FIRE MANAGEMENT STRATEGY FOR THE WILDERNESS ZONE OF THE FITZGERALD RIVER NATIONAL PARK, 1999 - 2001

OVERVIEW AND RATIONALE

The Fitzgerald River National Park (330 000 ha) lies on the central south coast of Western Australia, 420 km south east of Perth, between Bremer Bay and Hopetoun in the Shires of Jerramungup and Ravensthorpe. It is one of the largest and most biologically significant National Parks in Australia and provides an opportunity to maintain substantial parts of a south coast National Park in an undisturbed state.

Major values and attractions include the highly diverse flora (almost 20% of the State's described species), numerous rare species of flora, extensive natural landscapes with rugged coastal ranges, sea cliffs, gorges, inlets, and opportunities for nature study, bush walking, camping, fishing and swimming. The Park also has richer fauna that any other conservation area in the south-west of Western Australia. It contains several threatened fauna species and offers one of the best long-term survival prospects in Western Australia for the Ground Parrot and Dibbler. Many of these values are recognised nationally and internationally.

The Fitzgerald River National Park wilderness zone is approximately 78 000 ha in size and is located in the central section of the Park (Map 1). It comprises a mixture of rugged quartzite coastal ranges, broad inland plains and uplands, and parts of the Fitzgerald and Hamersley River system including gorges and valley breakaways.

The wilderness zone is surrounded by the balance of the National Park, roughly 30-40 km wide in the south west and west, generally 10 km wide to the north and 10-20 km wide to the north east and east. Additional uncleared land surrounds much of the National Park boundary especially to the north east in the Phillips River - Ravensthorpe area.

Maintenance of Natural Values

Fitzgerald River National Park is one of the richest areas for plants in Western Australia with 1 748 identified species. About 75 of these are endemic (found nowhere else) and some 250 species are either vary rare or geographically restricted. The Park contains almost 20% of the State's described plant species. Although endemics occur throughout the Park, the highest concentration is in the Barren Ranges.

The Park also contains several threatened fauna species. The rare animals are mostly concentrated in the northern part of the Park, which overlies the granitic shield of the southern wheatbelt.

Due to the restrictions on vehicular access into the wilderness zone, there have been few additional biological or landscape surveys since 1991. However, in 1995 the detailed results of a major biological survey undertaken in 1985-87 concluded that no significant landscape impacts have occurred. The very high nature conservation and landscape status of the wilderness zone, particularly the coastal ranges, appears to have been maintained over the past five years.

Protection from Wildfires

Any fire protection strategies for the wilderness zone must address the threats of fire:

1. Entering the zone from the outside;
2. Originating in and remaining within the wilderness zone; and
3. Originating within the wilderness zone with the potential to threaten surrounding areas of National Park (e.g. adjoining special conservation zone and recreation sites at Quoin Head and Fitzgerald Inlet).

Experience gained during the suppression of wildfires in and near the Fitzgerald River National Park in the early 1990's demonstrated that the establishment of slashed or scrub-rolled buffers at least 50 m wide are highly effective in containing summer wildfires in heath and low mallee vegetation. These slashed buffers reduce fire intensity allowing fire fighters a safety margin and a greater likelihood of success in extinguishing wildfire. Buffers also provide a prepared base from which to initiate backburns against wildfires.

It has been suggested that the impact of fire on faunal species which require long unburnt habitat within the wilderness zone should be better understood before any broadscale mosaic burning is introduced. However, recently it was shown that the Ground Parrot is able to re-establish in areas burnt as recently as 6-7 years ago and may not necessarily require vegetation unburnt for at least 15 years. Fuel modification by slashing or scrub rolling, an alternative to burning, may also lead to changes in habitat at a localised level. Therefore a balance must be achieved to protect nature conservation values from risk of wildfire.

The following principles for the wilderness zone were presented in the Fitzgerald River National Park Management Plan in June 1991:

- "Owing to the unique opportunity which exists in Fitzgerald River National Park, it is highly desirable to maintain a significant cross-section of the Park as a wilderness area including coastal areas, mountains and inland gorges.

- The wilderness area should be of sufficient size and quality to meet nationally accepted criteria for wilderness designation.

