value of the assets to be protected; the known sensitivity to fire, or dependence on fire, of the kinds of plants and animals present; and the resources available to carry out the work.” (p. Part II – page 3) Issued 14/1/97*

1.3 Burning Plans

1.3 (iii) Fire Exclusion Areas

“Protection will be afforded to ‘No Planned Burn Areas’ as specified in Management Plans, or Interim Guidelines for Necessary Operations. Other areas to be protected include:

- *Fire sensitive vegetation communities or special fauna habitats.[...]” (p. Chapt 1 – Page 2) Issued 14/1/97*

7. Prescribed Burning and Fuel Reduction

7.1 Prescribed Burning on CALM Lands

“Prescribed burning can be used to achieve a wide variety of land management objectives, for example:

[...]

3. *To achieve ecological objectives eg., habitat management.*

[...]” (p. Chapt 7 – page 1) Issued 14/1/97

7.2 Types of Burning

7.2 (ii) High Value Buffers

“These are located to keep fires out of such high value areas as town sites, schools, sawmills, isolated settlements, plantations, research areas, regeneration, recreation and ecologically valuable or sensitive areas.[...]” (p. Chapt 7 – page 2) Issued 14/1/97

7.2 (v) Fire Management Areas

Prescribed burning of large areas outside of designated buffers may be programmed to meet various objectives such as: [...] to enhance wildlife; [...] The application of this system depends on the land-use objective, the burn objectives, the vegetation/fuel types, the rate of fuel build-up together with seasonal weather, manpower availability and other local circumstances.” (p. Chapt 7 – page 2) Issued 14/1/97

7.4 Burn Prescriptions

Rare and Endangered Species:

“Districts must check records and maps for known locations of any declared rare flora and priority listed species prior to any operations taking place. All reasonable action must be taken to protect and avoid the locations. Where operations cannot be modified to avoid these locations, they may only proceed if the species is not threatened by the operations. Ministerial approval to proceed must be obtained in the case of declared rare species. All applications ‘to take’ priority listed or Declared Rare or Endangered species are to be submitted through the Regional Ecologist, or nominated Regional officer.

Guidelines on how to request Ministerial approval ‘to take’ rare flora and fauna and the appropriate form (Application for Approval to Take Declared Rare Flora in Management Operation) are available from Wildlife and Land Administration Branch.” (p. Chapt 7 – page 6) Issued 14/1/97

Fire Operations Manual : Volume 2 : Fire Protection Instructions

Fire Protection Instruction 1 : Mater Burn Plan Review Process

Appendix 1 Planning Steps

“The following are Planning Steps that need to be considered and appropriately acted upon to properly implement the Prescribed Burning Planning Process.” (Fire Protection Instruction 1 : p. 11) Issued 20/1/99

“PLANNING STEP

EP4

Year Relative to Burn -2

Issue: Protect populations of rare flora.
Action: Check proposed additions, deletions from declared list.
Information: Regional botanist/Regional Protection, additions/deletions from DRF list
Custodian: Wildlife Protection Branch, Regional Wildlife Officer
Input By: Regional botanist, Regions, Woodvale
Received By: Region, District
Critical: Yes, ministerial application to take has long lead time.
Other Options: No.” (Fire Protection Instruction 1 : p. 16) Issued 21/09/93

“PLANNING STEP

NC4

Year Relative to Burn +1 onwards (any time post burn)

Issue: Feedback on fire effects and behaviour, and habitat requirements of various species (especially rare and vulnerable).
Action: Formal links for information exchange between Research and management.
Information: Data on above, eg. impact scores, weather and ROS data, fuels, rare fauna habitat needs etc.
Custodian: Research officers
Input By: Research and District/Regional Officers.
Received By: Research and District/Regional Officers, Fire Protection Branch.
Critical: Yes, this is an area of integrated management that will ensure that all is done to improve operational activities, ie provides feedback loop.
Other Options: The timing is tied to the information being gathered, often is critical.” (Fire Protection Instruction 1 : p. 21) Issued 21/09/93

Fire Operations Manual : Volume 3 : Fire Protection Instructions. 1993

NOTE: INCLUDES UPDATES ISSUED IN 1997

Fire Protection Instruction 61 : Objectives and Standards : Aerial Prescribed Burning : Southern Forest Region

Hazard Reduction Burning

Objectives:

Environmental

- “To regenerate senescent *Melaleuca* and/or heartleaf stands into thickets so as to provide a suitable refuge and habitat for fauna.
- To stimulate regeneration of known populations of DRF and priority species, which require fire to regenerate, under the optimal seasonal and on site conditions appropriate.
- To protect known populations of fire vulnerable or sensitive DRF and priority species from unplanned fire events.
- To manage non DRF vegetation competition with fire for improved DRF or priority species regeneration.
- To Produce suitable habitats and food source (new shoots) to cater for the requirements of browsing fauna such as brushtail wallabys.” (Fire Protection Instruction 61 : p. 2) issued 14/1/97

MANUAL - 1993

Wildfire Threat Analysis Manual. 1993

Appendix 2 : Rating System for Prescribed Burning

Other Management Values

“Factor 2.2: **Compliance with Other Departmental Objectives.**

Burn is required to meet objectives other than fire protection (eg advance burn, habitat management), or the timing of a fire protection burn affects another operation. (eg dieback photography program).

- | | | |
|----|---|-------------|
| A. | <i>Burn is a <u>critical</u> prerequisite for another operation</i> | 40 |
| B. | <i>Burn is an <u>important</u> prerequisite for other objectives.</i> | 20 |
| C. | <i>Burn is a <u>desirable</u> prerequisite for other objectives.</i> | 10 |
| D. | <i>Burn has <u>minor</u> significance for other operations.</i> | 0” (p. 5-6) |

TIMBER HARVESTING ... 1993 ED. – 1993

Timber Harvesting in Western Australia ... 1993 Ed. 1993

PART 1 : CODE OF LOGGING PRACTICE

Section 7 : Environmental Protection

Rare Flora and Fauna

NOTE: REFER TO ENTRY UNDER 1987 EDITION, ***CODE OF HARDWOOD LOGGING PRACTICE*** (SIMILAR WORDING)

PART 2 : MANUAL OF LOGGING SPECIFICATIONS

Section 2 : Roading

Specification 2.3 : Road Construction

(c) Cut and Fill Slopes

NOTE: REFER TO ENTRY UNDER 1992 EDITION

Specification 2.5 : Gravel Pit Management

“2. Contractors involved in gravel extraction, including CALM logging contractors, are required to work to the guidelines set out in the CALM booklet: ‘Guidelines for Management and Rehabilitation of Gravel Pits – South West Forest Areas’. This booklet is undated but was released in 1992.” (p. 54)

Section 4 : Coupe Management

Specification 4.1 : Coupe Demarcation

3.1 River and Stream Reserves

NOTE: REFER TO ENTRY UNDER 1990 EDITION (SIMILAR WORDING) EXCEPT FOR THE FOLLOWING SECTION (WHICH WAS FORMERLY TITLED, *In the Area Known Originally as the Woodchip Licence Area*) -

Native Hardwood Forests

“- Width of river or stream zones must be varied according to the table below.

<i>Stream Order</i>	<i>Width Either Side (approx. m)</i>	<i>Total Width (approx. m)</i>	<i>Minimum Width Either Side (m)</i>
<i>First</i>	30	60	20
<i>Second</i>	30	60	20
<i>Third</i>	30	60	20
<i>Fourth</i>	75	150	50
<i>Fifth upwards</i>	200	400	100

Elsewhere - NOTE: THIS SECTION IS NOT IN THE 1993 EDITION

3.2 Road Zones

General:

“- The purpose of road zones is to provide undisturbed forest vistas on major roads and to act as habitat and movement corridors for fauna.

[...]

- Fixed width road zones are only applicable in the Southern Forest Region on what are known as ‘Level 1’ and ‘Level 2’ roads. (See Att. 4.1.1)

Width of Road Zones:

“- For Level 1 roads the width of the road zone must be at least 200m on both sides of the road. For Level 2 roads the minimum width must be at least 100m on both sides of the road. For all other roads in State forest, any adjacent harvesting is to be carried out in accordance with appropriate VRM principles.” (p. 62)

In the area known originally as the Woodchip Licence Area

NOTE: THIS SECTION IS NOT IN THE 1993 EDITION

**Section 5 : Environmental Protection
Specification 5.6 : Protection of Declared Rare Flora**

NOTE: REFER TO ENTRY UNDER 1992 EDITION (SIMILAR WORDING)

Specification 5.8 : Protection of Special Habitat

NOTE: REFER TO ENTRY UNDER 1992 EDITION (SIMILAR WORDING) EXCEPT FOR THE ADDITION OF TWO PARAGRAPHS-

“5. Diverse ecotype zones such as heathlands, sedge, rock outcrops, swamps, lakes, wetlands and low shrubby woodlands must be identified and protected from disturbance by logging equipment.

6. Logging contractors must make every effort during all phases of logging to protect marked habitat from physical damage.” (p. 108)

POLICY STATEMENT – 1992

Policy Statement No. 44 : Wildlife Management Programs. 1992

1. Operational Objective

“To conserve and manage threatened, specially protected, or harvested taxa of flora and fauna and their habitats, threatened ecological communities and other taxa in need of intensive management by the preparation and implementation of written wildlife management programs.” (p. [1])

2. Definitions

‘In this Policy –

‘habitat’ means the place or environment in which an organism lives.

‘harvested taxon’ means any animal or plant taxon that is subject to exploitation under a licence or open season pursuant to the Wildlife Conservation Act and Regulations, or is otherwise taken from the wild or used as a recreational resource.

‘Interim Wildlife Management Guidelines’ means guidelines approved by the Director of Nature Conservation for the management and protection of threatened or harvested taxa, threatened ecological communities or other taxa in need of management where no full Wildlife Management Program has been prepared.

‘Recovery Plan’ means a Wildlife Management Program produced by CALM with the overall objective of the recovery from current threat of extinction of a threatened taxon, of groups of taxa or of a threatened ecological community.

‘specially protected taxon’ means any animal taxon declared under Section 14(2)(ba.) or any plant declared under Section 23F(2) of the Wildlife Conservation Act as ‘in need of special protection’.

‘taxon’ (plural taxa) is a general term for a taxonomic group, whatever its rank; e.g., it may be a species, subspecies or variety.

‘threatened ecological community’ means an integrated assembly of species that is threatened with severe degradation or destruction.

'threatened taxon' means any animal taxon declared under Section 14(2)(ba) or any plant taxon declared under Section 23F(2) of the Wildlife Conservation Act as 'likely to become extinct or rare'. See policy Statements 9 and 33 for policy on threatened flora and fauna respectively.' (p. [1])

'Wildlife Management Program' means a document produced by CALM providing an assessment of the current status of and detailed information and guidance for the management and protection of any taxa and their habitats, groups of taxa and their habitats, or a threatened ecological community.' (p. [2])

3. Background

"The Department of Conservation and Land Management has statutory responsibilities for the conservation of flora and fauna, through the Wildlife Conservation Act 1950 and the Conservation and Land Management Act 1984.

A major broad strategy of the Department's Strategic Plan is to 'Prepare and implement wildlife management programs for wildlife throughout the State.'

Wildlife Management Programs may be prepared for a single taxon of fauna and flora, for groups of taxa, or for a threatened ecological community. Interim Wildlife Management Guidelines may be prepared for a single taxon or groups of taxa or for a threatened ecological community. Wildlife Management Programs for a taxon or groups of taxa will address the conservation and management of habitat as necessary.

The conservation of threatened flora and fauna is an issue of high public profile, and one where the Department's activities are of great public interest and are subject to close public scrutiny. CALM has set up three committees to aid the process of public consultation in this area, especially in relation to the development of lists of declared taxa and in the development of priorities for research and management.

The Threatened Flora Scientific Advisory Committee and the Threatened Fauna Scientific Advisory Committee meet at least annually (Flora in February, Fauna in March) to review the lists of declared threatened and specially protected taxa. These reviews include consideration of nominations from scientists and the public for changes to the lists. The Endangered Species Consultative Committee, which comprises representatives from CALM and major nonGovernment Conservation Organisations, meets quarterly to promote consultation and communication between CALM and the voluntary conservation movement." (p. [2])

4. Policy

The Department will:

- 4.1 Prepare Recovery Plans for threatened taxa, groups of threatened taxa and for threatened ecological communities according to priorities laid down by the Corporate Executive in consultation with relevant consultative communities and the National Parks and Nature Conservation Authority.*
- 4.2 Prepare Wildlife Management Programs for harvested taxa, groups of harvested taxa, specially protected taxa or other taxa (and their habitats) subject to significant human exploitation or interference, according to priorities laid down by the Corporate Executive in consultation with the National Parks and Nature Conservation Authority and relevant consultative committees.*
- 4.3 Prepare Interim Wildlife Management Guidelines for taxa (and their habitats) or ecological communities that urgently require management, but where there are insufficient data available to prepare Wildlife Management Programs.*
- 4.4 Implement Wildlife Management Programs and Interim Wildlife Management Guidelines once they are completed and approved.*

- 4.5 *Consult with interested non-Government organisations and the public concerning the implementation of Wildlife Management Programs and Interim Wildlife Management Guidelines via appropriate consultative committees and public consultation processes.*
- 4.6 *Carry out or seek to have carried out necessary research on threatened or harvested taxa and on threatened ecological communities so that Wildlife Management Programs can be prepared and monitored.” (p. [3])*
- 5. Strategies**
To accomplish the above objective and policies, the Department will:
- 5.1 *Develop mechanisms for the allocations of priorities for research into and management of threatened taxa. These mechanisms will include the use of a scoring system and consultation with the scientific advisory committees and consultative committees.*
- 5.2 *Each year allocate priorities for the preparation of Wildlife Management Programs and allocate appropriate resources for their preparation. Wildlife Management Programs will not be commenced without approval from the Corporate Executive. Guidelines for the preparation of Wildlife Management Programs are provided in Appendices I to IV.*
- 5.3 *Set up Recovery Teams for threatened taxa or ecological communities and Management Teams for other taxa with the responsibility of coordinating actions prescribed in Wildlife Management Programs. Recovery and Management Teams may include staff from any organisation funding, carrying out or helping carry out actions prescribed in a Wildlife Management Program.*
- 5.4 *Each year review the progress of approved Wildlife Management Programs. The review will be based on an annual report from each Recovery Team and Management Team.*
- 5.5 *Where appropriate, release draft Wildlife Management Programs for public comment.*
- 5.6 *Ensure that Wildlife Management Programs are published and made available to the general public.*
- 5.7 *Each year decide on priorities for the preparation of Interim Wildlife Management Guidelines and allocate the task to staff as appropriate,*

Guidelines for the preparation of Interim Wildlife Management Guidelines are provided in Appendix V.
- 5.8 *Seek additional resources for appropriate research and the preparation and implementation of Wildlife Management Programs from external sources, sponsorship from companies and individuals, as well as from normal State Government sources.*
- 5.9 *Disseminate information concerning the preparation and implementation of Wildlife Management Programs and Interim Wildlife Management Guidelines.” (p. [4])*

POLICY STATEMENT – 1992

Policy Statement No. 9 : Conservation of Threatened Flora in the Wild. 1992

Operational Objective

“To conserve threatened flora in the wild in Western Australia and to comply with Section 23F of the Wildlife Conservation Act.” (p. 1)

2. Definitions

“The term ‘threatened flora is used to mean any plant taxon which is threatened with extinction and declared under section 23F of the Wildlife Conservation Act as ‘rare flora’ (i.e. is likely to become extinct or is rare or otherwise in need of special protection’).” (p. 1)

3. Background

“The Department of Conservation and Land Management has statutory responsibilities for endangered flora conservation.” (p. 1)

“[...] the Act prescribes that threatened flora be protected on all categories of land throughout the State.” (p. 1)

The Schedule of Declared Rare Flora

“The Schedule of Declared Rare (Threatened) Flora is reviewed annually.” (p. 1)

‘Taking’ Threatened Flora

“In the Wildlife Conservation Act (subsection 6 (1)) the following definition is given:

‘to take’ in relation to any flora includes to gather, pluck, cut, pull up, destroy, dig up, remove or injure the flora or to cause or permit the same to be done by any means;” (p. 3)

“[...] Ministerial approval is required prior to conducting a burn which involves any species of endangered flora.” (p. 3)

4. Policy

“The Department will:

4.1 Identify, locate and seek to conserve threatened flora.

[...]

4.3 Implement management practices to conserve threatened flora and its habitat.

[...]

4.6 Develop and maintain a geographic data base for threatened flora at its headquarters and at regional and district offices.” (p. 3)

5. Strategies

“To accomplish the Department objectives and policies, staff will:

[...]

5.2 Develop Wildlife Management Programs and Interim Wildlife Management Guidelines, for threatened plant taxa, and appoint fixed term ‘recovery teams’ for their implementation.” (p. 3)

“5.4 Nominate Threatened Flora Officers (additional to District Wildlife Officers) in each region and district who shall be responsible for identifying, locating, mapping, training staff, over- seeing management programs and providing liaison and advice on threatened flora.

5.5 Establish and maintain field herbaria, photographic collections, map records and other aids concerning threatened flora at each Ranger station and district and regional office.” (p. [3])

“5.6 Arrange an inspection to establish whether declared threatened flora are present before undertaking any activity on CALM land that involves permanent destruction (i.e. clearing for road-making, building, mining or other purposes) of native flora.

5.7 Ensure that no known declared threatened flora is destroyed, damaged, or otherwise injured By Departmental staff or their contractors without first obtaining a ministerial permit so to do.

- 5.8 *Ensure that any burning program (for fire protection purposes will not cause irreparable damage to species of threatened flora known to be susceptible to fire.*
- 5.9 *Observe other operational guidelines for protection of endangered flora on CALM lands as detailed in Administrative Instruction No. 24 'Protection of Endangered [Threatened] Flora in Departmental Operations'.*
- 5.10 *Monitor known populations of threatened flora.*
- 5.11 *Maintain a geographic and biological data base on threatened flora.*
- 5.12 *Develop management programmes for species of threatened flora.*
- 5.13 *Collect seed and propagate threatened flora in Departmental nurseries. Replant propagated material in the wild under an approved management programmes or approved Interim Wildlife Management Guidelines.” (p. [4])*
- “5.17 *Maintain a system for listing and delisting flora on the declared threatened schedule.” (p. [4])*

MANAGEMENT PLAN - 1992

Walpole-Nornalup National Park Management Plan 1992-2002, 1992

7.0 Flora and Vegetation

Objective

“*Protect and maintain existing plant communities, emphasising priority and key species.*” (p. 22)

Actions

- “4. *Protect populations of species that are vulnerable to particular fire regimes by appropriate fire management strategies (see Section 10.0 Fire).*
5. *Ensure that locations of priority, key and threatened flora species are known and the information is stored in the Walpole District Office. Ensure that these records are consulted and appropriate action taken before development of management actions are undertaken.*” (p. 22)

8.0 Fauna

Objectives

- *“Protect all native species, particularly those that are threatened or vulnerable to disturbance.*
- *Re-introduce native animals that were once found in the Park if resources are available and research shows benefits to the Park’s biota.*
- *Control pests where this does not compromise other conservation objectives.” (p. 25)*

Actions

- “1. *Protect habitats from dieback disease (see Section 9.0 Disease), inappropriate fire regimes (see Section 10.0 Fire) and human disturbance.*
2. *Control introduced species that are damaging or could potentially damage native fauna provided that this does not compromise other conservation objectives (see Section 12.0 Feral Animals).*

Threatened and Priority Species

3. *Priorities for the protection of priority mammals in decreasing order are the Chuditch (re-introduction and monitoring), Western Ringtail Possum (re-introduction and monitoring) and Honey Possum (monitoring). Priorities for vulnerable birds are Noisy Scrub-bird (monitoring and re-introduction) and Western Bristlebird (re-introduction)."* (p. 25)

Management for Conservation – Protection

Fire

Objectives

- *"Encourage and maintain the composition and diversity of plant and animal communities.*
- *Provide for the survival of populations of threatened or restricted plant and animal species by the maintenance of required habitat."* (p. 33)

Strategies

"Where possible, adjacent blocks will be prescribed burnt in alternate years. Tingle forest most readily burns in summer and autumn when moisture levels are low enough to support a fire. This coincides with the dormant period of relictual invertebrates. Fuel reduction burning in the Nuys Wilderness Area for protection of people, property and environmental values will be achieved by wind-driven buffers (see Section 20.4). [...]" (p. 35)

"[...] Most 'special conservation' zones are under the No Planned Burn Regime that will ensure most vegetation communities will have a late serial stage in the Park, with the exception of the Conspicuous and Nut Road areas that are proposed Vegetation Management Regime. This area contains few species with a long juvenile period (thereby requiring longer periods without burning) that are not found elsewhere in 'special conservation' zones, and the VMR will help protect the Peaceful Bay townsite. [...]" (p. 35)

Actions

Fire Prevention

3. *Where known or suspected gazetted threatened flora or fauna occur within proposed burn areas, the burn will be modified, relocated or deferred. Where it is a requirement of the species, or where, in exceptional circumstances, it is considered by CALM that the burn should proceed, Ministerial permission to 'take' flora will be obtained."* (p. 35)

Fire Management

13. *If a fire exclusion area is burnt by wildfire it will be exchanged, wherever possible, with an area of similar size and ecological type after careful review of the ecological and protection requirements."* (p. 36)

Fire Suppression

15. *Minimise construction of any new firebreaks. In the case of a wildfire, limit construction to those necessary for the protection of priority values, rehabilitate any subsequent unnecessary firebreaks. Construct new firebreaks according to strict dieback disease hygiene principles. Avoid vegetation community types 1, 3, 5, 6 and 10 for firebreak construction where possible (see Section 7.0 Flora, Table 4 for vegetation community types)." (p. 36)*

Recreation Areas

Actions

2. *[...] Ensure no priority flora or fauna are adversely affected."* (p. 58)

SILVICULTURE SPECIFICATION – 1992

Silviculture specification 1/92 : Karri thinning

Silvicultural Objective

6. *Maintain wildlife habitat."* (p. 1)

Thinning Operation

Maintenance of Diversity

“Retain all groups and where practicable, individuals of Allocasuarina. Retain wildlife habitat trees. In mixed stands, retain marri to ensure that a mixture is maintained. [...]” (p.3)

TIMBER HARVESTING ... 1992 ED. – 1992

Timber Harvesting in Western Australia ... 1992 Ed. 1992

PART 1 : CODE OF LOGGING PRACTICE

Section 7 : Environmental Protection

Rare Flora and Fauna

NOTE: REFER TO ENTRY UNDER 1987 EDITION, *CODE OF HARDWOOD LOGGING PRACTICE* (SIMILAR WORDING)

PART 2 : MANUAL OF LOGGING SPECIFICATIONS

Section 2 : Roading

Specification 2.3 : Road Construction

(e) Cut and Fill Slopes

“10. Appropriately timed rare and endangered flora and fauna surveys must be consulted and advised by specialist CALM staff.” (p. 56)

Specification 2. 5 : Gravel Pit Selection Working and Rehabilitation

Guidelines for the Management and Rehabilitation of Gravel Pits : South West Forest Areas

NOTE: REFER TO ENTRY UNDER 1990 EDITION (SIMILAR WORDING)

Section 4 : Coupe Management

Specification 4.1 : Coupe Demarcation

3.1 River and Stream Reserves

NOTE: REFER TO ENTRY UNDER 1990 EDITION (SIMILAR WORDING)

In the area known originally as the Woodchip Licence Area

NOTE: REFER TO ENTRY UNDER 1990 EDITION (SIMILAR WORDING)

Elsewhere

NOTE: REFER TO ENTRY UNDER 1990 EDITION (SIMILAR WORDING)

3.2 Road Reserves

NOTE: REFER TO ENTRY UNDER 1990 EDITION (SIMILAR WORDING)

In the area known originally as the Woodchip Licence Area

NOTE: REFER TO ENTRY UNDER 1990 EDITION (SIMILAR WORDING)

Elsewhere

NOTE: REFER TO ENTRY UNDER 1990 EDITION (SIMILAR WORDING)

Section 5 : Environmental Protection

Specification 5.6 : Protection of Declared Rare Flora

Background

“Declared Rare Flora (DRF) are those species listed in the schedule that are regarded as being threatened with becoming extinct, and have special Ministerial protection under the Wildlife Conservation Act. No plant of these species can be taken without the written consent of the Minister, and this applies on all lands, and is binding on the Crown - that is Government employees also need to apply to the Minister to take. ‘To take’ includes any action that damages, or allows damage to be caused to a plant. A breach of this provision is liable to a fine of up to \$10,000.

Priority flora, in categories 1 to 3, are those species held in a supplementary list that might be threatened with extinction, but for which there is insufficient information on which to make a proper assessment, ie; poorly known species. The priority code refers to the requirement for further survey. Priority 4 species are presumed extinct and are now included in the DRF schedule (so that they are immediately afforded maximum protection in the event of rediscovery), and Priority 5 species are rare but not threatened, usually because of their presence on CALM lands. While the priority flora do not have the same specific level of protection as the DRF, it is CALM’s responsibility to ensure that their conservation status is not reduced as a consequence of activities over which we have control.” (p. 109)

Operational Procedures

“(a) Prior to any operation that will not cause the permanent destruction of vegetation (eg: burning or selective logging), information sources are to be consulted to check for the presence of DRE or priority flora.

i) If no DRF or priority flora are recorded for the area, then operation may proceed.

ii) If DRF or priority flora are present, make every attempt to modify the plan to exclude these plants from impact by the operation; and

iii) If the DRF or priority flora cannot be excluded from impact by the operation:

** ensure that the population has been monitored recently so that current status is known. Undertake monitoring (using Rare Flora Report Form) if no recent monitoring has been done;*

** in the case of DRF, apply to Wildlife Branch for Ministerial ‘Permit to Take’, using standard application form. [...] Sufficient time must be allowed for the application to be processed, including time to answer requests for more information;*

** if approval is given for the taking of DRF, or if priority flora are to be taken. take actions to minimise damage, such as, mark the population on the ground, issue specific instructions to contractors, mark logging plans or job prescription sheets;*

** after the operation, monitor the impact on, and regeneration of. the DRF or priority flora.” (p. 109)*

Maintenance Grading

“[...] If the flora invades the maintenance area then the operation must be assessed as above. If DRF needs to be removed for track maintenance, then a permit to take must be applied for.” (p. 110)

Specification 5.8 : Protection of Fauna Habitat

“1. The FOIC must ensure that habitat of any known Declared Rare Fauna is protected from the impacts of the logging operation.

2. *Wildlife corridors, including road, river and stream reserves, must be demarcated in the field, and access by logging equipment strictly controlled.*
3. *Habitat trees and logs, as described in the relevant Silvicultural prescription, must be identified and marked in the field.*
4. *Logging contractors must make every effort during all phases of logging to protect habitat from physical damage.*
5. *Where an area to be logged contains habitat suited to a species of fauna which is subject of a Rare Fauna Species Management Plan; the requirements of that plan will be integrated into silvicultural specifications for that area.” (p. 112)*

GUIDELINE – 1992

Guidelines for the Management and Rehabilitation of Gravel Pits : South West Forest Areas. 1992

“Quarrying in Conservation and Land Management (CALM) lands results in the loss of conservation and production values.[...]

The aim of this document is to establish a consistent standard for management and rehabilitation to minimise these impacts.” (p. 1)

Floristic Values

“All sites to be checked for D.E.F. and priority listed species before any operation proceeds.[...]” (p. 3)

LEGISLATION - 1991

Conservation and Land Management Amendment Act No. 20 of 1991

“AN ACT to amend the Conservation and Land Management Act 1984, and to consequently amend certain other Acts.

[Assented to 25 June 1991.]” (p. 1)

Section 33 Amended

“21. Section 33 of the principal Act is amended –

(a) in subsection (1) –

[...]

(dc) to promote the conservation of water, as to both quantity and quality, on land referred to in paragraph (a);

(ii) in paragraph (e) by deleting subparagraphs (i) and (ii) and substituting the following subparagraphs -

‘ (i) the management of land to which this Act applies;” (p. 12)

“(ii) the conservation and protection of flora and fauna; and

(iii) the taxonomy of flora and introduced plants, ;

and

(iii) in paragraph (f) by inserting after ‘other person’ the following -

‘ , whether in the State or elsewhere’;

(b) in subsection (3), by deleting paragraph (b) and substituting the following paragraph –

(i) in the case of nature reserves and marine nature reserves, in such a manner that only necessary operations, within the meaning in section 33A (1) are undertaken;

(ii) in the case of national parks, conservation parks and marine parks, in such a manner that only compatible operations, within the meaning in section 33A(2), are undertaken; or

(iii) in any other case, in accordance with the provisions of section 56 applicable to the land.’
and

(c) by deleting subsection (4).” (p. 13)

Section 33A Inserted

“22. After section 33 of the principal Act the following section is inserted-

Definition of ‘necessary operations’ etc.

‘ 33A. (1) In section 33 (3) (b) ‘necessary operations’ means those that are necessary for the preservation or protection of persons, property, land, flora or fauna, or for the preparation of a management plan.” (p. 13)

Section 55 Amended

“27. Section 55 of the principal Act is amended by inserting after subsection (1) the following subsection (1) the following subsection-

‘ (1a) A management plan for an indigenous State forest or timber reserve shall specify the purpose, or combination of purposes, for which it is reserved being one or more of the following purposes-

(a) conservation;

(b) recreation;

(c) timber production on a sustained yield basis;

(d) water catchment protection; or

(e) other purpose being a purpose prescribed by the regulations.’” (p. 17)

Section 56 Amended

“28. Section 56 of the principal Act is amended-

(a) in subsection (1)-

(i) by repealing paragraph (a) and substituting the following paragraph-

‘ (a) in the case of indigenous State forests or timber reserves, to achieve the purpose, or combination of purposes, provided for in the proposed management plan under section 55 (1a);’;

(ii) in paragraph (c) by inserting after ‘national parks’ the following-

‘ and conservation parks’;

and

(iii) in paragraph (d) by inserting after ‘and fauna’ the following-

‘, and to preserve any feature of archaeological historic or scientific interest’;

and

(b) by repealing subsection (2).” (p. 17)

Division 2 of Part V Repealed and a Division Substituted

“32. Part V of the principal Act is amended by repealing Division 2 and substituting the following Division-

‘ Division 2 – Classification of Land

Land may be classified

62[...] (2) A classification of land or waters as a temporary control area under subsection (1)(d) shall only be made for the purposes of public safety or the protection of flora or fauna, or both flora and fauna, and a notice of classification –

(a) shall not have effect for a period exceeding 90 days;

but

(b) may be made more than once for the same purpose and for the same area.” (p. 19)

“(3) A classification, or amendment of classification, of any land or waters shall not be made under this section

(a) unless it is in conformity with the provision of section 56 which is relevant to, or any management plan for, that land or those waters; and

(b) in the case of land to which section 16 applies, unless the owner, and any person occupying the land with the consent of the owner, has given approval in writing to the classification or the amended classification.

(4) In this section ‘controlling body’ means the Commission or the Authority.’. “ (p. 20)

POLICY STATEMENTS – 1991

Policy Statement No. 9 : Conservation of Endangered Flora in the Wild. 1991

Operational Objective

“To conserve threatened flora in the wild in Western Australia and to comply with Section 23F of the Wildlife Conservation Act.” (p. 1)

2. Definitions

“The term ‘threatened flora is used to mean any plant taxon which is threatened with extinction and declared under section 23F of the Wildlife Conservation Act as ‘rare flora’ (i.e. is likely to become extinct or is rare or otherwise in need of special protection’).” (p. 1)

3. Background

“The Department of Conservation and Land Management has statutory responsibilities for endangered flora conservation.” (p. 1)

“[...] the Act prescribes that threatened flora be protected on all categories of land throughout the State.” (p. 1)

The Schedule of Declared Rare Flora

“The Schedule of Declared Rare (Threatened) Flora is reviewed annually.” (p. 1)

‘Taking’ Threatened Flora

“In the Wildlife Conservation Act (subsection 6 (1)) the following definition is given:

‘to take’ in relation to any flora includes to gather, pluck, cut, pull up, destroy, dig up, remove or injure the flora or to cause or permit the same to be done by any means;” (p. 3)

“[...] Ministerial approval is required prior to conducting a burn which involves any species of endangered flora.” (p. 3)

4. Policy

“The Department will:

4.1 Identify, locate and seek to conserve threatened flora.

[...]

