INTERIM GUIDELINES FOR NECESSARY OPERATIONS

WALPOLE – NORNALUP NATIONAL PARK

Conservation and
Land Management

1988 & 1899

INTERIM GUIDELINES FOR NECESSARY OPERATIONS

WALPOLE - NORNALUP NATIONAL PARK

1988 and 1989

INTERIM GUIDELINES FOR NECESSARY OPERATIONS

WALPOLE-NORNALUP NATIONAL PARK

COMPILED BY: D/M Walpole/S.F.O. 18/11/87

DISTRICT MANAGER ENDORSEMENT: Peter Hanly 18/11/87

REGIONAL MANAGER ENDORSEMENT: 26/11/87

FIRE PROTECTION BRANCH-ENDORSEMENT: 4/12/87

APPROVED BY: _____ _____

DIRECTOR NATIONAL PARKS — DATE

DATE OF NEXT REVIEW: _____

PREFACE

These Interim Guidelines set out the necessary operations required for the protection or preservation of persons, property, land, flora and fauna within and adjoining the Walpole-Nornalup National Park.

The duration of approval for these Guidelines is 2 years from the date on the frontispiece or until they are superseded by the Management Plan for the Park. The latter is scheduled to be completed by 1989.

The Interim Guidelines are intended to provide managers with a basis for the annual works programme and job prescriptions for fire and environmental protection in and around the Park. During the preparation of the annual works programme for the following financial year, any necessary operations are to be appraised as to their likely impact on the environment or the likelihood of preempting the Management Plan.

Simple operations may be approved by the District Manager, whilst complex operations may need to be referred either to the Regional Manager, or Divisional Manager Operations, or General Manager, or Director National Parks depending on the level of complexity. The District Manager is to consult the guidelines for necessary operations if in doubt on a question of referral.

CONTENTS

PREFACE

1.0 DESCRIPTION
- 1.1 Location and Tenure
- 1.2 Natural Resources
- 1.3 Existing Use and Management

2.0 GENERAL PARK MANAGEMENT OBJECTIVES

FIRE PROTECTION
- 3.1 Introduction
- 3.2 Fire Protection Objectives
- 3.3 Fire Protection Strategies
- 3.4 Implementation

4.0 DIEBACK PROTECTION
- 4.1 Introduction
- 4.2 Dieback Management Objectives
- 4.3 Policy and Strategies
- 4.4 Actions for Dieback Protection

5.0 RARE AND ENDANGERED SPECIES
- 5.1 Introduction
- 5.2 Management Objectives
- 5.3 Policy and Strategies
- 5.4 Actions for Protection of Rare Species

6.0 MAN-MADE DISTURBANCES
- 6.1 Introduction
- 6.2 Management Objectives
- 6.3 Policy and Strategies
- 6.4 Actions for Protection

7.0 FACILITIES AND ACCESS MANAGEMENT
- 7.1 Introduction
- 7.2 Management Objectives
- 7.3 Policy and Strategies
- 7.4 Actions for Facilities and Access Management

APPENDICES
- Annual Works Programme

REFERENCES

MAPS
1. Land Forms and Soil Overlay
2. Fire History Since 1977
3. Fire Protection Buffers - Aerial and Hand Burns 1988 & 1989
4. Access Tracks and Recreation Sites

1.0 DESCRIPTION

1.1 Location and Tenure

The Walpole-Nornalup National Park is situated on the south coast of Western Australia between latitudes 34 56' and 35 04's and longitudes 116 31' and 116 57' E.

It consists of class four "A" reserves: -

Reserve	Area (ha)
13045	369
19175	4.5
19176	9.3
31362	17603
	17985.8 ha

The reserves are vested in the National Parks and Nature Conservation Authority and are managed by the Department of Conservation and Land Management (CALM). (See Map 5).

1.2 Natural Resources

Topography

The topography of the Park is dominated by the influence of the Deep River to the west and the Frankland River to the east. This has resulted in hilly country sloping quite steeply in places from approximately 200m A.S.L. to 40m or less.

