

ForestrySA

SOUTH EAST REGION

THE POW LANE NATIVE FOREST RESERVES

**THE HEATH NATIVE FOREST RESERVE
ISLAND SWAMP NATIVE FOREST RESERVE**

MANAGEMENT PLAN

FOREWORD

The POW Lane Native Forest Reserves Management Plan has been prepared by the South Australian Forestry Corporation, trading as and referred to hereafter as ForestrySA, to clearly state the purpose and objectives for these Native Forest Reserves.

The Reserves will be managed according to this Management Plan which includes details of specific work to be undertaken under the proposed management program, and relevant biological data.

The interim version of this plan has been submitted for comment to the Native Vegetation Council, other land management authorities and relevant community organisations. A written response was received from State Aboriginal Affairs and Mr. J.F.Berggy, the Mount Gambier Field Naturalists Society Inc. responded informally.

Appropriate comments have been incorporated into this final plan, including any proposals requiring endorsement by the Native Vegetation Council pursuant to the Native Vegetation Act, 1991.

Following approval of the final plan, the Reserves will be proclaimed as Native Forest Reserves under the Forestry Act 1950.

The administrative details contained in this document are current as at March 2001.

I hereby approve The POW Lane Native Forest Reserves Management Plan for implementation.



Ian B Millard
CHIEF EXECUTIVE
SOUTH AUSTRALIAN FORESTRY CORPORATION

22/ 2 /2001

CONTENTS

FOREWORD

1. PURPOSE, LEGAL DESIGNATION, PLANNING AND PROTECTION

1.1 The POW Lane Native Forest Reserves

- 1.1.1 Statement of Purpose
- 1.1.2 Significant Values
- 1.1.3 Location and access
- 1.1.4 Administration

1.2 Land Tenure

1.3 Planning

1.4 Native Forest Management, Policy and Philosophy

1.5 Legislative Protection of Flora and Fauna

- 1.5.1 Forestry Act 1950
- 1.5.2 National Parks and Wildlife Act 1972
- 1.5.3 Native Vegetation Act 1991

2. NATURAL RESOURCES

2.1 Climate

2.2 Physical Environment

- 2.2.1 Regional Geology and Soil Parent Material
- 2.2.2 Local Geology
- 2.2.3 Soils
- 2.2.4 Hydrology

2.3 Petroleum and Mining Resources

- 2.3.1 Petroleum and Mining Acts.

2.4 Biological Environment

- 2.4.1 Vegetation
- 2.4.2 Fauna

3. LAND USE

3.1 History

- 3.1.1 Acquisition and Name

3.2 Historical Impacts

- 3.2.1 Grazing
- 3.2.2 Timber Production
- 3.2.3 Wildfire
- 3.2.4 Prescribed Burning
- 3.2.5 Other Impacts
- 3.2.6 Exotic plants and animals

3.3 Current Uses

3.3.1 Conservation

3.3.2 Community Use

3.4 Adjacent Land Use

4. MANAGEMENT OBJECTIVES

4.1 Native Forest Management Philosophies

4.2 Long-term Management Objectives For Native Forest Reserves

4.2.1 Conservation Management

4.2.2 Community Use

4.2.3 Protection

4.2.4 Rehabilitation

5. FIVE YEAR MANAGEMENT PROGRAM

5.1 Conservation Management

5.2 Community Use

5.3 Protection

6. NATURAL RESOURCE DATA

7. APPENDICES

REFERENCES

ACKNOWLEDGEMENTS

1. Purpose, Legal Designation, Planning and Protection

1.1 The POW Lane Native Forest Reserves

1.1.1 Statement of Purpose

The POW Lane Native Forest Reserves will be managed and protected to maintain and enhance their bio-diversity as an enduring and dynamic ecosystem.

1.1.2 Significant Values

The *Biodiversity Plan for the South East of South Australia* acknowledges that ForestrySA manages the largest inland area of remnant native vegetation in the Lower South East containing populations of plant and animal species, and plant communities of high conservation significance at both the State and Regional level. The POW Lane Native Forest Reserves contain two of these remnants contributing to the bio-diversity of the Region.

The following criteria have been used to determine the conservation and cultural values of The POW Lane Native Forest Reserves:

Conservation Values

- These Reserves are two of only a few isolated remnants containing native flora and fauna in this district and are important representatives of the original sand plain and dune habitats existing prior to European settlement.
- The Heath NFR (Native Forest Reserve) contains 204 hectares of relatively undisturbed native vegetation which occurs on a shallow sand plain formerly subject to seasonal waterlogging before recent lowering of the water-table. Privately owned native forest adjoining and in close proximity to the south, and Island Swamp NFR 5 kilometres to the west, provide a total of over 700 hectares of native vegetation which makes an important contribution to bio-diversity in this locality where most of the natural low forest and woodland has been cleared for forestry and agriculture.
- The vegetation associations are dominated by one of the following tree species depending on the soil water regime; *Eucalyptus baxteri*, *E. camaldulensis*, *E. ovata*, or *E. viminalis* ssp. *cygnetensis*. The Heath NFR conserves important areas of the regionally endangered Manna gum and vulnerable River Red gum woodland vegetation associations.
- A total of 124 native plant species have been recorded for these Reserves to date. Of these 22 have a conservation status rating equal to or greater than Uncommon for the South East Region of South Australia.

- Eastern Grey Kangaroos rated as Vulnerable in South Australia, Red-necked Wallabies (Rare) and Sugar Gliders (Endangered) occur in The Heath NFR. The Southern Brown Bandicoot rated as Vulnerable has been reported in this Reserve. Surveys in 1998/99 recorded evidence of only low levels of bandicoot occupancy in the Reserve, however evidence of a larger population was recorded in roadside and privately owned native vegetation one kilometre to the east.
- The Heath NFR and the adjoining privately owned native forest have the potential to provide Yellow-bellied Glider habitat with very little effort being required to more effectively link these two areas.

Cultural Heritage

- These Reserves are within the territory formerly occupied by the Bunganditj Tribe. However no evidence of occupation sites has been observed as they were generally located on drier and more elevated ground near permanent water.
- A map of Pastoral Leases in the South-East of S.A. circa 1865 shows that The Heath and possibly Island Swamp NFRs were within Lease No. 182 'Kilbride' also known as 'Nangwarry' in the names of A. Watson and C. Mc Kinnon.
- Following surveys for closer settlement the area which now includes The Heath NFR was offered as Perpetual Crown Lease, one lease including Section 103 was taken up in 1907 by E.J. & G.D. Drewitt of Kalangadoo, the other including Section 121 in the same year by Arthur Gray of Penola. The Leases of both sections were transferred to members of the Yeates family in 1922 and 1924 respectively, and were surrendered and repurchased by ForestrySA from E.G. Yeates in 1982.
- A timber framed and clad hut which was located within The Heath NFR and previously used as a camp by sleeper cutters and rabbit trappers was destroyed by the 1983 wildfire. This hut, previously used to dry tobacco on a farm near the Penola Hundred Line, was relocated to The Heath NFR by the Yeates brothers.