- Future management intervention within the wilderness zone should be strongly discouraged other than in exceptional circumstances."

Any fire management proposals for the wilderness zone of the Park must take into consideration two scenarios:

1. Fire originating within the wilderness zone itself; and

2. Fire originating outside the wilderness zone.

In either case the nature conservation values of the zone and the contribution of any fire protection measures in the zone towards overall fire protection of the remainder of the National Park and towards Park neighbours have to be considered.

It is also important to recognise that the areas of the National Park with the highest known fauna values are located within the special conservation zone, the 10 km wide area along the northern boundary of the wilderness zone.

As a general rule protection measures such as prescribed burning, establishment of reduced fuel areas through techniques such as vegetation slashing, provision of water points for fire fighters, and safe access tracks to allow deployment of fire fighting vehicles, are successful in helping to control wildfires. However, in extreme weather situations the value of such protection work may be significantly reduced.

As in so many aspects of natural area management, the challenge is to get the balance right without jeopardising other values, in this case balancing fire protection measures against the nature conservation and recreation values of the wilderness zone.

GENERAL OBJECTIVES AND CONSTRAINTS

The overall fire management objective for the Fitzgerald wilderness is:

> **To protect the wilderness itself and surrounding areas of National Park from extensive wildfires using the minimum of human intervention.**

All operations in the Fitzgerald River National Park are subject to prior completion of environmental checklists, dieback hygiene evaluations and job safety analyses as a matter of course. Such prescriptions and checklists are to be approved by the Regional Manager prior to implementation.

In the case of the Fitzgerald River National Park wilderness there are specific constraints over and above these standard procedures:

Wilderness Values
Fitzgerald River National Park is one of the few areas on the south coast of Western Australia that is of suitable size, terrain and condition to allow its partial designation as a wilderness area. As management intervention is to be strongly discouraged in the wilderness zone, only essential or emergency works are to occur.

Biosphere Reserve Status
The Park is one of two international biosphere reserves in Western Australia - it has special value as a baseline area for monitoring long term changes in the biosphere as a whole. The wilderness zone is essentially a 'core' area within a larger biosphere reserve core. The wilderness core area should therefore be left in as natural a state as possible.

Dieback Disease
The greatest management concern in the Fitzgerald River National Park is dieback disease caused by soil fungi. Much of the regional flora is highly susceptible to the disease, and this problem is compounded by summer rainfall which provides warm, moist conditions favourable to the survival and spread of the dieback fungi. Dieback is most commonly introduced and spread in infected soil, mud or moist gravel on the wheels and underbodies of vehicles. Loss of vegetation to dieback will seriously reduce the Park's conservation and recreation values.

Dieback is now confirmed from 3 separate sites within the wilderness zone and 2 sites upslope adjacent to the zone. It is suspected from other sites along closed tracks within the zone.

All road and track maintenance, vegetation modification (i.e. slashing or scrub-rolling) and vehicular access will only be permitted *under strict dieback hygiene measures* namely dry soil conditions and clean vehicles.

In view of the above sensitivities in the wilderness zone, additional checks are to be put in place before any works in the wilderness zone may commence:

1. Environmental checklists and dieback hygiene evaluations are also to be endorsed by the Directors of National Parks and Nature Conservation.
2. Any significant departure from the broad prescriptions below is to be referred to the NPNCA.
3. Advice is to be provided by and sought from the Research and Monitoring Group (see below) as appropriate.
4. All vehicle entries are to be endorsed by the Directors of National Parks and Nature Conservation.

RESEARCH AND MONITORING GROUP

A major criticism appearing in public submissions to the draft fire management proposals for the wilderness zone was that insufficient research and monitoring had taken place to provide better information on:

a) *In situ* biological values of the wilderness
b) Impacts of fire, fire management and associated operations (e.g. track maintenance, vegetation slashing etc.)

A Research and Monitoring Group will therefore be established comprising of:

- an experienced general ecologist with local knowledge;
- an experienced fire ecologist; and
- an expert on dieback disease in South Coast vegetation.

The group will be convened by the Director of Science and Information.