Vegetation, Soils and Landform

The landform and soil maps of McArthur, Churchward, Lewell and Bartle (not published) and vegetation maps produced by Departmental staff have been used as the basis for fire management planning. (Map 1). These maps have been produced by combining the following information: -

1) Soil parent material origin (geology);

2) Landform, i.e., hills, swamps;

3) Soils;

4) Dominant vegetation associations which have been combined as ecological units (see Map 1).

Reference has been made to the Atlas of Australian Soils, sheet 5 and the Aerial Photo Interpretation (A.P.I.) overstorey vegetation-type plans of CALM. The API type map correlated very well with the McArthur, Churchward Landform map.

Flora

Wardell-Johnson et al (in press) conducted a two year biological survey of the Park (1985-1987). They identified 12 major vegetation types which correlated closely to the Churchward landforms (see Appendix).

During the study, the survey team recorded 233 vascular plant species. Hopper and Doonan (pers. comm) recognised 86 species and varieties of orchids in the Park. The flora of the Park is rich especially those associated with coastal heaths, wetlands, and rock outcrops.

One gazetted rare orchid (Caladenia gemmata forma lutea) - the yellow China orchid - is located in the Nuyts Wilderness area. Several other restricted species considered for listing include Banksia verticillata, B. seminuda, B. quercifolia, B. sp. nova, Persoonia macrophylla. All are confined to the Nuyts Wilderness. B quercifolia also occurs in Ficifolia Block.

Fauna

The Wardell-Johnson study recorded 16 species of native mammals (including 2 gazetted rare); 86 species of birds (3 gazetted rare); 12 species of reptiles (1 gazetted as rare) and 9 species of frogs. Nine additional species of native mammals and 30 species of birds (chiefly water birds and waders) have been listed by Christensen et al (1985) to occur in the area. Seven species of introduced mammals and one exotic bird have become established in the Park.

The Noisy-Scrub bird (Atrichormis damosus) translocation programme has identified the Nuyts Wilderness area as providing suitable habitat for this rare bird species. Translocation of birds from Two Peoples Bay was commenced in 1986.

Fuel Age and Accumulation Rates

Fuel ages at 1987 are shown on Map 3. Four major fuel types are identified in the Park (ie, Karri, Tingle, Jarrah and heath). There are areas of karri/tingle and heath with fuel ages greater than 25 years. Jarrah and scrubland has generally been burnt more frequently.

Karri fuels (including tingle) have been shown to accumulate at approximately 3.0 to 6.0 tonne/ha/annum for at least 10 years following burning (Sneeuwjagt and Peet, 1985). Fuel assessments indicate that fuel quantity levels in the tall forest areas unburnt for more than 20 years average 40 tonnes per hectare, ranging from 25 to 80 tonnes per hectare.

Dieback

Dieback disease resulting from Phytophthora cinnamomi infection is present on some of the roads and tracks within the Park. However, existing dieback maps are of poor quality and further detailed survey and sampling work is required.

1.3 Existing Use and Management

Fire History (Refer to Map 2)

Prescribed burning on a 6-7 year cycle has been carried out on parts of the coastal areas and some of the forested blocks in the Park during the last 20 years. Wildfires were frequent prior to the 1970's and have resulted in visual deterioration of the coastal forests in Nornalup Beach area and in Ficifolia block around Peaceful Bay. A record of wildfires within or threatening the Park has been kept since 1977. Over this period there have been 30 wildfires resulting mainly from deliberate lighting of coastal heath and escapes from private property and control burns. In the past 3 years there have been 2 serious fires which threatened the town of Walpole and adjoining communities, but which were contained with the assistance of recently- burnt buffer zones surrounding the town. The worst fire, on 21st January 1987, severely burnt 1800 hectares of Karri-Tingle, flats and adjoining private property. The settlement of Nornalup was threatened. In most cases, SE coastal winds exert significant influence on wildfires in the Park. Although north west wind driven fires have not been common recently, these are still the most feared winds. A number of wildfires in State forest immediately to the north and west of the Park have been influenced by hot, gusty NW winds, (e.g., Beardmore Fire, Giants Block fire, Boorara Fire). The great fires in the Walpole area in 1939 and 1950 were driven by north west winds.