4.3 Implement management practices to conserve threatened flora and its habitat.

[...]

4.6 Develop and maintain a geographic data base for threatened flora at its headquarters and at regional and district offices.” (p. 3)

5. Strategies

“To accomplish the Department objectives and policies, staff will:

[...]

5.2 Develop Wildlife Management Programs and Interim Wildlife Management Guidelines, for threatened plant taxa, and appoint fixed term ‘recovery teams’ for their implementation.” (p. 3)

“5.4 Nominate Threatened Flora Officers (additional to District Wildlife Officers) in each region and district who shall be responsible for identifying, locating, mapping, training staff, overseeing management programs and providing liaison and advice on threatened flora.

5.5 Establish and maintain field herbaria, photographic collections, map records and other aids concerning threatened flora at each Ranger station and district and regional office.

5.6 Arrange an inspection to establish whether declared threatened flora are present before undertaking any activity on CALM land that involves permanent destruction (i.e. clearing for road-making, building, mining or other purposes) of native flora.

5.7 Ensure that no known declared threatened flora is destroyed, damaged, or otherwise injured by Departmental staff or their contractors without first obtaining a ministerial permit so to do.

5.8 Ensure that any burning program (for fire protection purposes) will not cause irreparable damage to species of threatened flora known to be susceptible to fire.

5.9 Observe other operational guidelines for protection of endangered flora on CALM lands as detailed in Administrative Instruction No. 24 ‘Protection of Endangered [Threatened] Flora in Departmental Operations’.

5.10 Monitor known populations of threatened flora.

5.11 Maintain a geographic and biological data base on threatened flora.

5.12 *Develop management programmes for species of threatened flora.*

5.13 *Collect seed and propagate threatened flora in Departmental nurseries. Replant propagated material in the wild under an approved management programmes or approved Interim Wildlife Management Guidelines.” (p. 4)*

“5.17 *Maintain a system for listing and delisting flora on the declared threatened schedule.” (p. 5)*

Appendix : Guidelines for Surveys of Plants Proposed for Addition or Deletion to the Schedule of Declared Threatened Flora

“These guidelines were developed in conjunction with new criteria for additions and deletions to the Schedule of declared flora.

Criterion (ii) for additions states:

The taxon ‘have been searched for thoroughly in the wild by competent botanists during the past five ears in most likely habitats, according to guidelines approved by the Executive Director.’” (p. 1)

“5. Disturbance opportunism

[...]

Having completed surveys according to the above guidelines, the next phase in considering listing on the schedule is described under Criterion for additions (iii).

‘Such recent botanical survey has shown that the taxon in the wild is either rare, or in danger of extinction or in need of special protection’.

These four categories of threatened flora are defined below.

Rare

Less than a few thousand adult plants of the taxon exist in the wild.

In danger of extinction

The taxon is in serious risk of disappearing from the wild state within one or two decades if present land use and other causal factors continue to operate.” (p. 2)

In need of special protection

The taxon is not presently in danger of extinction but is at risk over a longer period through continued depletion, or largely occurs on sites likely to experience changes in land use which would threaten its survival in the wild.

Presumed extinct

The taxon has not been collected in the wild, or otherwise verified, over the past 50 years (from the date of listing) despite thorough searching, or of which all the known wild populations have been destroyed more recently, and is presumed to be extinct.” (p. 3)

POLICY STATEMENTS – 1991

Policy Statement No. 33 : Conservation of Threatened and Specially Protected Fauna in the Wild. 1991

1. Operational Objective

“To conserve threatened and specially protected fauna in the wild in Western Australia.” (p. 1)

2. Definitions

“This Policy Statement uses the term ‘threatened species’ to mean any animal taxon declared under Section 14(2)(ba) of the Wildlife Conservation Act as ‘likely to become extinct or is rare’. Taxa declared under the same Section as ‘otherwise in need of special protection’ are termed ‘specially protected’. Criteria for the declaration of taxa as ‘threatened’ or ‘specially protected’ are provided below.

‘Interim Wildlife Management Guide-lines’ means Guide-lines approved by the Director of Nature Conservation for the management and protection of threatened or harvested taxa where no full Wildlife Management Program has been prepared.

‘Wildlife Management Program’ means a publication produced by CALM providing detailed information and guidance for the management and protection of threatened or harvested species or groups of those species. Programs for threatened taxa are sometimes referred to as ‘Species Recovery Plans’.” (p. 1)

3. Background

“The Department of Conservation and Land Management has statutory responsibilities for the conservation of fauna, through the Wildlife Conservation Act and the Conservation and Land Management Act.

Many animal taxa can be adequately conserved by the reservation and management of representative areas of habitat in the conservation reserve system. However, some taxa are now threatened and require special conservation action, both within the reserve system and on other categories of land and water. Other taxa are threatened through illegal exploitation related to commercial or other activities to such an extent that they are likely to become endangered without special protection.

Some animal taxa are naturally rare and/or geographically restricted and their conservation requires special protection and management. Some animal taxa have declined in status (and become threatened) since European settlement for various reasons including:

- (a) extensive clearing of habitat;*
- (b) the introduction of exotic animals, especially predators like the cat and fox;*
- (d) changes in habitat caused by different fire regimes, drainage, introduced herbivorous animals, plant diseases, etc, and*
- (e) excessive exploitation.” (p. 1-2)*

“A major broad strategy of the Department’s Strategic Plan is to ‘Prepare and implement wildlife management programmes for wildlife throughout the State.’ The plan states that this will involve, in part, ‘Managing rare animal populations to ensure their survival.’

Officers of the Department need to know how to identify species of threatened and specially protected fauna, where they occur, and how best to manage them. Although the Wildlife Conservation Act prescribes that threatened and specially protected fauna are protected on all categories of land throughout the State, destruction of habitat is not included within the definition of ‘taking’ of fauna.*

Threatened fauna conservation is an issue of high public profile, and one where the Department’s activities are subject to close public scrutiny.” (p. 2)

Legislation

“The Wildlife Conservation Act prohibits the taking of threatened fauna by any person on any land throughout the State without the authority of a licence issued by the Executive Director. The fauna provisions of the Act do not bind the Crown.

Section 14(2)(ba) of the Wildlife Conservation Act states ‘The Minister may, from time to time by notice published in the Government Gazette, declare that any fauna specified in the notice is for the purposes of this Act fauna which is likely to become extinct, or is rare, or otherwise in need of

special protection and while such declaration is in operation –

*i) such fauna is wholly protected throughout the whole of the State at all times; and
[...]" (p. 2)*

"The illegal destruction of protected fauna is covered in the Wildlife Conservation Act (Section 6(1)), where the following definition is given:

** includes waters*

'to take' in relation to any fauna, includes to kill or capture any fauna by any means or to disturb or molest any fauna by any means or to use any method whatsoever to hunt or kill any fauna whether this results in killing or capturing any fauna or not, and also includes every attempt to take fauna and every act of assistance to another person to take fauna and derivatives and inflections have corresponding meaning;" (p. 2)

"The destruction or modification of habitat by clewing or other means may result the demise of sedentary animal species, or the displacement and eventual death of more mobile species, but this is not covered specifically in the definition of 'to take'. Although it can be argued that to clear habitat would 'disturb or molest' the animals this is an indirect and unsatisfactory method of approaching habitat protection.

At present fauna is considered for declaration as threatened or specially protected on a taxon by taxon basis. There is a clear case for considering protection of very restricted habitats and their specialised taxa, such as caves harbouring troglobitic fauna, or isolated fresh water springs with unique species, and protecting habitats that are 'threatened', but this cannot be done under the Wildlife Conservation Act." (p. 3)

The Schedule of Threatened Fauna

"The Schedule of Threatened Fauna is reviewed at least every three years by an Threatened Fauna Scientific Advisory Committee established under this Policy. [...]" (p. 3)

"[...]If any invertebrate taxa not in these groups are to be declared as threatened fauna they will first need to be protected by removal from the provisions of the Ministerial notice." (p. 3)

"The Committee also prepares a 'Reserve List' including animal taxa:

- a) that have recently been removed from the list of threatened fauna;*
- b) that have a restricted distribution, are uncommon or are declining in range and/or abundance, but which do not meet the criteria for listing as threatened fauna; and*
- c) for which there is insufficient information for the Committee to make an assessment of their status.*

The Reserve list is also reviewed at least every three years." (p. 4)

4. Policy

"The Department will:

4.1 Identify, locate and seek to conserve threatened and specially protected fauna.

4.2 Implement management practices to conserve threatened and specially protected fauna and their habitats.

[...]

4.4 Seek to reserve and manage land that provides habitat critical to the survival of threatened species in the wild.

[...]

4.8 *Maintain a data base for threatened and specially protected fauna.” (p. 5)*

5. Strategies

To accomplish the Department’s objective and policies, the Department will:

5.1 *Maintain an Threatened Fauna Scientific Advisory Committee including representatives of the Western Australian Museum and other relevant organisations to:” (p. 5)*

- i) *at least every three years, make recommendations to the Executive Director for amendments to the list of threatened and specially protected fauna (and, if the legislation is amended, to a list of protected sites);*
- ii) *recommend priorities to the Executive Director for research into and management of declared threatened fauna and their habitat;*
- iii) *identify those taxa that are possibly threatened, in need of special protection or are in need of careful monitoring and advise the Executive Director accordingly; and*
- iv) *review this Policy Statement at least every three years.*

5.2 *Develop Wildlife Management Programs (recovery plans) or Interim Wildlife Management Guide-lines for species or groups of species of threatened and specially protected fauna, and appoint ‘recovery teams’ for their implementation.*

5.3 *Monitor known populations of threatened and specially protected fauna.*

[...]

5.5 *Translocate threatened fauna in the wild under approved Management Programs or Interim Wildlife Management Guide-lines.*

5.6 *Train staff how to conserve and manage threatened and specially protected fauna. Establish operational Guide-lines for protection of threatened and specially protected fauna on CALM lands and train staff in their use.*

5.7 *Nominate Officers in each region and district who shall be responsible for identifying threatened and specially protected fauna, training staff, overseeing management programs and providing liaison and advice on threatened and specially protected fauna.*

5.8 *Establish whether threatened or specially protected fauna are present before undertaking any activity on CALM land that involves permanent destruction or major modification of habitat of native fauna.*

5.9 *Ensure that no known declared threatened or specially protected fauna is taken, destroyed, or otherwise injured on land managed by CALM or its habitat destroyed or modified unless approval has first been given by the Minister.*

5.10 *Ensure that any burning program on land managed by the Department will not lead to threatened fauna being threatened with extinction.*

5.11 *Establish and maintain means of identification, map records and other aids concerning relevant threatened and specially protected fauna at each Ranger station and district and regional office.*

5.12 *Maintain a geographic, administrative and biological data base on threatened and specially protected fauna.” (p. 6)*

“5.13 *Develop and manage a geographic, administrative and biological data base for threatened and specially protected fauna, including central records of all correspondence, discoveries of threatened and specially protected fauna populations, applications for permits to take threatened and specially protected fauna and other relevant matters.*” (p. 7)

POLICY STATEMENTS – 1991

Policy Statement No. 18 : Recreation, Tourism and Visitor Services. 1991

2.8 Equestrian Activities : Policy

“2.8.11 *Horse-riding zones, trails or campsites may be closed if weather conditions, erosion, dieback, degradation of vegetation or lack of compliance to conditions of use warrant such closure.*
Procedures

[...]

2. When considering the location of a horse-trail, the following factors must be considered:

[...]

* *presence of rare, threatened or susceptible plants, animals or wildlife communities;*

[...]” (p. 66)

2.9 Hunting, Fossicking and Collecting

2.9.1 Hunting

Policy

“2.9.1.1 *Hunting will not generally be permitted on CALM managed lands or waters with the exception that under provisions in the Wildlife Conservation Act, the Minister for the Environment may declare an open season on ducks and/or quail. In the event of such a season being declared all shooters must be licensed. Dates and locations of the open season and conditions on bag limits, game species and methods of capture are specified in the open season notices, Wildlife Conservation Regulations and Licences.*” (p. 68)

2.15 Shooting

“[...] *As indicated in the policy on hunting (2.9) the shooting at or of any wildlife is prohibited unless authorised by the Minister under the provisions of the Wildlife Conservation Act ...*” (p. 85)

Policy

“2.15.1 *Shooting activities as a recreation/sport will not be allowed on nature reserves, national parks or marine parks with the exception of spearfishing in designated areas in marine parks (see Policy 2.9).*” (p. 85)

“2.15.2 *Recreational or sport shooting on other CALM managed lands and waters will require Regional or District Manager approval and will only be permitted in designated areas which can be adequately buffered and managed to exclude the general public.*” (p. 85)

2.16 Model Aircraft/Rockets

“*Apart from noise, other impacts associated with the operation of model aircraft and/or rockets include the increased risk of wildfire, the potential danger these craft pose to other visitors and air users and the unknown effect on wildlife.*” (p. 87)

Policy

“2.16.1 *The flying of motorized model aircraft/rockets is not consistent with the usual use of CALM managed land and waters. It is therefore not permitted in National Parks, Nature Reserves, wilderness areas generally or in areas of special scientific or cultural value. It will only be allowed on other CALM managed lands if specific areas are set aside for the purpose. Such areas must be designed and*

located to effectively deal with the noise nuisance, fire danger and safety requirements of participants and observers.” (p. 87)

“2.16.2 The flying of non-motorized model aircraft is permitted only where it will not interfere with wildlife or other visitors, and only if launched unaided by hand.” (p. 87)

POLICY STATEMENT – 1991

Policy Statement No. 40 : Road Management. 1991

Performance Indicators

“Successful implementation of this policy will be assessed on the basis of the extent to which:

1. Nature conservation values are maintained and enhanced.” (p. 3)

“[...]

5. Declared threatened fauna and flora are not disturbed by road construction and maintenance programs.” (p. 4)

STRATEGIC PLAN – 1991

CALM Annual Report 1 July 1990 to 30 June 1991. 1991

NOTE: THE STRATEGIC PLAN 1989-1993 IS REPRINTED WITH AN ADDITIONAL CLAUSE (THE FINAL ONE) –

“To achieve the primary objectives the Department will:” (p. 11)

“Prepare and implement management plans for lands and waters entrusted to the Department.

This will involve:

- Establishing priorities for management plan preparation according to set criteria.*
- Preparing and implementing management plans according to agreed priorities.*
- Developing and implementing ‘Interim Guidelines for Operations’, according to an approved procedure and format, where there is a need for protection of people, property, land, flora and where there is no approved management plan.” (p. 14)*

SILVICULTURE SPECIFICATION – 1991

Silviculture Specification 2/91 : Treemarking and Silvicultural Treatment in the Jarrah Forest

NOTE: THIS SPECIFICATION SUPERSEDES SILVICULTURE SPECIFICATIONS 5/89 AND 7/89

Introduction

“The aim of silvicultural practice in the jarrah forest managed for multiple use purposes is to develop or maintain a forest structure that will achieve objectives for nature conservation, timber production, water quality and water production, heritage and aesthetics.

This specification details:

*the broad goals for each value,
requirements for integrated planning,
the standards to be achieved for all values, and
guidelines for field application.*

and outlines the variation to silvicultural practice that will be made to cater for various forest values, recognising their relative importance in different areas. It deals with the application of these strategies at the coupe level in areas from which timber is harvested.

The broader strategy that deals with zoning of the forest and the location, arrangement and harvesting is established at the regional planning level. This includes determining where harvesting can best be located to achieve the strategic goals, the allocation of zones (e.g. water, wildlife) from which harvesting is to be excluded and the establishment of relative priorities between values.

This specification relates only to dieback-free jarrah forest designated as multiple use in the 1987 Regional Management Plans. Dieback infected forest is to be managed in accordance with Specifications 3 and 4/89.

The treemarking and silvicultural treatments outlined in Sections 4–7 of this specification do not apply to extensively managed areas of eastern and Sunklands jarrah forest (Sect. 3.2.3). A new specification is being prepared to cover these areas.” (p. 2)

2.2 Wildlife

Management Objectives

- “* *To maintain biodiversity at the genetic, species and ecosystem level in the forest throughout Western Australia.*

- * *To maintain or replace populations of all taxa so that management activities do not lead to the loss of biodiversity at the local level.*

- * *To protect and conserve threatened, rare and uncommon taxa and communities.” (p. 3)*

Silvicultural Strategies

- *“Maintain or enhance structural diversity of the forest.*

- *Retain those elements of habitat which could be lost through harvesting and tending and which take many years to replace.*

This will be achieved by:

Maintaining, or developing several age classes within each coupe [...]*

By retaining mature trees at the rate of 3 per hectare and logs suitable for nesting and refuge throughout every harvested area.

By orienting temporarily retained strips of forest to link zones containing mature forest. These may act as wildlife corridors and allow greater use of regrowth areas.” (p. 3)

*“Leaving distinctive, rare and uncommon plant species and groups undisturbed by harvest. [...]
Excising rock outcrops, distinctive floral assemblages or fauna habitat from harvested areas.*

**In this specification 'coupe' means a contiguous area of forest which is used to plan harvesting. A coupe will usually be harvested in 1-2 years, however not all the forest in the coupe will necessarily be harvested in one felling cycle.* (p. 4)*

3.1 Inventory

"The following are essential planning tools

- (1) Contour Maps showing watercourses*
- (2) Visual Resource Management Zones*
- (3) Rainfall Zones*
- (4) API Type maps, and other maps showing cutting histories and silvicultural treatments*
- (5) Streams and other permanent zones*
- (6) Wildlife Values*

It is also valuable to have current 230mm aerial photography as this assists in the interpretation of forest structure. Site/vegetation type maps for the area are useful indices for several values.

A coupe plan is prepared showing:

*WATER: Harnessed catchments
Rainfall Zones
Stream Zones=*

*VISUAL RESOURCE: VRM Zones (including seen area)
VRM Special Areas
Roadside Zones (Southern Forest Region)=*

WILDLIFE: Significant values

*TIMBER: Low Value/Non Productive Areas
Structural Types (where known)*

= Note that these zones are currently subject to review" (p. 6)

3.2 Field Inspection

"A field inspection of each coupe must be made to verify the values that are present. [...]" (p. 6)

4. Treemarking

4.1 General

"Treemarking is the means by which stand objectives are marked out in the forest so that harvesting and tending operations can proceed. By making trees to be retained the forester provides a vision of the future development of the stand.

Before marking commences, the forester must know:

the water, visual resource and wildlife objectives within the coupe, and the type of trees likely to be removed commercially.

Marking specifications will vary in accordance with the above objectives. (See Appendix 2).

The first task in marking a patch of trees is to determine the silvicultural objective (thinning, regeneration release, or shelterwood) and whether its boundaries are apparent. The process for making these decisions is outline in 'Treemarking and Silviculture in the Jarrah Forest' (1987).

Only after the objective has been identified for each patch can individual trees be marked. Marking habitat trees and logs for retention are the first priority.” (p. 9)

4.2 Marking to Promote Growth (Thinning)

Diversity

“[...] Mark to protect native pear, river banksia and examples of snottygobble, peppermint, large blackboys etc. Additional diversity of size and density of retained trees is required in the first 150 metres of VRM Zone A. (Appendix 2).” (p. 9)

Technique

“Mark to retain the desired density of crop trees (Appendix 4), fauna habitat trees and logs (Appendix 5) and elements for diversity. [...]” (p. 9)

Technique

“Where it is evident that insufficient crop trees exist to enable a thinning, the forester must check that the stocking of ground coppice/saplings is adequate, (Specification 3/90) then determine the boundaries of the gap. In general only mark fauna habitat trees in gaps over 1 hectare in size, however where good examples occur in small gaps they should be retained. [...]” (p. 10)

Diversity

“Mature secondary storey species (e.g. sheoak) shall also be marked and retained undisturbed, preferably in clumps, to enhance stand diversity.” (p. 10)

4.4 Marking to Establish Regeneration (Shelterwood)

“A shelterwood is created where there is inadequate stocking of crop trees for thinning and where there is insufficient ground coppice available for immediate release.

The shelterwood overstorey is retained to provide seed for regeneration and a continuity of forest values until ground coppice is capable of rapid growth following release.

Technique

Mark to retain 50% of overstorey (up to 15m-/ha) including habitat trees at a relatively even spacing. Preference for retention are jarrah trees which will grow vigorously for at least the next 20 years. In addition some elements of stand diversity, as outlined for gap creation, shall also be retained. The forester must endeavour to retain a stand which will sustain a harvesting operation in the future. Where the existing stand is of low density and a harvesting operation cannot be sustained, regeneration must be established before harvesting.” (p. 10)

4.5 Marking In Stands With Small Groups

“Frequently the existing stand structure consists of small groups of mature/overmature trees among small patches of thinnable forest, each below the minimum desirable size (i.e. 100m diameter). [...]” (p. 10)

“Where gaps are small and cannot be extended without considerable loss of crop trees, retain trees and avoid creating a gap. These large trees will frequently be retained as habitat trees.

Gaps as small as 50 metres in diameter (2 times tree height) are acceptable.” (p. 11)

5. Control of Harvesting

Crop Tree Protection

“Contractors are required to protect all marked trees during falling and skidding operations, and to remove debris larger than 7.5cm diameter to at least 1 metre away from marked trees. Where trees are wanted but not marked, contractors cannot be expected to protect them.

A zone of 5 metres is to be retained undisturbed around all habitat trees and groups.” (p. 11)

6.3 Treatment of Thinning Groups

“Individually release crop trees by removing competing trees for a distance of 4 metres by removing all vigorously growing culls over 50cm DBH not required for habitat, and all mature Banksia grandis by notching with an approved herbicide (See Herbicide Manual, Technical Instructions). Where trees which appear to share a common root system with adjacent retained trees, fell without poisoning the stumps. [...]” (p. 12)

6.4 Treatment of Gaps

“The object is to encourage regeneration by the removal of competing culls. This can be done either by:

- * immediately removing all culls after harvesting, or*
- * initially removing sufficient culls to allow regeneration to develop into saplings and then in 20-25 years removing remaining culls and releasing saplings to grown into poles.” (p. 12)*

Gap Size 0.25-2ha

“Remove any unmarked crop trees and mature Banksia grandis by felling, pushing down or notching. Do not treat within 5 metres of fauna habitat trees.” (p. 12)

Gap Size > 2ha

“As for the above, but only remove the following unmarked culls:

DBH >40 cm – all cull trees.

DBH 20-40 cm only if within 15 metres of other trees, including crop or habitat trees or other remaining culls.

DBH 10-20 cm if within 7 metres of other trees.

Consider trees less than 3 metres apart as one tree. See Appendix 6 for interpretation.” (p. 12)

Appendix 5 : Criteria for Selection of Habitat Trees

1. Objective

“To retain for hole nesting fauna the essential components of habitat which cannot be readily replaced through post-harvest forest manipulation.” (p. 18)

2. Standing Trees As Habitat

2.1 Characteristics of Habitat Trees

“Mature and likely to live for many years. It is essential that those trees have the capacity to provide fauna habitat until regrowth trees can place them in the future.

Contain holes, or broken branch stubs below the live crown with the potential to develop into holes.

Average sized crowns. Excessively vigorous trees will affect regrowth over a wide area.

Marri in preference to jarrah.

Where there is a surplus of suitable habitat trees retain those of lower commercial value.” (p. 18)

3.2Rate of Retention

“Habitat trees must be deliberately marked for retention. Trees, as defined above, are to be retained for fauna habitat at a rate of 3 trees per hectare. Where suitable trees are not present a rate of 15 trees per 5 hectares must be achieved. A clump of 3-4 trees is preferred to an even distribution. If insufficient trees with these characteristics are available retain mature trees as potential habitat.

Wherever feasible locate clumps on the boundary between patches of forest which are or will be of different ages, e.g. on the boundary of a gap and thinning or uncut strip.

In general do not retain habitat trees in regeneration gaps of one hectare or less, as they will provide excessive competition for regrowth. [...]" (p. 18)

3. Ground Habitat

3.1 Characteristics

"Logs:

Diameter 30-100cm

Pipe 6-15cm diameter extending into log

Length – pipe at one end – 1.5 metres minimum

- pipe at both ends – 3 metres minimum

Stumps and Leaning Trees:

Stumps which have been lifted creating a protection underground cavity due to a leaning tree or some other agency." (p. 18)

3.2 Rate of Retention

"[...] Where available retain at least one per hectare. All marked logs must be retained undisturbed." (p. 18)

4. Fauna Habitat Protection

"As for protection of crop trees, tops and other residues larger than 7.5cm diameter are to be removed at least 1 metre from the bole of habitat trees to ensure subsequent protection from fire.

In this specification 'coupe' means a contiguous area of forest used for the planning of harvesting. A coupe will usually be harvested in 1 – 2 years, however not all forest in a coupe will necessarily be harvested in one felling cycle." (p. 18)

**NOTE: REFER TO ACTUAL DOCUMENT FOR –
Appendix 6**

Figure 1 : Treatment of culls in gaps over 2ha ;

Figure 1A : Gap containing 2-3 m²/ha Culls which are widely spaced and do not require treatment. ;

Figure 1B : Gap containing about 8 m²/ha of culls, X indicating those to be removed. ;

Figure 1C : Gap with a dense group of culls (>12m²/ha) which should not be treated.

POLICY STATEMENT – 1990

Policy Statement No. 33 : Conservation of Endangered and Specially Protected Fauna in the Wild. 1990

1. Operational Objective

"To conserve endangered and specially protected fauna in the wild in Western Australia." (p. 1)

2. Definitions

"This Policy Statement uses the term 'endangered fauna' to mean any animal taxon declared under Section 14(2) (ba) of the Wildlife Conservation Act as 'likely to become extinct or is rare'. Taxa declared under the same Section as 'otherwise in need of special protection' are termed 'specially protected'. Criteria for the declaration of taxa as 'endangered' or 'specially protected' are provided below." (p. 1)

3. Background

Legislation

NOTE: REFER TO QUOTATIONS UNDER THE 1991 EDITION (WORDING IS THE SAME, EXCEPTING FOR THE USE OF "Endangered" INSTEAD OF "Threatened")

Schedule of Endangered Fauna

“The Schedule of Endangered Fauna is reviewed at least every three years by an Endangered Fauna Scientific Advisory Committee established under this Policy.[...]” (p. 3)

“[...] If any invertebrate taxa not in these groups are to be declared as endangered fauna they will first need to be protected by removal from the provisions of the Ministerial notice.” (p. 3)

“The Committee also prepares a ‘Reserve List’ including animal taxa:

- a) that have recently been removed from the list of endangered fauna;*
- b) that have a restricted distribution, are uncommon or are declining in range and/or abundance, but which do not meet the criteria for listing as endangered fauna; and*
- c) for which there is insufficient information for the Committee to make an assessment of their status.*

The Reserve list is also reviewed at least every three years.” (p. 5)

The Schedule of Specially Protected Fauna

“The Schedule of Specially Protected Fauna is dealt with in the same way as the Schedule of Endangered Fauna. [...]” (p. 5)

4. Policy

NOTE: REFER TO QUOTATIONS UNDER THE 1991 EDITION (WORDING IS THE SAME, EXCEPTING FOR THE USE OF “Endangered” INSTEAD OF “Threatened”)

5. Strategies

NOTE: REFER TO QUOTATIONS UNDER THE 1991 EDITION (WORDING IS THE SAME, EXCEPTING FOR THE USE OF “Endangered” INSTEAD OF “Threatened”). THE ONLY SECTION DIFFERENT IS: 5.2

“5.2 Develop wildlife management programs for species or groups of species of endangered and specially protected fauna.” (p. 7)

ADMIN. INSTRUCTION – 1990

Administrative Instruction No. 44 : Protection of Endangered and Specially Protected Fauna in Departmental Operations. 1990

1. Introduction

“This introduction provides procedures that are to be used by Regions and Districts so as to minimise accidental destruction of endangered and specially protected fauna on CALM lands. A separate instruction will apply to conservation of endangered and specially protected fauna on other land.” (p. 1)

2. Policy

“These guidelines must be read in conjunction with the Departmental policy on the Conservation of Endangered and Specially Protected Fauna in the Wild (No. 33).” (p. 1)

3. Definition

“Endangered and specially protected fauna are those species that are declared under Section 14(2) (ba) of the Wildlife Conservation Act. The list will be revised at least every three years.” (p. 1)

4. Records

“4.1 Each Region, District or Ranger Station with a direct land management function will keep up to date records of the location of endangered and specially protected fauna for all CALM lands in its Region/District/Park/Nature Reserve.

This will be as an ‘Endangered Animals (EA) Register’ (Attachment 1) containing lists of reserves/forest blocks that contain populations of endangered and specially protected fauna, and relevant information on their biology. [...]” (p. 1)

“4.2 Regions, Districts and Ranger Stations will record the location of populations of endangered and specially protected fauna on their Fire Management and Operations Master Plans using red adhesive stickers, cross referenced to the H.O. File Number and EA Register.

In the forested Regions and Districts the locations will be recorded on the Hardwood Operations Control System (HOCS) print 2, titled Access, with appropriate reference to the EA register. The office coordination map is to be flagged with a red adhesive sticker to refer operations staff to the Access print. The coordination map is to be flagged with a red adhesive sticker to refer operations staff to the Access print. The coordination map is to be updated annually for all sensitive sites as identified on the Access print. The prints include Aboriginal sites, research plots, heritage sites etc, some of which must remain confidential to the casual map user.

4.3 All known localities of endangered fauna will be recorded in CALM’s environmental data base system which will be developed as resources permit.” (p. 2)

5. Operational Procedures

“Operations on CALM land have potential to destroy individuals or populations of endangered or specially protected fauna. These activities may be carried out by CALM staff or by other agencies, eg. SEC, Telecom, mining companies. The following procedures apply irrespective of the proponent. See also the decision model (Attachment 2).

5.1 Establish whether endangered or specially protected fauna is likely to occur in the area of the proposed activity. Examine the EA Register. If necessary consult regional ecologists or relevant personnel at Wildlife Branch, the Wildlife Research Centre and other Research Centres. If necessary arrange an inspection.

5.1 If individuals or a population of endangered or specially protected fauna are likely to be killed or displaced, or their habitat is likely to be damaged or destroyed by the operation:

5.2.1 Consult listed contact officer(s) (see list below) for a decision on whether the activity will pose a threat to the status of the species or may lead to a reduction in the numbers of the population.

5.2.2 Where the operation may lead to a reduction in numbers in a population of endangered or specially protected fauna, the habitat must not be damaged or destroyed. If this is not possible, approval to ‘take’ must be sought.” (p. 2)

“Depending on the operation the following options should be considered:

*temporary demarcation of the location of the endangered fauna;
specific instructions on job sheets to ensure that the damage does not occur;
a realignment of the proposed road, firebreak, etc;
localised protection measures to ensure that an area of habitat is not burnt;
exclusion of an area from clearing, logging or mining.*

If none of the above are possible, approval to 'take' the fauna must be sought from the Minister.