1.1.3 Location and Access

Location

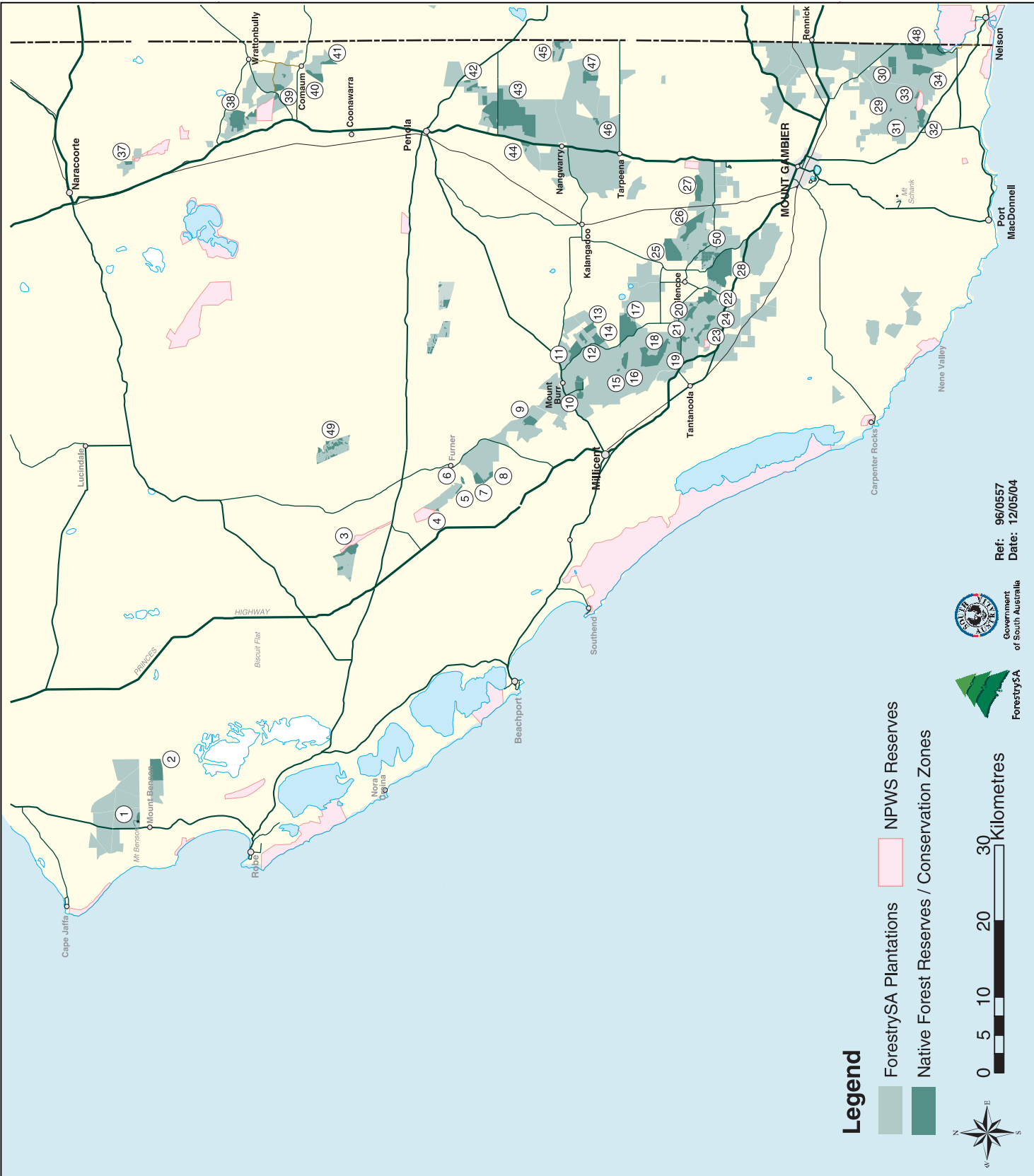
The POW Lane Native Forest Reserves include two individual Reserves containing a total of 246.7 hectares located between 6 and 10 kilometres south-east of Nangwarry (Figures 1 and 2.1 – 2.2). The Reserves are shown as natural vegetation, but not named, on the SA Department for Environment and Heritage 1:50,000 Topographic Map "NANGWARRY" 7022-1 (See Table 1 for cadastral locations).

The Reserves are sub-divided into compartments by fire-breaks and access tracks for management purposes (Figure 3.1 – 3.2).

FIGURE 1

Native Forest Reserves

No.	N.F.R. Name	Area (ha)
1	Mount Benson	66.2
2	Bagdad	453.6
3	Konetta	241.6
4	Gillap North	12.9
5	Gillap South	25.1
6	Kennion	30.7
7	Rocky Reserve	131.8
8	White Waterhole	60.2
9	Malone Heath	156.3
10	Kay	249.9
11	Whennen	244.4
12	Mount McInyre	63.1
13	McRosies	111.2
14	Overland Track	144.1
15	Rock Shelter	12.4
16	Burr Slopes South	135.5
17	The Marshes	596.5
18	Native Wells	619.5
19	Glencoe Hill	66.6
20	Mount Watch	49.9
21	Windy Hill	139.6
22	Long	147.1
23	The Bluff	73.1
24	The Woolwash	263.6
25	Hackett Hill	493.1
26	Wandillo	425.2
27	Grundy Lane	287.7
28	Honan	1026.8
29	Laslett	9.5
30	Snow Gum	191.8
31	Hells Hole	4.1
32	Warreanga	250
33	Pond Flat	32.8
34	Honeysuckle	266.4
37	Cave Range	45.3
38	Deadmans Swamp	538
39	Wombat Flat	151.1
40	Conaam	157
41	Boolara	84.2
42	Round Waterhole	118.4
43	Nangwarry	2213.6
44	Muddy Flat	64
45	Topperwein	175
46	Island Swamp	42.6
47	The Heath	203.7
48	Dry Creek	745.8
49	Khayyam	214.7
50	Kangaroo Flat	302.8



Legend

- ForestrySA Plantations
- NPWS Reserves
- Native Forest Reserves / Conservation Zones



Ref: 96/0557
Date: 12/05/04

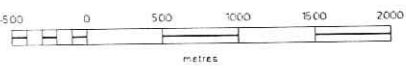


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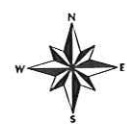
FIGURE 2.1