Recreation

The Park is popular with visitors and local residents. It is estimated that approximately 150,000 people frequent the Park and nearby coastline each year.

Roads and Public Utilities

The South West (South-coast) highway traverses approximately 25km of the Park. Other major roads are Peaceful Bay, Ficifolia-Nornalup Beach, Rest Point and Tinglewood Roads. Hilltop road is a major access route for visitors to the Park, as are Mandalay and Isle Roads. The network of public, tourist and management-only roads and tracks are shown on Map 4.

1.3 Existing Use and Management (continued)

Townsites and Settlements

The townsites of Walpole, Nornalup and Peaceful Bay are situated within or adjacent to the Park. The summer- time population for the 3 townsites are: Walpole 2000, Nornalup 500, Peaceful Bay 1000.

Surrounding Private Property

The Park is bordered by private farm and bushland to the north and east. Enclaves of cleared and partly cleared private land are situated at Tinglewood, Crystal Springs, Nornalup and throughout the eastern end of the Park.

Public Land

The Park is bordered partly by State forest and the proposed Shannon D'Entrecasteaux National Park adjoining the western boundary. Both of these areas have nature conservation as their priority land-use. In addition, the Keystone State Forest area adjoins the Park immediately north of Mt Clare Block. This State forest is managed for multiple use. It contains large areas of young regrowth which requires special fire protection.

2.0 GENERAL PARK MANAGEMENT OBJECTIVES

- To protect the scenery, flora and fauna values, and Park facilities from damage or destruction by wild-fires, disease, or man-caused disturbances.

  To provide facilities for the study and enjoyment of the natural resources of the Park by the public.

- To provide appropriate access within the Park for visitors, and for Park management without the introduction or spread of dieback disease, or other exotic diseases or pests.

3.0 FIRE PROTECTION

3.1 Introduction

Much of the Parks area has been subject to severe fires in the past. Most recently, an intense fire burnt out 1800 hectares or nearly 10% of the Park on the 21st January 1987. Although weather conditions were mild, heavy fuel accumulation lead to severe fire behaviour and severe damage to Karri and Tingle forest. Other forested parts of the Park have escaped recent wildfire and are currently carrying fuels of 40 to 100 tonnes per ha.

3.1 Introduction (continued)

Any fire burning in heavy fuels will cause tree damage or death, and reduce aesthetic and amenity values of the Park. Frequent, extensive wildfires reduce the diversity of fauna habitat and floristic structure. Given the fact that the Park attracts many visitors, and borders the township of Walpole, Nornalup and Peaceful Bay, as well as the adjoining farming communities, an effective fire protection system must be adopted in the Park and surrounding lands.

3.2 Fire Protection Objectives

- To protect human lives (visitors, neighbours and fire fighters) from wildfire entering or burning within the Park.

- To protect communities, property and environmental values on and adjoining the Park from damage or destruction from wildfire or from inappropriate burning regimes or suppression techniques.

- To attempt to confine single fires to areas of less than 500 hectares in the Karri, Tingle and Jarrah forest types; and less than 1500 hectares in the coastal heathland and low woodlands.

- To reduce the risk and frequency of wildfires starting within or near the Park resulting from human activity.

3.3 Fire Protection Strategies

Ten fire management strategies have been developed. These are:

- Maintenance of low fuel zones adjacent to townsites;
- Maintenance of strategically located low-fuel zones within the Park by prescribed burning;
- Maintenance of management tracks and firebreaks;
- Maintenance of water supplies;
- Fire Detection and Preparedness Planning;
- Fire Suppression Actions;
- Visitor Protection and Safety measures;
- Liaison with the local community;
- Research and Monitoring.

3.4 Implementation

The fire protection strategies will be implemented as follows:

3.4.1 Maintenance of Low-Fuel Buffers adjacent to towns.

Actions required are:

Maintain the existing system of buffer zones around the townships of Walpole, Nornalup and Peaceful Bay. Where practical, these low fuel zones will have a width of upto 3km, to maximise protection to population centres from intense wildfires. Fuel loadings will be maintained below 8 tonnes per hectare in Jarrah and flats, and 17 tonnes per hectare in Karri and Karri-Tingle stands within the zones. Refer to Map 3. In the two years of the plan it is intended to burn 3 handburns north of Nornalup township, and 2 handburns near Peaceful Bay.