5.2.3 *Where the operation will NOT lead to a reduction in numbers of a population the project may proceed with the approval of the Regional Manager.*

5.3 *The results of the above procedure plus supporting documentation must be placed on the species file at SOHQ.” (p. 3)*

7. Fire Suppression

“In the suppression of uncontrolled fires, the Department will follow priorities laid down in Policy Statement No. 19, Fire Management Policy (May 1987). The Policy provides that the Department will assess its response to a fire in the light of potential damage to the following values in order of priority:

- (i) Human life;*
- (ii) Community assets, property of special values (including environmental values);*
- (iii) Cost of suppression in relation to values threatened.” (p. 4)*

8. Staff Training

8.1 *Each Region, District and Ranger Station will develop and maintain, in conjunction with the Endangered Animal Register, a file of information on endangered and specially protected fauna likely to occur in the area. The file needs to include information on identification (eg. for mammals a copy of the relevant entry in the Complete Book of Australian Mammals), habitat requirements, operations that might affect populations (eg. feral animal control, burning), sightings or other records.*

8.2 *Appropriate staff (especially Rangers and the District Endangered Fauna Officer) will be trained in the recognition of endangered and specially protected fauna, their habitat requirements and inspection procedures. Initial training will be arranged by the Divisional Manager, Operations. Thereafter training will be arranged by Regional Managers using the contracts in 6 above.” (p. 4)*

9. Control

9.1 *Each Region/District/Park will appoint an officer whose duties will include protection of endangered and specially protected fauna. The Wildlife Management Branch, Como will be advised of these nominations, which are to be updated when the officer changes.” (p. 4)*

9.2 *Duties of the officer are:*

9.2.1 *To check that prescriptions for operations are in accordance with the Policy and this Administrative Instruction and advise the O.I.C. where problems may occur.*

9.2.2 *To update and maintain the Endangered Animal Register and file of information, master burning plans, etc.*

9.2.3 *To be the first point of contact for CALM staff and the public for endangered and specially protected fauna within that Region/District/Park.*

9.2.4 *To conduct training sessions for staff as required.*

9.2.5 *To advise the Senior Clerk Fauna of the locations of new or additional populations of endangered fauna, or changes in abundance in known populations.” (p. 5)*

WILDLIFE MANAGEMENT PROGRAM – 1990

Declared Rare Flora and Other Plants In Need of Special Protection in the Northern Forest Region. 1990

Introduction

“This Wildlife Management Program collates the available biological and management information on the Declared Rare Flora in CALM’s Northern Forest Region and provides lists of other species within the Region in need of special protection. [...]” (p. 1)

2. Objectives of the Program

“The objective of this program for the Northern Forest Region is:

To ensure and enhance, by appropriate management, the continued survival in the wild of populations of Declared Rare Flora and other plants in need of special protection.” (p. 2)

“It aims to achieve this by:

- *providing a useful reference document to CALM staff and other landowners for the day to day management and protection of Declared Rare Flora populations;*
- *directing Departmental resources within the Region to those species most urgently in need of attention;*
- *assisting in the identification of Declared Rare species and their likely habitats;*
- *fostering an appreciation and increased awareness of the importance of protecting and conserving Declared Rare Flora and other plants in need of special protection.” (p. 3)*

4. Responsibilities Within the Department

- *“reviewing Departmental policy on Declared Rare Flora is the responsibility of the Department of Conservation and Land Management Corporate Executive;*
- *identification of Declared Rare Flora is the initial responsibility of Herbarium and Flora Conservation Research Program staff [...]*
- *locating Declared Rare Flora is the responsibility of Flora Conservation Research Program staff, the Wildlife Branch, Regional operations staff and volunteers outside CALM;*
[...]
- *production and maintenance of a Declared Rare Flora register, to provide status and location information for operational procedures on CALM land, is the responsibility of the Environmental Protection Branch and Regional operations staff;” (p. 4)*
- *“advice on management prescriptions is the responsibility of Flora Conservation Research Program staff, the Regional Ecologist and the Botanist, Wildlife Branch;*
- *management, protection and regular inspection of Declared Rare Flora populations is the responsibility of staff of the Northern Forest Region;*

- *enforcement matters relating to the provisions of the Wildlife Conservation Act are the responsibility of Wildlife Officers in the Wildlife Branch;*
- *implementation and revision of the management program is the responsibility of Northern Forest Region, Flora Conservation Research Program and Wildlife Branch.” (p. 5)*

Part Two : Declared Rare Flora in the Northern Forest Region

“Twenty-three taxa of Declared Rare Flora were known to occur within the boundaries of the Northern Forest Region in 1988. An illustration and brief description of the morphology, distribution, habitat, and conservation status is provided for each of these species. The impact of certain management techniques (fire, mechanical disturbance, weed invasion, grazing, dieback and canopy cover) is noted and recommendations made for management and protection action is necessary to ensure their continued survival. [...]” (p. 11)

Part Four : The Plan For Management

“The objective of the program is:

to ensure and enhance, by appropriate management, the continued survival in the wild of populations of Declared Rare Flora and other plants in need of special protection.” (p. 91)

1. Determining Priorities

“Part Two assesses the abundance and conservation status of each Declared Rare Flora within the Region and makes recommendations for protection, research and management. [...]”

Table 7 lists the 24 Declared Rare Flora in priority order according to the urgency of their requirement for protection and management action. Species with a high ranking score are most threatened and/or most in need of action. It is intended that all requirements for each species, as outlined in the previous species treatments, will be implemented. Work will be conducted, programmed or deferred according to priority, available funds and existing resources and workloads. [...]” (p. 91)

MANAGEMENT PLAN – 1990

Lane Poole Reserve Management Plan 1990-2000. 1990

Resources and Land Use

Protection

“Protection of the ecosystem is fundamental if its values are to be maintained. Major values currently recognized in the northern jarrah forest are water, timber, recreation, scientific study, educational resources, flora, fauna, geological resources, landscape, and other forest products such as honey and wildflowers.

Appropriate management of the forest ecosystem will help conserve these important values. Management must minimise damage from wildfires, dieback disease and other pathogens, feral animals, weeds and uncontrolled recreation. Only by controlling these damaging agents will it be possible to manage the Reserve in a way that ensures conservation of its values.” (p. 33)

B8.1.2 Fire History

“Current strategies in the Reserve are aimed at the protection of community and forest values, consistent with the priority land uses of conservation and recreation. Some of the values protected are:

- *Life and property. [...]*
- *Water catchments. [...]*

- *Flora and Fauna. Forests of the Reserve protect the habitats of numerous species of native mammals, fish, birds and plants.*
- *Timber values. [...]" (p. 35)*

B8.1.3 Fire/Conservation Rationale

"[...] For almost every positive ecological response from a fire regime a negative response can be demonstrated, often in a completely different part of the biota. The only rational approach to conservation management is to aim at maximising ecological diversity by applying a variety of management strategies." (p. 35)

B8.1.4 Fire Protection Conflicts

"Today, forest fuels are at a manageable level and the traditional hazard reduction approach can be modified in the Reserve to simultaneously take into account the achievement of ecological management objectives and the protection of life and property. This is particularly applicable to the Southern Conservation Zone." (p. 40)

B8.1.6 Summary

"The aim in the Reserve is to design a fire program which ensures adequate protection of use, life and property while still catering for conservation objectives. The effects of different fire regimes on forest conservation values are not fully understood. Any burning regime or frequent fires may be detrimental to some species. The experience of implementing the draft fire plan has served to refine its practicality and indicate a revision that is a balance between the different objectives." (p. 42)

B11 Accommodation and Other Developments on Adjacent Land

"The Wildlife Conservation Act (1950), in particular Section 23F, dealing with the protection of Gazetted Rare species, applies to the Lane Poole Reserve." (p. 57)

C1 General Philosophy

"The Reserve will be managed in accordance with the following goals:

- *The conservation purpose of the Lane Poole Reserve will be similar to that outlines for national parks (National Parks Authority 1982). [...] This will be partially achieved through an appropriate zoning scheme.*
- *The Reserve will cater for as wide a range as possible of appropriate recreational activities, provided natural features are conserved and activities do not conflict. [...] Activities must not endanger the safety of other reserve users and must be controllable by reserve management. [...]*
- *Effective management, will, by necessity, provide appropriate information and interpretation facilities. Such an information system will make visitors aware of conservation and recreation values, and inform and encourage visitors in the protection of these values." (p. 71)*

C2 Land Tenure

"[...] As proposed in the already approved Forest Region Management Plans the Conservation Zone of the Reserve will become a Conservation Park, while the Recreation Zone will remain a 5(g) Reserve." (p. 73)

Reserve Boundaries

"[...] An important consideration throughout this plan is to manage, wherever possible, surrounding forest in a manner which will not conflict with reserve values." (p. 73)

C3 Zoning

"Effective management of the Reserve depends on the construction of a basic framework within which controls are established to ensure the sustainable use and maintenance of its values.

The zoning scheme takes into consideration a number of factors.

[...]

(ii) the Reserve's natural resources and the ability of specific areas to withstand use.

[...]

Initially the Reserve has been divided into recreation and conservation zones. These are based on the original system of MPAs first described in the Forests Department General Working Plan No. 86 (1977). Highest priority conservation areas are incorporated into the Conservation Zone, whilst the Recreation Zone encompasses the major recreation areas.

Four sub units have been established to cater for specific uses within each zone. These are shown in Map 16.”
(p. 75)

Recreation Zone

“(i) Facility Area

Most of the recreation use and facilities will be directed to this area. Facilities provided will complement the environment. [...] A wide range of recreational activities will be encouraged within this area, provided they remain consistent with the philosophy and guidelines of this plan. [...]

(ii) Natural Area

This area will remain in its natural state. Major site developments will not be permitted. Riverine vegetation will be conserved. Development of further public vehicle access (including off-road vehicles) will not be permitted and where necessary, roads will be closed. Recreational activities, consistent with the philosophy of this plan, are to be promoted. [...]” (p.75)

“In both Facility and Natural areas exceptions to the above guidelines will occur when mining or timber harvesting is carried out under the conditions that enabled the Reserve to be established.” (p. 77)

Conservation Zone

“(iii) Conservation Areas

These areas possess significant conservation values that must be protected. Management will maintain these areas in their natural state. Recreational uses permitted will be minimum impact activities.

No further walk tracks or recreational facilities will be developed in these areas unless positive management benefits can be demonstrated. [...]”(p. 77)

iv) Special Protection Conservation Area

“[...] Management practices must be directed toward the maintenance of conservation values; [...]” (p. 77)

Prescription

“The zoning scheme described in Section C3 will be adopted by reserve managers and used as the basis for present and future management decisions.” (p. 77)

C5 Vegetation and Flora

“The 5 objectives are:

To protect rare and restricted plants from adverse human activities.

To identify rare or restricted flora and their key habitats.

To protect sensitive habitats and fragile vegetative communities from adverse human activities.

To preserve the species diversity and structural formation of the natural vegetation.

To control and, if possible, eradicate the spread of exotic plants and declared weeds providing other reserve values are not threatened.” (p. 80)

Prescriptions

- “1. Wherever possible activities are to be located where they do not affect any scarce landform, vegetation type or plant species. Protection of these areas will be given high priority in the development of dieback disease and fire protection plans. [...]
1. The fire management program for the Reserve aims to maximise the diversity of vegetation.
2. Interpretative recreational walk trails will not be located where the use of the trails may damage the vegetation communities. Fragile vegetation types include those on granite outcrops and the moss/fern communities. [...]" (p. 81)
- “8. Rare or geographically restricted plants will be identified, and their habitat identified and protected. Where possible, such species will be managed to enhance their survival.” (p. 81)

C6 Fauna

“The 3 objectives are:

- To protect any rare or endangered animal species.
To protect and provide suitable habitats for native animals within the Reserve.
To control and, where possible, eradicate feral animals.

Background

“Determination of the ecological requirements and abundance of key animal species is of prime importance to ensure effective management. [...] In particular, the conservation and protection of endangered species, such as the chuditch (*Dasyurus geoffroii*) or the numbat (*Myrmecobius fasciatus*), warrant special attention.” (p. 82)

Prescriptions

- “1. Fire regimes, including considerable variations in fire frequency, intensity and season will be formulated in order to maximise the diversity of vegetation.
2. Stag headed and dead trees together with virgin forest areas will be preserved as long as they do not constitute a fire risk or a visitor safety risk.” (p. 83)

C7 Protection

C7.1 Fire

“The 10 objectives are:

To protect vulnerable species and ecosystems, buildings, facilities and assets in the Reserve and properties and plantations from severe damage by uncontrolled fire.

To encourage and maintain diversity, natural abundance and composition of vegetation associations and wildlife habitats, within major vegetation and landscape types.

[...]

To ensure the survival of populations of rare and restricted flora and fauna species, by the maintenance and protection of their particular niche in the Reserves ecosystem.

[...]” (p. 85)

C7 Protection

3. Intermediate Frequency Burns (IFB)

“Burns in these areas aim to achieve ecological diversity within each of the major land units. Most of these regimes will entail longer rotation burns of about 10-20 years.

[...] *Each IFB will be reviewed annually to determine whether or not it should be burnt for ecological or protection purposes.*" (p. 87)

Prescriptions – Overall

"The following prescriptions will be implemented as funds permit. If sufficient funds are not available, fire protection and management will be undertaken according to the objectives for fire protection. Alterations to the fire plan will be discussed with the Northern Jarrah Forest Region Advisory Committee." (p. 87)

Fire Prevention

"3. Where there are known gazetted rare flora or fauna within proposed burn areas, the burn will either be modified, relocated or deferred. Where it is a requirement of the species, or it is essential for protection purposes, for burning to occur, Ministerial permission to 'take' rare flora or fauna species must be obtained. [...]" (p. 88)

Monitoring

"13. Implement prescribed burns which have a range of fire regimes, including variation in season, intensity and size, particularly between different blocks." (p. 89)

Fire Suppression

"19. Implement suppression of a wildfire in the following order of priority: (i) human life; (ii) community assets, property or special values (including environmental values) (iii) cost of suppression in relation to values threatened." (p. 89)

C10 Recreation and Tourism

"The objective is to provide for a range of recreational activities which do not conflict with other values of the Reserve." (p. 102)

Background

"Given that recreational pursuits should be dependent on reserve values and consistent with maintenance of the natural character, the following criteria have been applied in determining the acceptability of recreational activities.

- i) Activities will be based on the values of the Reserve. The participation in, or enjoyment of, the activity will be in some way dependent on the natural features and resources found within the Reserve.*
- ii) Priority will be given to those activities which do not deplete or degrade the resource or reduce its conservation values.*

[...]

- iv) Activities will be manageable within the resources allocated, or realistically obtainable, for management. Those requiring specific and considerable additional management resources will be given low priority.*

Activities are inappropriate if they interfere or conflict with the environmental or social values of the Reserve." (p. 102)

Prescriptions

"1. The philosophy and guidelines for recreation activities, as described by this management plan, will be used as a basis for deciding the acceptability of specific recreation activities within the Reserve.

[...]

2. A permit system will be used to control all access to the Special Conservation Zone. All other zones will not require permits; however, the situation will be monitored and changes made where necessary by the District Manager. Large groups will be discouraged from camping in conservation areas." (p. 103)

C10.2 Bushwalking

Prescriptions

“3. Backpackers need not necessarily be restricted to established tracks. Such activity will be encouraged in all areas except the Special Protection Conservation Area. This activity will be under strict control and regulated by a permit system some time in the future both for management purposes and the safety of walkers.” (p. 104)

C10.3 Accommodation/Camping

“6. No other structured vehicle-based campsites will be provided within the Reserve following the development of the sites designated in prescriptions C10.3, numbers 4 and 5. [...]

7. Once campers permits and fees are applied, then in the event of all existing developed sites being full, further vehicle-based camping will not be permitted. Camping facilities on CALM land outside the Reserve will be developed and promoted.” (p. 106)

C10.4 Stream Based Activities

“The 3 objectives are:

[...]

To ensure provision of opportunities for stream-based recreational activities do not compromise other values of the Reserve.

[...]” (p. 106)

C10.5 Vehicle Based Activities

“The 3 objectives are:

To provide a range of vehicle based recreational activities.

To ensure vehicle based activities do not conflict with other values of the Reserve.” (p. 107)

Prescriptions

“4. The permission of the District Manager will be required for any car rally proposed to be held within the Reserve. Permission will be in accordance with conditions of operation and rehabilitation.” (p. 108)

C10.6 Domestic Animals

“The 2 objectives are:

To ensure user activities do not compromise other values of the Reserve.

[...]” (p. 109)

Pets

“[...] Dogs will be permitted in the Reserve only in areas where they will have a minimal effect on other users and conservation values.” (p. 109)

Prescriptions

“2. Domestic pets will be only permitted in the Recreation Zone. Dogs must be kept on a leash.

3. The situation will be monitored and if proven unsatisfactory, the policy relating to dogs will be reviewed.” (p. 110)

C10.7 Other Activities

“The 3 objectives are:

To provide a range of recreational opportunities within the Reserve.

To ensure provision of recreational opportunities does not conflict with other values of the Reserve.

[...]” (p. 110)

Background

Hunting/Gathering

“The removal of fauna and flora is controlled under Section 130 of the Conservation and Land Management Act (1984). The gathering (and hence removal) of rocks, soil, flora or fauna is prohibited except under specific conditions detailed in the Wildlife Conservation Act and Regulations.

Hunting of pigs has been the predominant and most popular hunting activity in the Reserve. Hunting is inconsistent with the management of the Reserve, particularly in the Conservation Zone. Hunting is not considered to be a desirable alternative to a controlled feral animal eradication program.” (p. 110)

Prescriptions

“1. Hunting of feral animals or native fauna, and the collection and removal of rocks, soil, timber, flowers or other materials from the Reserve is prohibited and will be discouraged through information and enforcement.” (p. 111)

“4. Any large competition or event which is planned for the Reserve, and not covered in previous prescriptions, requires the prior notification and written permission of the District Manager. Requirements for the provision of support facilities or any other conditions will be set by the Manager. [...]” (p. 111)

Picnic and Barbecue Sites

“Further developed sites are required and a limited number could be located higher in the valley. All environmental factors will be considered before any operations are undertaken.” (p. 111)

C11 Information and Interpretation

“The objective is to provide an information program designed to help protect, yet maximise, the responsible use and appreciation of reserve values.” (p. 112)

C13.2 Timber Utilization

Prescriptions

“1. Timber utilization will be allowed in the Recreation Zone of the Reserve following consultation with the NPNCA and subject to the conditions detailed in Section C13.2 of this plan.

[...]” (p. 120)

MANAGEMENT PLAN – 1990

Waroona Reservoir and Catchment Area Management Plan 1990-2000. 1990

8.4.2 Forest Management

Objective

“To enable a level of hardwood production from the area of State forest that is sustainable indefinitely, consistent with requirements such as protection of water catchment, conservation and provision of recreational opportunity.” (p. 39)

Prescriptions

- *“CALM forest management prescriptions will be routinely applied within the catchment area.”* (p. 39)

MANUAL OF LOGGING ... 3RD ED. – 1990

Manual of Logging Specifications ... 3rd. Ed. 1990

Section 2 : Road Construction and Maintenance

Specification 2.4 : Gravel Pit Selection Working and Rehabilitation

Guidelines for the Management and Rehabilitation of Gravel Pits : South West Forest Area

2.6 Floristic Values

“All sites are to be checked for DEF and priority listed species before any operation proceeds. [...] (p. 36)

Section 4 : Coupe Management

Specification 4.1 : Coupe Demarcation

3.1 River and Stream Reserves

“Stream reserves also provide a wide variety of fauna habitat and act as corridors for fauna movement and recolonisation of disturbed areas.” (p. 53)

“A river or stream reserve is measured from the outside edge of the stream zone vegetation.” (p. 53)

In the area known originally as the Woodchip Licence Area:

“- Width of a river reserve must be at least 200m on each side of the river.

- Width of a stream reserve must be at least 100m on each side of the stream.” (p. 53)

Elsewhere:

“- For all second or third order (or higher) watercourses within 3km of a catchment reservoir, the width of the stream reserve must be, a minimum of 100m on each side of the watercourse, and a minimum for other streams. (See fig.4.1.1 for explanation of stream orders).

- For watercourses outside the 3km zone, but within harnessed catchments, the respective minimum widths

must be 50m and 25m.

- For watercourses in non-harnessed catchments, stream reserve w-,~, will be at the discretion of the Forest Officer in Charge.

3.2 Road Reserves

General:

- The purpose of road reserves is to screen the unsightly aspects of logging operations from view on major roads and to act as habitat and movement corridors for fauna.

In the area known originally as the Woodchip Licence Area:

- Width of road reserves must be at least 400m on both sides of main roads.

Elsewhere:

- Width of road reserves must be 100 to 200m on both sides of main roads.

- Width of road reserves must be between 0 and 100m on both sides of other roads

[...]” (p. 54)

Section 5 : Environmental Protection

Specification 5.6 : Protection of Declared Rare Flora

1.Operational Procedures

NOTE: REFER TO ENTRY UNDER 1989 EDITION (SIMILAR WORDING)

2. Maintenance Grading

NOTE: REFER TO ENTRY UNDER 1989 EDITION (SIMILAR WORDING)

3. Staff Training

NOTE: REFER TO ENTRY UNDER 1989 EDITION (SIMILAR WORDING)

CODE OF LOGGING ... – 1990

Code of Logging Practice. 1990

Section 7 : Environmental Protection Rare Flora and Fauna

NOTE: REFER TO ENTRY UNDER 1987 EDITION, *CODE OF HARDWOOD LOGGING PRACTICE* (SIMILAR WORDING)

SILVICULTURE SPECIFICATION – 1990

Silviculture Specification 2/90 : Karri Thinning

Silvicultural Objective

“[...]”

5. *Maintain species and visual diversity.*
6. *Maintain wildlife habitat.”* (p. 1)

Maintenance of Diversity

“Retain all groups and where practicable individuals of Allocasuarina. In mixed stands, retain marri to ensure that a mixture is maintained. Retain wildlife habitat trees. [...]” (p. 3)

STRATEGIC PLAN – 1989-1993

Strategic Plan For the Period 1989-1993. 1988

Functions Under the Legislation

“The Conservation and Land Management Act specifies a series of functions for the three controlling bodies and the Department. In brief these function are:” (p. 4)

“The Department of Conservation and Land Management (CALM)

- *manages State forests, timber reserves, national parks, nature reserves, marine parks, marine nature reserves and other designated lands and the associated forest produce, fauna and flora;*
- *assists the Commission, Authority and Council in their functions;*
[...]
- *conserves and protects flora and fauna, and administers the Wildlife Conservation Act;*
- *carries out research into land management, and conservation of flora and fauna;*
[...]
- *advises the Minister on land matters.”* (p. 6)

General Principles/Philosophy

“The Department is committed to the principle that it is managing public land and natural resources, and conserving indigenous wildlife on behalf of the public of Western Australia. Consequently, particular importance is placed on informing the public of the Department’s activities and wherever possible involving the public.

The regional system of management as adopted by the Department ensures that its officers develop a detailed knowledge of the area of their operations, are available to interact with local communities and resolve problems associated with local conservation and land management operations. [...]” (p. 10)

5. Mission

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

TO CONSERVE WESTERN AUSTRALIA’S WILDLIFE AND MANAGE LANDS AND WATERS ENTRUSTED TO THE DEPARTMENT FOR THE BENEFIT OF PRESENT AND FUTURE GENERATIONS.” (p. 11)

6. Primary Objectives

“Five primary objectives have been established:-

- **MANAGEMENT**
To protect, restore and enhance the value of resources entrusted to the Department so as to meet, as far as possible, the diverse expectations of the community.
- **CONSERVATION**
To conserve the indigenous plant and animal species and environmental processes in natural habitats throughout the State.
- **PRODUCTION**
To provide and regulate the supply of those renewable resources that Government decides should be used, on a sustained yield basis for the satisfaction of long term social and economic needs, and in a manner that minimises impact on other values.
- **RECREATION**
To facilitate the public enjoyment of the natural attributes of public lands and reserved waters in a manner that does not compromise conservation and other management objectives.
- **KNOWLEDGE**
To seek a better understanding of the natural environment and to promote awareness and appreciation of its values.” (p. 12)

7. Broad and Sub Strategies

“To achieve the Primary Objectives the Department will:-

- 7.1** *Provide an effective administrative framework for the conservation of wildlife throughout the State and the management of lands, waters and natural resources entrusted to the Department.*

This will involve:

- 7.1.1** *The maintenance of a corporate executive to establish review and refine departmental aims, policies and priorities, to monitor the implementation of management plans and to see that goals are achieved.*

- 7.1.2 *The maintenance of operations staff to implement policies and management plans and to set up efficient financial, administrative and management systems.*
- 7.1.3 *The provision of a research division, to provide the scientific basis for conservation and land management, and provide scientific and environmental monitoring and advice to managers.*
- 7.1.4 *The establishment of a system of regional and district management, where staff convert plans and policies into works programmes, carry out the work, provide feedback on progress and policy and planning needs, and maintain close, constructive relationships with local communities.*
- 7.1.5 *The development and maintenance of corporate information systems to facilitate the sharing of data, efficient communication and decision making.” (p. 13)*

“7.2 Establish and maintenance a system of secure reserves which protect viable representative samples of all the State’s natural ecosystems and species, both terrestrial and aquatic, as well as areas suitable for recreation and the production of renewable natural resources.

This will involve:

- 7.2.1 *The development and maintenance, in conjunction with other Government instrumentalities and the public, of a comprehensive data base on the occurrence and conservation status of the State’s ecosystems and species.*
- 7.2.2 *The maintenance of a representative committee to evaluate existing nature conservation reserves and to recommend additions, deletions or exchanges.*
- 7.2.3 *Categorising lands and waters entrusted to the Department into priority use zones and applying the principle of multiple use to provide for the needs of nature conservation, recreation and production.*
- 7.2.4 *Protecting ecosystems, landscape and the cultural heritage on lands and waters entrusted to the Department from damage by fire, disease, chemicals, grazing, feral animals and people.*
- 7.2.5 *Developing prescriptions for control of disturbance and for rehabilitation of damaged forests, parks and reserves.*
- 7.2.6 *Opposing the incompatible use of lands and waters entrusted to the Department and opposing the release of such lands and waters for other purposes.” (p. 14)*

“7.3 Ensure that conservation and land management is carried out according to sound, well researched scientific principles.

This will involve:

[...]

- 7.3.2 *Establishing long term monitoring of ecosystems and individual species, and of recreation requirements and effects.*
- 7.3.3 *Developing and maintaining inventories of biological resources on lands and waters entrusted to the Department, and where appropriate, Statewide.*

[...]

- 7.3.5 *Ensuring the efficient transmission of research findings into operational practice.” (p. 15)*

7.4 Provide public education and information programmes designed to increase community understanding of and support for nature conservation and natural land management.

[...]

7.5 Encourage and assist the public to participate in the development of conservation and land management policies and the implementation of management and research programmes.

[...]

7.6 Prepare and implement management plans for lands and waters entrusted to the Department.

This will involve:

7.6.1 *The establishment of priorities for management plan preparation according to set criteria.” (p. 16)*

“7.6.2 *Restricting procedures to necessary operations to maintain public safety and the status quo of area management where no management plan exists.*

7.7 Prepare and implement wildlife management programmes for wildlife throughout the State.

This will involve:

7.7.1 *Providing special protection for declared rare (threatened) flora by regulating use of their habitat.*

7.7.2 *Managing rare animal populations to ensure their survival.” (p. 17)*

“7.10 Prepare and implement strategies to promote and encourage recreational use of lands and waters entrusted to the Department in ways which:

(i) *are consistent with the purpose of the area;” (p. 18)*

8. Major Outcomes Or Key Result Objectives Planned For the Period 1989-93

“Twenty one major outcomes are identified for this strategic plan. All are concerned with getting the Department in a position to most effectively carry out its charter. The aim is to expand, renew or create as the case may be, systems and procedures so that CALM can be efficiently managed with the resources available. The desired major outcomes are:” (p. 20)

“8.7 A comprehensive range of Counter-Disaster Plans covering wildlife, fire, flood, oil spills, aircraft crashes etc will have been prepared.

Management of land and wildlife brings with it responsibility for the protection of life, private property and conservation values.” (p. 21)

“8.8 The Department’s legislation and regulations (including codes of practice) will be revised and consolidated.

Review will be sought of the Conservation and Land Management (1984) legislation and of the Wildlife Conservation Act, 1950. This action is considered necessary to facilitate the better functioning of the Department. Accompanying regulations will be reviewed on a regular basis.” (p. 22)

8.9 There will be an effective system of land and marine conservation reserves in place. New systems of conservation reserve and forest tenure, land use purpose and zoning will also be in place and State wide application commenced.

The Department has research and planning staff, and a Conservation Lands Acquisition Committee with the responsibility of ensuring that where possible, viable representative Samples of all the State's natural ecosystems and species are reserved. Staff will:-

- *review red book recommendations for reservation in the various land systems and make additional recommendations as necessary;*
- *review the existing CALM 'estate' of National Parks, Nature Reserves, State Forests and Timber Reserves and recommend exchange, disposal or purchase of adjoined land.*

[...]" (p. 22)

“8.14 Management plans will be completed for all regions and for 25 areas considered to be of highest priority. Implementation will have been commenced. Interim plans will be in place where management plans are needed but not available.

The Department has developed two principal types of management plans – regional and area.

These are given a priority for preparation by taking into account the following factors:

- the presence of rare species, unusual landscape, or areas of ecological or cultural significance requiring integrated planning and management;*
- land use conflicts, both present and potential;*
- active management required to protect the area that is likely to affect the existing patterns of use or conservation values;*
- significant departures from existing policies necessary to protect the values of an area;” (p. 24)*

“8.15 Wildlife management programmes will be completed, implemented and reviewed for selected species according to priorities.

Comprehensive management programmes are necessary to ensure conservation of certain species of flora and fauna. Programmes will be prepared for species that are endangered or in need of special management and also for species which may be exploited for commercial or sporting purposes.” (p. 25)

“8.16 The timber management strategy will have been implemented.

A full scale review of the way in which the Government controls and allocates the hardwood and softwood resource to industry and monitors its functions was completed in 1987. Implementation of the provisions of the Timber Strategy will provide for more efficient management of the State's timber resource by clarifying long term goals and strategies. In addition the climate for industry investment will be improved by indicating the extent and nature of the resource available in the long term and providing greater security of the resource by a new contract system.” (p. 25)

10. The Organisation

10.3 Planning

“Detailed planning of conservation and land management activities is a key function in the Department.

Under the Conservation and Land Management Act, there is a responsibility to prepare management plans for all land and water vested in either the Lands and Forest Commission or the National Parks

and Nature Conservation Authority. Such plans must be available to the public for comment for a period of at least two months. They apply for a maximum period of ten years.

Two levels of this planning are undertaken. These are regional and area management plans.

Regional management plans are to be prepared for each CALM administrative region. They will cover all categories of land and water entrusted to the Department. Each plan will describe the management objectives to be achieved over the life of the plan and the strategies for implementation which are to be adopted.

Area management plans will apply to specific areas such as a national park, marine park, nature reserve, marine nature reserve, State forest, or other reserve. These are more detailed than regional management plans.

Area management plans will be prepared only where there are requirements that cannot be adequately considered by a regional management plan. Each area management plan will also describe management objectives and strategies for implementation.” (p. 31)

“Other major plans prepared by the Department are issue plans that are either a follow up to an approved management plan, or consist of interim guidelines for necessary operations where there is not yet an approved management plan. Issue plans cover all relevant topics, such as site plans, fire plans, dieback plans, recreation plans, resource allocation plans and wildlife management programs. Issue plans are generally prepared by district or regional staff in conjunction with research and other specialist branches within the Department. [...]