Gross Area = 203.6 ha



**THE HEATH NATIVE FOREST RESERVE
CADASTRAL BOUNDARIES**

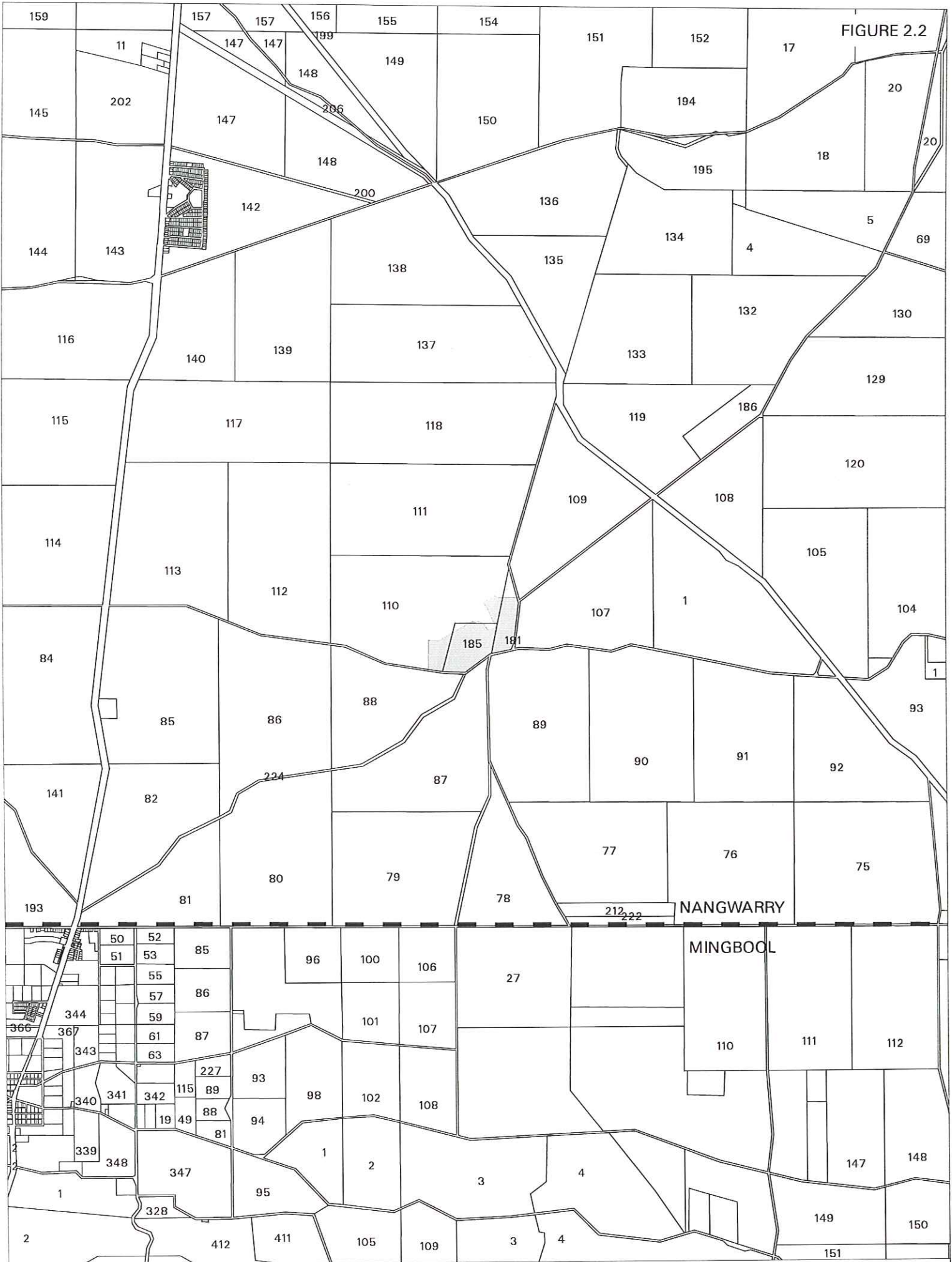


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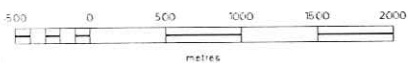
04-MAY-2000

(POW LANE NATIVE FOREST MANAGEMENT PLAN)

FIGURE 2.2



Gross Area = 42.6 ha



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ISLAND SWAMP NATIVE FOREST RESERVE

CADASTRAL BOUNDARIES

(POW LANE NATIVE FOREST MANAGEMENT PLAN)

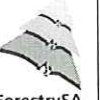
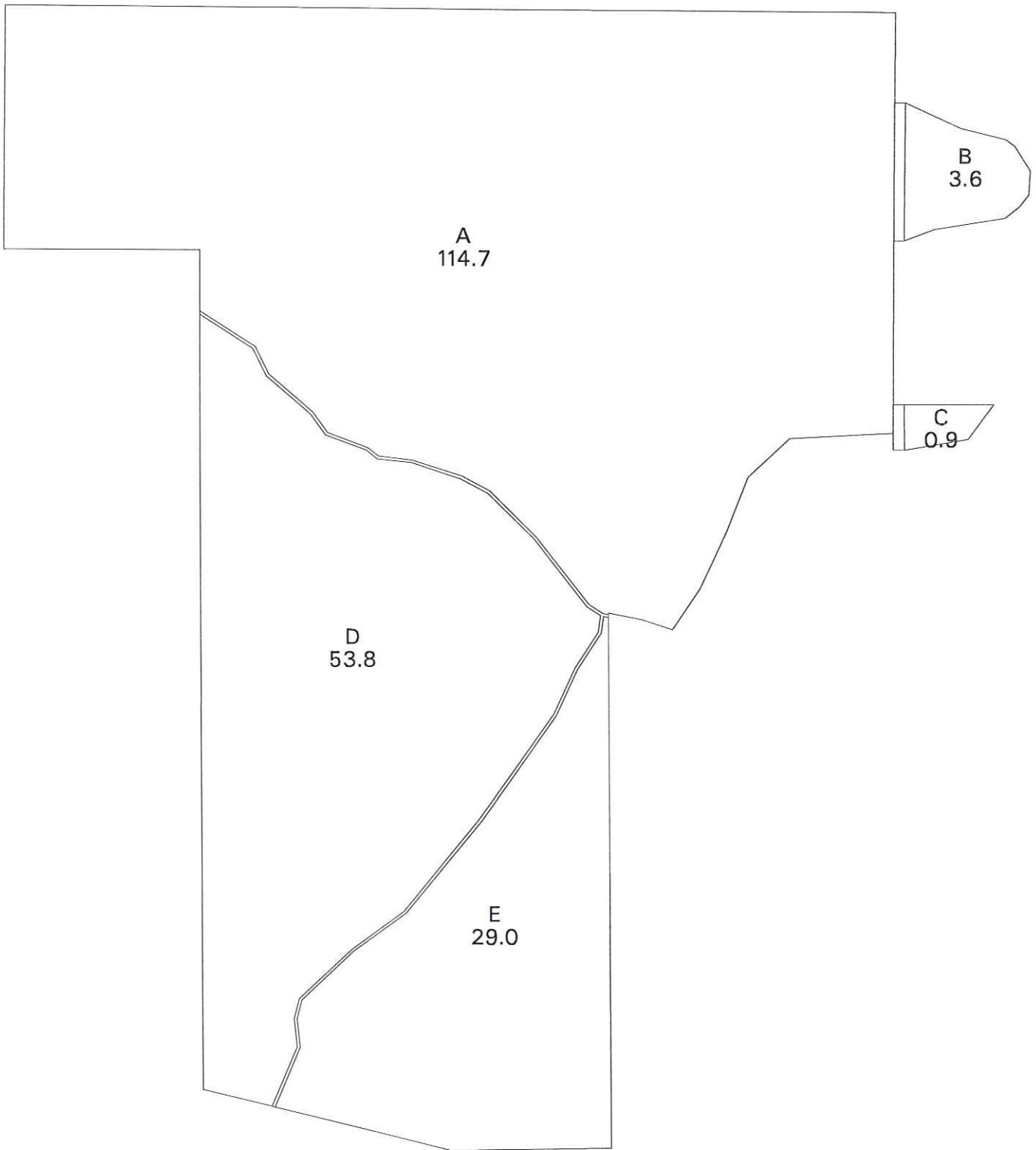
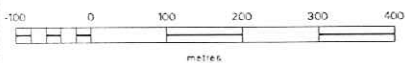