Where practical the maintenance of the buffers will be carried out under a mutual-aid arrangement between CALM and the Local Authority, Bushfire Brigades and neighbouring landowners.

- Liaison with the Bush Fires Board, Town Brigades and residents of Walpole, Nornalup and Peaceful Bay to ensure that the burning programmes adjacent to these towns are implemented. Where necessary, CALM will provide assistance with planning and implementation.

3.4.2 Maintenance of Low-fuel Zones within the Park by Prescribed Burning.

Actions required are:

In order to minimize wildfires from entering and exiting the Park, and also to help restrict the size of internal fires, a system of low-fuel buffer zones will be maintained by prescribed burning. The buffer system is designed to link in with existing low-fuel areas such as recent wildfires and burns as well as burning programmes in the adjoining State forest and private properties. In the two years of this plan, apart from the burns listed in 3.4.1, it is proposed to conduct a small aerial burn in the Mt Clare area (180 ha), and two narrow hand burnt buffers. Refer to Map 3. Where possible, burns will be programmed on adjacent State Forest lands to maximize protection of Park lands.

3.4.2 Maintenance of Low-fuel Zones within the Park by Prescribed Burning (continued)

- It is planned to burn the designated buffer zones when fine fuel quantity exceeds the following levels:

  8 tonnes/ha - Jarrah, flats, open heath;
  17 tonnes/ha - Karri, Karri-Tingle forests.

- Prescribed burns will aim to achieve a coverage of 60-80 percent. Burns will be conducted in a variety of seasons.

- Those burns carrying dense karri and tingle forest understorey will require scrub-rolling and felling of dead trees likely to cause severe fire containment problems along burn perimeters to permit safe edging and adequate control of burns.

- In recognition of the limited resources in the Walpole district, only one aerial burn and two or three smaller handburns will be programmed each year for the Park area. The priority of burns is to be based on the level of values at risk, the fuel age and hazard, the cost of each of the burn operations and the finances available.

- All burns must comply with a written prescription approved by the District Manager. These must include the Pre-Burn Checklist (CLM 32) to ensure potential environmental risks are avoided.

3.4.3 Maintenance of Tracks and Firebreaks

A network of tracks and firebreaks exists within the Park. Refer to Map 4. These provide rapid, safe access for fire-fighting crews and vehicles, as well as providing boundaries for prescribed burns. The actions required to maintain and upgrade these tracks are:

- Strategic and management-only tracks to be maintained free of vegetation by grading under dry-soil, hygienic conditions.

- Roads requiring upgrading for fire control access include parts of Hilltop Road, Shedley Drive, and Cemetry Road. (Approval from Director of National Parks).

3.4.3 Maintenance of Tracks and Firebreaks (continued)

- Where new track alignments are required to ensure safe, or dieback-free access, these will be surveyed in advance for rare flora species and the presence of dieback. If these are located, the activity will be modified, deferred or cancelled to avoid disturbance of the site.

- Access roads for management-only purposes will be closed to the public.

3.4.4 Water Supplies

- Existing water supplies are adequate. These are to be field checked and maintained for ready access each spring.

3.4.5 Fire Suppression Actions

Actions required are:

- Attempt to contain wildfires in or threatening the Park to the smallest possible area, taking into consideration the values threatened and the impact of the suppression activity on the environment.

- Priorities for fire suppression action will be:

  1. Preservation of life (Visitors, neighbours, fire-fighters);

  2. Protection of community assets, including environmental and property values.

- Fires on or near the Park will be dealt with by CALM forces and neighbouring local Bushfire Brigades. The latter will be directed by the Officer/s nominated in the district fire plan.

- The construction of new firelines will be kept to a minimum commensurate with fire behaviour, the values at risk, the location of buffers and tracks, the impact on the environment, and the safety to fire-fighters. All new firelines not required for subsequent management access will be closed and rehabilitated after the suppression action.