In addition, the Department prepares operational guidelines, manuals and prescriptions. These draw on the results of research and experience and are used to implement the works and activity programmes derived from the planning process.” (p. 32)

10.4 Regionalisation

“The Department is extensively regionalised in a way which provides the benefits of small autonomous organisations in close proximity to their area of operations while providing access to services that are best provided by a larger integrated organisation. Regions are responsible for the management of all departmental lands and waters and for conservation of flora and fauna within their boundaries. According to the intensity of activity regions are subdivided into districts.” (p. 32)

“The general responsibilities allocated to regions are to:

- “ensure the conservation of indigenous flora and fauna;
- supervise and regulate industry (e.g. wildflower pickers, apiarists, timber and mining operations) on departmental and some other land;
- preserve or restore the natural environment on departmental land and water;
- provide information and advice on land management and conservation to people in the region; promote conservation and good land and marine area management;” (p. 33)

Research Division

- “The overall objective of the Research Division is:-

To develop a scientific basis for conservation and land management in Western Australia by conducting research and providing expert advice.” (p. 35)

“In particular, issue plans and wildlife management programmes are based on research findings which are related to operational practice.” (p. 36)

STRATEGIC PLAN (SOUTHERN REGION) – 1989

Strategic Plan : Southern Forest Region. 1989

3. Regional Strategic Goals

“The goals listed below are broad statements largely drawn from goals set by the amalgamating agencies before CALM. These goals are not specific, quantifiable or measurable but provide the basis for formulating KEY RESULT OBJECTIVES which is the next stage of the Strategic Planning process.” (p. 7)

3.1 Biophysical Resources

“Flora and Fauna

To ensure the preservation, maintenance, restoration and enhancement of species and communities. To protect the habitat of rare or restricted plants and animals. To utilise some species on a sustainable basis on appropriate land tenure, as approved in Management Plans. [...]” (p. 7)

3.2 Commercial Resources

[...]

Logging

To minimize the impact of logging operations on environmental values. To maximize the Department’s control of roading and logging operations through contractual arrangements incorporating Codes of logging practice. [...]” (p. 8)

3.3 Protection

“Estate

To maintain a secure estate of CALM lands. To increase the estate of managed public land to meet future demand and to rationalize management boundaries.

Public Utilities

To limit the development of public utilities that result in a loss of natural values, to those considered essential by GOVERNMENT and where no reasonable alternative exists.

Mining

To oppose exploration and mining in sensitive conservation areas including National Parks, Nature Reserves, and State Forest zones where mining is incompatible. Where mining or exploration is permitted, to ensure damage to the biophysical environment is rehabilitated. [...]” (p. 9)

SILVICULTURE SPECIFICATION – 1989

Silviculture Specification 7/89 : Treemarking and Silvicultural Treatment in Multiple Use Jarrah Forest

NOTE: THIS SPECIFICATION SUPERSEDES SILVICULTURE SPECIFICATION 1/87

Preamble

“The CALM leaflet ‘Treemarking and Silviculture in the Forest’ (1987) provides the foundation for this specification and should be read concurrently.

The aim of jarrah silvicultural practice is to maintain and develop forest structures which satisfy goals relating to water, timber production, landscape, wildlife conservation and other values. This specification primarily deals with practices relating to timber production and is modified by reference to detailed specifications concerning other values. (eg 5/89) Maintenance of Habitat for Hole Nesters in Timber Production Operations in the Jarrah Forest).

This specification is to be applied in areas of jarrah forest which are dieback free and where timber production is a major objective.” (p. 1)

2. Objectives

1.1 Stand Objective

“To provide for sustaining production of high quality timbers and other forest values by developing and enhancing a grouped forest structure with silvicultural objectives appropriate to the stage of development of each group.” (p. 1)

2.2 Silvicultural Objectives

“c. In any group only one silvicultural objective will be pursued at any one time.

d. Fragile, unproductive and environmentally-sensitive areas. No trees will be harvested from these areas.” (p. 1)

3. Assessment Prior To Cutting

“A broad appraisal of each coupe is required to forearm the forester with the objectives to be applied. This can be achieved by aerial photographic interpretation, site-type maps and field reconnaissance. [...]” (p. 2)

3.2 Areas To Be Left As Uncut Strips

“Where cutting is confined to a portion of a coupe due to landscape, water or other requirements and must be separated by uncut strips, the site-types in 3.1 [...]” (p. 2)

3.5 Coupe Plan

“Prepare a broad coupe plan showing:

- *limitations on extent of cutting*
- *areas excluded from cutting*
- *preferred areas for uncut strips*
- *likely shelterwood areas” (p. 2)*

4. Treemarking

4.2 Marking For Gap Creation

Technique

“- Where it is evident that insufficient crop trees exist to enable a thinning, check that the stocking of ground coppice/saplings is adequate, determine the boundaries of the gap and mark fauna habitat trees (in clumps) in gaps over 1 hectare in size. [...]” (p. 2)

6. Follow-Up Silvicultural Treatment

Treatment of Gaps

Gap Size Over 2ha

As for gaps 0-2ha, except only remove the following unmarked culls:

- *DBH >40cm, all cull trees*
- *DBH 20-40cm if within 15 metres of other trees, including crop or habitat trees or other remaining culls*
- *DBH 10-20cm if within 7 metres of other trees.*

Consider trees <3metres apart as one tree.

See figure for interpretation.

On all gaps remove all mature Banksia grandis by felling or pushing down and do not treat within 5 metres of fauna habitat trees.

[...]” (p. 6)

7.2 Protection

Gaps

“It is essential that once released to grow regeneration is not damaged by fire. [...]” (p. 8)

Shelterwoods

“[...] If they lie within an area which is not being burnt it will be necessary to mount special prescribed burning operations. See Technical Report 4 for a discussion of the options and trade-offs for burning in these stands.” (p. 8)

SILVICULTURE SPECIFICATION – 1989

Silviculture Specification 5/89 : Maintenance Of Habitat For Hole Nesters In Timber Production Areas Of The Jarrah Forest

Preamble

“The jarrah forest provides habitat for many fauna species, including some birds and mammals which were once more widely distributed through the woodlands of the coastal plain and wheatbelt. This fauna value has been maintained in a forest managed for multiple uses (including timber production) for the past 100 years, with no species known to have become extinct since European settlement.

The type of forest management which has maintained suitable habitat within the jarrah forest has varied from heavy cutting and intensive regeneration treatment to light selective cutting. Conditions common to these systems have been the survival of mature non-commercial trees, creation of considerable quantities of woody debris and the rapid regeneration of forest cover. The potential now exists to commercially remove low-grade components of the fauna habitat which can be lost through intensive harvesting and regeneration of operations, and which would take many years to replace.

The retention of unmerchantable trees in the forest reduces the growth of crop trees and therefore represents a trade-off between wildlife and timber values. [...]

[...] Note that timber harvesting and regeneration operations affect only about 1.5% of the jarrah forest each year. This specification is therefore only a subset of the wider approach to CALM's fauna management in the jarrah forest.” (p. 1)

2.Objective

“To retain the essential components of habitat for hole nesting fauna which cannot be readily replaced through post-harvest forest manipulation.” (p. 1)

3.Standing Trees As Habitat

3.1 Characteristics Of Habitat Trees

- “* Mature and likely to live for many years. It is essential that these trees have the capacity to provide fauna habitat until regrowth trees can place them at some time in the future.*
- * Contain holes, or broken branch stubs below the live crown with the potential to develop into holes.*
- * Average sized crown. Excessively vigorous trees will affect regrowth over a wide area.*
- * Marri in preference to jarrah.*
- * Contain low value in preference to high value products.”* (p. 1)

3.2 Rate Of Retention

“Trees, as defined above, are to be retained for fauna habitat at a rate of 15 trees per 5 hectares. A clump of 3-4 trees is preferred to an even distribution. If insufficient trees with these characteristics are available

retain mature trees as potential habitat.

Habitat trees must be deliberately marked for retention. [...].” (p. 2)

4. Ground Habitat

4.1 Characteristics

Logs

“Diameter 30-100 cm

Pipe 6-15 cm diameter extending into log

Length – pipe at one end – 1.5 metres minimum

- pipe at both ends – 3 metres minimum” (p. 2)

Stumps and Leaning Trees

“Stumps which have been lifted creating a protected underground cavity due to a leaning tree or some other agency.” (p. 2)

4.2 Rate Of Retention

“Logs and stumps with these characteristics are not common in the forest. [...] Where available retain at least one per hectare. All marked logs must be retained undisturbed.” (p. 2)

5. Fauna Habitat Protection

“As for protection of crop trees, tops and other residues larger than 7.5cm diameter are to be removed 1 metre from the bole of habitat trees to ensure subsequent protection from fire.” (p. 2)

SILVICULTURE SPECIFICATION – 1989

Silviculture Specification 4/89 : Regeneration in Forest Affected by *Phytophthora cinnamomi*

3. Silvicultural Strategies

“3.3 Maintain fauna habitat (refer to Specification 5/89)” (p. 1)

MANUAL OF HARDWOOD ... 2ND ED. – 1989

Manual of Hardwood Logging Specifications ...2nd Ed. 1989

Section 5 : Environmental Protection

Specification 5.6 : Protection of Declared Rare Flora

1.Operational Procedures

“If declared (gazetted) rare flora is known to exist within a planned harvesting area or on a planned road alignment, or is discovered during the course of harvesting or roading, the FOIC must take the following steps:

- a) Consult flora conservation research personnel for a decision on whether the activity will pose a threat to the status of the species.*
- b) Where the status of the species will be threatened, the species must not be damaged or destroyed.*
- c) Where the status of the species is not threatened, a permit to ‘take’ declared rare flora must be obtained before the operation may proceed. As Ministerial approval is required, a well argued case must be prepared. Contact with the Senior Clerk Flora is essential and he will prepare the appropriate permit.” (p. 74)*

2. Maintenance Grading

“If declared rare flora invades a logging road subject to regular maintenance grading, a licence allowing such activity to continue may be issued. Again, contact with the Senior Clerk Flora is required before such a licence can be issued.” (p. 74)

3. Staff Training

“Each District and Region must maintain a field herbarium of declared rare flora known to occur in that area. Each species must be represented by a mounted specimen, a coloured photo of the plant, and a description of its form and habitat. Permits to ‘take’ flora as specimens, valid for the duration of employment, will be issued to nominated CALM officers.

Appropriate staff, especially the District Environmental Protection Officer will be trained in the recognition of declared rare flora. This training will be arranged by Regional Managers using the appropriate contacts listed below.” (p. 74)

MINING ON C.A.L.M. – 1989

Mining on C.A.L.M. Lands Guidelines. 1989

Exploration Approvals

“Applications for Exploration licences are generally referred to District offices to ensure any sensitive areas/issues are identified and that adequate conditions are prepared. The conditions in Section 8, recently agreed to with the Department of Mines, have adopted a ‘staged approval’ concept. Each phase of a programme has to be submitted to and discussed with the local CALM manager and agreement reached as to procedures and techniques. [...]” (p. 2)

Mining Management

“It is essential mining plans and some form of working arrangements for any ongoing mining project (including gravel) so as to clearly spell out procedures and obligations. Mining plans for new operations can be prepared as part of a Notice of Intent (NOI) subsequent to the grant of the tenement. The plan must be approved before operations are allowed to proceed. This stage is generally managed by CALM’s Environmental Protection Branch in consultation with Regions and the Environmental and Rehabilitation Branch of the Department of Mines.” (p. 2)

Guidelines to CALM Staff for Assessing Exploration Programmes on Conservation Lands (Other than National Parks or A Class Nature Reserves)

“- CALM Districts will not hinder exploration programmes which conform to the required conditions. CALM strategy is to determine and pursue alternatives where there is major conflict, and to get realistic standards to reduce impact on conservation values where there is not.” (p. 20)

Guidelines for Approval : Tracks, Survey Lines, Geophysical Lines Rare Flora

“1. Searches will be required if rare flora may occur in the locality and vegetation type and the level of impact had potential to damage the plant. (See Appendix to Policy No. 9 – ‘Guidelines for Surveys ...).

2. Rare flora localities are available from the Senior Clerk, Flora, Como or local records. More precise information as to the potential for such rare flora to occur in the area of operations and the particular vegetation type are available from Research Officers at Woodvale or Environmental Protection Branch at Bunbury.

3. A sound approach is to require the same commitment from the Mining Co. as is required internally by CALM for similar operations (see Admin Instruction 24).” (p. 21)

Schedule 'B' Department of Conservation and Land Management : The Mining Act 1978 : Conditions for Prospecting and Exploration Licences on State Forest and Timber Reserves (South West)

Planning and Approvals

"1. Prior to any disturbance to vegetation the licensee preparing a detailed programme for each phase of proposed exploration for written approval of the Regional Mining Engineer in agreement with the Regional Manager, Department of Conservation and Land Management (CALM). This programme to include:

[...]

(ii) Proposals which may disturb any declared rare or geographically restricted flora and fauna; and [...]" (p. 1)

Compliance With Acts

"5. The licensee complying with and ensuring that all persons under its control operating in the licence area are aware of and comply with the provisions of:

- (i) the Conservation and Land Management Act, 1984 and the Regulations thereunder;
- (ii) the Bush Fires Act, 1954-77 and the Regulations thereunder;
- (iii) the Wildlife Conservation Act, 1950, as amended and the Regulations thereunder, and
- (iv) the Country Areas Water Supply Act, 1947 and the Regulations thereunder." (p. 2)

General

"[...]

12. The licensee taking all reasonable precautions not to unnecessarily destroy or damage vegetation on the licence area.

[...]" (p. 3)

POLICY STATEMENT – 1988

Implementing the Timber Strategy. 1988

Introduction

"The three Forest Region Management Plans and the Timber Strategy were accepted as a blueprint for the future of the State's forestry operations by the Western Australia Government in February 1988.

[...]

The major commitments of the strategy were :

- a commitment to provide security for forest areas reserved for conservation and the timber resource on which the timber industry is based;

[...]" (p. 1)

Securing the Conservation Estate

"The Forest Management Plans propose that every significant forest ecosystem will be represented in a conservation reserve system which cannot be changed without the permission of two Houses of Parliament. Already 167, 000 ha of forest have been incorporated into national parks, conservation parks or nature reserves whose boundaries can not be altered without the permission of both Houses of Parliament.

This has resulted in the creation of:

- the Lane Poole Reserve (51, 591 ha);
- the Shannon National Park (52, 511ha);
- the Mt Frankland National Park (30, 830 ha);
- the Tuart Forest National Park (1, 785 ha);
- a new national park east of Pemberton (900ha) and major additions to the Warren, Walpole-Nornalup and Serpentine National Parks (4, 500ha).

When the reserve system is completed, over 30 per cent of the forest will be in conservation reserves with A class security.

The remainder of the forest will be managed for multiple use which will ensure that conservation, recreation, water production, as well as timber values, are maximised. In the karri forest, 50 per cent of the forest will be managed with a priority for conservation.” (p. 2)

ADMIN. INSTRUCTION – 1988

Administrative Instruction No. 39 : Fire break Construction. 1988

“Admin Instruction 39 currently requires the approval of the Divisional Manager Operations for necessary operations involving new fire break construction.

For the purposes of this instruction the activity – Fire Break Construction can be considered in two parts.

- 1. Perimeter Fire Break construction.*
- 2. Internal Fire Break construction.*

The Level of approval for Part 1, perimeter fire break construction, is hereby devolved to the Regional Manager.

The level for approval for Part 2, internal fire break construction, remains with the Divisional Manager Operations.” (p. 1)

Levels For Approval For Necessary Operations In National Parks, Nature Reserves and Conservation Parks : November 1988

[...]

Protection of Known Rare Species,

Cultural:

<i>archaeological and historic sites</i>	<i>DM</i>
<i>new occurrences/sites</i>	<i>RM</i>

[...]” (p. 2)

CODE OF LOGGING ... – 1988

Code of Logging Practice. 1988

Section 7 : Environmental Protection

Rare Flora and Fauna

NOTE: REFER TO ENTRY UNDER 1987 EDITION, *CODE OF HARDWOOD LOGGING PRACTICE* (SIMILAR WORDING)

CORPORATE MISSION AND OBJECTIVES – 1988

CALM Annual Report 1st July 1987 to 30th June 1988. 1988

NOTE: REFER TO ENTRY UNDER ANNUAL REPORT FOR 1986/87 AND 1985/86. ENTRY IS SIMILAR EXCEPTING THAT THE MISSION STATEMENT HAS CHANGED (THE SCOPE HAS BECOME THE STATEMENT OF MISSION)

“TO CONSERVE WESTERN AUSTRALIA’S WILDLIFE AND MANAGE LANDS AND WATERS ENTRUSTED TO THE DEPARTMENT FOR THE BENEFIT OF PRESENT AND FUTURE GENERATIONS.” (p. 6)

RECREATION & LANDSCAPE STRATEGIC PLAN – 1988

Recreation and Landscape Branch Strategic Plan 1988-1992. 1988

1.1 Aim and Scope of the Plan

“The aim of the Recreation and Landscape Branch Strategic Plan, which covers the five year period from 1988 through 1992, is as follows:

- 1) *To establish a programme of Branch operations and technical support which is consistent with the broad management strategies and priorities identified in the Corporate Strategic Plan.*
- 2) *To identify the staff and financial resources required to implement this programme” (p. 1)*

1.2 Strategic Objectives and Outcomes

“CALM’s Strategic Plan identifies several broad strategies which are of primary importance to the functioning of the Recreation and Landscape Branch. These are:

- *Establish and maintain a system of secure reserves which protect viable representative samples of all the State’s natural ecosystems and species, both terrestrial and aquatic, as well as areas suitable for recreation and the production of renewable natural resources.*
 - *Ensure that conservation and land management is carried out according to sound, well-researched scientific principles.*
- [...]” (p. 2)

3. Proposed Five Year Operations Plan

3.6 Special Projects

Proposed Programme

“With the winding down and completion of the Bibbulmun Track redevelopment project in September, approximately 50% of the Project Officer’s work programme will be freed up. Consequently, the Project Officer position will be directed into assisting in the development and co-ordination of community run programmes on environmental awareness and nature-based recreation. This initiative will be undertaken in liaison with Information Branch personnel and regional and district staff. Specific project objectives and strategies are as follows:

Objectives

1. *Develop community appreciation for nature conservation through direct involvement and participation in outdoor recreation activities*
3. *Increase public awareness of the opportunities for meeting community needs compatible with nature conservation” (p. 16)*

Strategies

1. *Initiate and co-ordinate a range of recreational activities such as bushwalking, nature study, canoeing, and craftwork which are appropriate to natural environments and which have broad public appeal.*
- [...]
3. *Develop the administrative guidelines and procedures required to ensure that all educational and outdoor recreation programmes meet the Department’s standards in environmental protection and public safety.” (p. 17)*

3.7 Staff Training

Operational Objectives

“Assist in developing and maintaining staff expertise in recreation and landscape management at the regional, district and park level. [...]” p. 17)

Current Involvement

“Over the past fifteen months, a four member training team have conducted eleven recreation management workshops throughout the State. [...]” (p. 17)

Proposed Programme

“The following training initiatives will be undertaken during the period of this plan:

1. *An advanced recreation management workshop for District Recreation officers, National park Rangers and other staff will be conducted on an annual basis commencing in August, 1988. [...] In particular, the course will be structured to satisfy the following objectives:*
 - *Establish a clear understanding of CALM’s responsibilities, policies and approach to recreation management on Departmental lands.*
 - *Explain the essential principles and procedures to be used in planning and managing natural environments for public recreation*
- [...]” (p. 18)

STRATEGIC PLAN – 1988?

Central Forest Region Strategic Plan. 1988?

Industry Control – (Mining) (Function)

Objective

“1. Ensure all exploration and mining is carried out in an environmentally sound manner.”(p. 43)

Basic Raw Materials (Function)

Objective

“To minimise the impact of basic raw material (gravel, sand, stone) on designated land use values on CALM land.” (p. 50)

Strategy

“v. Locate borrow pits wherever possible outside Nature Reserves, National Parks, stream and road reserves and away from public view.” (p. 50)

Measure of Performance

“2. Minimal borrow pits occur in Nature Reserves, National Parks or Conservation Parks. [...]” (p. 50)

Industry Control – Timber (Function)

Hardwood

Objective

“3. Minimise environmental impact of logging operation.” (p. 54)

Strategy

“i) Carry out all hardwood logging operations in accordance with the Code of Hardwood Logging Practice and the Manual of Specifications for the Control of Hardwood Logging Operations. [...]” (p. 54)

Industry Control & Regulation (Apiarists) (Function)

Objective

“To facilitate beekeeping subject to minimising conflict with other land use objectives.” (p. 57)

Strategy

“[...]”

iii) *Effects of European honey bees on high conservation value ecosystems and rare flora/fauna which are highly dependent on nectar and pollen.*

[...]" (p. 57)

Measure of Performance

"[...]"

2. *There is minimal conflict with other land use objectives."* (p. 57)

Harvey

Task

"1. Relocate all apiary sites out of conservation areas, by negotiating with apiarists at the time of site removal." (p. 60)

Recreation

Objective

"To cater for a wide range of recreational activities of CALM lands without compromising natural land values and within the capacity of CALM to manage the activities." (p. 72)

Recreation

Motorised Recreation

Strategy

"iii) Restrict access to areas where vehicles are unwanted, e.g. recreation sites, dieback areas, sites with fragile vegetation or soil.

[...]" (p. 76)

Fire Management

Objective

"1. To protect community and environmental values on lands managed by the Department." (p. 85)

Strategy

"i) Respond to fires occurring on or near CALM land to a degree that is appropriate to the values at risk.

Assess the response to a fire in the light of potential damage to the following values in order of priority:-

[...]"

- Community assets, property and environmental values.

[...]" (p. 85)

Measure of Performance

"1. There is minimal damage to community and environmental values.

[...]" (p. 85)

Strategy

"ix) Consistent with the requirement to protect life, property and ecological values, introduce diversity into prescribed burning fire regimes.

x) Avoid or minimise damage to rare and endangered species in fire-fighting operations.

[...]" (p. 87)

Objective

"2. To use fire as a management tool to achieve land management objectives, in accordance with designated land use priorities." (p. 87)

Strategy

"i) Use planned fire only where this use is in accordance with an approved management plan, or, where such a plan does not exist, to protect and maintain the designated priority land use.

- ii) *Prepare written prescriptions in advance, for approval by senior designated officers, before any planned fires are undertaken.” (p. 87)*
- “iii. *Use fire conservatively in areas where information about the impacts of fire is limited, and in areas where the primary land use is conservation of flora and fauna.*

In such areas, the use of fire will be restricted to:-

- *protection of neighbouring community assets, and*
- *providing a diversity of fuel and vegetation ages, but ensuring as much as possible of each major vegetation association is maintained in the mature condition.*
- iv) *Give priority to the protection of high value areas (... rare flora sites) and high risk areas (logging slash).
[...]" (p. 88)*

Environmental Protection

“3. Ensure gazetted rare flora and fauna are protected.” (p. 101)

Strategy

*“i) Continue to give gazetted rare flora first priority for flora management, and complete the regional register of declared flora for use by district officers. Attention will then turn to geographically restricted species and any other populations of plants thought to be in need of special protection.
[...]" (p. 101)*

“vi) Progressively develop management plans for all conservation reserves in the region. National parks and nature reserves will be first priority. Interim Protection Plans will be produced in the meantime.

*vii) Take account of the conservation of wildlife in all prescriptions for operations on other CALM land, e.g. State forest, where appropriate, areas amidst or adjoining production or protection operations will be protected for the benefit of wildlife.
[...]" (p. 102)*

“x) Monitor particular wildlife habitats and important seasonal events in wildlife populations, e.g. seasonal bird migrations, nesting, hunting seasons.

*xi) Conduct studies of fauna habitat, animal behaviour and management requirements subject to the Department’s statewide responsibilities and priorities.
[...]" (p. 103)*

Measure of Performance

“1. Populations of gazetted flora and fauna are not reduced.” (p. 101)

Environmental Protection : Rare Flora

Task

“Prepare and implement Working Plan” (p. 118)

GUIDELINES – 1988?

Interim Guidelines for Necessary Operations : Big Brook Nature Reserve. 1988?

Scope

“This plan sets out guidelines for the Interim Management of the Big Brook Nature Reserve.

The guidelines are intended to provide Managers with a basis for work and prescriptions in the absence of a formal management plan for the reserve.

The duration of approval for these guidelines is 4 years from the date of the frontispiece.” (p. ii)

1.4 Past History

“The area was gazetted as a Reserve for the preservation of Flora and Fauna in 1954. In 1978 the West Australian Wildlife Authority assumed management responsibilities of the Reserve. The Reserve is now managed by the Department of Conservation and Land Management (CALM).” (p. 2)

2. General Management Objectives

2.1 Overall Objectives

“To maintain and conserve the natural environment and to protect, care for and promote the study of indigenous flora and fauna.” (p. 3)

2.2 Ecological Management Objectives

“2.2.1 Maintain diversity in vegetation communities.

2.2.2 Provide a sanctuary for native fauna.” (p. 3)

2.3 Fire Protection Objectives

“2.3.1 Protect life and property of neighbours from wildfires originating on reserve.

2.3.2 Protect flora and fauna communities from damage by frequent wildfires.

2.3.3 Restrict the spread of wildfire so that the whole reserve is not burnt in the one fire.” (p. 3)

7. Man-Made Disturbances

7.2 Management Objective

“To minimize man-made disturbance on the Reserve, allowing only necessary work to be permitted, e.g. maintenance of boundary tracks and SEC powerlines.” (p. 8)

CONSERVATION POLICY – 1987

Strategies for Conservation and Recreation on CALM Lands in Western Australia. 1987

The Objectives and Principles in the State Conservation Strategy (SCS)

“The SCS for W.A. sets out five key objectives for conservation. These are:

- to maintain essential ecological processes and life-support systems;*
- to preserve genetic diversity;*
- to ensure the sustainable utilisation of species and ecosystems;*
- to maintain and enhance environmental qualities;*
- to optimise the quality of life for Western Australians;*

The SCS recommends that the following principles be adopted to achieve the objectives:

- integrate conservation and development;*
- retain options for future use;*
- focus on causes as well as symptoms;*
- accumulate knowledge for future application;*
- educate the community;*
- recognise community aspirations and the need for involvement in the planning process.*

CALM is committed to the objectives and principles listed in the SCS and uses them as the basis for all conservation planning and operations.” (p. 4)

The Legislative Base

“CALM operates under two legislative acts : the CALM Act and the Wildlife Conservation Act.

These Acts place a number of statutory requirements on the way in which CALM manages land and wildlife. The major requirements are:

- (1) Management must be in accord with a published management plan and all management plans must be made available for public review and comment in the draft phase.*
- (2) All lands are vested in two controlling bodies (not the Department). The controlling bodies (National Parks and Nature Conservation Authority and Lands and Forest Commission) are comprised mainly of members of the public representative of conservation and land management interests.*
- (3) The Department must perform the following functions:*

*manage land vested in the NPNCA and LFC;
provide the NPNCA and LFC with assistance;
[...]” (p. 4)*

The Corporate Plan : The CALM Mission and Key Objectives

General Principles and Philosophy

“CALM is committed to the principle that it manages public land and natural resources and conserves native wildlife on behalf of the public of W.A. Emphasis is placed, then, on informing the public of the Department’s activities and, wherever possible, involving the public in planning and management.” (p. 5)

Statement of Mission

“In recognising that Western Australia has a beautiful and diverse natural environment which provides material, aesthetic and spiritual benefits and that the natural environment is an essential component of the quality of life for Western Australians, a statement of mission adopted for the Department of CALM is:

TO PROVIDE FOR THE USE OF THE NATURAL ENVIRONMENT WITHOUT DETRACTING FROM POSSIBLE FUTURE USE.” (p. 5)

Charter

“The scope of the Department’s responsibilities is represented by its charter which is:

TO CONSERVE WESTERN AUSTRALIA’S WILDLIFE AND MANAGE PUBLIC LANDS AND WATERS ENTRUSTED TO THE DEPARTMENT FOR THE BENEFIT OF PRESENT AND FUTURE GENERATIONS.

Primary Objectives

Five primary objectives have been established:

Management

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

Conservation

To conserve the indigenous plant and animal species and environmental processes in natural habitats throughout the State.

Production

To provide and regulate the supply of renewable resources on a sustained yield basis for the satisfaction of long-term social and economic needs, and in a manner that minimises impact on other values.

Recreation

To facilitate the public enjoyment of the natural attributes of public lands and reserved waters in a manner that does not compromise conservation and other management objectives.” (p. 5)

“Subsequent sections of the Department’s corporate plan elaborate on these objectives, particularly those relating to conservation. The strategies used to meet these objectives are:

ESTABLISH AND MAINTAIN A SYSTEM OF SECURE RESERVES WHICH PROTECT VIABLE REPRESENTATIVE SAMPLES OF ALL THE STATE’S NATURAL ECOSYSTEMS AND SPECIES BOTH TERRESTRIAL AND AQUATIC, AS WELL AS AREAS SUITABLE FOR RECREATION AND THE PRODUCTION OF RENEWABLE NATURAL RESOURCES.

This will involve:

The development and maintenance, in conjunction with other government instrumentalities and the public, of a comprehensive data base on the occurrence and conservation status of the State’s ecosystems and species.

The maintenance of a representative committee to evaluate existing nature conservation reserves and to recommend additions, deletions or exchanges.

Categorising lands and waters entrusted to the Department into priority use zones and applying the principle of multiple use to provide for the needs of nature conservation, recreation and production.

Protecting ecosystems, landscape and the cultural heritage on the lands and waters entrusted to the Department from damage by fire, disease, grazing, feral animals and people.

[...]

Opposing the incompatible use of lands and waters entrusted to the Department and opposing the release of such lands and waters for other purposes.” (p. 6)

“ENSURE THAT CONSERVATION AND LAND MANAGEMENT IS CARRIED OUT ACCORDING TO SOUND, WELL-RESEARCHED SCIENTIFIC PRINCIPLES.” (p. 6)

“PREPARE AND IMPLEMENT MANAGEMENT PLANS FOR LANDS AND WATERS ENTRUSTED TO THE DEPARTMENT

This will involve:

The establishment of priorities for management plan preparation according to set criteria.

Restricting procedures to necessary operations to maintain public safety and the status quo of area management where no management plan exists.

PREPARE AND IMPLEMENT WILDLIFE MANAGEMENT PROGRAMS FOR WILDLIFE THROUGHOUT THE STATE.

This will involve:

Providing special protection for declared rare (endangered) flora by regulating land use of their habitat.

Managing rare animal populations to ensure their survival.” (p. 7)

POLICY STATEMENT – 1987

Policy Statement No. 19 : Fire Management Policy, 1987

Strategies

“4.2 Use of Fire

Prescribed fires will be used to achieve a range of management objectives, including ... habitat management [...].

According to management objectives, appropriate prescriptions will be developed, and staff will be trained in their application.

Monitoring of the effects of fires will be undertaken wherever effective systems have been developed and resources are available.” (p 4)

Policy Statement No. 9 : Conservation of Endangered Flora in the Wild, 1987

“The Department has statutory responsibilities for endangered flora conservation.” (p. 1)

“[...] the Act prescribes that endangered flora be protected on all categories of land throughout the State. [...].” (p. 1)

Legislation

“Rare flora is defined in subsection 23F(1) of the Wildlife Conservation Act as ‘flora for the time being declared to be rare flora for the purposes of this section.’ [...].” (p. 1)

The Schedule of Declared Rare Flora

“The Schedule of Declared Rare (Endangered) Flora is reviewed annually.” (p. 2)

‘Taking’ Endangered Flora

“In the Wildlife Conservation Act (subsection 6 (1)) the following definition is given:

‘ ‘to take’ in relation to any flora includes to gather, pluck, cut, pull up, destroy, dig up, remove or injure the flora or to cause or permit the same to be done by any means;’

“[...] Ministerial approval is required prior to conducting a burn which involves any species of endangered flora.” (p. 3)

2. Operational Objective

“To conserve endangered flora in the wild in Western Australia and to comply with Section 23F of the Wildlife Conservation Act.” (p. 3)

3. Policy

“The Department will:

3.1 Identify, locate and seek to conserve endangered flora.” (p. 3)

“3.3 Implement management practices to conserve endangered flora and its habitat.” (p. 4)

“3.6 Develop and manage a geographic data base for endangered flora at its headquarters and at regional and district offices.” (p. 4)

4. Strategies

“To accomplish the Department objectives and policies, staff will:

[...]