FIGURE 3.1



Gross Area = 203.6 ha

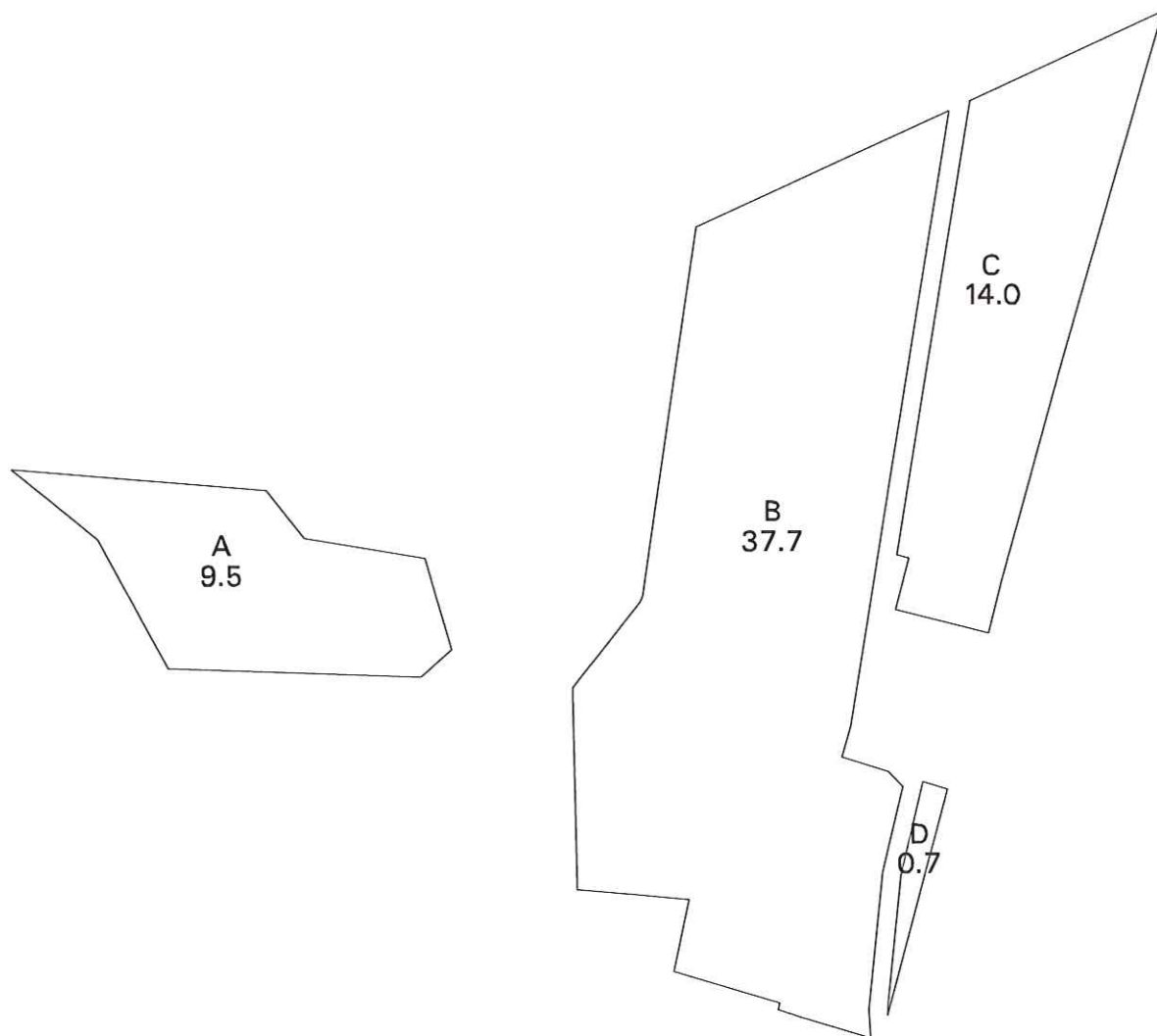


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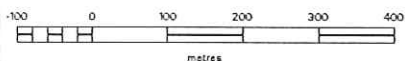
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THE HEATH NATIVE FOREST RESERVE
COMPARTMENT CODES
(POW LANE NATIVE FOREST MANAGEMENT PLAN)





Gross Area = 62 ha



Ref : 96/0557/7

17-JUL-2000

MUDDY FLAT NATIVE FOREST RESERVE
COMPARTMENT CODES
(REDGUM NATIVE FOREST MANAGEMENT PLAN)



Table 1. Cadastral locations

Reserve	Area (ha.)	Section	Hundred	District Council
THE HEATH	204.1	103,121pts.102&122	NANGWARRY	WATTLE RANGE
ISLAND SWAMP	42.6	Pts. 110,181&185	NANGWARRY	WATTLE RANGE
TOTAL	246.7			

Foot Access

Foot access to all areas is unrestricted during daylight hours except on days when a Total Fire Ban is imposed or where erected signs or notices restrict access to specific areas.

Vehicle Access

Access to and within The POW Lane Native Forest Reserves is by improved and unimproved public roads, forest tracks and firebreaks.

Vehicular access by the public within the Reserves may be restricted by provision of the Regulations under the Forestry Act, 1950.

1.1.4 Administration

The Native Forest Reserves are managed by ForestrySA. The address is ForestrySA, Jubilee Highway East, Mount Gambier 5290.

All permits for access and approved activities are issued from this office.

1.2 Land Tenure

The POW Lane NFRs are gazetted as Forest Reserves under the Forestry Act 1950. ForestrySA¹, a business unit of the Department for Administration and Information Services, is responsible for the management of 126,000 hectares of gazetted Forest Reserves in South Australia.

Approximately 20,500 hectares of this land is native forest, woodland or enclosed wetland, located in the Southern Flinders Ranges (4,000 hectares), the Mount Lofty Ranges (4,400 hectares) and the Lower South East of South Australia (12,000 hectares).

1.3 Planning

Land managed by ForestrySA is zoned to define areas that are to be managed for commercial forestry or for conservation.

Specific Native Forest Management Plans are prepared for each of the larger areas designated for conservation due to their ecological importance. The POW Lane Native Forest Reserves includes two of these areas.

¹ ForestrySA formerly known as Primary Industries Forestry and the Woods and Forests Department

Community use of Forest Reserves is not restricted to specific areas but determined according to compatibility and impact on other land uses. Planning for community use covers both commercial plantation forest and native forest areas. Community use considerations specific to individual areas of native forest are included in the respective Native Forest Management Plans.

Fire prevention considerations for areas of native forest are outlined in the Local Government "District Bush Fire Prevention Plan", a requirement of the Country Fires Act 1989. Further detail on wild fire control is provided in Section 5.3.1 Five Year Management Program.

1.4 Native Forest Management, Policy and Philosophy

ForestrySA manages some of the few remnant areas of native forest and woodland predominantly in the higher rainfall areas of South Australia, together with their associated fauna. These areas contribute significantly to the natural assets of the State and have been managed as Forest Reserves under the Forestry Act for 50 or more years by ForestrySA, formerly the Woods and Forests Department, which was established in 1882.

ForestrySA's primary management objective for areas of native forest under its management control is to conserve and enhance the native flora and fauna and preserve bio-diversity, for the long-term benefit of the South Australian community.

The native vegetation managed by ForestrySA occurs mainly as isolated fragments. Prior to the early 1950s most areas were disturbed by timber cutting, grazing, fire and invasion by introduced plants. Since then, most of these areas have remained relatively undisturbed.