It will provide input to the fire management program for the wilderness zone in the context of impacts upon biological values. It will provide advice immediately should significant findings emerge.

It will initiate appropriate research.

It will provide advice on request of the NPNCA, CALM Directors or Regional Manager. The FRNP Advisory Committee and Fire Working Group have access to advice through the Regional Manager.

The primary function of this group is to focus upon the wilderness zone and other key areas of the National Park in particular the Special Conservation Zone to the north of the wilderness.

The December 1997 Wildfire

On the morning of Saturday 27 December, 1997, two fires were started in the Thumb Peak area of the wilderness as a result of lightning strikes. The most easterly of these fires moved relatively slowly downslope on a north westerly influence but then travelled up to 5 km/hr in a north easterly direction under the influence of strong (50 km/hr) south westerly winds which persisted from mid afternoon until early evening.

Due to threats to life and property caused by other fires to the east of Hopetoun in the Jerdacuttup area, heavy equipment and fire fighting personnel which had been assembled to combat the Thumb Peak fire were redirected to assist outside the National Park. As a result the Fitzgerald fire was not able to be prevented from crossing Hamersley Drive where it was intended to stop its run at existing fuel reduced buffers. This fire was eventually contained within the Park in the Phillips and West River valley systems and northern Park boundary and to the east of Drummond Track.

The western fire on Thumb Peak remained a threat to the western sections of the National Park and was isolated by back burning along Twin Bays Track on Thursday 15 January, 1998.

The total burnt area is shown on Map 1. The wildfire itself and emergency measures taken to control it effectively implemented several of the strategies being proposed for fire management in the wilderness zone for the period 1997-2001.

Area 1 of the original proposal (see below) was not affected by the 1997 wildfire, Areas 2 and 4 were partially burnt, and Area 3 was almost totally burnt.

THE PLAN

For the purposes of fire protection strategies, the wilderness zone and some adjoining country is broken into six areas based upon:

- current fire history (including 1997 wildfire);
- existing management access; and
- natural features.

These areas are shown on Map 1 and are described in Table 1.

Table 1. Areas and Fire Risks in the Wilderness Zone

Area	Description	Fire Risks
1	Section of unburnt vegetation in north- west of wilderness zone. Area on east side effected by wildfire in 1989.	"No planned burn area" Potential for lightning strikes.
2a	The regenerating area of the 1989 fire and not affected by the 1997 fire.	The regeneration of continuous even aged vegetation over the 1989 fire area.
2b	The regenerating area of the 1989 fire which was partially burnt in the 1997 fire.	Currently limited due to deep edging burnt around entire cell.
3	The area to the north of Telegraph Track between Hamersley Drive and Drummond Track, unburnt in 1989 but burnt in 1997	Currently nil.
4a	The section of unburnt coastline between Twin Bays Track and the Dempster Inlet south of Telegraph Track.	Potential for lightning strikes in coastal peaks.
4b	Previously unburnt section of coastline between Quoin Head and Twin Bays Track, south of Telegraph Track but burnt in the 1997 fire.	Currently nil.

Fire management objectives and strategies for the six areas are illustrated on Map 1 and are as follows:

AREA 1

Objective

Seek to retain the unburnt vegetation in the north-west section of the wilderness zone fire-free for the duration of this plan.

Strategies

1.1. Pursue the implementation of fuel reduction programmes in adjacent areas as nominated in the existing Fitzgerald River National Park Management Plan with minimal burning of riparian vegetation where possible (Map 1).

1.2. Ensure existing firebreaks and management tracks bordering the northern boundary of this area are maintained. This will be achieved by a combination of grading and slashing adjacent vegetation to a minimum width of three metres. Erosion control measures will be considered and undertaken where necessary.

AREA 2a

Objective

Seek to create a broad mosaic of vegetation ages across the 1989 fire regrowth by the introduction of mosaic burning towards the end of the present plan (1999-2001).

Strategies

2.1. Maintain Drummond Track as a strategic fire access track suitable to be travelled by low loader traffic. This entails:

2.1.1. Clear running surface to width of four metres and resheet soft sandy sections with gravel where required.

2.1.2. Clearing of regrowth vegetation.

2.1.3. Maintaining in a well drained condition with all water course crossings established.

In its present condition Drummond Track meets these standards.