4.2 Nominate Endangered Flora Officers (additional to District Wildlife Officers) in each region and district who shall be responsible for identifying, locating, mapping, training staff, overseeing management programs and providing liaison and advice on endangered flora.

4.3 Establish and maintain field herbaria, photographic collections, map records and other aids concerning endangered flora at each Ranger station and district and regional office.

4.4 Arrange an inspection to establish whether declared endangered flora are present before undertaking any activity on CALM land that involves permanent destruction (i.e. clearing for road-making, building, mining or other purposes) of native flora.

4.5 Ensure that no known declared endangered flora is destroyed, damaged, or otherwise injured by Departmental staff or their contractors without first obtaining a ministerial permit so to do.

4.6 Ensure that any burning program (for fire protection purposes) will not cause irreparable damage to species of endangered flora known to be susceptible to fire.

4.7 Observe other operational guidelines for protection of endangered flora on CALM lands as detailed in Administrative Instruction no. 24 ‘Protection of Endangered Flora in Departmental Operations’.

4.8 Monitor known populations of endangered flora.” (p. 5)

“4.9 Maintain a geographic and biological data base on endangered flora.

4.10 Develop management programmes for species of endangered flora.

4.11 Collect seed and propagate endangered flora in Departmental nurseries. Replant propagated material in the wild under approved management programmes.” (p. 5)

“4.15 Maintain a system for listing and delisting flora on the declared endangered schedule.” (p. 5)

Appendix : Guidelines for Surveys of Plants Proposed for Addition or Deletion to the Schedule of Declared Endangered Flora

“These guidelines were developed in conjunction with new criteria for additions and deletions to the Schedule of declared endangered flora.

Criterion (ii) for additions states:

The taxon 'have been searched for thoroughly in the wild by competent botanists during the past five years in most likely habitats, according to guidelines approved by the Executive Director.'” (p. 1)

“These three categories of endangered flora are defined below.

Rare

Less than a few thousand adult plants of the taxon exist in the wild.

In danger of extinction

The taxon is in serious risk of disappearing from the wild state within one or two decades if present land use and other causal factors continue to operate.

In need of special protection

The taxon is not presently in danger of extinction but is at risk over a longer period through continued depletion, or largely occurs on sites likely to experience changes in land use which would threaten its survival in the wild.” (p. 3)

Policy Statement No. 18 : Recreation. 1987

Policy

1. Statements Which May Apply Across All Activities or Several Categories of Reserves

1.2 Commercial Concessions

Policy

“1.2.4 Concessions will be allowed only if they are consistent with the purpose of the Reserve and consistent with the preservation of values of the land, e.g. they do not impinge upon rare or fragile

Dedication of Land Objective

“To reserve natural ecosystems and other significant land areas of the State within appropriate definition of purpose and security of tenure to meet conservation needs and public demands for use.” (p. 41)

Wildlife Conservation

Objectives

“To manage forest, parks and reserves for conservation of native wildlife (flora and fauna); to ensure long-term maintenance of species’ diversity and genetic resources; and provide for the persistence of those habitats, species and ecological processes which comprise natural ecosystems.

s or impair key features of the landscape, or increase visitor pressure on the land to an unacceptable level and do not detract from the reasonable enjoyment of the land by the public.” (p. 2)

1.8 Public Access

“1.8.1 Lands and waters entrusted to the Department are generally open to public use. There are some areas restricted to the public for reasons of safety, disease control, water quality, protection of species, maintenance, etc.” (p. 17)

1.12 Domestic Animals

Policy

“1.12.2 Dogs, cats and other domestic animals are prohibited from national parks and nature reserves, with the following exceptions:

- (i) use of dogs in those natural reserves defined as game reserves;*
- (ii) seeing eye dogs for blind persons in national parks;*
- (iii) where specified zones are established in national parks.” (p. 26)*

CORPORATE MISSION AND OBJECTIVES – 1987

CALM Annual Report 1st July 1986 to 30th June 1987. 1987

NOTE: REFER TO ENTRY UNDER ANNUAL REPORT FOR 1985/1986. ENTRY IS SIMILAR

TIMBER STRATEGY – 1987

Timber Production in Western Australia : a strategy to take W.A.'s south-west Forests into the 21st Century. 1987

Objective

“The objective of this strategy is to provide a plan for an efficient timber industry which is sustainable indefinitely. At the same time the water catchments, conservation and recreation opportunities provided by the State’s forests must be protected and managed to meet the needs of all Western Australians.” (p. 2)

Principles

“This strategy is based on the following principles:

- (1) that a representative system of conservation reserves is designated which is equitable in area allocation and has security of tenure and purpose;*
[...] (p. 2)

ADMIN. INSTRUCTION – 1987

Administrative Instructions No. 24 : Protection of Endangered Flora in Departmental Operations. 1987

NOTE: REFER ALSO TO THE ENTRIES FOR POLICY STATEMENT NO. 9 IN 1987, 1990, 1991 AND 1992- *“Guidelines to be used in conjunction with Policy Statement No. 9”* (p. 1)

1. Introduction

“These guidelines state procedures which are to be used by Districts and Regions so as to minimise accidental damage to endangered flora on CALM lands. [...]” (p. 2)

2. Policy

“These guidelines must be read in conjunction with the Departmental Policy on the Conservation of Endangered Flora in the Wild – No. 9.” (p. 2)

3. Definition

“Endangered (rare) flora are those species that appear in a gazetted schedule. Note that the Schedule of Declared Rare (Endangered) Flora will be revised annually. The Government Gazette of 12 March 1982 contains a current listing of the species, as also do Department of Fisheries and Wildlife Reports Nos. 42 (1981) and 54 (1982).” (p. 2)

4. Records

“4.1 Each District, Region or Ranger Station with a direct land management function, will keep up to date records of the location of endangered flora for all CALM lands in its District/Region/Park.

This will be as a ‘Declared Endangered Flora Register’ containing maps of a suitable scale, supplemented by descriptions (see CLM Form and notes on the Organisation and Use of the Register, Attachment 1).

This information has already been provided to Districts in the Forest Regions by the Environment Protection Branch. [...]

- 4.2 *Forest Regions and Districts with an active Hardwood and Pine Operations Control System (HOCS, POCS) will maintain a separate sheet to record the location of endangered flora. [...]*

In the case of a population adjacent to a plantation, it will be necessary to record it on both the HOCS and POCS sheets, as it may need to be considered in the context of both hardwood or softwood operations.” (p. 2)

- “4.4 *All Districts, Regions and Rangers will record the location of endangered flora on their Fire Management and Operations Master Plans using red adhesive stickers, cross referenced to the H.O. file number and the DRF Register.” (p. 3)*

6. Operational Procedures

“Operations on CALM land have potential to damage endangered flora. These activities may be carried out by CALM staff or by other agencies, eg. SEC, mining companies. The following procedures apply irrespective of the proponent. See also decision model (Attachment 3).

- 6.1 *Establish whether endangered flora are likely to occur in the area of proposed activity. Examine the Declared Rare (Endangered) Flora Register, the HOCS and POCS file, Reports No. 42 and 54. If necessary, consult with the Senior Clerk Flora, or personnel at Wildlife Research or Environmental Protection.*

- 6.2 *Arrange an inspection to establish whether endangered flora are present, before undertaking any activity that involves permanent destruction of native flora.” (p. 3)*

“6.3 *If endangered flora is located and plants are likely to be damaged or destroyed by the operation:-*

6.3.1 *consult flora conservation research personnel for a decision on whether the activity will pose a threat to the status of the species. For example some species may require fire to regenerate.*

6.3.2 *Where the status of a species will be threatened, the species must not be damaged or destroyed. [...]*” (p. 4)

“6.3.3 *Where the status of a species is NOT threatened, a permit to ‘take’ endangered flora must be obtained if the operation is to proceed. As Ministerial approval is required, a well argued case must be prepared. Contact with the Senior Clerk Flora is essential and he will prepare the appropriate permit (Attachment 4).” (p. 4)*

7. Fire Suppression

“[...] The possible detrimental effects from the use of ‘Amgard’ must be considered. [...]” (p. 5)

9. Staff Training

- “9.1 *Each District, Region and Ranger Station will develop and maintain a field herbarium of endangered flora, which occur in its area.” (p. 5)*

10. Control

- “10.1 *Each District/Region/Park will appoint an Environmental Protection Officer whose responsibilities are to include endangered flora. [...]*

- 10.2 *Duties of the Environmental Protection Officer (Endangered Flora) are:*

- 10.2.1 *To check that the prescription for operations are in accord with the Policy and these Guidelines and advise the O.I.C. where problems occur.*
- 10.2.2 *To update and maintain the field herbarium, Register, HOCS, POCS, master burning plans etc.*
- 10.2.3 *To act in a public advisory/extension capacity with regard to endangered flora.*
- 10.2.4 *To advise the Senior Clerk, Flora, and Mr G. McCutcheon (Bunbury) of the location of new or additional populations of endangered flora.” (p. 6)*

MANAGEMENT PLANS – 1987

Strategies for Conservation and Recreation on CALM Lands in Western Australia. 1987

6. Implementation of Policies and Strategies

“CALM has developed the following organisational system to implement policies and strategies for conservation, recreation and environmental protection.

- (1) *The State is subdivided into a network of regions and districts, each with resident professional, technical and wages personnel, who prepare and implement annual works programs based on:

the objectives and priorities in the Department’s corporate plan;

regional, area or issue management plans drawn up for the area concerned.*
- (2) *Management plans are being prepared for each region, and progressively for each major conservation reserve.*
- (4) *A range of specialist sections develop specific products (e.g., maps, communication systems), set and check standards of field operations ... or provide services [...].*
- (5) *A Policy Directorate of senior officers constantly reviews and updates policies, establishes new policies or guidelines, monitors work in the field and works closely with the controlling bodies ...*

The management plan is the fundamental instrument used to translate policies into action. It is also the instrument by which both the Department and the public may be brought to account for what is done in conservation and land management in W.A.” (p. 51)

Northern Forest Region Regional Management Plan 1987-1997. 1987

Central Forest Region Regional Management Plan 1987-1997. 1987

Southern Forest Region Regional Management Plan 1987-1997. 1987

Strategies for Conservation and Recreation on CALM Lands in Western Australia. 1987

Objectives and Principles

“The principles upon which this plan has been prepared are:

The plan must comply with the requirements of the State Conservation Strategy for W.A.

*Land will be managed in such a way as to promote or achieve the purpose for which it was vested,
e.g.
[...]*

in the case of national parks, to fulfil as much of the demand for recreation by members of the public as is consistent with the proper maintenance and restoration of the natural environment, the protection of indigenous flora and fauna ... [CALM Act Section 56 (1)(c)];

in the case of nature reserves, to maintain and restore the natural environment and to protect, care for, and promote the study of indigenous flora and fauna [CALM Act Section 56(1)(d)];

All management operations are to be economical and environmentally sensitive.

The processes of land use planning and wildlife and resource management are to be assisted by public participation, particularly at the regional level.

In addition, the following principles set down in the State's timber strategy apply also to the preparation of this regional management plan:

There is to be an equitable reservation of forest areas for conservation, recreation and production, and these areas are to have security of tenure and purpose.” (p. xiii in Northern Forest Region Regional Management Plan 1987-1997)

**Part 1 : The Department of CALM and Its Planning and Land Use Management Processes
CALM Responsibilities on Lands Not Vested in the Controlling Bodies**

“CALM is responsible for the conservation and protection of native flora and fauna on all land and waters within the State boundaries, under Section 6 of the Wildlife Conservation Act.” (p. 8 in Northern Forest Region Regional Management Plan 1987-1997)

“CALM has the responsibility of administering regulations made under the Wildlife Conservation Act for the protection, management and control of nature reserves. Under section 130 of the CALM Act those provisions also apply to those reserves created under the Land Act for the conservation of flora and fauna, which are not vested in the National Parks and Nature Conservation Authority.” (p. 8 in Northern Forest Region Regional Management Plan 1987-1997)

**Part 3. Land Use Classification and Management
Land Use Proposals**

“A number of changes to the previous plans are proposed in this regional plan. These changes will allow the introduction of proposed new categories, will improve the security of purpose for many areas and will change the name and vesting of other areas to better reflect the purpose for which they are managed.” (p. 23 in Northern Forest Region Regional Management Plan 1987-1997)

Changes in Tenure, Vesting or Purpose

“Although the majority of the areas which are proposed for reservation already have been designated in one form or another as conservation or recreation reserves, some are subject to existing mineral leases and others may contain mineral resources. It is proposed that these mineral claims be progressively evaluated by an appropriately constituted committee. The Reserves Review Committee will continue to progressively evaluate areas within the EPA System 6 area.

All proposals to change land tenure or to reserve vacant Crown land will be referred to the Lands and Forest Commission and the National Parks and Nature Conservation Authority, and will be subject to the normal review processes by the Department of Land Administration. This will involve consultation with affected government and local government authorities. Furthermore, it will be necessary for both Houses of Parliament to agree to any changes involving A class Reserves or State forest.” (p. 23 in Northern Forest Region Regional Management Plan 1987-1997)

Northern Forest Region Regional Management Plan 1987-1997, 1987

Part 3 : Land Use Classification and Management

Details of Proposed Major Changes

New or Expanded Nature Reserves

“It is proposed to vest a number of unvested nature reserves, other reserves and vacant Crown land as nature reserves within the NPNCA.

Three areas of State forest (the Melaleuca, Caraban and Wabbling management priority areas for flora, fauna and landscape) will be converted to nature reserve vested in the NPNCA.

Moore River National Park will be reclassified as nature reserve and expanded by the addition of a large tract of adjoining Vacant Crown Land. This more accurately reflects the purpose of the area.” (p. 24)

New or Expanded National Parks

“Yanchep National Park will be enlarged by the addition of two areas of adjoining State forest, including the Ridges management priority area.

Avon Valley National Park will be enlarged by incorporating into it the adjoining vacant Crown land, nature reserves and a large timber reserve.

Yalgorup National Park will be enlarged by incorporation into it of an area of freehold land held in the name of the Executive Director, as well as the adjacent Clifton, McLarty and Myalup management priority areas (which are in the Central Forest Region).

Serpentine National Park will be enlarged by the addition of Gooralong and Serpentine reserves, Karnet nature reserves and one other reserve.” (p. 24)

Conservation Parks

“Nine new conservation parks will be formed by conversion of areas of State forest - e.g., Boyagaring, Duncan, Gyngoorda, Julimar, Lake Leschenaultia, Lupton, Marradong, Wandering.

A ‘Wandoo Conservation Park’ will be formed by incorporation of the Gunapin, Russell and Sullivan MPAs, the Dobaderry Nature Reserve and adjoining vacant Crown land.

The Dale, Monadnocks and Lane Poole Reserves will become conservation parks.

Several small national parks will be reclassified as conservation parks, including Burkinshaw Road, Gooseberry Hill, Greenmount, Kalamunda, Lesmurdie Falls and Neerabup.” (p. 24)

Origin of Conservation and Recreation Priority Areas in State Forest

“All of the conservation and recreation priority areas set aside in State forest by the Forests Department in its General Working Plans 86 and 87 ... are proposed for reclassification in this plan, either to nature reserves, national park or conservation park.

The reserve system developed by the Forests Department was based on the objectives of

- (i) setting aside representative ecosystems in all the main forest types, and*
- (ii) ensuring that recreational demands in the forest could be met in the long term.*

The reserve system was reviewed and endorsed by the Environmental Protection Authority in its land use studies of Systems 1, 2, 4 and 6 published in the period 1975-1983.” (p. 24)

Fate of Conservation and Recreation Priority Areas in State Forest

“The Forest Department’s General Working Plan 87 ... listed 64 flora, fauna and landscape MPAs. These fall within the Northern Forest, Central Forest and Southern Forest regions of CALM.

It is proposed that these areas be reclassified as follows:

- 16 will become national parks*
- 14 will become nature reserves*
- 34 will become conservation parks*

General Working Plan 87 ... listed 7 recreation MPAs in State forest.

It is proposed that these be reclassified as follows:

- 2 will become national parks*
- 5 will become conservation parks*

The Department will in time produce ‘area management plans’ for each of these areas.” (p. 27)

Zoning of State Forest, Parks and Reserves

“In addition to the proposed allocation of lands to the categories of nature reserves, marine park, national park, conservation park or State forest areas may further be zoned to give priority to certain land uses in selected areas.

Areas may be zoned to emphasise conservation, protection, recreation or production. This process will be developed in detailed management plans for specific areas.

Apart from the Lane Poole Reserve where zoning was determined at the time of creation, no management priority zones have yet been allocated for national park, nature reserve or conservation park. The zoning system for these areas will be determined later when their management plans are developed. At this time, pending changes to the CALM Act to permit this to be done, the possibility of giving zones A class security of purpose will be considered.” (p. 27)

Land Dedication and Acquisition

Regional strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

[...]

(iii) support EPA (CTRC) reserve recommendations and other proposals for additions to CALM tenure, subject to provision of adequate additional funds and staff for management;

(iv) prepare a program for the orderly implementation of these recommendations” (p. 28)

Conservation of Flora, Fauna and Landscape

“Security of purpose of conservation reserves, particularly those that do not have an ‘A’ classification, is a major issue. Greater security of purpose for State forest nature conservation priority areas can be provided by making them ‘A’ class reserves vested in the NPNCA. This is proposed in this plan.” (p. 28)

Flora and fauna

“A major aim of management in areas whose primary function is wildlife conservation is to maximise diversity and species richness. In some reserves, management is directed to providing habitat for particular species or communities. Such reserves in the Northern Forest Region will be progressively defined by CALM scientific staff.

In lands managed by the Department where wildlife conservation is not the primary purpose, management practices will aim to maximise wildlife values, as far as this is consistent with the primary land use.

[...] *High priority is given to investigating and protecting endangered species and their habitat.*

Eighteen plant species known to occur in the region are currently (November 1987 gazetted as rare or in need of special protection (Table 8A). During the life of this plan, the list will be revised from time to time.” (p. 29)

Regional strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

[...]

(ii) *develop prescriptions for management of conservation reserves in the region, to maximise wildlife (flora and fauna) diversity and to maintain representative habitats;” (p. 30)*

“(v) *continue surveys to record the distribution and abundance of rare and threatened species, on CALM and other lands;*

(vi) *assist research staff to develop and implement strategies for rare species to ensure the survival and expansion of populations;*

(vii) *monitor populations of rare species;*

(viii) *continue to implement the Department’s Kangaroo Management Program.” (p. 31)*

Wetlands and Estuaries

Regional Strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

(i) *oppose the degradation or alienation of wetlands on CALM land;*

(ii) *take an inventory of the wetland resource (CALM land and other) in the region. Identify key values for each wetland;*

(iii) *rehabilitate degraded wetlands as resources allow, and consider the creation of new wetlands where appropriate, e.g. after mining;*

[...]” (p. 31)

Recreation

Camping

Regional Strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

[...]

(iv) *apply restrictions on certain activities at each site to ensure that conservation objectives are not compromised and that the enjoyment of nearby campers is not unduly affected by the activities of others;*

[...]” (p. 39)

Day Use

Regional Strategies

“In addition to implementing Departmental policies and guidelines ... during the period of the plan CALM staff in the region will, either directly or with assistance from commercial sources, as appropriate:

[...]

(ii) evaluate existing sites in terms of location, design and suitability;
[...]" (p. 40)

Motorised Recreation

"Licensed vehicles of any kind are permitted on public roads on CALM lands and normal road traffic rules apply. Exceptions are restricted access roads in declared Disease Risk Areas, ... nature reserves and some parts of national parks." (p. 40)

"[...]Unlicensed off-road vehicles are not permitted on any other areas of CALM land in the region. [...]" (p. 40)

"Car and motorcycle rallying is permitted in some areas of State forest by special arrangement with the Department, but not in national parks or nature and Water Authority reserves." (p. 40)

"There are two main issues associated with motorised recreation. The first of these is the high environmental impact of vehicles. These impacts include physical damage to roads and the environment, such as erosion, spreading dieback disease, damaging vegetation, disturbance to neighbours and wildlife caused by noise and dust."

Regional Strategies

"In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

[...]

(ii) evaluate the suitability of each area for this use by evaluating impacts on the environment and on other users;

[...]" (p. 40)

Southern Forest Region Regional Management Plan 1987-1997. 1987

The Special Situation of Road, River and Stream Zones

"A system of zones along major roads, rivers and streams was developed in the mid 1970s for State forests in the Southern Forest Region. The system was incorporated into the Environmental Impact Statement (EIS) for the Marri Woodchip Project which was prepared by the Forests Department and subsequently approved by the Environmental Protection Authority. The system was designed to provide these primary values:

[...]

buffer zones between logging areas and major watercourses;

a network of relatively undisturbed forest at the local level for fauna habitat, especially birds dependent on mature trees for nests, and as a source of fauna for the recolonisation of regrowth forest." (p. 10-11)

"During the period of this plan it is proposed that an intensive review of road, river and stream zones in the region will be undertaken with the objective of improving their efficiency in providing amenity, wildlife habitat and stream protection. Commitments with respect to the review are:

No changes will be made to the existing system without evaluation and approval by the Environmental Protection Authority. The new system will include a provision that road, river and stream zones will not be subject to clearfelling. [...]

There will be no decrease in the area of the existing road, river and stream zones." (p. 11)

Part 3 : Land Use Classification and Management

Details of Proposed Major Changes

“The most important or significant proposals are:

New or Expanded Nature Reserves

It is proposed to vest a number of unvested nature reserves, other reserves and vacant Crown land as nature reserves with the NPNCA.

Three areas of State forest (the Dickson, Perup and Strickland management priority areas) will be converted to nature reserves vested in the NPNCA.

A yarri/blackbutt forest in the Donnelly Valley and part of Bolbellup timber reserve are also proposed to become nature reserve.

New or Expanded National Parks

“A new national park incorporating the Wattle, Johnston-O’Donnell, Mitchell Crossing, Soho and Mt Frankland State forest management priority areas is proposed to be created along with a new national park for the Mt Lindesay-Sheepwash area.

D’Entrecasteaux National Park will be enlarged to include large areas of vacant Crown land and reserves.

Crown land in the Shannon Basin will become national park.

Hawke-Treen State forest management priority area is proposed for addition to Warren National Park and Giants State forest is proposed for addition to Walpole-Nornalup National Park. Brockman State forest management priority area is proposed as national park.” (p. 26)

Conservation Parks

“Four areas of State forest (Boorara, Dobakup, Muirillup and One Tree Bridge) and two small unvested national parks (Jardee and Jervik Park) are proposed to become conservation parks.” (p. 26)

Additional State Forest

“A substantial area of vacant Crown land on the Kent River Catchment is proposed to become State forest.” (p. 26)

Origin of Conservation and Recreation Priority Areas in State Forest

“All of the conservation and recreation priority areas set aside in State forest by the Forests Department in its General Working Plans 86 and 87 ... are proposed for reclassification in this plan, either to nature reserve, national park, conservation park, or to stay as State forest.” (p. 26)

“The reserve system developed by the Forests Department was based on the objectives of

- (i) setting aside representative ecosystems in all the main forest types, and*
- (ii) ensuring that recreational demands in the forest could be met in the long term.*

The reserve system was reviewed and endorsed by the Environmental Protection Authority in its land use studies of Systems 1, 2, 4 and 6 published in the period 1975-1983.” (p. 27)

Conservation of Flora, Fauna and Landscape

Flora and Fauna

“A major aim of management in areas whose primary function is wildlife conservation, is to maximise diversity and species richness. In some reserves, management is directed to providing habitat for particular species or

communities. Such reserves in the Southern Forest Region will be progressively defined by CALM staff.” (p. 29)

“In lands managed by the Department where wildlife conservation is not the primary purpose, management practices will aim to maximise wildlife values, as far as this is consistent with the primary land use.

Knowledge of the existence and distribution of the thousands of species of native plants and animals in the region is considerable, but not complete. High priority is given to investigating and protecting rare and endangered species and their habitat.

Currently (November 1987) eleven plant species known to occur within the region are gazetted as rare or in need of special protection (Table 8A). During the life of the plan the list will be amended from time to time.[...]” (p. 30)

Regional strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

[...]

(ii) develop management procedures for conservation reserves to maximise wildlife (flora and fauna) diversity and to maintain representative habitats;

[...]

(v) continue surveys to record the distribution, abundance and other details of gazetted rare species;

[...]

(vii) monitor populations of rare species;

(viii) continue to implement the Department’s Kangaroo Management Program.” (p. 31)

Wetlands and Estuaries

Regional Strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

(i) list wetland resources in the region and identify key values for each wetland;

(ii) oppose the alienation of wetlands on CALM lands;

(iii) rehabilitate degraded wetlands;

[...]

(v) monitor the condition of wetlands.” (p. 31)

Recreation

Day Use

Regional Strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will, either directly or with assistance from commercial sources as appropriate:

[...]

(vii) minimize impacts of recreation activities on ecological and aesthetic values.” (p. 37-38)

Motorised Recreation

“Licensed vehicles are permitted on public roads on CALM lands and normal road traffic rules apply. Exceptions are restricted access roads in Disease Risk Areas and parts of some national parks or nature reserves. [...]

Car and motorcycle rallying is permitted in some areas of State forest by special arrangement with the Department, but not in national parks or nature reserves.

[...]

There are two main issues associated with motorised recreation. The first of these physical damage to the environment, by causing erosion, spreading dieback disease, damaging vegetation and disturbance to wildlife.”
(p. 39)

Regional Strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will: [...]

- (ii) *direct motorised recreation to the most appropriate areas and prescribe conditions of use which will minimize environmental impacts;*

[...]” (p. 39)

Horse Riding

Regional Strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

[...]

- (ii) *identify areas within the region where horse riding is not permitted;*
- (iii) *monitor horse riding in other areas;*

[...]” (p. 39-40)

Central Forest Region Regional Management Plan 1987-1997. 1987

Part 3 : Land Use Classification and Management

Details of Proposed Major Changes

“The most important or significant proposals are:” (p. 24)

New or Expanded Nature Reserves

“It is proposed to vest a number of unvested nature reserves, other reserves and vacant Crown land as nature reserves with the NPNCA.

Eight areas of State forest (the Chester, Dalgapur, Greenbushes, Milyeannup, Mowen, Nollajup, Paget and Whicher Management Priority Areas) will be reclassified as nature reserves.” (p. 24)

New or Expanded National Parks

“Leeuwin-Naturaliste national parks will be enlarged by the addition of Boranup State forest and Yalgorup national parks by the addition of adjoining State forest (Clifton, McLarty and Myalup Management Priority Areas). A new national park has recently been created at Ludlow.” (p. 24)

Conservation Parks

“Numerous areas of State forest (including some reserves and vacant Crown land) are proposed as conservation park. These include Bennelaking, Blackwood, Dardanup, Ellis Creek, Goonac, Lennard, Muja, Mullalyup, Noggerup, Preston, Rapids, St John Brook, Stene and Westralia.

Most of the Lane Poole Reserve which is currently a CALM 5g reserve, is also proposed for reclassification as conservation park.

Three small national parks are proposed are reclassification to conservation park. They are Bridgetown, Gwindinup and Wagerup.

Some of the land held freehold in the name of the Executive Director at Kemerton will be converted to conservation park.” (p. 24)

Additional State Forest

“Vacant Crown land at Camballan, Chowerup, Witchcliffe and Wournbelup is proposed for reservation as State forest.” (p. 24)

Origin of Conservation and Recreation Priority Areas in State Forest

“All of the core areas of the conservation and recreation priority areas set aside in State forest by the Forests Department in its General Working Plans 86 and 87 ... are proposed for reclassification in this plan, either to nature reserve, national park, conservation park, or to stay as State forest.

[...]

The reserve system developed by the Forests Department was based on the objectives of

- (i) setting aside representative ecosystems in all the main forest types, and*
- (ii) ensuring that recreational demands in the forest could be met in the long term.*

The reserve system was reviewed and endorsed by the Environmental Protection Authority in its land use studies of Systems 1, 2, 4 and 6 published in the period 1975-1983.” (p. 27)

Conservation of Flora, Fauna and Landscape

Flora and Fauna

“A major aim of management in areas whose primary function is wildlife conservation, is to maximise diversity and species richness. In some reserves, management is directed to providing habitat for particular species or communities. Such reserves in the Central Forest Region will be progressively defined by CALM scientific staff.

In lands managed by the Department where wildlife conservation is not the primary purpose, management practices will aim to maximise wildlife values, as far as this is consistent with the primary land use.

Currently, 18 plant species known to occur within the region are gazetted as rare or in need of special protection (Table 8A). During the period of this plan, the list will be revised, in the light of continuing survey and research. There are also 16 species of rare vertebrates (Table 8B).

*Some species are not rare, but are geographically restricted in distribution or have interesting ‘outlying’ remote populations possibly remnants of more extensive distribution patterns. One example of the latter is the occurrence of white mangrove (*Avicennia marina*) at Bunbury (Schwinghammer 1978). This is the only stand of mangrove between the Gascoyne River and Spencer Gulf in South Australia.*

Knowledge of the existence and distribution of the thousands of native flora and fauna species in the region is considerable but not complete. High priority is given to investigating and protecting declared rare species and their habitats.” (p. 30)

Regional Strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

- (i) continue to give gazetted rare flora first priority for flora management, and complete the regional register of declared flora for use by district officers. Attention will then turn to geographically restricted species and any other population of plants thought to be in need of special protection;*
- (ii) continue to maintain confidentiality of locations of plant populations in the declared flora register;*

- (iii) *monitor populations of declared rare and geographically restricted plants;*
- (iv) *conduct systematic study of the management requirements for particular species or populations of flora;*
- (v) *conduct studies of particular flora management requirements;*
- (vi) *progressively develop management plans for all conservation reserves in the region. National parks and nature reserves will be first priority, interim protection plans will be produced in the meantime;*
- (vii) *take account of the conservation of wildlife in all prescriptions for operations on other CALM land (eg. State forest); where appropriate, areas amidst or adjoining productions or protection operations will be protected for the benefit of wildlife;*
- (viii) *maintain close liaison with landholders, and other land management agencies and the general public regarding their responsibilities under the Wildlife Conservation Act;*
- (ix) *continue to conduct regular patrols in pursuit of suspected breaches of the Wildlife Conservation Act;” (p. 31)*
- “(x) *monitor particular wildlife habitats and important seasonal events in wildlife populations, eg. seasonal bird migrations, nesting, hunting seasons;*
[...]
- (xiii) *continue to implement the Department’s Kangaroo Management Program.” (p. 32)*

3. Land Use Management and Classification

Motorised Recreation

“Licenced vehicles of any kind are permitted on public roads on CALM lands and normal road traffic rules apply. Exceptions are restricted access roads in Disease Risk Areas, nature reserves and parts of national parks. [...]

Car and motorcycle rallying is permitted in some areas of State forest by special arrangement with the Department, but in national parks or nature reserves.

[...]

There are two main issues associated with motorised recreation. The first of these is physical damage to the environment, by causing erosion, spreading dieback disease, damaging vegetation and disturbance to wildlife caused by noise and dust.” (p. 41)

Regional Strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

- (i) *plan for the various kinds of motorised recreation by identifying suitable areas and routes;*

[...]

- (iii) *restrict access to areas where vehicles are unwanted. e.g. recreation sites, dieback areas, sites with fragile vegetation or soil;*

[...]” (p. 41)

Horse Riding

Regional Strategies

“In addition to implementing Departmental policies and guidelines ... during the period of this plan CALM staff in the region will:

[...]

- (ii) *identify areas within the region where horse riding is not permitted and publicise the reasons;*

[...]