Compared with other remnant areas of native vegetation in South Australia those managed by ForestrySA are often the least disturbed due to their long history of consistent land tenure.

Areas of native vegetation may require specific management prescriptions to achieve conservation objectives depending upon their disturbances histories. These may include:-

- total protection of areas and/or parts of areas from any further disturbances eg. weed invasions, grazing, pest animals;
- protection from bushfires;
- restricting public access;
- rehabilitation of the over-storey or the understorey vegetation;
- re-introduction of selected species of flora and fauna;
- ecosystem management by the use of prescribed fire.

1.5 Legislative Protection of Flora and Fauna

1.5.1 Forestry Act 1950

The Forestry Act provides for the declaration of Native Forest Reserves for the purpose of conserving native flora and fauna.

Regulations under this Act enable enforcement of measures to protect Native Forest Reserves.

The Act states in respect to Forest Reserves and Native Forest Reserves that :-

- 3. (1) The Governor may by proclamation
 - (b) for the purposes relating to the conservation, development and management of land supporting native flora and fauna, declare a forest reserve, or part of a forest reserve, to be a native forest reserve;
- 3. (2) A proclamation declaring a forest reserve or part of a forest reserve to be native forest reserve shall contain a statement of the purposes for which the native forest reserve is established.
- 9.A Notwithstanding any other provision of this Act, the Minister shall manage a native forest reserve having regard to the purposes for which it was established and shall endeavour to ensure that no operations are undertaken on the reserve that are inconsistent with those purposes.

1.5.2 National Parks and Wildlife Act 1972

The object of this Act is to provide legislative framework for the management and protection of native plants and animals throughout South Australia.

For any activity that involves the removal or capture of native plants or animals, permits must be obtained from both the Department for Environment and Heritage, and ForestrySA.

For any activity that involves hunting, permits must be obtained from the Department for Environment and Heritage, and prior written approval must be obtained from ForestrySA.

1.5.3 Native Vegetation Act 1991

The object of this Act is to control clearance and to facilitate and assist management of native vegetation in South Australia.

Under the Act, in most circumstances, a range of activities defined as clearing may not occur without the prior consent of the Native Vegetation Council (Sections 27 to 29). This includes the prescribed use of fire or selective cutting of trees for restoration purposes. Both of these activities may be approved as part of a management plan and compliance with this is mandatory.

2. NATURAL RESOURCES

2.1 Climate

The Reserves have a typical Mediterranean climate with warm dry summers and cool wet winters.

The following mean temperature and rainfall records were obtained from the Bureau of Meteorology – Climate Averages for the former Penola Forest Headquarters 11 kilometres to the north of these Reserves for the period 1954 – 1996.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yr.
Mean Max (C)	26.5	27.3	24.5	21.0	17.3	13.9	13.7	14.7	16.2	19.5	21.5	24.6	20.9
Mean Min (C)	11.8	12.1	11.1	8.9	7.3	5.2	4.5	5.1	6.4	7.7	8.9	10.6	8.8
Mean Rainfall (mm)	27	20	33	54	69	83	103	99	76	60	46	39	709
Mean No. Rain Days	8	6	9	12	16	18	21	21	17	15	12	11	166

Average annual rainfall for these Reserves based on the preceding information and the isohyet map for the region is estimated to be 710 mm.

2.2 Physical Environment

2.2.1 Regional Geology and Soil Parent Material

The geological evolution of the South East Region of SA is closely related to the separation of the Australian and Antarctic Continents, formerly parts of the super-continent Gondwana, beginning about 150 million years ago. Sequences of terrestrial, riverine-deltaic and marine sediments, characteristic of fluctuating sea levels, were laid down in the resultant depression now known as the Otway Basin. The western most portion that underlies the region in SA is known as the Gambier Embayment.

Flooding of the Gambier Embayment, associated with a warm temperate climate during the Miocene period, provided conditions for the deposition of bryozoal limestone now referred to as Gambier Limestone. Since that time, due to the slow tectonic uplift of the Gambier Embayment, the low coastal plain gradient, and glaciation sequences, sea level oscillation has produced variable erosion of the Gambier Limestone and a series of stranded coastal dunes.

Aeolian sands spread and resorted by wind deflation, and volcanic fissure eruptions in more recent times have produced additional topographic relief and soil parent material in a relatively flat relict coastal plain.

A more detailed explanation of the geology and soil parent materials of the region can be found in the Natural History of the South East, (Tyler et al. 1983).

2.2.2 Local Geology

The Heath and Island Swamp NFRs are located on broad swales or low dunes below 70 m above sea level associated with the original Strathdownie Dune System and represent the Young/Lindsay Land Unit (L.U.). The calcarenite dune remnants adjacent (Myaring L.U.) are eroded but survive as numerous terra rossa soil exposures and in several quarries. The surface materials of the swales are aeolian sand sheets (Short sand) of Quaternary and Recent age. They are moderately – to strongly – leached (mostly) acid white sands of the Young/Lindsay L.U. The soils of this Land Unit are severely deficient in phosphorus, copper, manganese and zinc. These sands are underlain by lagoon deposits of the Malanganee formation. Whalers Bluff Formation lies below and rests on Gambier limestone basement which is almost completely eroded, only 13m depth remaining above Knight Group sediments. Impeded drainage results from clay layers at shallow depth on the Malanganee Formation and it imposes solodic features, particularly at The Heath NFR. (Boardman, R. 1992)

2.2.3 Soils

Six soil types, as described by Stephens (1941), including their variants and transitionals have been identified by ForestrySA in surveys carried out in adjacent plantations and in the pre-purchase survey of The Heath block.

Swamp soils - formed in shallow enclosed depressions and are moderately organic overlying greyish or bluish clays. These sands were subject to waterlogging for much of the year in periods of normal rainfall. All swamps were dry in May 2000.

Kalangadoo Sand - a meadow podsol occupies some of the sand flats some times as a transitional with Wandilo Sand and may be subject to seasonal waterlogging.

Short Sand - a meadow podsol with a relatively deep sand profile occurs on flats and low areas subject to waterlogging in winter.

Kilbride Sand - a humus podsol subject to extreme leaching associated with impeded drainage and seasonally high water tables occurs on lower dune slopes.

Nangwarry Sand - a normal podsol with varying depth to clay occurs on the deeper dunes with better drainage.

Terra rossa Soils - a sandy loam derived from limestone parent material is present as a minor occurrence at Island Swamp NFR only.

2.2.4 Hydrology

Average rainfall for these Reserves is estimated to be 710 mm per annum (see Section 2.1 Climate). At this time (May 2000) there are no permanent swamps, surface streams or drains in these Reserves. Rainfall is absorbed through the soil to the water-table measured in May 2000 at 4.8 metres below ground level in a monitoring bore approximately 200 metres to the east of Compartment A at The Heath NFR. The water-table in the same bore measured 0.7 metres in September 1989 which suggests that ground water recharge in this area has been reduced due to below average rainfall, and increasing uptake by the surrounding plantations re-established since the 1983 wild fire.

All former swamps including sumps excavated within them in the past to access water at lower levels are now dry. Species relying on permanent water for survival eg. Bulrush and Tall Spike-Rush are now dead at Island Swamp NFR reflecting the impact of this change in the water table.

At Island Swamp NFR Manna gums which had grown on former swampland dried out by surrounding pine forest planted in the period 1953 – 1971 have died. This is thought to be due to a significant rise in the water-table and re-flooding of this land when these plantations were burnt in 1983. Pine forest replanted from 1988 to 1993 has now lowered the water-table to pre 1983 levels.