2.2. Maintain Telegraph Track from Fitzgerald Inlet Track to Quoin Head Track as a strategic fire access track suitable to be travelled by heavy duty fire trucks. This entails:

2.2.1. Maintaining a running surface to width of three metres.

2.2.2. Maintaining in a well drained condition with major water course crossings established.

In its present condition the section of Telegraph Track from Drummond Track to Quoin Head Track meets these standards and the balance of Telegraph Track from Drummond Track west to Fitzgerald Inlet nearly meets these standards.

2.3. Maintain a low fuel zone associated with Drummond Track as is now in place due to the 1997 fire.

This strategic break will assist in preventing and/or controlling a major east-west or west-east running wildfire.

2.4. Introduce some fire into the 1989 fire area between Drummond Track and the former Bell Track to contribute to the development of a broad mosaic of vegetation ages across the Park.

This would involve a once only introduction of fire, mainly using aerial ignition, towards the end of the plan period (1999-2001) with the aim of reducing fuels in approximately 10-30% by area of the cell. Ignition would be undertaken on westerly winds under moderate fire index ratings Work along the north side of Telegraph Track (2.2 above) will be required to reduce risk of fire crossing into area 4a. This is to be either or a combination of edge lighting or slashing.

2.5 Establish water point adjacent to southern end of Drummond Track in moisture gaining site.

2.6 Assess the impact of mosaic burning on ecological indicators such as effect of drought stress, seed set and faunal implications.

AREA 2b

Objective

Seek to maintain the mosaic of vegetation ages in this 1989 fire regrowth area which was partially re-burnt in the 1997 fire.

Strategy

2.7 Apply sections 2.1 to 2.3 of section above.

AREA 3

Objective

Maintain until at least 2001 with no planned fire activities.

Strategies

3.1. Undertake erosion control work on degraded section of Telegraph Track between Hamersley River and Quoin Head Track and design detour.

3.2 Undertake roadside slashing to a minimum width of 3 m on the north side of Telegraph Track between Drummond Track and Hamersley Drive. This would be done during the latter stages of the plan as regrowth occurs. Due consideration to be given to vegetation changes and visual impact.

AREA 4a

Objective

Seek to retain the area of coastal vegetation south of Telegraph Track between Twin Bays Track and Dempster Inlet unburnt for the duration of this plan.

Strategy

4.1. Maintain access for light 4WD fire units only along Twin Bays Track.

AREA 4b

Objective

Maintain until at least 2001 with no planned fire activities.