- (iv) *monitor the impacts of horseriding, and if degradation is occurring, periodically use alternative areas or routes;*
[...]" (p. 40)

MANAGEMENT PLAN – 1987

Shannon Park and D'Entrecasteaux National Park Management Plan 1987-1999. 1987

10.0 Conservation Opportunities

“Protection of the natural values of the Parks is a fundamental concern of this plan. Thus, management and sustained use must not cause irreversible environmental damage or impairment of scenic beauty.

Certain areas of the Parks are more susceptible to damage than others. This susceptibility is based on key features such as delicate and unusual geological formations, degree of risk or infection or existing infection by dieback (Map 8), rare plant and fragile plant communities (Map 8), extreme susceptibility to soil erosion and degradation (Map 6), and least disturbed areas (based on leased for grazing for less than 20 years [Map 9] not logged [Map 10], and burnt twice or less in the last 45 years [Map 11]).

Map 12 is a compilation of the above features, and thus provides a summary of the key conservation opportunities in the Parks. Such areas include the most important and fragile biological and physical features of the Parks.” (p. 43)

2.0 Management Objectives For National Parks

“The following management objectives for national parks are derived from the Conservation and Land Management Act (1984) and departmental policies for management. The objectives are to:

- 1. Protect and conserve native plants and animals and their habitats.*
- 2. Protect and conserve physical, cultural and scenic resources.*
- 3. Provide opportunities and facilities for appropriate public recreation.*
- 4. Regulate use to be consistent with the maintenance and protection of natural resource values and to minimise conflict between uses.*

[...]" (p. 47)

2.0 Management Objectives For the Shannon Park and D'Entrecasteaux National Park

“Management objectives specific to the two Parks were derived from: the above general objectives; the dual purpose of ‘national park and water’; and the information provided in B. Description of the Parks. The following background information is most relevant to the determination of specific objectives –

[...]

- Several areas contain important biological and physical features.*
- Some areas have been disturbed by human activities and this disturbance is likely to spread unless the areas are actively managed and rehabilitated.*
- Many areas in the Park are capable of sustaining very little public use without irreparable environmental damage.*

[...]

The specific management objectives for the Parks are to:

- 1. Protect the biological and physical environment and the cultural and scientific features of the Parks.*
- 2. Protect and preserve the surface waters and groundwaters of the Park, in terms of both quantity and quality.*

3. *Rehabilitate the natural environment as necessary.*" (p. 48)

"6. Provide opportunities for appropriate public recreation, whilst at the same time ensuring that the environment is capable of supporting the use without unacceptable damage, and that the recreational experiences of visitors are not impaired by conflicting uses." (p. 49)

3.0 Objectives For The Period Of The Plan

"It is unlikely that all the objectives listed under 2.0 Management Objectives for Shannon Park and D'Entrecasteaux Park will be achieved during the period of this plan (5 years), for two reasons – the limited resources available for management, and the limited knowledge of the Parks at the present time. Thus, priority will be given to protecting the conservation values of the Parks (including gathering much-needed information) and providing a range of recreation opportunities, with due regard to the sensitivity of the environment." (p. 49)

1.0 Introduction and Methodology

"Much of the appeal of the Shannon and D'Entrecasteaux Parks can be attributed to the relative remoteness and inaccessibility of the magnificent coastal and forest landscapes they contain. While the areas are by no means pristine, they still contain some of the last large enclaves of relatively undisturbed land in the south-west. In planning for the future management of this Park system, the intrinsic character and wilderness of this region must not be jeopardised through insensitive development and use. This requires a delicate balance between preservation and use.

Unfortunately, there are no magical formulae for determining what constitutes an effective and acceptable balance. However, the network of access tracks and facility developments recommended in this plan will cater for management growth in visitor use without jeopardising existing conservation and recreation values." (p. 52-53)

1.2 Methodology

"Evaluation of the issues and subsequent determination of prescriptions was based on the following criteria:

- *relevant legislation and policies.*
- *capacity of the natural system (landscape, plants and animals) to sustain proposed activity without irreparable damage.*
- *equity for Park users, given that all forms of use must be generally compatible with conservation and not have adverse impacts on other Park users.*
- *capacity of managing authority to protect the natural environment and Park visitors."* (p. 54)

2.3 Alienated Lands Within and Adjacent to the Parks

Objectives

"[...]

2. To ensure that management of adjacent and enclaved properties does not adversely affect Park values." (p. 58)

Prescriptions

Private Property

"1. Properties that have important conservation or recreation values, or that border areas within the Parks that have important conservation or recreation values, will be purchased when available and reserved as national park. Over the period of the plan the 26 enclaves within the D'Entrecasteaux will be prioritised in terms of lack of disturbance and environmental significance. This priority listing will guide purchasing." (p. 59)

4.0 Flora

Objectives

“1. To protect rare and restricted plants and fragile communities from impacts other than those arising from natural processes.

2. To prevent the introduction and spread of dieback, other plant diseases, weeds and other non-native plants.

3. To rehabilitate plant communities which have been degraded.

4. To control and if possible eradicate introduced plant species (6.3 Pests and Weeds).” (p. 71)

Background

“The Parks contain a number of plant species that are gazetted rare or have a restricted distribution. There are also several plant communities within the Parks which are not well represented in other parks or reserves. A number of fragile plant communities (those extremely susceptible to disturbance) can also be identified. Map 9 gives the general location of these fragile communities and many of the rare plants.” (p. 72)

“Many of the plant communities in the Parks are susceptible to dieback, particularly species found in the coastal wetlands of the D’Entrecasteaux (6.2 Dieback and Disease).” (p. 72)

Prescriptions

“1. Areas where rare or restricted plants or fragile communities are known to occur, that have communities highly susceptible to dieback or have communities that are poorly represented on other conservation reserves (Map 9) will be protected from infection by dieback, and from introduced plant species or other impacts (besides those arising from natural processes). Management actions, public use and general access, where permitted, will be managed so that soil disturbance and transport, and spread of seeds are minimal.” (p. 72)

“2. In areas of the Parks which have been little disturbed by European man (Map 13), natural processes will be left alone, subject to public safety requirements. If active management is considered necessary, a range of approaches will be used and critically evaluated. This will provide further information on the range of responses a community may make to disturbance.

3. In all other areas, natural processes will be left alone, except for the management requirements of public use areas, visitor safety and the control of pests, weeds and disease. [...]

4. Any other areas, in addition to those indicated in Map 12, which require special protection and management will be identified and mapped over the period of the plan.

5. Plant communities which have been degraded will be allowed to regenerate naturally unless the disturbance is so severe that natural regeneration is unlikely to occur. This is particularly important where damage to the plant community has instigated erosion. [...]” (p. 73)

5.0 Fauna

Objectives

“1. To protect and provide suitable habitat for native fauna that occur in the Parks.

2. To re-introduce native animals that once occurred within the Parks (eg. Noisy Scrub-bird).

3. To control and if possible eradicate introduced fauna (6.3 Pests and Weeds).” (p. 73)

Background

“Four species of rare fauna are known to occur within the Parks – the Peregrine Falcon, Crested Shrike-tit, Red-eared Firetail and Freckled Duck.” (p. 73)

“1. Native fauna will be protected.

2.If species of rare or endangered fauna with specific known habitats requirements are discovered in the Parks, active management will be used, if necessary, to preserve the communities that support them.

*3. Efforts will be made to reintroduce native fauna known to have formerly occurred in the Parks (eg. Noisy Scrub-bird).
[...]" (p. 74)*

6.0 Protection

6.1 Fire

Objectives

“The Parks are to be managed primarily to conserve their natural ecosystems and landscapes, whilst ensuring the Park visitors have the opportunity to enjoy the Parks without detrimentally affecting them. In setting the specific fire management objectives to achieve the management objectives for the Parks, the protection of life and property within and near the Parks must be of high importance.

Consistent with this principle, the following objectives will apply in order of priority:

[...]

2.To protect community and environmental values in or near the Parks including settlements, private property, recreation facilities, forest regeneration and public utilities.

[...]

4. To maintain the natural processes and diversity of structure and composition of plant communities.

5. To maintain the natural abundance, diversity and ecological integrity of fauna communities.

6. To ensure the survival of sustainable populations of rare, endangered or restricted flora and fauna species by the protection and maintenance of their required habitat.” (p. 75)

Background

“Australian ecosystems have evolved in the presence of fire (Singh et al. 1981). Such adaptations are widespread in the plant communities found in the Parks.

The array of adaptations enable most of the Western Australian flora to regenerate successfully after fires of almost any intensity and frequency (Gill et al. 1981). [...]

There is a wide range of opinion about what constitutes a natural or the most appropriate fire regime for these Parks. However, it is generally agreed that fire is a key management tool in the achievement of both conservation and protection objectives for the Parks.

Fire management prescriptions for the Parks must therefore provide a practical basis for improving the understanding of the relationship between the Parks’ plant and animal communities and fire, as well as protection human values from fire.” (p. 76)

“Following a fire there is a progressive change in the structure and composition of the plant and animal community (a process known as succession). Each stage of recovery favours the survival and reproduction of different groups of plant and animals. Research throughout Australia has shown that it is not possible to achieve optimum conditions for all species of plants and animals in one area at any one point of time. It is only through the wise application of a wide range of fire regimes that such an optimum condition can be approached.” (p. 76-77)

“In the absence of detailed information on the successional processes and the fire requirements of the Park ecosystems, it is proposed to aim for a wide range of successional stages within the major plant and animal communities of the Parks.

Apart from the ecological considerations there are many safety aspects which must be considered in fire management. Uncontrolled fire poses a danger to human and conservation values in and surrounding the Parks each summer. The risks are greatest in summer during periods of hot, dry conditions, particularly where large quantities of litter have accumulated and where the probability of ignition is high. Fires burning under these conditions are unsafe to fight by direct attack, and there is a risk of severe damage to and even death of mature karri trees.

Fire hazards can be reduced by careful design and forward planning. Areas of high public values which can be damaged by fire must be identified and strategies developed to ensure their protection.” (p. 77)

Fire Management Regimes

“Three fire management regimes are used in this plan. These are:

1. Short-rotation Protection Burns

Under this regime, fuel reduction burns will be applied whenever ground fuel-loads exceed critical levels at which fire containment, by direct attack, under hot summer conditions, becomes very difficult and unsafe for firefighters. The rotation period between burns will vary from approximately six to eight years depending on the rate of fuel accumulation of the vegetation.” (p. 77)

“The burns will be arranged in wide buffers to restrict the movement of wildfires through large areas of the Parks. These low fuel areas will also be strategically located adjacent to high risk zones (eg. settlements, heavy fuel areas, recreation facilities) and high value zones (eg. karri regrowth, private property).” (p. 77-78)

“These short-rotation burns are categorized as either park or forest protection burns depending on their location.” (p. 78)

2. No Planned Burn (NPB)

“Parts of each of the major land units (Map 7) will be protected from wildfires and will not to be deliberately burnt within the foreseeable future. These areas are located remote from likely ignition sources such as major roads, recreation areas and settlements. Many of these NPB areas include the least disturbed sites within the Parks.

Maximum protection needs to be ensured for the NPB areas, including maintenance of good perimeter access and regular burning of adjacent areas.” (p. 78)

3. Flexible Management Areas (FMA)

“Burns in these areas aim to achieve ecological diversity within each of the major land units. Most of these regimes will entail long rotation burns of about 15 years. It is proposed to burn, on an experimental basis, some fire-dependent ecosystem, such as the coastal peppermint/yate association near Lake Maringup, on a rotation of four to five years.

It may be necessary to burn some of the FMA areas for protection reasons if it considered that they constitute a major fire hazard to other values. Each FMA will be reviewed annually to determine if it should be burnt or not, for ecological or protection purposes.” (p. 78)

Fire Master Plan

“To achieve the objectives outlined and using the three regimes given above, a master plan for fire management, essentially geographic in nature, was designed. A framework was developed which details fire management spatially, using defined land units (B. Description of the Parks 6.0 Land Use Capability) and temporarily through the concept of succession. The master plan (Map 14) aims to achieve maximum diversity by using a wide range of successional stages (burn ages) within each of the major land units; subject to the over-riding constraints of the natural resources and the protection of cultural and natural values.” (p. 79)

Prescriptions

“If funds are not available to implement the following prescriptions fire protection will be undertaken according to the objectives which introduce this section.” (p. 79)

Prescribed Burning

“1. The fire master plan indicated in Map 14 will be implemented. This plan provides for a combination of areas to be periodically burnt to provide buffers (short-rotation protection burns), areas from which fire will be excluded for ecological reasons (no planned burn), and areas to be burnt under a range of fire regimes (flexible management areas).” (p. 79)

“8. No planned burn areas will be protected from fire subject to access constraints. [...]” (p. 80)

Wildfire Suppression

“10. Wildfires that enter or start in the Parks will be contained to the smallest possible area, either by direct attack or by backburning from existing tracks and prescribed burnt boundaries, taking into consideration the likely threats to life and property and Park values, and the impact of the fire and the suppression activities on the environmental and ecological values of the Parks.” (p. 80)

9.0 Recreation

9.1 Levels of Use : Objective

“1. To facilitate a level of recreational use in the Parks which does not jeopardise the intrinsic character of the area, and which does not lead to detrimental impacts on the environment or deterioration in visitor satisfaction.” (p. 98-99)

Background

“B. Description of Parks 9.0 Present Use details existing recreational activities and levels of use in the Parks. This Plan enables the Parks to continue to provide a great variety of recreation opportunities. However, it is recognised that these Parks are of special value because they represent some of the last areas in the south-west which have not been fully developed.” (p. 99)

Prescriptions

[...]

2. Portions of the Parks will be accessible to four-wheel-drive and two-wheel-drive vehicles, people on horseback, boats and bushwalkers. While facilities and services will be available for those who wish to use them, some of the more remote areas will remain largely undeveloped, thereby retaining their qualities of ‘remoteness’.

[...]” (p. 99)

9.2 Vehicles Off-road

Objective

“1. To protect the biological and physical environment of the Parks from damage, by directing all vehicle traffic along nominated roads and tracks.” (p. 99)

Background

“Off-road vehicles can have many impacts, especially on poorly consolidated soils where even a single pass by a vehicle can damage vegetation and provide a focus for erosion. In waterlogged areas vehicles can cause extensive soil degradation, including compaction or rutting, leaving long-lasting effects on vegetation growth. Vehicles are a major factor in the spread of dieback. Other impacts include vehicle tracks and noise. [...]” (p. 100)

“In national parks all vehicles used must comply with the Road Traffic Act. Non-complying recreational vehicles can be registered under the Vehicles (Off-road) Act, but their use in a national park requires a special permit, endorsed by CALM, from the relevant local government authority. Such a permit is generally only granted in extenuating circumstances.” (p. 100)

Prescription

“1. No vehicle activity off road will be permitted in the Parks. All public vehicle use will be restricted to the access routes designated on Map 15.” (p. 100)

9.3 Horse-riding

Objectives

- “1. To provide opportunities for access by horse-back in the Parks, while ensuring that adverse impacts on the natural environment and other Park users are contained.*

- 3. To monitor the impacts of horse-riding and review the provision of horse-riding opportunities in the Parks when this plan expires or beforehand if undue conflicts arise.” (p. 101)*

Prescriptions

“2. Public use will be permitted along a 1 km wide corridor centred on Jasper Beach Road and Deeside Coast Road (Map 15).

[...]

4. An approved tour operator will be allowed to use the Parks on a permit basis. The permit will be issued for a three year period. Prior to issue, registration of interest will be requested in State and local newspapers. Prior to the end of the three year period this arrangement will be reviewed and altered as necessary. The permit will be suspended if any breach of the National Park Regulations or permit conditions occurs.” (p. 102)

“5. Use by the tour operator will be permitted in the area shown on Map 15 between the Gardner River and Broke Inlet and along a 1 km wide corridor centred on Deeside Coast Road.

6. Tethering and yarding facilities will be provided at strategic points. The facilities will be located and designed by CALM, using guidelines written by the Department’s Recreation and Landscape Branch, in consultation with local people who regularly use the Parks for horse-riding.

[...]

8. A program to monitor the effects of horse use on the environment will be established. The information gained through this program will be used to amend these prescriptions as appropriate during the period of the plan. An annual progress will be produced to assist review.” (p. 103)

9.4 Camping

Objectives

[...]

- 4. To ensure that the provision of camping opportunities has minimal impact on the natural environment, particularly sensitive areas, and minimises conflict between users.” (p. 103)*

9.5 Bushwalking

Prescriptions

“1. Bushwalking will be permitted throughout the Shannon and D’Entrecasteaux Parks on an unrestricted basis, however, backpack camping will not be encouraged or facilitated in areas recognised as possessing special ecological significance or at high risk of being damaged by such use.

[...]” (p. 109)

11.0 Resource Management

11.1 Mining

Objectives

“1. To pursue, on behalf of the NPNCA, a policy of not favouring proposed mining activity.

2. *To ensure that in the event of exploration or mining activity being approved that they are carried out in such a way that it will minimise or restore any damage to the biological, physical and landscape values of the Parks.*" (p. 119)

Prescriptions

*"1. In its management of the Parks the Authority will pursue a policy of not favouring proposed mining activity. By giving advice and by other appropriate means the Authority will seek to ensure that if mining does occur it is strictly conditioned so as to minimise and require restoration or damage to the physical environment of the Parks.
[...]"* (p. 120)

11.7 Public Utilities

Objectives

"1. To seek alternatives outside the Parks for any utility corridors proposed within the Parks.

2. *To ensure that any approved utility corridors are constructed and maintained so as to minimise values on the physical, biological, landscape and recreational values of the Parks.*" (p. 125)

Prescriptions

"1. In general, no utility corridors will be provided through the Parks. Any proposed utility corridors will be subject to environmental review, including biological surveys and analysis, both of alternative sites outside the Parks and alternative methods of service provision (eg. wind or solar-generated power rather than grid-supplied).

2. *Where it is provided to be essential for utilities to pass through the Parks they must avoid any impact on significant or fragile natural features (Map 13).*" (p. 126)

GUIDELINES – 1987

Northern Forest Region Regional Management Plan 1987-1997. 1987

Central Forest Region Regional Management Plan 1987-1997. 1987

Southern Forest Region Regional Management Plan 1987-1997. 1987

Strategies for Conservation and Recreation on CALM Lands in Western Australia. 1987

Appendix 2 : Departmental Management Guidelines

Dedication of Land

Objective

"To reserve natural ecosystems and other significant land areas of the State within appropriate definition of purpose and security of tenure to meet conservation needs and public demands for use." (p. 41)

Wildlife Conservation

Objectives

"To manage forest, parks and reserves for conservation of native wildlife (flora and fauna); to ensure long-term maintenance of species' diversity and genetic resources; and provide for the persistence of those habitats, species and ecological processes which comprise natural ecosystems.

To protect and manage wildlife populations throughout the State, and provide special protection for species declared to be rare and endangered.

Specifically, the Department will aim to:

Develop a Reserve System

Establish and manage a system of parks and reserves dedicated to a primary purpose of wildlife conservation which:

is broadly representative of the region's natural habitats and contains viable populations of plants and animals representative of the indigenous flora and fauna; and is sufficiently and appropriately spaced to provide refuge for migratory and nomadic species as well as habitat for sedentary species.

Manage parks and reserves whose primary function is wildlife conservation to:

maximise diversity and species-richness, or provide habitat for particular species or communities.

Manage those State forests and reserves whose primary function is not wildlife conservation to meet wildlife conservation objectives to the maximum extent possible without compromising the area's primary purposes.

Maintain habitat for those species of indigenous plants and animals which are rare or endangered.

Undertake ecological research and monitor change in reserve environments and species populations to develop a knowledge-base appropriate to reserve management objectives.” (p. 78)

Strategies

Protect Wildlife

“[...]”

(v) *Maintain an information system pertaining to the location, condition and management needs of populations of rare and endangered plants and animals.*

(vii) *Monitor the status of wild populations, habitat and seasonal conditions and ensure that permits to take are consistent with the long-term maintenance of population numbers.” (p. 78)*

Establish a representative reserve system

“(ix) *Assess and characterise the qualities of existing conservation reserves to determine conservation values and particular management problems in each one.*

(x) *Evaluate the extent to which conservation reserves act as a system, both internally and in the extent to which they need to be integrated with other land whose primary function is not wildlife conservation.*

(xi) *Assess the extent to which the existing conservation reserves are representative of the biota of Western Australia and develop a strategy for acquisition of additional land for reservation where the existing reserve system is shown to be deficient.*

(xii) *Develop a set of priorities for each region for the allocation of resources to research, planning and management of conservation reserves.” (p. 79)*

Management of conservation reserves

“(xiii) *Develop and maintain an inventory of conservation reserves containing information on vesting and management history, location, size and shape, landscape, biotic diversity, environmental condition, and the presence of species in need of special protection.*

(xiv) *Prepare management plans for individual conservation reserves or groups of similar reserves with clearly defined objectives for protection and, where necessary, restoration of identified conservation values, and with special emphasis as appropriate on:*

*maintenance of species-richness and continuance of natural ecological processes;
protection of rare or endangered species;*

*protection of unique habitats or communities;
maintenance of habitat for migratory species.” (p. 77)*

Recreation

Objective

“To cater for the widest range of recreational activities giving the most satisfying experience for users, through the planning and managing of activities and facilities on land controlled by the Department. This is to be done having regard to the preservation of natural land values, consistency of recreational activity with purpose of vesting, equity, and the capacity of the Department to manage the proposed activity.

Specifically, the aim is to:

Provide and allow for the widest range of recreational opportunities consistent with:

*the purpose and vesting of the land;
the ability of the natural system to sustain the activity without impairment;
the ability of the Department to supervise the activity where land values may be impaired.*

[...]” (p. 85)

Strategies

“(ii) Monitor existing activities and facilities and collect data on use to ensure that the quality of opportunities is maintained; the current use is appropriate to the primary objectives of land reservation; and resources are allocated based on need.

[...]

(v) Plan the most appropriate recreational use of areas, based on preservation of natural values and anticipated recreation demands.[...]

[...]” (p. 85)

CODE OF HARDWOOD – 1987

Code of Hardwood Logging Practice. 1987

*“Where specifications for the performance of the rules and instructions in this Code are required they are to be found in the Manual of Specifications covering the forest area in which logging operations are taking place.”
(p. i)*

Section 2 : General

“2.1 The Instructions contained in this Code shall be observed by all persons participating in any hardwood forest logging operation on land managed by the Department of Conservation and Land Management. [...]

2.2 An Operator shall observe all Acts of the State of Western Australia, and in particular, the Bush Fires Act 1954, the Conservation and Land Management Act 1984, the Inspection of Machinery Act 1921, the Machinery Safety Act 1974, the Road Traffic Act 1975, the Timber Industry Regulation Act 1926, the Workers Compensation Act 1912, the Wildlife Conservation Act 1950-79, the Agriculture and Related Resources Protection Act 1976-83, the Country Areas Water Supply Act 1947-76, and the Water Authority Act 1986, including all amendments to those Acts for the time being in force and any Act passed in substitution or in lieu thereof and all Regulations for the time being in force thereunder as well as this Code of Logging Practice.” (p. 4)

Section 7 : Environmental Protection

7.30 Rare Flora and Fauna

“An Operator upon being notified by a Forest Officer of the occurrence of a particular species of rare flora in his logging area, shall take the necessary steps to ensure that damage to or taking of the species does not occur.

7.31 An Operator shall take all necessary steps to minimise damage to all species of protected native fauna.” (p. 25)

OPERATIONS MANUAL - 1987

Operations Manual : Southern Forest Region. 1987

Measurement of Forest Fuel Quantity

Location of Sample Lines within Burn Area

“The fuel sampling techniques described below allow for reliable estimation of fuel quantity on large areas. Three factors which must be considered when planning the sampling intensity and assessment procedure, determine the number of location of sampling sites required. The first consideration is the importance of the area in respect to the value of the timber and conservation assets, the presence of vulnerable regeneration and the proximity to private property. The second is that sampling intensity increases with diversity of the area sampled, whilst the third consideration is the ease of access.

The location of sampling lines must be carefully planned as it is important to assess the full range of major forest or vegetation associations and fuel types in order to reduce costs and damage from the prescribed burning operations.

The following sets out the steps to follow in locating the sample lines.

- (a) From past burning plans trace the areas of same age burns onto the 1:25000 (where practical) map of the proposed area. Label with year and season of last burn.*
- (b) Outline the major forest or vegetation association types within the areas of same burning age.*
- (c) Isolate the canopy cover extremes of each forest type, and randomly select sites for two sample Lines within these extremes.” (p. 5)*

POLICY STATEMENTS- 1986

Policy Statement No. 1 : Planning. 1986

Planning Policies

“7. Priorities for the preparation of management plans will need to be set from time to time by the Departmental Policy Directorate in conjunction with the Commission of the Authority. Priorities will be assessed taking the following factors into account:

7.1 Any threats to the values of the National Park, Marine Park, Nature Reserve, Marine Nature Reserve, Forest or other reserve, that may be present. These threats are generally from people use, fire, disease, competing land use or development proposal.

7.2 The presence of exceptional cultural, geological, hydrological, features or landscape, of rare or endangered species, or of poorly conserved habitat.” (p. 2)

“7.3 The need to develop examples of different approaches to planning for a variety of ecosystems and for all CALM regions.” (p. 3)

Appendix 5 : Interim Guidelines for Operations on CALM Land Where a Management Plan has not yet been planned

“For substantial areas of land under the control of the Department of Conservation and Land Management it will be many years before management plans are prepared for them. In the meantime the C.A.L.M. Act provides in Section 33(3) (b) that certain operations can be carried out when there is no management plan.

For National Parks and Nature Reserves these are defined as those actions necessary for the preservation or protection of persons, property, land, flora or fauna, or for the preparation of a management plan.

For indigenous State forest they are defined as those actions that ensure the multiple use and sustained yield of that resource for the satisfaction of long term social and economic needs.

Interim departmental guidelines will be developed for these operations. They are technical matters within the professional competence of the Department of Conservation and Land Management and are not required to involve public participation, nor consideration by the NPNCA or the LFC.

These guidelines are still being developed, and will consist of:

- (1) a brief description and a brief written guideline for major potential activities.*
- (2) a map showing the locality.*
- (3) a table showing who must give approval before an operation can be carried out on a particular area.”*
(p. [1])

ADMIN. INSTRUCTIONS – 1986

Administrative Instruction No. 23 : Interim Guidelines For Operations. 1985

Introduction

“For substantial areas of land under the control of the Department of Conservation and Land Management it will be many years before approved Management Plans will be developed. In the meantime the CALM Act provides in Section 33 (3) (b) that certain operations can be carried out when there is no management plan.”
(p. 1)

“For indigenous State forest the operations are defined as those actions that ensure the multiple use and sustained yield of that resource for the satisfaction of long term social and economic needs. In accordance with the Departmental Planning Policy (Policy 1, January 1986) the necessary operations must be carried out in a planned manner through the development and implementation of INTERIM GUIDELINES FOR OPERATIONS.

The Interim Guidelines will consist of:

- (1) a brief description and brief guidelines for major potential activities;*
- (2) a map showing the locality and area of proposed management activities;*
- (3) an indication of who must give approval before particular operations can be carried out.*

This paper shows how the Interim Guidelines are intended to work.” (p. 1)

Aim

“The aims of the Interim Guidelines are:

- (i) to provide an adequate safeguard against natural and operational calamities on lands administered by CALM in the absence of an approved Management Plan;*

- (ii) to ensure that critical 'necessary operations' are identified and properly prescribed;
- (iii) to ensure that the impacts of necessary operations are fully considered and effectively incorporated within existing management and control systems;
- (iv) to provide a simple, efficient and attainable means of gaining approval for necessary operations." (p. 2)

Identification

"The first step is to identify all the necessary operations within each of the areas concerned. Use can be made of a checklist showing all the possible necessary activities – see Appendix 1. Only those operations that are essential for safeguarding the area in question should be considered. These must be consistent with the objectives for the area concerned as described in the CALM Act." (p. 2)

"The development of suitable strategies and prescriptions will necessitate consultation and collaboration between CALM Operations, Planning and Specialist groups. [...]" (p. 3)

Duration of Interim Guidelines

"Most Interim Guidelines should have an approval duration of at least 3 years with a maximum of 5 years. [...] However, the works programme that emanates from these Interim Guidelines must be reviewed and updated annually." (p. 4)

Approval

"A system of approval for the Interim Guidelines and the methods of implementing these is to be adopted which recognises and utilises the established hierarchy of authority and control, i.e. District Manager to Regional Manager to Divisional Manager (or Branch Manager) to Directorate (Director National Parks or Director Nature Reserves or both, or entire Policy Directorate depending on the range of necessary activities). It is expected that once the pattern of the development of these Interim Guidelines have been universally accepted, that the final approval will be delegated to Divisional or Regional Managers." (p. 4)

POLICY STATEMENTS- 1986

Policy Statement No. 14 : Weeds on CALM Land. 1986

Strategies

"4.6 Spraying of weeds must not have a harmful effect on rare plant or animal species. [...]" (p. 3)

CORPORATE MISSION AND OBJECTIVES – 1986

CALM Annual Report 1st July 1985 to 30th June 1986. 1986

Corporate Objectives

"Under a corporate plan formulated in 1985/86 the statement of mission for the Department of Conservation and Land Management is:

TO PROVIDE FOR THE USE OF THE NATURAL ENVIRONMENT WITHOUT DETRACTING FROM POSSIBLE FUTURE USE.

The scope of the Department's responsibilities is represented by its charter which is:

TO CONSERVE WESTERN AUSTRALIA'S WILDLIFE AND MANAGE PUBLIC LANDS AND WATERS ENTRUSTED TO THE DEPARTMENT FOR THE BENEFIT OF PRESENT AND FUTURE GENERATIONS.

Primary objectives are:

Management

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

Conservation

To conserve the indigenous plant and animal species and environmental processes in natural habitats throughout the State.” (p. 8)

“Production

To produce and regulate the supply of renewable resources on a sustained yield basis in a manner that minimises impact on other values.

Recreation

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

Knowledge

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

To achieve the primary objectives the Department will:

Provide an effective administrative framework for the conservation of wildlife throughout the State and the management of lands, waters and natural resources entrusted to the Department.

This will involve:

- *The maintenance of a Policy Directorate to establish, review and refine Departmental aims, policies and priorities; to monitor the implementation of management plans; and to see that goals are achieved.*
- *The maintenance of an operations wing to implement policies and management plans and to set up efficient financial, administrative and management systems.” (p. 9)*

“Establish and maintain a system of secure reserves which protect viable representative samples of all the State’s natural ecosystems and species, both terrestrial and aquatic, as well as areas suitable for recreation and the production of renewable natural resources.

This will involve:

- *The development and maintenance, in conjunction with other government instrumentalities and the public, of a comprehensive data base on the occurrence and conservation status of the State’s ecosystems and species.*
- [...]
- *Categorising lands and waters entrusted to the Department into priority use zones and applying the principle of multiple use consistent with the needs of (in order of priority) nature conservation, recreation and production.” (p. 10)*

- *“Protecting ecosystems, landscape and the cultural heritage on lands and waters entrusted to the Department from damage by fire, disease, grazing, feral animals and people.*
- *Developing prescriptions for control of disturbance and for rehabilitation of damaged forests, parks and reserves.*
- *Opposing the incompatible use of lands and waters entrusted to the Department and opposing the release of such lands and waters for other purposes.” (p. 11)*

“Ensure that conservation and land management is carried out according to sound, well-researched scientific principles.

This will involve:

[...]

- *Establishing long-term monitoring of ecosystems and individual species, and of recreation requirements and effects.*
- *Developing and maintaining inventories of biological resources on lands and waters entrusted to the Department, and where appropriate, Statewide.*

[...]” (p. 11)

“Provide public education and information programs designed to increase community understanding of and support for nature conservation and natural land management.” (p. 11)

“Encourage and assist the public to participate in the development of conservation and land management policies and the implementation of management and research programs.