2.3 Petroleum and Mining Resources

The south-east of South Australia and western Victoria is a proven petroleum exploration/production province referred to as the Otway Basin. There are numerous small natural gas and carbon dioxide fields in production or in development, both onshore and offshore. There are also several oil shows/discoveries in exploration wells, some of which may be commercially viable and be developed at some time in the future.

Petroleum Exploration Licence (PEL) 32 and 66 exist over all of Island Swamp and part of The Heath NFRs. (See Appendix II) These tenements provide rights to explore for petroleum beneath the Reserves and adjacent lands. The PEL also permits the licensee to apply for Petroleum Production Licences in the case of resource discovery. (M. Bayly, pers.comm.)

This plan recognises the potential for mineral resources to be present and recoverable beneath these Native Forest Reserves.

2.3.1 Petroleum Act 2000 and Mining Act 1971.

These Acts regulate all activities relating to exploration and production. In regard to flora and fauna, there are requirements to avoid, or where not reasonably practicable, minimise environmental impacts. In this regard, impacts to native vegetation are permitted without requirement of consent under the Native Vegetation Act 1991.

2.4 Biological Environment

The Natural History of the South East (Tyler et al 1983) provides more general details of this Region's environment and associated flora and fauna.

2.4.1 Vegetation

The greater part of these Reserves is located on sand flats with clay at a relatively shallow depth which in the past have been subject to seasonal waterlogging or inundation. With the exception of some heath and swamp land, the vegetation is dominated by one or more of four tree species, viz. *Eucalyptus baxteri*, *E. ovata*, *E. camaldulensis* var. *camaldulensis* and *E. viminalis* ssp. *cygnatensis*.

The following vegetation associations have been identified by the author, and their more common constituent species listed.

***Eucalyptus baxteri* (Brown stringybark) Association**

E. baxteri occupies the deeper dunes and better drained flats. *Acacia melanoxylon* may be present over shrub and ground flora species comprising *Banksia marginata*, *Leptospermum myrsinoides*, *Acacia oxycedrus*, *Pteridium esculentum*, *Astroloma conostephioides*, *Amperea xiphoclada*, *Isopogon ceratophyllus*, *Dianella revoluta* var. *brevicaulis*, *Hypolaena fastigiata*, *Brachyloma ciliatum*, *Styphelia adscendens* and *Astroloma humifusum*.

***Eucalyptus camaldulensis* var. *camaldulensis* (Red gum) Association.**

The northern third of The Heath NFR is dominated by *E. camaldulensis* on a shallow sand flat which in periods of normal rainfall and prior to the extensive adjoining pine plantations would have been subject to seasonal flooding. *Acacia mearnsii* and *A. melanoxylon* may be present over shrub and ground flora comprising *Leptospermum continentale*, *Lomandra longifolia*, *Melaleuca brevifolia*, *Juncus pallidus*, *Isolepis nodosa*, *Xanthorrhoea caespitosa*, *Lepidosperma concavum*, *Leptocarpus tenax*, *Hibbertia prostrata*, *A. humifusum*, *Poa labillardieri* var. *labillardieri* and *Danthonia* sp.

***Eucalyptus ovata* (Swamp gum) association**

Small areas of *E. ovata* occur on the fringes of wet depressions and open patches of heath. *A. melanoxylon* may be present over shrub and ground flora species comprising *B. marginata*, *L. continentale*, *L. myrsinoides*, *Allocasuarina paludosa*, *X. caespitosa*, *A. conostephioides*, *L. concavum*, *Baumea juncea*, *Acrotriche serrulata*, *H. fastigiata*, *S. adscendens* and *Danthonia* sp.

***Eucalyptus viminalis* ssp. *cygnetensis* (Manna gum) Association**

Relatively large areas are dominated by *E. viminalis* ssp. *cygnetensis* on both shallow sand flats and to a lesser extent lower slopes and rises where bracken may be the dominant ground cover. *A. melanoxylon* is generally present and *A. mearnsii* may be present over shrub and ground flora comprising *L. continentale*, *Calytrix tetragona*, *X. caespitosa*, *L. longifolia*, *I. nodosa*, *Patersonia fragilis*, *D. revoluta* var. *brevicaulis*, *L. concavum*, *L. tenax*, *A. conostephioides*, *A. humifusum* and *S. adscendens*.

Open Heath Association

Areas of heath which are contracting in size due to the falling water table are dominated by *L. continentale*, *A. paludosa*, *M. brevifolia*, *Melaleuca gibbosa*, *B. marginata*, *C. tetragona*, *A. conostephioides*, *P. fragilis*, *L. concavum*, *Lomandra juncea*, *H. fastigiata* and *Bossiaea prostrata*.

A total of 124 native plant species have been recorded for The POW Lane NFRs of which 22 have a conservation status of Uncommon or higher rating for the South East of South Australia (Table 1, Natural Resource Data).

2.4.2 Fauna

No formal or comprehensive fauna surveys have been carried out in these Reserves. Observations by The Mount Gambier Field Naturalists Group, individuals researching selected fauna species and ForestrySA staff have been recorded and are listed in Tables 2 and 3 in the Natural Resource Data section of this management plan.

Birds

Bird species can be grouped according to their preferred habitat. The presence of species from many different groups reflects the diversity of habitat that these Reserves provide. Fifty-six species have been recorded for these Reserves. (Table 2, Natural Resource Data).

The following species have a South Australian conservation status rating of Vulnerable or Rare.

Yellow-tailed Black Cockatoo	V
Shining Bronze-Cuckoo	R
Crested Shrike-tit	V
Blue-winged Parrot	V
Southern Emu-wren	V
Painted Button-quail	V
Latham's Snipe	V

Tom Yeates, a long time resident and relative of the former owners provides some interesting information about the environment in the 1930s when Snipe shooting was arranged for the 'gentlemen' of the region attracting shooters from Mt. Gambier, local towns and properties. Snipe in large numbers occupied the then extensive swamp and heath-land, Brolga and Native hens were also plentiful at that time.

Mammals

Ten native mammal species, not including Bats, have been recorded in these Reserves (See Table 3, Natural Resource Data).

Of these, six species have a conservation status rating of Endangered, Vulnerable, Rare or Uncommon viz.,

Sugar Glider	E
Eastern Grey Kangaroo	V
Southern Brown Bandicoot	V
Koala	R
Red-necked Wallaby	R
Swamp Rat	U

One hundred Koalas from Kangaroo Island were released into The Heath NFR and 186 into adjoining private properties to the south and south-east between December 1997 and February 1999 in a relocation program to reduce numbers on Kangaroo Island . A recent survey to locate Koalas was not successful, indicating that their presence is at a low level per unit area which implies that they may be having only a low level impact on the Manna gums, their preferred food source in this locality.

Reptiles and Amphibians

To date because there has been no survey of reptiles or amphibians, only the Shingle-back (*Tiliqua rugosa*) has been recorded in these Reserves. It is reasonable to expect that many more species occur in this habitat.

3. LAND USE

3.1 History

According to Tindale (1974), Aboriginal people of the Bunganditj tribe occupied the territory which includes these Native Forest Reserves. Because these Reserves are located mainly on formerly wet flats and low sandy rises, no evidence of permanent occupation sites have been observed or would be expected due to their preference for elevated dry camp sites near permanent water. However the areas including these Reserves would have provided opportunities to harvest both plant and animal foods.