3.4.6 Fire Detection and Preparedness Planning

Actions required are:

- Fire detection will be provided by CALM spotter aircraft, or by lookouts or ground patrol as determined by the District Rangers or Duty Officer each day.

- Procedures and arrangements for response to wildfires in or near the Park are listed in the Walpole District Fire Control Working Plan.

3.4.7 Visitor Protection and Safety Measures

Actions required are:

- Public education and awareness of fire risks, the proper use of fire, and fire control measures will be promoted through Newspaper articles, radio or TV interviews, pamphlets, information signs and personal contact by District staff.

- Recreational sites will have small (10-20m wide) fuel reduced buffers which will be maintained by manual mechanical means or prescribed burns. These are designed to prevent escapes from barbeque or camp fires.

- Portable gas barbeques will be progressively installed to replace open fire places.

- Signposting of public roads will be maintained to enable safe and rapid evacuation in case of wildfire emergencies.

3.4.8 Liaison

District staff will maintain close liaison with neighbouring landholders and communities, Manjimup shire and local Bushfire Brigades on fire prevention programmes and fire suppression arrangements.

3.4.9 Research and Monitoring

The biological survey and fire ecology studies will be continued.

DIEBACK PROTECTION

4.1 Introduction

Dieback disease resulting from Phytophthora cinnamomi infection is present along many roads and tracks within the Park, and is visible in jarrah woodland, gully scrubland and coastal heaths. In one instance the disease has been shown to infect red tingle. Its impact on these sites is likely to range from low to very high depending on the vegetation present.

The potential impact of dieback on coastal vegetation, often dominated by highly susceptible species, is likely to be high. Much of the Park is uninterpretable for dieback owing to the predominant karri scrub understorey. Management in these areas needs to be implemented in such a way that the potential for introduction and spread of the pathogen is minimized.

Existing dieback maps of the Park are of poor quality. Further detailed survey work is required.

4.2 Dieback Management Objectives

To prevent the introduction and spread of dieback disease, and minimise disease impact on Park ecosystems.

4.3 Policies and Strategies

The Departmental policies and strategies for dieback protection (1982 Dieback Policy) will be implemented in the Park. All earth moving operations will be subject to the 7-Way Test for Dieback protection.

4.4 Actions for Dieback Protection

The following specific actions will be implemented:

Staff will be trained in dieback recognition, sampling, and hygiene operations.

Dieback distribution and predicted impact will be mapped by trained staff.

Where necessary major tourist roads will be reformed and gravelled to provide a road surface that minimizes potential for dieback establishment and spread.

5.0 RARE AND ENDANGERED SPECIES

5.1 Introduction

The only declared rare flora species located within the Park is the Yellow China Orchid (Caledonia gemmata forma lutea).

5.1 Introduction (continued)

Several flora species are known to be sensitive to frequent fires including Banksia verticillata, Banksia seminuda, B.sp. nova, B. quercifolia, Persoonia macrophylla. None of this species is located in areas which will be subject to prescribed burning. All are located in the Nuyts "Wilderness" area, which is not subject to burning in these Guidelines.

Two gazetted rare species of mammals have been located within the Park. These include the Chudich (Dasyurus geoffrayii) and the ring-tailed possum (Pseudocheirus peregrinus eccidentalis). These species are unlikely to be affected by any of the prescribed burning operations due to the burn locations in the next two years.

Three species of birds gazetted as rare occuring in the Park include the Crested Shriketit, Red-eared Fire tail, Peregrine falcon. One reptile species gazetted as rare and found in the Park is the Ctenotus catenifer.

The Noisy Scrub Bird translocation programme is confined to the Nuyts Wilderness area.

5.2 Management Objectives

To protect rare and endangered flora and fauna.

5.3 Policies and Strategies

Protection procedures will conform with Departmental policy, and the Operational Guidelines prepared for rare flora and fauna protection.

5.4 Actions for Protection of Rare Species

The District office holds a copy of maps of the location and list of known rare flora and fauna.

Known locations of rare flora and fauna are to be protected from roadworks, firebreak construction and inappropriate fire regimes. Special protection from fire and disease will be attempted for those sites earmarked for the translocation programme for the Noisy Scrub Bird.