Strategy

4.2. Undertake a general biological survey at the site for future comparison with burnt sites.

EXISTING FIRE MANAGEMENT

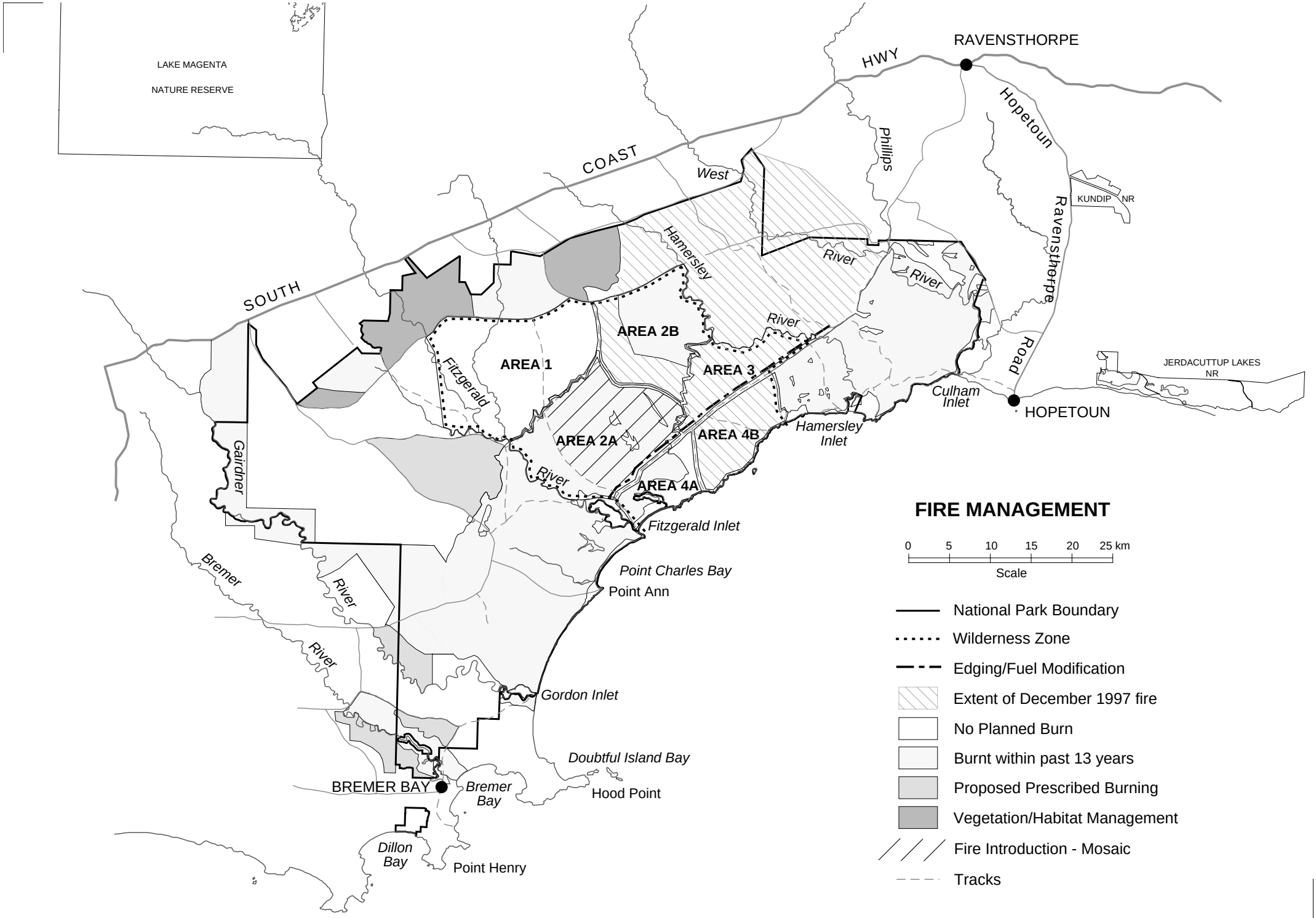
Other additional strategies required to ensure suitable fire protection measures are in place for the remainder of the Park, are contained within the original intent of the current management plan. These strategies will be continued to be prioritised by the Fire Working Group and implemented by CALM.

IMPLEMENTATION

These proposals will be implemented by CALM in liaison with the Fitzgerald River National Park Advisory Committee and the Fitzgerald River National Park Fire Working Group.

REVIEW

These proposals once adopted and/or amended will remain in force until such time as further review by the NPNCA or as part of the review of the Fitzgerald River National Park Management Plan, scheduled for the year 2001.


LAKE MAGENTA
NATURE RESERVE
RAVENSTHORPE
HWY
COAST
SOUTH
West
Phillips
Hopetoun
KUNDIP NR
Ravensthorpe
Road
Hamersley
River
River
River
AREA 1
AREA 2B
AREA 3
AREA 2A
AREA 4B
AREA 4A
Fitzgerald
Gairdner
Culham Inlet
Hamersley Inlet
HOPETOUN
JERDACUTTUP LAKES NR
Fitzgerald Inlet
Point Charles Bay
Point Ann
Bremer
River
River
Gordon Inlet
Doubtful Island Bay
BREMER BAY
Bremer Bay
Hood Point
Dillon Bay
Point Henry
FIRE MANAGEMENT
0 5 10 15 20 25 km
Scale
National Park Boundary
Wilderness Zone
Edging/Fuel Modification
Extent of December 1997 fire
No Planned Burn
Burnt within past 13 years
Proposed Prescribed Burning
Vegetation/Habitat Management
Fire Introduction - Mosaic
Tracks