3.1.1 Acquisition and Name

The Heath NFR

The Perpetual Crown Lease on Sections 102 and 122 Hd. of Nangwarry was repurchased for forestry purposes for \$1.75 per hectare in 1927 and were gazetted as Forest Reserve on 26.6.30. The Perpetual lease on Sections 103 and 121 last held by E.G. Yeates was purchased for forestry purposes for \$494 per hectare in October 1982 and were gazetted as Forest Reserve on 9.12.82.

Following an assessment of this land in 1936 Forester R.H.Davey reported that ' *Sec. 103 is 90% unsuitable (for pine establishment) being portion of a heathy flat* '.

A report by Forest Resources Officer A. Keeves dated 4.1.82 prior to the purchase of this land recommended in part that '*The native forest areas be retained and reserved. Some rehabilitation of the native forest and prescribed burning may be necessary* '.

Island Swamp NFR

The Perpetual lease held on Section 110 Hd. of Nangwarry was repurchased for forestry purposes for \$2.47 per hectare in January 1922 and gazetted as Forest Reserve on 13.7.22. The lease held on Sections 181 and 185 were repurchased for forestry purposes for \$8.65 per hectare in 1927 and were gazetted as Forest Reserve on 26.6.30.

The derivation of the names used to identify these Reserves is as follows;

The Heath refers to the vegetation type influenced by poorly drained and infertile sands subject to seasonal inundation. Parts of Section 103 and adjoining sections were described as '*Turkey Heath princly Yacko tussocks* ' by the surveyor in 1883. The descriptive name Turkey Heath was applied to this type of bio-physical environment at that time and later. A property 8 kilometres to the south-east is named Turkey Heath.

Island Swamp was the local name applied to this area from earlier times when winter swamp levels rose to completely surround an elevated part of this Reserve.

POW LANE, the title of this plan is taken from the road with the same name shown on the NANGWARRY 1 : 50000 Topographic Map. Both Reserves are located on this road.

The following extract is taken from The Woods and Forests Department Annual Report 1943/44 ;

' The average number of persons employed by the department during the year was 423, but, in addition, 105 prisoners of war and 210 members of the Civil Aliens Corps were available for certain periods.

Three camps each capable of housing 50 prisoners of war, and necessary attendant A.M. F. personnel were erected on three South –Eastern forests.'

The last of the camp buildings on Penola Forest Reserve were demolished in the early 1960s.

3.2 Historical Impacts

3.2.1 Grazing

There has been no grazing in these NFRs since purchase by ForestrySA . At The Heath in particular, this factor, regeneration following the 1983 wildfire, a long term trend towards drier soil conditions, and significantly according to neighbour David Yeates a reduction in rabbit numbers have combined to produce many more trees. The fence on the northern boundary of The Heath was erected to prevent sheep entering the native forest when grazing was used as a management tool between pine rotations on the adjoining land to the north.

3.2.2 Timber Production

Red gum trees were felled and cut for sleepers from The Heath NFR and adjoining areas in the early 1940s. According to Tom Yeates the cutters lived in a timber framed and clad hut in the northern part of the Reserve which was destroyed by fire in 1983. Some trial loads of Manna gum were cut for Cellulose Australia Ltd. fuel wood in the 1950s, but this operation was discontinued probably due to the degree of difficulty in cutting and splitting this wood compared with Brown Stringy-bark. Access to Brown Stringy-bark on this property was denied by the owner at the time because he wanted to save it to meet his fencing materials requirement.

The size, age class and coppice regrowth on old cut stumps suggests that the relatively small area of Brown Stringy-bark reserved at Island Swamp NFR was cut for fuel-wood.

3.2.3 Wildfire

There is no record of wild fires in these Reserves prior to 1983. Both Reserves were burnt completely on the 16th February 1983 by a high intensity fire fanned by strong SW winds. Island Swamp and the north-west half of The Heath were severely burnt and this is still evident at The Heath where retained dead branches and stem fire scarring is noticeable on the Red and Manna gums. Island Swamp NFR was burnt by a moderate wildfire in 1991. (Figures 4.1 and 4.2)

It is interesting to note the comment '*Burnt Stringybark forest and ferns*' recorded on the original survey diagrams produced in 1883 for adjacent sections to the north.

3.2.4 Prescribed Burning

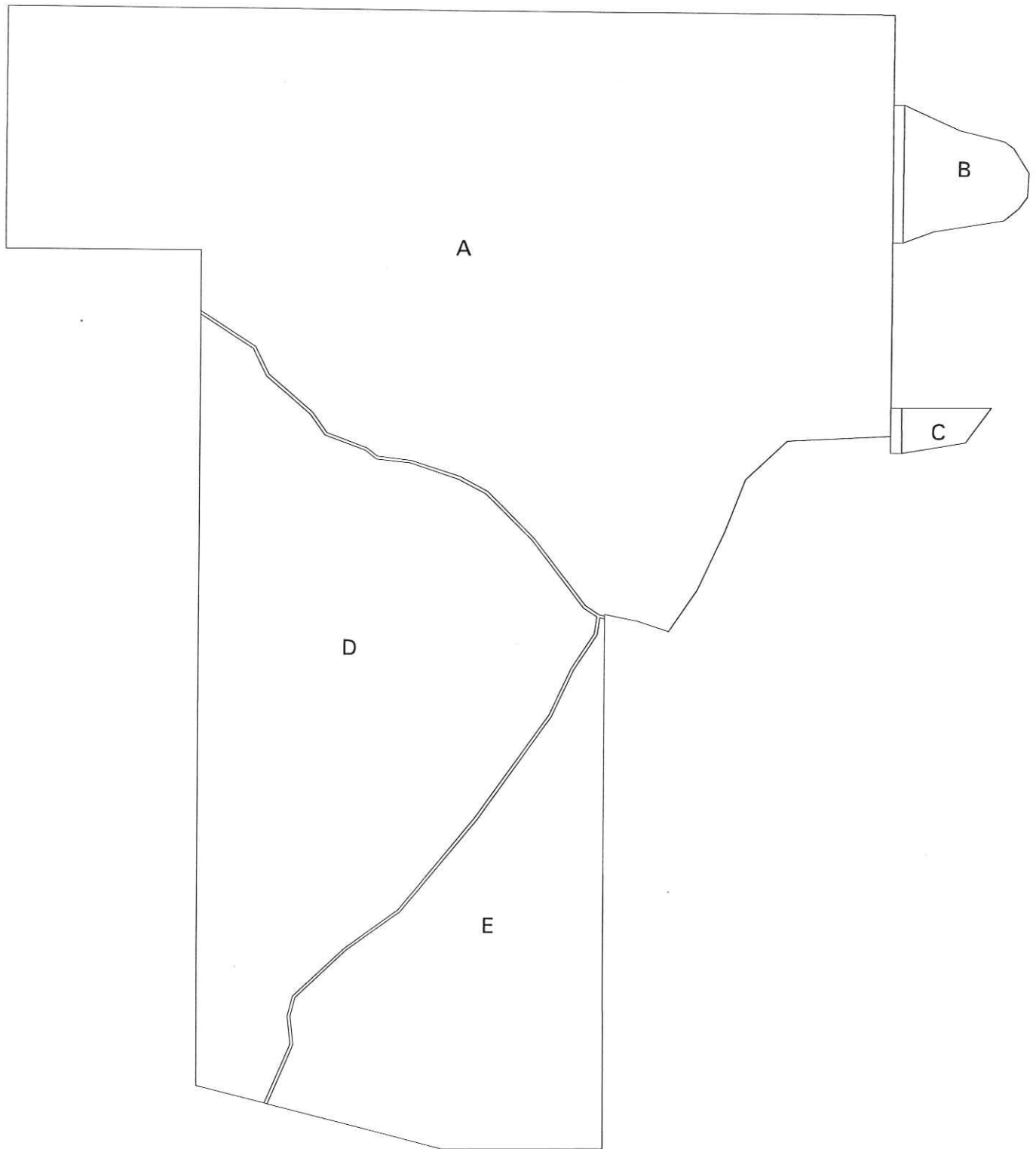
Prescribed burning, then described as patch burning, was carried out by the previous owners of The Heath NFR with assistance from ForestrySA staff in the 1960s. The objective of this burning was to reduce fuel loads in native forest near pine plantations and to freshen up ground flora for sheep grazing. There is no record of prescribed burning at Island Swamp NFR.