This will involve:

- *The use of formal processes which involve the:*
 - *Lands and Forest Commission;*
 - *National Parks and Nature Conservation Authority;*
 - *Forest Production Council; and*
 - *public submissions to the planning process, as described in the Conservation and Land Management Act, 1984.” (p. 12)*

“Prepare and implement management plans for lands and waters entrusted to the Department.

This will involve:

- *The establishment of priorities for management plan preparation according to set criteria.*
- *Restricting procedures to necessary operations to maintain public safety and the status quo of area management where no management plan exists.” (p. 13)*

“Prepare and implement wildlife management programs for wildlife throughout the State.

This will involve:

- *Providing special protection for declared rare flora by regulating land use of their habitat.*
- *Managing rare animal populations to ensure their survival.” (p. 13)*

“Manage exploitation of renewable natural resources according to the following principles:

- resources are managed to ensure their long term conservation;
- [...]” (p. 13)

“Develop opportunities for the recreational use of lands and water entrusted to the Department in ways which:

- are consistent with the purpose of the area;
- [...]” (p. 14)

STRATEGIC PLAN – 1986

Strategic Plan : Southern Forest Region. [1986]

2. Role and Responsibilities of the Southern Forest Region

“* Within the regional boundary a secure estate of CALM lands is protected and managed so as to sustain these loads and the biophysical resources in the long term.” (p. 2?)

3.Regional Strategic Objectives

3.1 Biophysical Resources

“Flora and Fauna

To ensure the preservation, maintenance, restoration and enhancement of species and communities. To protect the habitat of rare or restricted plants and animals. To utilize some species on a sustainable basis on appropriate land tenure, as approved in Management Plans.” (p. 3?)

3.2 Commercial Resources

Logging

“To minimize the impact of logging operations on environmental values.[...]” (p. 3?)

Public Utilities

“To limit the development of public utilities that result in a loss of natural values, to those considered essential by GOVERNMENT and where no reasonable alternative exists.” (p. 6?)

Mining

“To oppose exploration and mining in sensitive conservation areas including National Parks Nature Reserves, and Conservation M.P.A’s on State Forest. Where mining or exploration is permitted, to minimize and restore damage to the biophysical environment.” (p. 6?)

3.4 Services

Recreation

“To provide for the planned development of recreation on CALM lands, having regard to social needs and to restoration and maintenance of the natural environment.” (p. 7?)

Key Area : Habitat Zones

Objective

“1. Ensure prescribed protection of special habitat zones is maintained. Rock outcrops, streamside vegetation, swamps and woodland areas.” (p. 25?)

Key Area : Recreation Planning, Design, Construction and Maintenance

Objective

“1. Ensure that all recreation facilities are appropriately planned.” (p. 33?)

Objective

“4. Ensure that use of recreation areas and facilities is monitored in such a way to allow appropriate planning.” (p. 33?)

Objective

“11. Ensure regular evaluation of Recreation & Conservation Management” (p. 36?)

Key Area : Provide facilities for growing recreation demands**Objective**

“1. Ensure that recreational facilities are developed in accordance with established demands.” (p. 36?)

Measure of Performance

“1. Prepare annual report on recreation growth and demands based on monitoring.” (p. 36?)

Key Area : Reserve Management**Objective**

“1. Ensure the management plans are being produced for National Parks and Nature Reserves.” (p. 39?)

Measure of Performance

*“6. Survey Nature Reserves to determine their conservation value.
[...].” (p. 39?)*

Key Area : Nature Reserves**Objective**

“1. Actively manage Nature Reserves in line with Departmental policies.” (p. 54?)

Measure of Performance

*“1. Complete interim management plans for all Reserves by February, 1987.
2. Carry out works in accordance with management plans.” (p. 54?)*

Key Result Objectives - Walpole District**Key Area : Protection****Objective**

“9. Control , and if possible eradicate feral animals from CALM land except in some facility areas where it is clear they perform a necessary function not able to be performed by a native species.” (p. 86?)

Measure of Performance

“1. Co-operation with the A.P.B. in this work.” (p. 86?)

POLICY - 1985**Forests Department Annual Report 1 July 1984 to 21 March 1985. 1985**

NOTE: REFER TO ENTRY UNDER 1982 EDITION, SIMILAR WORDING FOR ANNUAL REPORTS FOR 1983, 1984, 1985

MANAGEMENT PLAN – 1985**Northern Forest Region : Working Arrangements and Management Program. 1985**

“The objectives for land management in the Region will broaden as the new Department of Conservation and Land Management develops policies and management plans. In the interim it is important the Region

establishes its goals and strategies and arrangements for management of personnel and land so that morale is maintained and work programmes proceed to schedule.

This document provides those interim goals, strategies and arrangements.” (p. 1)

5. Land Management

State Forest and Timber Reserves

“Within State forests, Timber Reserves and other Crown lands vested in the Conservator of Forests, to conserve the full range of forest values. This involves:

[...]

- *Flora and Fauna: To conserve the habitats of the many species of flora and fauna that exist in the forests of Western Australia.*

[...]” (p. 23)

5.1 Regional Objectives

State Forest and Timber Reserves

Conservation

“Selected areas of State forest were set aside by the present Government to be managed for Conservation and Recreation as the Northern Jarrah Forest Reserve e.g. Lane Poole, Monadocks, Serpentine and Gunapin.” (p. 25)

Objectives

- *“Department G.W.P. 87. Ensure maintenance, preservation sustainable utilization, restoration and enhancement of forest species and communities.*
- *Region. To manage these areas as a Nature Reserve or National Park.” (p. 26)*

Strategies

- *“Identify conflicts between public use of these areas and maintenance of conservation values.*
- *Isolate public activity into discrete areas of least impact by road closure, patrols and disease risk legislation.*
- *Identify adverse impacts of weeds and feral animals and prepare control programs.*
- *Assist with preparation of management plans.*
- *Develop prescriptions for fire control which aim to maintain conservation values.” (p. 26)*

Mining for Gravel Stone and Sand

Objective

- *“Department G.W.P. 87. Minimize adverse effects on forest by supplying these resources exclusively to Government, and semi-Government authorities and then when there is no alternative supply and when the supply will not damage conservation policies.*
- *Region. [...] Locate mining in areas of least adverse environmental impact where possible and rehabilitate after mining.” (p. 35)*

POLICY - 1984

Forests Department Annual Report 1984. 1984

NOTE: REFER TO ENTRY UNDER 1982 EDITION, SIMILAR WORDING FOR ANNUAL REPORTS FOR 1983, 1984, 1985

LEGISLATION - 1984

Conservation and Land Management. No. 126 of 1984

“AN ACT to make better provision for the use, protection and management of certain public lands and waters and the flora and fauna thereof, to establish authorities to be responsible therefor, and for incidental or connected purposes

[Assented to 8 January 1985]” (p. 1881)

Part IV. - Department of Conservation and Land Management Division 1. - Establishment of Department

“33.(1) The functions of the Department are, subject to the direction and control of the Minister-

(a) to manage land-

(i) to which this Act applies; or

(ii) which becomes subject to the management of the Department under subsection (2),

and the associated forest produce, fauna and flora;

(b) to provide the Commission, the Authority and the Council with such assistance as they may reasonably require to perform their functions;” (p. 1905)

“(d) to be responsible for the conservation and protection of flora and fauna throughout the State, and in particular to be the instrument by which the administration of the Wildlife Conservation Act 1950 is carried out by the Executive Director pursuant to section 7 of that Act;

(e) to carry out or cause to be carried out such study or research of or into-

(i) the management of land to which this Act applies; and

(ii) the conservation and protection of flora and fauna, as the Minister may approve;

[...]” (p. 1906)

“33(3) The management of land referred to in subsection (1) (a) (i) and the associated forest produce, flora and fauna shall be carried out-

(a) where there is a management plan for the land, in accordance with that plan; or” (p. 1906)

“(b) where there is for the time being no such plan-

- (i) *in the case of national parks and nature reserves, in such a manner that only necessary operations are undertaken; or*
- (ii) *in any other case, in accordance with the provisions of section 56 applicable to the land.*

(4) In subsection (3) (b), 'necessary operations' means those that are necessary for the preservation or protection of persons, property, land, flora or fauna, or for the preparation of a management plan.

(5) Nothing in subsection (1) shall be read as limiting the functions of the Commission and the Authority under sections 19 and 22 respectively.

34. Subject to this Act and the Public Service Act 1978, the Executive Director has power to do all things that are necessary or convenient to be done for, or in connection with, the performance of the functions of the Department.” (p. 1907)

Part V. – Management of Land

Division 1. – Management Plans

“54. (1) A controlling body shall be responsible-

- (a) for the preparation of proposed management plans; and*
- (b) the review of expiring plans and preparation of further management plans,*

for all land which is vested in it whether solely or jointly with an associated body.

(2) This Part applies to the preparation of a plan under subsection (1) (b) in the same way as it applies to the preparation of an initial management plan.” (p. 1914)

“(3) Proposed management plans for any land shall be prepared-

- (a) by the controlling body for that land through the agency of the Department; and*
- (b) within such period after the commencement of this Act as is reasonably practicable having regard to the resources of the Department available for the purposes.” (p. 1915)*

“55. (1) A management plan for any land shall contain –

- (a) a statement of the policies or guidelines proposed to be followed; and*
- (b) a summary of the operations proposed to be undertaken,*

in respect of that land during a specified period which shall not exceed 10 years.

(2) A management plan shall state the date on which it will expire, unless it is sooner revoked, but notwithstanding anything in this section or in the plan, a plan which would otherwise expire shall, unless it is revoked, remain in force until a new plan is approved.” (p. 1915)

“56. (1) A controlling body shall, in the preparation of proposed management plans for any land, have the objective of achieving or promoting the purpose for which the land is vested in it, and in particular management plans shall be designed –

- (a) in the case of indigenous State forest or timber reserves, to ensure the multiple use and sustained yield of that resource for the satisfaction of long-term social and economic needs;” (p. 1916)*

“(2) In subsection (1) (a) ‘multiple use’ means as many different uses as are possible and compatible among themselves.” (p. 1916)

“62(2) A classification, or amendment of classification, of any land or waters shall not be made under this section-

- (a) unless it is in conformity with the provision of section 56 which is relevant to, or any management plan for, that land or those waters; and
- (b) in the case of land to which section 16 applies, unless the owner, and any person occupying the land with the consent of the owner, has given approval in writing to the classification or the amended classification.

(3) This section applies to any national park, nature reserve, marine nature reserve or marine park.” (p. 1919)

Part IX. – Offences and Enforcement

Division 2. – Forest Offences

“106. No person shall, in any State forest or timber reserve, except under a permit, licence, or forest lease under this Act, or a grant, lease, licence, or other authority from the Crown, -

[...]

(b) hunt, shoot, or destroy or set snares for the purpose of capturing any indigenous fauna; or

(c) occupy, clear, or break up any land for cultivation, or any other purpose.” (p. 1939)

LEGISLATION - 1984

Acts Amendment (Conservation and Land Management). No. 112 of 1984

“AN ACT to amend the Wildlife Conservation Act 1950, the Land Act 1933, the Bush Fires Act 1954, the Agriculture and Related Resources Protection Act 1976, the Fisheries Act 1905, and the Public Works Act 1902.” (p. 1661)

Part 1 : Preliminary

“This Act may be cited as the Acts Amendment (Conservation and Land Management) Act 1984.” (p. 1661)

Part II. – Wildlife Conservation Act 1950

“3. In this Part the Wildlife Conservation Act 1950 is referred to as the principal Act.” (p. 1662)

“6. Sections 9A, 10, 11, 12, 12A, 12B, 12C, 12D, 12E and 13 of the principal Act are repealed.” (p. 1663)

“9. Section 19 of the principal Act is repealed.” (p. 1664)

RECREATION PLAN – [1984]

Forest Recreation Framework Plan. [1984]

Definitions

“Management Priority Areas – the forest has been divided into areas in which the dominant and secondary uses are specified and their priority ranking nominated. Each unit is known as a management priority area (M.P.A.) and is described according to its dominant (or priority) use. Areas in which recreation is the management priority are known as Recreation M.P.A.s.” (p. ii)

Summary

“The aim of this plan is to provide a framework for planning, development and management of forest recreation in the Northern Region.

The plan covers the nature of forest recreation, analyses the availability of recreational opportunities in the region and discusses a range of management options. The various environmental, management, legislative and economic constraints which apply are considered.

The policy adopted is to provide for recreational activities which:

- (i) are forest-dependent;*
- (ii) are environmentally acceptable;*
- (iii) do not endanger other forest users, and*
- (iv) are not disruptive to the majority of other forest users.*

The region is subdivided into a series of ‘management units’ for which appropriate recreation strategies are developed.

The plan then specifies a series of regional strategies which will apply to all management units. These cover site design and maintenance, provision for the disabled, visitor information, dieback hygiene, mining, urban development, use of firearms, camping, off-road vehicles and other matters.

The plan concludes with proposals for implementation and control and specifies the structure of the follow-up plans to be developed by local staff in divisions.” (p. iii)

7. Forest Recreation Development and Management Constraints

“The capacity of the Forests Department to implement a recreation policy is constrained by a number of factors. Such factors may be environmental, management, legislative or economic.

In the Northern Region of State forest, where land use pressures are intense, a number of factors currently determine how the forest is used and managed for outdoor recreation. These existing constraints can be summarised as follows:” (p. 31)

7.1 Environmental and Management Constraints

“Several major environmental considerations have a constraining influence on recreation and other forest land uses in the Northern Region. The most important are:

[...]

- *The need to protect rare and/or fragile plant and animal communities;*

[...]

These factors were considered in assessing the capacity or capability of the forest to sustain different types of recreational use (refer to Table 6). That is, recreational activities which are likely to result in substantial environmental degradation have been directed away from the more sensitive portions of the landscape. [...]
(p. 31)

“With respect to management constraints, the ability to provide for recreation is influenced by land tenure and land use. The land considered in this plan is managed under the multiple use concept and includes all land under the control of the Conservator of Forests. In simple terms, this means that recreation provision must be integrated with the provision of other forest values (e.g. timber and water production) and their protection requirements (from disease and fire in particular).

The whole of the Northern Jarrah Forest has been classified into Management Priority Areas (Map 3). In some areas, recreation is the designated management priority while in others, recreational activity has been given a lower priority.

In some instances, certain recreation activities are not considered to be compatible with some land use objectives, for example, the use of off-road vehicles in areas set aside for the conservation of flora and fauna. [...].” (p. 31-32)

9. Regional Planning and Management Strategies

9.1 The Concept of Use Zoning

“The approach adopted in this plan is that of use zoning. This recreation management concept is widely employed elsewhere. Under this approach, recreation activities sharing similar environmental and cultural requirements are allocated to designated zones or management units. Allocation of activities to areas is based on user needs, assessed recreation land use capabilities and the existing environmental, legislative and management constraints. It is in essence a reflection of recreation land use suitability, i.e. capability as modified by existing constraints.” (p. 37)

9.2.6 Eastern Woodland Management Unit

“The Specific Management Strategies are:

[...]

- *to identify areas where trial/trial bikes and formal motor rallies might be conducted without jeopardising water quality or flora and fauna values.*

[...]” (p. 44)

9.3 Planning and Management Strategies Applicable to all Management Units

“2. Site Maintenance

Strategy

[...]

- *site maintenance programmes will include the periodic inspection and maintenance of:*

[...]

understorey flora

[...]” (p. 48)

POLICY - 1983

Forests Department Annual Report 1983. 1983

NOTE: REFER TO ENTRY UNDER 1982 EDITION, SIMILAR WORDING FOR ANNUAL REPORTS FOR 1983, 1984, 1985

HANDBOOK – 1983

Bauxite Mining : Northern Jarrah Forest : Mining Operations Handbook 1. Ed. 2. 1983

NOTE: REFER TO ENTRY UNDER EDITION 1981 AS IT CONTAINS SIMILAR DETAILS EXCEPT FOR AMENDMENTS TO THE FOLLOWING PRESCRIPTION-

Forest Management After Bauxite Mine Rehabilitation in the Western Jarrah : Prescription 82

6.5 Success Criteria

“Research has not yet proceeded to the point to enable values to be placed on all these criteria, or in some cases to define how they are to be measured.

In the meantime the following will apply:” (p. 7.4)

[...]

(ix) Fauna

Experience has shown that site-matched fauna will colonise rehabilitated areas as the vegetation develops. No specific treatments are therefore recommended at this stage.” (p. 7.5)

POLICY - 1982

Forests Department Annual Report 1982. 1982

NOTE: SIMILAR WORDING FOR ANNUAL REPORTS FOR 1983, 1984, 1985

3. Objectives

“The Government forest policy involves the following management objectives.

Water Supplies: To protect, control and rehabilitate where necessary, those forest areas that contribute to the water supply requirements of the State.” (p. 7)

3. Objectives

“The Government forest policy involves the following management objectives.

[...]

Flora and Fauna: To conserve the habitats of the many species of flora and fauna that exist in the forests of Western Australia.

[...]

Forest Protection: To maintain and add to the areas of permanently reserved forests; to protect these forests from fire, insects and other harmful agencies and to maintain and improve the health and vigour of the forest area.

[...].” (p. 7)

WORKING PLAN – 1982

Working plan no. 87 1982, Part I, General Working Plan for State Forests in Western Australia. 1982

Resource Management

Flora and Fauna : Management Objective

“To ensure the preservation, maintenance, sustainable utilization, restoration and enhancement of forest species and communities.” (p. 39)

Policy

“(1) Locate, delineate and protect areas representing the widest possible range of ecological types to ensure their perpetuity.

(2) Provide within each ecological type, as far as possible, examples of the various stages of succession.

(3) Monitor flora and fauna populations and study their habitat requirements to develop a sound basis for management.

(4) Co-ordinate flora and fauna management priorities in State forest with the requirements of other authorities.

(5) Ensure that flora and fauna conservation is practiced in management operations where possible.

(6) Review the adequacy of security of purpose for flora and fauna priority areas.” (p. 39)

Strategy

- “(1) Prepare prescriptions for each area on which the conservation of flora and fauna is the management priority, and provide for ongoing review.*
- (2) Monitor the application of prescriptions to assess whether they meet the management objectives.*
- (3) Carry out research to determine the need to improve management prescriptions.*
- (3) Maintain liaison with other authorities responsible for conservation of flora and fauna to ensure that programmes continue to be complementary.” (p. 39)*

Protection Implications for Forest Management

“Protection of the various forest values is necessary if the objectives of management are to be achieved. For instance, if jarrah dieback disease were allowed to degrade forests on the salt-sensitive areas of the catchment, stream salinity would increase.

Different forest values usually have different protection requirements. The system of protection applied to each must be compatible with the primary use and all secondary uses must be viewed in relation to their compatibility with the protection needs of the primary use. Where inconsistencies are found, compromises must be made between the needs of the various land uses, or by modifying the protection system, provided the primary management objective is not unduly prejudiced.

[...]

The sequence of event in superimposing protective measures onto land management can be summarized as follows:

- (1) Establish land use priorities*
- (2) Examine the protection requirements of the primary use.*
- (3) Determine how the protection needs of the secondary uses might interact with those of the primary use.*
- (4) Research a compromise concerning the protection needs of the various land uses, ensuring that the primary management objective is not prejudiced.” (p. 18)*

WORKING PLAN – 1982

General Working Plan No. 87 of 1982 : Part II. 1982

“The detailed prescriptions for the operations in each Division which appear in this document are designed to implement the policy contained in Part 1 of General Working Plan No. 87. These prescriptions are intended to remain in operation until 31st December, 1986, unless an earlier revision of the plan becomes necessary in the light of new factors which might arise in the meantime.” (p. 1)

Management Priority Areas

“The M.P.A. 's listed in this Working Plan are those areas in which timber production is not a primary objective.

Commercial cutting on core areas of M.P.A. 's is not to be carried out as a standard practice. [...]

Cutting in Scientific and Recreation M.P.A.'s will be in accordance with management prescriptions for these areas.” (p. 2)

General Prescriptions For The Whole Northern Region

“3.1 A Land Use Management Plan (LUMP) has been drawn up allocating each part of the Northern Region (with the exception of Wanneroo Division) to one or more of the management priorities listed below:-

[...]

f) Conservation of flora and fauna

The following activities and land uses are also covered:-

[...]

3.2 For each primary land use, secondary uses (largely compatible with primary land use) and tertiary uses (permitted only as long as there is no permanent interference or significant harm to the primary use) have been specified.” (p. 1)

Management Plans for M.P.A.’s

4.1 Conservation of Flora, Fauna and Landscape M.P.A.’s

“Detailed management plans have been drawn up for the following Management Priority Areas. For the location of each M.P.A., see 1:500, 000 divisional index plans.” (p. 1)

4.4 Utilisation of Forest Products

“Commercial cutting, wildflower picking, mining or apiary sites will not be permitted in core areas of the above M.P.A.’s as standard practice. [...]” (p. 3)

7.3 Wildflowers

“Seeds, plants and plant parts will be supplied from State forest according to the demand where this does not conflict with the distribution and perpetuation of the species or the major land use objectives, or the requirements of the Wildlife Conservation Act.

Wildflower picking will not be permitted in the core areas of Conservation M.P.A.’s within 100 metres of any road used by the public or in quarantine areas.” (p. 8)

General Prescriptions For The Whole Central Region

“3. LAND USE

3.1 A Land Use Management Plan (LUMP) has been drawn up allocating each part of the Central Region to one or more of the management priorities listed below:-

a) Conservation of Flora and Fauna

b) Scientific Purposes

c) Recreation

d) Water Production

e) Catchment Protection

f) Hardwood Timber Production

g) Softwood Timber Production

h) Protection Forest

The following activities and land uses are also covered in the Land Use Management Plan:-

i) Mining (followed by recreation, water production, timber production, etc.)

j) Water Reservoirs

k) National Parks

l) Proposed National Parks

m) Communications, Service Facilities (roads, railways, S.E.C. lines etc.)

3.2 For each primary land use, secondary uses (largely compatible with primary land use) and tertiary uses (permitted only as long as there is no permanent interference or significant harm to the primary use) have been specified.” (p. 1)

“7.3 Wildflowers

Seeds, plants and plant parts will be supplied from State forest according to the demand where this does not conflict with the distribution and perpetuation of the species or the major land use objectives, or the requirements of the Wildlife Conservation Act.

Wildflower picking will not be permitted in the core areas of Conservation M.P.A.'s, within 100 metres of any road used by the public, or in quarantine areas.” (p. 10)

General Prescriptions For The Whole Southern Region

“3. LAND USE

3.1 *A Land Use Management Plan (LUMP) has been drawn up allocating each part of the Southern Region to one or more of the management priorities listed below:-*

- a) *Catchment protection*
- b) *Water production*
- c) *Recreation*
- d) *Timber production*
- e) *Scientific*
- f) *Conservation of flora and fauna*
- g) *Road, river and stream reserves*

The following activities and land uses are also covered:-

- h) *Mining (followed by recreation, water production, timber production, catchment protection, etc.)*
- i) *Pine plantations*
- j) *Water storage*

3.2 *For each primary land use, secondary uses (largely compatible with primary land use) and tertiary uses (permitted only as long as there is no permanent interference or significant harm to the primary use) have been specified.” (p. 1)*

“4.2 Utilisation of Forest Products

Commercial cutting, wildflower picking, mining or apiary sites will not be permitted in core areas of the above M.P.A.s as standard practice. [...]” (p. 2)

7.3 Wildflowers

“Seeds, plants and plant parts will be supplied from State forest according to the demand where this does not conflict with the distribution and perpetuation of the species or the major land use objectives, or the requirements of the Wildlife Conservation Act.

Wildflower picking will not be permitted in the core areas of Conservation M.P.A.'s, within 100 metres of any road used by the public or in quarantine areas.” (p. 8)

MANAGEMENT PLAN – 1982

Hardwood Management Plan (Central Region), 1982

1.2 Scope

“(1) This Hardwood Management Plan attempts to cover all hardwood operations in the Central Region. Sawmill logging cannot be considered in isolation. Silvicultural, hygiene and protection objectives cannot be neglected unless all operations are considered and co-ordinated. [...]” (p. 1)

2. Forest Types and Silviculture

2.2.2 Land Use Management Priorities (L.U.M.P.)

“To enable a silvicultural system to be prescribed management priority must be considered.

[...]

(6)Conservation” (p. 3)

2.4.4 Influence Zones and Conservation Practices

“These are areas designated by the planner which surround special natural or artificial features in the forest.

For example:

* Streams and rivers

* Roads, railway lines, S.E.C. lines

[...]

* Tourist, recreation facilities, scenic drives, walk tracks etc.

After designation, the O.I.C. will prepare an appropriate prescription for each area taking into account land use, dieback status, hygiene, aesthetics, conservation values and risks of visual or noise pollution or of undesirable effects on water supply.” (p. 5)

NORTHERN REGION OBJECTIVES AND GOALS- 1982

Northern Region : Objectives and Goals 1982/83. 1982

1.1 Departmental Objective : Conservation

“Our overall aim is to achieve the Departmental objective, which is

‘the conservation, through planned use and management, of forest land and resources for the greatest long term social and economic benefit’.” (p. 1)

1.2 Regional Objective

“The role of the Regional Group is to determine management strategies for each activity in the region, so as to provide co-ordinated direction for the achievement of Departmental objectives by divisions.

Where necessary, management strategies will be presented in the form of Regional Plans. These will take account of: -

- Departmental objectives, policies and strategies
- Land use objectives
- Site capability and potential
- Protection requirements

[...]” (p. 1)

1.3 Resources

“The forest resources of the northern region are water, timber, flora and fauna, minerals, recreational and scientific/educational values and the physical environment of soil and air.

Factors which threaten the long-term conservation of these resources are fire, disease, alienation of land, and uses which permanently destroy the productive capacity of the forest.

The specific land, resource and protection objectives are:” (p. 1)

1.5.3 Flora and Fauna

Objective: to take account of the need for habitat conservation when planning all forest activities.

1982 Goals

(i) To prepare management plans for all the F, F & L MPAs in region.

[...]

Responsibility : R/L Planning

Priority : 4.” (p. 4)

“1.5.4 Recreation

Objective: to plan and manage recreational uses of the forest, consistent with demand, site potential and the need to protect the forest environment.

1982 Goals

[...]

(ii) To prepare Divisional recreation plans for each Division and commence implementation.

Responsibility: O.I.C.s.

(iii) To upgrade site management in the forest to conform with prescriptions in the Recreation Manual.

Responsibility : O.I.C.s

Priority : I” (p. 4)

FORESTERS’ MANUALS – 1981

Fire Control : Foresters’ Manual. 1981[included in *Foresters’ Manual*. 1979]

Rotational Prescribed Burning

Master Plans

“9.042 Area O.I.C. ’s must draw up prescribed burning master plans. These plans will show:

Hardwood areas which will be burnt as buffer areas.

Hardwood areas for prescribed burning on a rotational basis for protection of timber, flora, fauna or recreational values. Rotation length should depend on the average rate of fine fuel accumulation for each forest type, unless defined management objectives dictate otherwise for a particular area. [...]” (p. 23)

The prescribed conditions for burning an individual area will be decided by the primary land use objective for that area. Where timber values and preservation of flora and fauna are paramount, the following limits will apply:” (p. 23)

Updated 10/81

Standard for Prescribed Burning

“9.043 (a) *Management Priority Areas and other areas where primary land use requires mild prescribed burning.*

Jarrah Forest:

Burning cover in the range 60 to 80% with minimal crown scorch to crop or potential crop trees.

Karri Forest :

Burning cover in the range 60 to 80%. Up to 10% scorch in small clumps or individual crop trees.

Flats :

Burning under mild conditions only to give a mosaic pattern with 40 to 60% cover.

Poor Quality Forest :

Burning cover in the range 40 to 60% carried out under mild conditions.

- (b) *Wherever possible, planning must aim to use aerial ignition techniques and be designed for aircraft ignition.*
- (c) *Where more intense fires are specified for management objectives, the desired fire intensity and level of acceptable crown damage must be defined in the prescription.” (p. 23)*

Updated 10/81

Environmental Controls

“9.048 The area O.I.C. is to ensure prescribed burning conforms with required environmental standards ... For fauna refuges it is important that swamps are patch burnt and left in an uneven-aged condition. Patch burning of swamps can normally be achieved early in spring, providing special lightings are not undertaken later in the season to ensure they burn out.[...]” (p. 26-27)

Updated 10/81

Part 13 : Foresters’ Manual : Recreation and Landscape Management. 1981 [included in *Foresters’ Manual. 1979*]

Recreation Policy

Other Active Recreation

“13.007.[...] Hunting and shooting are prohibited in State forest, except on approved rifle ranges or within approved fauna management programmes.” (p. 3)

Foresters’ Manual : Part 12 : Mining in Forest Areas. 1981 [included in *Foresters’ Manual. 1979*]

Erosion Control and Rehabilitation Working Group

Group Monitors Forest Values as Risk and Rehabilitation Operations

“The committee assesses the likely impact of mining activities on forest and some social values, including risk of erosion, stream turbidity, and conservation of flora and fauna. The Committee then reports to the Conservator on whether they consider there are grounds for objection, deferral, or modification to the areas applied for, and for any conditions to be met to meet mining and rehabilitation standards. The group works in close liaison with research and operational bodies associated with the mining sphere. Any abnormal situations are referred for comment and resolution to an interdepartmental working committee consisting of the Chief Engineer (M.W.B.), the Commissioner for Soil Conservation and the Deputy Conservator of Forests.” (p. 15)

Appendix II : Application for Coal Mining Leases

“2.Mining will be restricted to exploration operations until:

[...]

- 2.3** *The holder has agreed that no mining operations or associated activities be undertaken in areas designated as Conservation Management Priority Areas.” (p. 19)*

HANDBOOK – 1981

Bauxite Mining Northern Jarrah Forest Mining Operations Handbook 1. Edition 1. 1981

Part 3 : Planning

3.1 Land Use

“The Forests Department recognises bauxite mining as a temporary activity, and is listed in the L.U.M.P. as being : -

[...]

(c) incompatible with land use areas designated as Conservation M.P.A.'s" (p. 14)

3.2 Planning Priority

"For planning purposes, the Department seeks to guide mining into areas of least conflict with other land uses.

In the overall planning process, the Forests Department is required to :-

1. *Review and make recommendations on company 25 year plans. These depict overall mining strategy and sequence of operations.*
2. *Review and make recommendations on company 5 year plans. These cover detailed operational proposals and sequence.*
3. *Approve the annual applications, which cover the specific areas of forest to be cleared.*

There are 4 possible responses : opposition, deferment, modification and approval or simple approval.

Dealing with these in turn:

Opposition :

Proposals will be opposed when mining is wholly incompatible with land use classification; e.g.

Conservation MPA – core

Conservation MPA – buffer or part buffer

[...]" (p. 14)

Approve

Areas where there are none of the above problems" (p. 15)

3.3 Mining Plans

"5 Year Plans (also known as Mining & Management Programmes, or MMPs). Prepared by Alcoa annually for each minesite for review by MMP Liaison Group, Government Departments etc., and approval in principle by Minister for Resource Development." (p. 15)

3.6 Procedure for Review of 5 Year Plans

"5. Check LUMP plan and influence zones for towns, recreation areas; buffer and core conservation MPAs etc. Indicate areas where mining is incompatible with priority land use.

Action : R/L Planning" (p. 16)

'Rehab 80' : Prescription for Rehabilitation of Bauxite Mines in Western Jarrah Forest

3. Rehabilitation Objective

"The overall objective for rehabilitation of bauxite mines in the western jarrah forest is :-

'To regenerate a stable forest ecosystem, capable of maintaining or enhancing water, timber, recreation, conservation and/or other nominated forest values'.

Specific goals (not listed in order of importance since priorities may vary with designated land use) are :-

[...]