If disturbance to localized populations of rare flora is unavoidable, an application for a Ministerial permit "to take" the flora will be required. This implies investigation by Wildlife Research Staff.

MAN-MADE DISTURBANCE

6.1 Introduction

There are no major problems in the Park, and only a few minor areas (eg. old gravel pits and some eroded coastal access tracks) which require rehabilitation.

6.2 Management Objectives

To rehabilitate sites that have been disturbed by activities or erosion.

6.3 Policies and Strategies

Policy No 10 on Rehabilitation of Disturbed Lands, refers:

6.4 Actions for Protection

Areas of soil disturbance are to be rehabilitated with appropriate local native plant species in accordance with Departmental Policy.

As far as possible, all land uses and activities within the Park must be carried out in ways that complement rather than detract from the visual and aesthetic qualities of the Park environment.

Any proposals for mining or exploration must be referred to the Regional Manager, Manjimup and the Environmental Protection Branch.

7.0 FACILITIES AND ACCESS MANAGEMENT

7.1 Introduction

There is an extensive network of tourist roads and management tracks within the Park. Many of these are high in the topographic profile and therefore represent a high risk to the spread of dieback. There is very limited vehicle access in the coastal zones. These are mostly restricted to 4-wheel drive and generally used to provide access to fishing spots and beaches. Refer to Map 4. It is expected that the road network in the park will be dealt with in detail in the Management Plan.

7.2 Management Objectives

To maintain existing access in the Park to a standard that achieves the safe and effective management of recreationists, fire and dieback protection and other management requirements.

7.3 Policies and Strategies

Tourist access will be in accordance with the policies outlined in the Departmental Recreation Policy and the Departmental Dieback Policy.

7.4 Actions for Facilities and Access Management

The existing tourist arterial road system will be maintained or upgraded to a safe, hard-surface standard to minimize the potential spread of Dieback. (Director of National Parks to approve).

The existing network of fire control and management access is to be maintained in a safe dry condition.

- Fire control and management-only roads will be closed to the public.

No major upgrade or re-development of recreational facilities is to be carried out.

1988/89 WORKS PROGRAMME

FOR WALPOLE-NORNALUP NATIONAL PARK

S 1. Preparation of aerial and hand burns, including scrub-rolling of karri scrub. I.G. 3.4.3.

S 2. Burn Town Protection Buffers, including Hand Burn north of Nornalup, and two Handburns (Cemetry Road area east of Walpole town; Peaceful Bay Road buffer). I.G. 3.4.1, Map 3.

C 3. Burn Strategic protection buffers - two Handburns, including one off Brainy Road, one along SW Highway north of John Rate Lookout. I.G. 3.4.2., Map 3.

C 4. Maintenance or upgrading of tourist and management roads and management tracks. Include Hill Top Road (around Circular Pool), Delta Road, Shedley Drive, Cemetry Road. I.G. 3.4.4, Map 4.

S 5. Fuel reduction around Recreation sites. I.G. 3.4.8, Map 4.

S 6. Continue monitoring and research into fire effects on fauna and flora (Research Branch). I.G. 3.4.10.

S 7. Initiate Dieback mapping. I.G. 4.4.

S 8. Continue rehabilitation programme of disused gravel pits. I.G. 6.4.

S - Denotes <u>simple</u> operations with minimal impact on the environment and Park ecosystem. These operations require District Manager's approval.

C - Denotes <u>complex</u> operations with potential for disturbance to the Park environment or Park management. Requires approval from Regional Manager or more senior staff.

REFERENCES

G Wardell-Johnson, G Inions, and A Annels
"Vegetation of the Walpole-Nornalup National Park, Western Australia".

Floristic Classification and Prediction of Site Types. CALM Departmental Report.

Includes "Vegetation Species List from Quadrats in the Walpole-Nornalup National Park.

P E S Christensen, A Annels, G Liddlelow, P Skinner
"Vertebrate Fauna in the Southern Forests of Western Australia. A Survey".
Forests Dept. Bull. 98, 1985.