3.6 Conservation : To recreate, in the long-term, floral and faunal characteristics compatible with the jarrah forest

[...]" (p. 38)

10. Scrub Seeding

“10.1 The aim of scrub seeding is to assist with erosion control and general site rehabilitation. Species to be used will be reviewed for each site each year. Criteria for species selection will be dieback tolerance, habit and nutritional value.

10.2 Base species to be used will be selected from : *Acacia pulchella*, *A. strigosa*, *A. drommondii*, *A. saligna*, *Kennedyia coccinea* and *K. prostrata*.

[...]

10.4 Species not to be used are non-indigenous species *Proteaceae* or large woody and inflammable species such as *Albizzia*.

10.5 Scrub seed mixes will be determined in advance and specified in the rehabilitation plan for each pit and for specific sites within pits.” (p. 42)

Interim Prescription : FIRS 80

Objective

“The objective of the F.I.R.S. operation is :

‘To improve the capacity of the forest for long-term production of water, timber, recreation, conservation and/or other forest values’.” (p. 45)

FORESTERS’ MANUAL – 1980

Foresters’ Manual : Fire Protection. Rev. 1980

Hazard Reduction

Environmental Controls – Fauna Habitat

“70. The area O.I.C. is to ensure prescribed burning conforms with required environmental standards, i.e.:

[...]

70.4 For fauna refuges it is important swamps are patch burnt and left in an uneven-aged condition. Patch burning of swamps can normally be achieved early in spring providing special lightings are not undertaken later in the season to ensure they burn out. [...]” (p. 22) Issued 12/78

MANAGEMENT PLAN – 1980?

Land Management Plan for State Forest in the Mount William Area. 1980?

1. Land Use in the Mt. William Area

“Three Management Priority Areas (MPAs) are affected by Alcoa’s 25 year mining proposals, namely Water Production, Recreation and an area where Conservation of Flora and Fauna and Catchment Protection are given equal priority. [...]

It must be stressed that though there are no Hardwood Timber Production MPAs designated, all areas except Conservation MPAs will be managed for timber production concurrently with other uses. This is possible because of the high compatibility of timber production management practices with the objective of most other forest land uses.” (p. 1)

1.3 Samson MPA (Conservation of Flora and Fauna/Catchment Protection)

“[...] Scientific study, passive recreation and water production are compatible land uses. Honey production is also compatible where apiary sites are located outside the Conservation MPA.

*This land use plan does not make provision for mining on areas where conservation of flora and fauna is the management priority. The Samson MPA (No. 10.5) is an area of some 1 035 hectares which has been set aside for the conservation of representative stands of bullich (*E. megacarpa*) which abound along drainage lines. Whilst the boundary of this area may be open to renegotiation, any such alteration is likely to be minor, and would take place only if it could be shown that the conservation objective would not be prejudiced.” (p. 4)*

“Mining is not proposed here until after 1993, and it is therefore recommended that a resolution on existing conflicts be deferred for the following investigations:

- (a) the effect of mining on adjacent bullich stands;*
- (b) a further search for other areas containing bullich having a similar conservation value.*

In their ERMP Alcoa showed the position of their proposed magazine within the Samson MPA. This would seriously conflict with land management objectives and a suitable alternative location has been found.” (p. 5)

3.6.3 Effect of Land Use on General Prescription

3.6.3.1 Primary Land Use – Conservation of Flora & Fauna

“Only one area (MPA No. 10.5 – Samson) is involved in the 25 year mining proposal. This area is principally set aside to conserve an example of high quality bullich forest.

Whilst there may be room to re-negotiate boundary changes where the primary aim will not be prejudiced, any such alteration is likely to be minor.

The land use plan does not provide for mining operations on Conservation M.P.A.s.” (p. 42)

MANAGEMENT PLAN – 1980

Land Use Management Plan : Northern Jarrah Forest : Management Priority Areas. 1980

“Because the northern jarrah forest is located within 150 kilometres of the Perth metropolitan area, there are strong demands for the various products and values of the forest. In some areas there is conflict between alternative forms of land use (Forest Focus, 1973). Inappropriate land uses may have far-reaching and damaging effects.

Timber production, bauxite mining, water yield, recreation, conservation of flora and fauna, water purity (bacterial, viral, physical or chemical quality), forest disease and fire control are key factors in land use decisions within this region.” (p. 2)

Resource values

“The major forest values currently recognised are those associated with water and timber production, recreation, flora fauna, scientific study, education and minor forest products (such as honey and wildflowers). The aim of management is the regulation of these resources to best meet demand while protecting the forest from damaging agencies.” (p. 3)

PLANNING POLICY - 1977

A Perspective For Multiple Use Planning in the Northern Jarrah Forest. 1977

Foreword

“Public demand for forest benefits has now reached a stage where scarcity imparts special values on each requirement, because of limited resources.

A policy of multiple-use management has therefore been adopted in order to realise the fullest degree of public satisfaction from the available forest resources. Within the framework of this policy, the objective of the planning perspective is to translate past experience and the salient results from the recently-expanded governmental and co-operative research effort into a practical basis for future multiple-use management of the northern jarrah forests. These increased research outputs have substantially improved the scientific foundation for land management in the region and have facilitated the definition of management parameters according to the particular attributes of each basic land management category.” (p. 1)

“The objective has been to accommodate as many compatible uses as possible within each land management category subject to the requirement of catchment protection which has special significance in the Region. Conservation of Flora and Fauna also needs special attention. This has been dealt with in a detailed submission to the Conservation through Reserves Committee under which a number of carefully selected areas are to be managed primarily for this purpose.” (p. 1)

“The perspective is drawn primarily from the viewpoint of multiple use management in the northern jarrah region. Nonetheless, it establishes principles that can be applied to State Forests as a whole. It also establishes a framework for more broadly based regional land use plans.” (p. 2)

Introduction

“The Forests Department is required to provide a multiplicity of benefits from the northern jarrah forest according to the inherent capabilities of the environment, the existing statutory constraints and the recognised public demand. This objective is attainable because sufficient data are now available for a comprehensive and environmentally responsible regional plan.” (p. 4)

“This document sets the overall perspective for the development and subsequent implementation of detailed proposals. In doing this the region has been divided into six management zones based on geomorphology and climate. However, for detailed local planning it is envisaged that site vegetation zoning will be more appropriate and precise.

The management strategies proposed supplement the Forests Department policy on multiple land use.” (p. 4)

3. Current Management and Resource Use

3.7 Flora and Fauna

“There are no large flora and fauna reserves or National Parks within the area. A considerable number of small reserves vested in several authorities occur within and on the edge of State Forest. In addition, the Forests Department has set aside a number of areas for special management (flora and fauna conservation). These total 70 000 ha of core area and an additional 110 000 of buffer. The greatest long term threat to these reserves is posed by dieback disease.

The region provides habitat for over 25 species of native mammals and a very wide range of birds and reptiles. Other fauna includes frogs, fish, insects and soil microfauna. As long as a diverse range of vegetational ecotypes is adequately conserved, the future of these species will be assured.” (p. 20)

3.10 Fire Protection

“A number of alterations to fire protection policy have resulted from decades of fire research and practice, which give greater emphasis to conservational, environmental and aesthetic values. These include:

a) *burning during the wildflower display period is discouraged along major roads for conservation and aesthetic reasons.” (p. 22)*

d) *attempts are not made to burn a high proportion of any one area. Prescriptions are set at limits which will ensure unburnt pockets comprising about 20-40% of the area. This policy was adopted in the light of research into the ecology of many forest animals; particularly the swamp dwellers.” (p. 23)*

4. Proposed Management Strategies

4.1 Dissected River Valleys and Scarp, High Rainfall Zone (more than 1 150 mm/annum)

Current Land Uses

- “a) Water storage (large storage dams and small pipehead dams).*
- b) Recreation, (passive and active), based on optimal opportunity for land and water based recreation and proximity to centres of population.*
- c) Silviculture of Pinus radiata, based on high soil fertility and high rainfall.*
- d) Conservation of flora and fauna.*
- e) Silviculture of indigenous hardwoods, in particular blackbutt and jarrah.” (p. 23)*
- “f) Grazing of cattle and sheep on improved (clover) and rough pastures.*
- g) Horticulture, market gardening and intensive animal production.” (p. 24)*

Management Strategy

- “b) Special management areas will be selected and zoned so as to leave some free of human impact and to contain recreation to an acceptable level in others. Conservation (flora and fauna) and catchment protection are best achieved above or between dams. Recreation is best achieved below existing dams.” (p. 25)*

4.2 Lateritic Uplands, High Rainfall Zone (more than 1 150 mm/annum)

Current Land Use

- “a) Hardwood silviculture, based on high stocking rates, a high proportion of merchantable species and high growth rates.*
- b) Bauxite mining, based on the large and deep deposits, whose value is enhanced by their proximity to ports.*
- c) Catchment protection, important because of the high rainfall and low accumulation of salt.*
- d) Recreation, based on proximity to centres of population, and ready access.*
- e) Conservation of indigenous flora and fauna. At risk because of widespread dieback disease.” (p. 26)*

Management Strategy

- “a) A survey is in progress to assess if viable areas of undisturbed forest remain within this unit. If none can be found, an adequate area of logged-over but dieback-free forest will be located, set aside as a special management area (flora and fauna conservation) and allowed to progress to maturity without further human disturbance.” (p. 27)*

4.3 Dissected River Valleys, Low Rainfall Zone (less than 1 025 mm/annum)

Current Land Uses

- “a) Catchment protection*
- b) Mixed farming*
- c) Hardwood silviculture*
- d) Silviculture of Pinus radiata*
- e) Conservation of fauna and flora*
- f) Recreation” (p. 30)*

Management Strategy

- “d) Areas to be managed for flora and fauna conservation have been surveyed.” (p. 30)*

4.4 Lateritic Uplands Low Rainfall Zone (less than 1 205 mm/annum)

Current Land Uses

- “a) Hardwood silviculture based on jarrah and wandoo*
- b) Catchment protection*
- c) Conservation of flora and fauna*
- d) Agriculture, primarily grazing but with some cereals*

- e) *Potentially, this land unit could be mined for bauxite. It has marginal potential for dry-land recreation.”* (p. 31)

4.5 Broad Valleys and Depressions, Low Rainfall Zone (less than 1 025 mm/annum)

Current Land Uses

- a) *Catchment protection*
- b) *Agriculture*
- c) *Hardwood silviculture*
- d) *Conservation of flora and fauna”* (p. 33)

“The potential for conservation is high. The vegetation is structurally and floristically varied, is free of dieback and gross disturbance and contains some rare fauna. It is generally distant from the centres of population, and is traversed by few all-weather roads. Access is particularly difficult in late winter and early spring, when the wildflowers are most attractive.” (p. 34)

4.6 Monadnocks (found predominantly in the intermediate rainfall zone (1 025 to 1 150 mm/annum) and low rainfall zone

“The major forms of land use are catchment protection, flora and fauna conservation and recreation. [...]” p. 36)

“The value to fauna and flora conservation is based on the great topographic and edaphic diversity, which together provide a wide range of habitats. Of particular interest is the considerable shift in tree species with a relatively minor change in climate, and the tendency for southern shrub species to occur as outliers. Although the mammalian fauna is poorly known, a large number of bird and reptile species are present. [...]” (p. 36)

Management Strategy

- a) *This unit will be regarded primarily as protection forest (flora, fauna, catchment). Adequate conservation areas are being selected.”* (p. 37)

WORKING PLAN – 1977

General Working Plan No. 86 of 1977. Part 1

4.2 The Concept of Multiple Use of Land Management

“(c)The selection of a priority or dominant use for an area with the practice of secondary uses which in some circumstances may not significantly interfere with the primary aim, but in others may impose a restriction on output from each competing use. This necessitates a social ranking of use priorities which can usually be done satisfactorily with limited data and experienced value judgement. The Forests Department has adopted this approach for the future management of State Forests and timber reserves.” (p. 31)

Resource Management Objectives

“Flora and Fauna: To conserve areas representing the full range of natural habitats within State forests, to ensure the perpetuation of the many communities and their component species.” (p. 2)

“Wildflower Production: To provide seeds, plants and plant parts from State forests according to the demand, where this does not conflict with the distribution and perpetuation of the species or major land use objectives, to the requirements of the Wildlife Conservation Act.” (p. 3)

“[...] the Government stated its forest policy in April 1976. It embodied the following forest management objectives:

Flora and Fauna: To conserve areas that provide the habitats for the many species of flora and fauna that exist in the forests of Western Australia.” (p. 12-13)

5. Resource Management

5.5 Flora and Fauna

5.5.2 Demand for Flora and Fauna Conservation

“State forest is managed primarily for water and timber production, and effectively protects floristic composition. Conservation of floristic composition is prejudiced by those land uses which either threaten the survival of any or all the plant species, or result in the spread of diseases such as jarrah dieback.

The conservation of vegetation structure, however, requires management primarily for this purpose and areas are being retained to represent the large range of vegetational types on State forest.

It is generally accepted that effective conservation of flora will usually meet the needs of fauna conservation. Compatibility with other land uses is largely determined by the impact of disturbance and whether it is desired to conserve vegetational structure, floristic composition, or both.” (p. 88)

5.5.3 Area Available for Conservation Purposes

“Approximately 90% of State forest is contributing to the conservation of floristic composition. [...]” (p. 88)

“ Where undisturbed areas of a particular ecotype cannot be located, sites are selected to approximate the natural state as closely as possible. This problem arises primarily in the northern forests where there has generally been a high degree of disturbance and where there is severe competition between land uses. In this area it has been necessary to use the core-buffer concept well known in research practice when delineating individual management priority areas for conservation of flora and fauna. The core area is envisaged as the central portion in which it is essential to keep disturbance to a minimum. [...] The core is surrounded by a buffer in which human activity is permitted, but is managed in a way that will not prejudice the conservation aim of the core.

It is anticipated that fauna, which generally requires a larger living space to maintain adequate populations, will be accommodated both in the core and the buffer, the buffer providing not only additional living space, but also providing partially disturbed (seral) vegetation essential for the survival of some species. Both core and buffer will in turn be mostly included within a larger area of managed forest, which will provide additional living space for fauna as well as connection between individual areas.

In other forest areas where there have been lower levels of disturbance and there is less competition between land uses, the core-buffer concept has not been needed.

On those parts of management priority areas where management involves exclusion of commercial timber production, the concept of a ‘forest park’, envisaged in the Conservation Through Reserves Committee Report and defined in the Environmental Protection Authority recommendations, will be adopted. A ‘forest park’ is defined as ‘an area of forest which is kept unavailable for the commercial production of timber except in the ordinary course of forest management and to such limited extent as would enable the Conservator for the betterment of the park to cut and remove timber for the purpose of tree regeneration in any areas containing trees which have been damaged or which have deteriorated through age, fire or disease’.” (p. 89)

“Management plans for ‘forest parks’ will take effect as if they were a regulation and so be unalterable except in the manner required in the Interpretation Act for the amendment of regulations made under an Act of Parliament. [...]”

Sections of forest delineated primarily for conservation of flora and fauna are enumerated in Table 4 and illustrated in Plan 1.” (p. 89)

5.5.4 Objective of Management

“The objective is to conserve areas representing the full range of natural habitats within State forests to ensure the perpetuation of the many communities and their component species.” (p. 90)

5.5.5 Flora and Fauna Management Policy

1. *Secure areas of relevant ecological types as reference units for management guidance, scientific study, and maintenance of genetic diversity.*
2. *Provide examples representing all stages of succession.*
3. *Monitor flora and fauna populations and study their habitat requirements to develop a sound basis for management.*
4. *Co-ordinate flora and fauna management priorities in State forests with the requirements of other authorities.” (p. 90)*

5.5.6 Management Strategy

1. *Prepare prescriptions for each area on which conservation of flora and fauna is the management priority and provide for ongoing review.” (p. 90)*
2. *Monitor areas retained for conservation of flora and fauna to ensure:
adequacy in relation to size;
coverage of ecological types;
location of boundaries;
protection needs and legal constraints.*
3. *Maintain liaison with other authorities responsible for conservation of flora and fauna to ensure that programmes continue to be complementary.” (p. 91)*

POLICY – 1976

Forests Department 1976, ‘Focus on Forest Policy’, *Forest Focus*, no. 17, pp. 1-15.

“The Forests Department is responsible for flora and fauna on all State Forests and Timber Reserves, subject to the provisions of the Forest Act and other Acts where applicable.

Because of the upsurge of interest in the environmental aspects of forest operations and in particular their effect on flora and fauna, the department in undertaking extensive research and retaining areas of indigenous forest in an undisturbed condition where this is essential to conservation of values.

The objective is to conserve flora and fauna values by:

- *Preservation of relevant ecological type areas as reference units for management guidance, scientific study purposes and maintenance of genetic diversity.*
- *Zoning forest areas where fauna management is given priority.*
- *Provision of conditions representing the full range of the life cycle of forest types.*
- *Monitoring flora and fauna populations.*
- *Research into special habitat requirements*

- *Co-ordinating State Forest flora and fauna management priorities with the requirements of other authorities.” (p. 12)*

Forest Policy

“The Forests Department will manage the state-owned forests and timber reserves in Western Australia according to a policy that will ensure provision for the optimum social and material needs of the people. At the same time the policy will provide for the environmental well-being of the forests themselves.

The policy involves the following objectives:

[...]

Flora and Fauna

To conserve areas that provide the habitats for the many species of flora and fauna that exist in the forests of Western Australia.

[...]" (p. 15)

LEGISLATION - 1976

Wildlife Conservation. No. 86 of 1976

“AN ACT to amend the Wildlife Conservation Act, 1950-1975 and to repeal the Native Flora Protection Act, 1935-1938.” (p. 925)

“4. Section 6 of the principal Act is amended-

[...]

(b) by adding after the interpretation ‘fauna’ the following interpretation ‘close season’ the following interpretation-

‘flora’ means any plant (including any wildflower, palm, shrub, tree, fern, creeper or vine) which is-

(a) native to the State; or

(b) declared to be flora pursuant to subsection (4) of this section,

and includes any part of flora and all seeds and spores thereof; ;

(c) by deleting the interpretation ‘indigenous flora’;” (p. 926)

“(5) Notwithstanding anything to the contrary contained in the preceding provisions of this section any plant (including any wildflower, palm, shrub, tree, fern, creeper or vine) which is a declared plant within the meaning of the Agriculture and Related Resources Protection Act, 1976 throughout the whole of the State or in any part of the State, shall not be flora for the purposes of this Act throughout the State or in that part of the State, as the case requires.

(6) The Minister may-

(a) by notice published in the Government Gazette declare any class or description of flora to be protected flora for the purposes of this Act, either throughout the whole of the State or in such part or parts of the State as are specified in the notice;

(b) by notice so published, declare-

(i) all flora; or

(ii) all flora other than such classes or descriptions of flora as are specified in the notice,

in such part or parts of the State as is or are specified in the notice to be protected flora for the purposes of this Act; and

(c) by notice so published, vary or revoke any notice published under paragraph (a) or (b) if this subsection.” (p. 928-929)

“5. Section 9 of the principal Act is repealed and re-enacted as follows-

9. The provisions of this Act relating to flora bind the Crown.” (p. 929)

LEGISLATION - 1975

Fauna Conservation. No. 67 of 1975

“AN ACT to amend the Fauna Conservation Act, 1950-1970.” (p. 549)

“1. [...] (3) The principal Act as amended by this Act may be cited as the Wildlife Conservation Act, 1950-1975.

[...]

3. The long title to the principal Act is amended by deleting the word ‘Fauna’, in line two, and substituting the word ‘Wildlife’.” (p. 550)

“4. Section 6 of the principal Act is amended –

[...]

(e) by inserting, after the interpretation of the term ‘indigenous’, a new interpretation as follows-
‘indigenous flora’ means any wildflower, palm, shrub, tree, fern, creeper, vine or other plant which-

- (a) is native to the State;
- (b) is not growing under cultivation; and
- (c) is not a noxious weed,

and includes any part of any indigenous flora and the seeds thereof; ;” (p. 550-551)

“5. Section 7 of the principal Act is amended-

[...]

(c) by deleting subsection 2 and substituting two new subsections as follows-

- (2) There shall be appointed under the Public Service Act, 1904, a Conservator of Wildlife and such wildlife officers, licensing officers and other staff as are necessary for the effective administration of this Act.” (p. 552)

“6. Section 9A of the principal Act is amended-

(a) as to subsection (1)-

(i) by deleting the passage-

‘When the Authority is constituted pursuant to this Act-

- (a) the members of the body corporate constituted under this Act and known as The Fauna Protection Advisory Committee of Western Australia shall go out of office; and’,

in line one to line six, and substituting the passage-

‘On the coming into operation of the Fauna Conservation Act Amendment Act, 1975-

- (a) the body corporate formerly known as The Fauna Protection Advisory Committee of Western Australia, and thereafter known as The Western Australian Wild Life Authority, shall become and be known as the Western Australian Wildlife Authority;’; [...]

FOREST POLICY – 1975?

Forest Policy : Western Australia. [1975?]

Introduction

“It has therefore become necessary to restate forest policies to take into account the major changes that have taken place since rigid control of the timber industries was first introduced in 1918.

The objectives of forest management at that time were to protect the forest estate through control of the industry and to protect the forest itself from fire and other destructive agencies.

In more recent times there has been a greater emphasis placed on multiple-use of the forest but with a strong tendency still to produce timber for industry. However, multiple-use demands have imposed limits on the timber resources of the native forests. Emphasis has therefore been given to pine planting to provide a source of timber to supplement and in some instances replace those native forests that will be required for purposes other than timber production.

This statement will outline the current situation regarding those permanently dedicated State Forests and Timber Reserves which come within the stewardship of the Forests Department and formally establish management objectives according to the requirements that now exist. It will take into account a multiple-use concept of those forests managed by the Forests Department.” (p. 2)

1.2 The Objectives of Current Forest Policy

“The forest policy of the Department was defined in the Report of a Royal Commission of 1951 as

‘the provision as far as is possible of a continuous yield from the forests in the interests of the requirements of the State in timber and the stability of employment in the timber industry’.

Since this statement was made some twenty five years ago, additional principles of forest policy have been enunciated, particularly the role of conservation.

Conservation has always been a prime function of the Forests Department, but more recently specific demands have been made for non-production aspects of State Forests and Timber Reserves. These requirements must be added formally to the earlier stated single purpose management objective.” (p. 3)

3. Future Management Objectives

3.1 Policy

“The future policy will emphasise the multiple-use management of State Forests and Timber Reserves. It will continue to provide for the renewable resources of publicly-owned forests to be utilised in the combination that will best meet the needs of the West Australian people. The aim will be to make the most judicious use of the land for some or all of the resources or related service over areas sufficiently large to provide latitude for periodic adjustments in use to conform with changing public needs and the development of the forest itself.” (p. 12)

3.1.1 Multiple-Use Priorities

“Multiple-use management implies the realisation of the best combination of forest benefits according to the particular attributes of each area considered. Compatible benefits may be derived simultaneously from the same area, but separate areas must be used where there is conflict in management for non-compatible benefits.

In order to overcome the problems imposed by limited forest area, it is proposed to establish a system of management priorities so that the greatest possible number of compatible uses can be practised throughout most of the forest, whilst carefully selected representative areas of native forest will be managed specifically to retain them in an undisturbed condition for scientific reference purposes.” (p. 12)

“The major forest values currently recognised for multiple-use management are:

*Timber Production
Water Supplies
Amenity and Recreation
Flora and Fauna
Special Scientific Values*

3.1.2 Multiple-Use Requirements

“Future requirements to meet the need for multiple-use forest management posed by increasing public demand are:

Classification and designation of State Forest into areas to be managed according to a scale of multiple-use priorities, together with increased security for these management objectives.

Increased research into recreational use and intensified environmental monitoring and inter-departmental co-ordination and liaison with respect to land use planning in the forest areas of the South West including engagement of professional staff with appropriate qualifications where necessary.” (p. 13)

3.2.2 Forest Protection

“It is intended to continue the existing traditional protective roles of the Forests Department. The forest estate will be kept intact and added to wherever this is possible; fire hazard reduction through prescribed burning will continue and techniques will be amended to match proven environmental requirements; research into means by which the effects of the dieback disease might be ameliorated will be accelerated.

To a large extent protection of the State Forests has become complex and more difficult to achieve. Because of greater demands by the public for forest use, fire protection through hazard reduction must leave certain unburned [sic] areas for tourist purposes. At the same time, burning must be carried out to give maximum flora and fauna expression on favoured recreation areas.[...]” (p. 15)

3.2.5 Flora and Fauna

“Administration of the Native Flora Protection Act will be transferred to the Department of Fisheries and Wildlife following passage of the revised legislation. The Forests Department will however continue to be responsible for implementing the provisions of the Act on State Forests and Timber Reserves. Control of fauna on State Forests will similarly be undertaken by the Forests Department subject to the provisions of the Fauna Conservation Act.

Within State Forests and Timber Reserves, additional areas will be set aside for conservation of indigenous flora in an undisturbed condition. In the same way, extension of existing priority areas of State Forest and Timber Reserves for fauna conservation will take place.” (p. 17)

CIRCULAR - 1973

Circular No. 4/73 : Conservation in Management Practice. 1973

NOTE: CIRCULAR IS AN APPENDICE IN - *Hardwood Management Plan : Central Region. 1982*

7. Fauna Protection

“The Department firmly believes that current management practices, including restrictions on the use of firearms, are fully compatible with the needs of fauna protection. [...]” (p. 7)

FORESTERS’ MANUAL – 1973

Foresters’ Manual : Fire Control. 1973

Introduction

“1. The problem of fire control is intimately connected with the questions of reforestation and afforestation and the ultimate success of the Department's efforts in these projects is largely dependent on a strong measure of public sympathy and co-operation in attacking the fire problem.

2. *Of equal importance is the proper use of controlled fires to regenerate and protect the forest and its associated flora and fauna and to guard adjoining communities from wildfire.*

3. *The eucalypt forests of Western Australia have evolved in a fire environment. Both flora and fauna have adapted to hot, dry summers, the associated fires started by lightning and more recently by man. It is, therefore, natural and advisable to undertake hazard reduction by the intelligent use of fire of prescribed intensity and frequency.”* (p. 3)

FORESTERS’ MANUAL – 1972

Foresters’ Manual : Reforestation and Silvicultural Operations : Jarrah and Karri. 1972

“Management of indigenous hardwood forest aims at producing the highest possible yield of useable wood, consistent with the maintenance of a protective forest cover for water catchments and a general forest environment.” (p. 3)

“Areas outside ‘Zone A’ will receive a lower priority for fire protection and other management operations. But it is important to remember that although Zone B is of lesser significance for further production, much of it is vital for catchment protection, flora and fauna conservation and recreation and will be less intensively managed for these purposes.” (p. 3)

WORKING PLAN – 1971

General Hardwood Working Plan No. 85. 1971

3. Silvicultural Considerations

Intensive Management Units

“The initial survey has indicated that of the 3.3 million acres of jarrah forest, approximately 1.62 million acres are of sufficient quality and site productivity to warrant intensive multiple-use management, primarily for future timber production. The remaining area is considered more suited to extensive management for such vital purposes as catchment protection, salinity control, flora and fauna conservation and public recreation, as well as timber production. [...]” (p. 8-9)

7.2 Forest Conservation and Multiple Use Management

“In all operations proper attention will be paid to:

1. *Preservation of selected forest reserves on areas where no major trade operation has taken place.*
2. *Continued attention to conservation of flora and fauna of the forest by proper management techniques including fire control and forest hygiene.”* (p. 36)

“5. Encouragement of recreational use of the forest subject to the provisions of the Forests Act 1918-1969, the Bushfires Act 1954-1965, the Native Flora Protection Act 1935-1938 and the requirements of the Water Supply Authorities.” (p. 37)

LEGISLATION - 1969

Fauna Conservation. No. 99 of 1969

“AN ACT to amend the Fauna Conservation Act, 1950-1967.” (p. 798)

“3. Section 6 of the principal Act is amended-

[...]

c) by adding the following subsections-

(2) The Minister may, by notice published in the Government Gazette declare-

(a) any species of domestic animal living in a wild state; or
(b) any species of indigenous invertebrate fauna,
specified in the notice which is in any part or parts of the State so specified to be fauna for the purposes of this Act; and upon the publication of the notice in the Government Gazette the species so declared, shall be fauna for the purposes of this Act;” (p. 799)

LEGISLATION - 1950

Fauna Protection. No. 77 of 1950

“AN ACT to provide for the Conservation and Protection of Fauna.” (p. 386)

“In this Act, unless the context requires otherwise-

[...]

‘fauna’ means the vertebrate fauna which is wild by nature and is ordinarily to be found in a condition of natural liberty in the whole or a part or parts of the State, and which is indigenous or introduced, and includes any kind, species, sex and individual member of the fauna, and also includes mammals, birds, reptiles and frogs, and also the whole or any part of the skin, plumage, body, eggs, nests, young and off-spring of the fauna;” (p. 387-88)

“10. (1) For the purposes referred to in the next succeeding section, there shall be a committee constituted as provided in this section.

(2) The name of the Committee shall be The Fauna Protection Advisory Committee of Western Australia.

(3) The Committee shall consist of six members including the chairman, of which number-three referred to in this section as *ex officio* members shall be-

- (a) the person for the time being occupying the office of Chief Warden of Fauna, who shall be chairman of the Committee;
- (b) the person for the time being occupying or discharging the office having the title of Chief Inspector of Vermin, pursuant to the provisions of the Vermin Act, 1918-1946; and
- (c) the person for the time being occupying the position of Conservator of Forests,
[...]

“11.(1) The Committee shall inquire into and report to the Minister on any matters referred to it by him or by the Chief Warden of Fauna in relation to the conservation of fauna in the State, and may advise the Minister and make such recommendations to him in relation thereto as it thinks fit.” (p. 392)

“19. For the purposes of this Act, the following persons shall be wardens:-

[...]

- (d) each person who, for the time being, occupies or acts in the office of forest officer pursuant to the provisions of the Forests Act, 1918-1931.” (p. 396)

LEGISLATION - 1935

Native Flora Protection. No. 37 of 1935

“AN ACT to provide for the protection of the Native Flora of Western Australia” (p. 1)

“3. Nothing in this Act shall affect or be construed to derogate from the operation of the Forests Act, 1918-1931.” (p. 1)

“5. (1) The Governor may notify by proclamation published in the Gazette that any wild flower or native plant specified in the proclamation is protected under this Act in any part or parts of Western Australia specified in the proclamation or that on any specified Crown lands or in any State forest or specified portion thereof or on

any specified land reserved for a public purpose under the Land Act, 1933, or any other Act or on any road, all wildflowers or native plants are protected under this Act.”

NOTE: WILDFLOWER AND NATIVE PLANTS MAY BE PROTECTED. AMENDMENT FROM NO. 32 OF 1938, s. 2

(2) Such protection may be for a limited or unlimited period, as is specified in the proclamation published in the Gazette.” (p. 2-3)

“8. (1) Any person who-

- (a) *on any Crown lands or State Forest ; or*
- (b) *on any lands reserved for a public purpose under the Land Act, 1933, or any other Acts or belonging to or vested in any statutory body or on any road ; or*
- (c) *on any private land of which he is not the owner, lessee or licensee and the owner, lessee or licensee of which has not given him permission in writing in that behalf*

destroys or mutilates so as to eventually destroy any native plant mentioned in the Schedule, commits an offence.

[...]” (p. 4)

[NOTE : PLANT NOT TO BE MUTILATED OR DESTROYED. SCHEDULE. AMENDED BY NO. 32 OF 1938, s. 4]

“9. *The Governor may at any time by proclamation add the name of any native plant to the Schedule to this Act, or remove the name of any native plant therefrom, and such proclamation shall take effect as fully as though the additions or removals therein referred to had been expressed in this Act as originally enacted.” (p. 4)*