Prescribed Burning Policy

In 1971, in recognition of the conservation value of the native forests and the limited knowledge of the ecological impact of repeated burning, ForestrySA (then Woods and Forests Department) developed a prescribed burning policy with the objective of carrying out low intensity mosaic burning in native forests at intervals of 3 - 8 years. Some areas were scheduled for longer intervals between burns, and certain areas were excluded from burning to provide scientific reference (benchmark) areas.

The policy was reviewed in 1985, 1992 and 1998, continuing the emphasis on habitat management.

FIGURE 4.1



All Burnt by Wildfire 1983

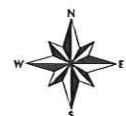
Gross Area = 203.6 ha

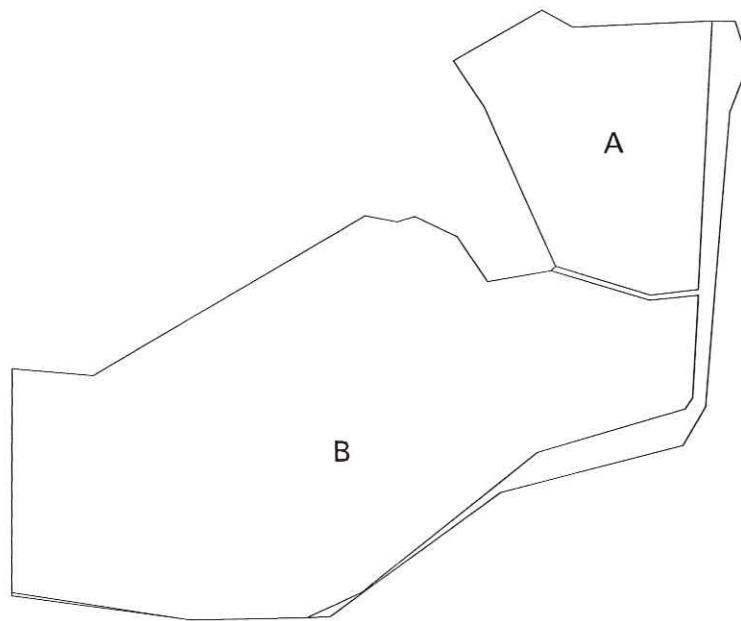


Ref : 96/0557/7

04-MAY-2000

THE HEATH NATIVE FOREST RESERVE
WILDFIRE AND PRESCRIBED BURNING HISTORY
(POW LANE NATIVE FOREST MANAGEMENT PLAN)





All Burnt by Wildfire 1983 & 1991

Gross Area = 42.6 ha



**ISLAND SWAMP NATIVE FOREST RESERVE
WILDFIRE AND PRESCRIBED BURNING HISTORY
(POW LANE NATIVE FOREST MANAGEMENT PLAN)**



The objectives of ForestrySA's current Prescribed Burning Policy which schedules burning of varying intensity and interval in selected compartments while maintaining other compartments as unburnt reference areas, is to:

- create and maintain floristic and structural diversity
- optimise species presence and minimise further local extinctions
- reduce wildfire intensities to improve survival and re-colonisation opportunities
- protect assets by fuel reduction in limited strategic areas.

The policy recommends alternating prescribed fire intensity from low to high for consecutive fires in the same compartment. The seasonal timing of the fire, ie, spring or autumn may also vary depending on assessed vegetation diversity and development and the requirement for species regeneration.

The minimum interval between burns has been based on the reproductive period of the major over-storey species *Eucalyptus baxteri* which has been established to be about 10 years. The reproductive period is the time necessary for a seedling to mature to sufficient size to produce its own seed and be able to survive the effects of the next scheduled fire. The minimum interval is flexible beyond 10 years such that scheduled burning will be postponed in drought years if the area to be burnt represents more than 25% of the Reserve.

The previous fire history of a compartment is considered when planning future prescribed burning.

Because much of the area on both Reserves is dominated by vegetation other than the *E. baxteri* association on which ForestrySA prescribed burning policy is based, burning has not been scheduled, but this decision will be reviewed during the 5 year period of this plan.

3.2.5 Other Impacts

The track between Compartments A and D at The Heath NFR was established in August 1999 to segregate the Red gum and Manna gum associations to facilitate future management operations including prescribed burning, and to provide access and an internal break to defend in the event of a wildfire.

3.2.6 Exotic plants and animals

Rabbits and foxes are known to inhabit The POW Lane NFRs and may have modified the biological community during their long period of occupation. Fallow and Red deer are sighted infrequently in this area a legacy of animals released during drought conditions in 1914 from Nangwarry Station according to Tom Yeates. The probability is that some animal and plant species have been lost from these Reserves due to predation and competition by introduced pest species. The risk of local extinctions remains with the continued presence of pest species.

The African weed orchid (*Monadenia bracteata*) first discovered in SA in 1988 is established in The Heath NFR, its occurrence here and at several other locations in Penola Forest Reserve and the Lower SE generally may indicate that efforts to contain its spread will be too late. No other introduced weed species that may threaten bio-diversity have been observed.

3.3 Current Uses

3.3.1 Conservation

The areas comprising The POW Lane Native Forest Reserves were set aside for the conservation of flora and fauna in line with forest policy restated in June 1970, which read in part;

“ To maintain, within the care , control and management of the Woods and Forests Department, such sufficient natural forest vegetation as may be needed to conserve the range of natural habitats of indigenous animals and plants thereon, for such of the protective, scientific, recreational and aesthetic needs of the community as it may be practicable to provide from time to time.”

Woods and Forests Department Annual Report 1969/1970.

3.3.2 Community Use

The Heath NFR offers recreation opportunities such as bush walking, bird watching and picnicing in a Red gum woodland setting. Field naturalists and researchers are infrequent visitors to the Reserve.

3.4 Adjacent Land Use

Pine and eucalyptus plantations managed by ForestrySA occupy the majority of the adjacent land. Private native forest and grazing land adjoins the southern boundary of The Heath NFR. An open area used to store salvaged logs under water sprinklers following the 1983 wildfire has been retained for that contingency to the east of compartment E.

4. MANAGEMENT OBJECTIVES

4.1 Native Forest Management Philosophies

In managing native forests ForestrySA recognises the following principles:

- Native Forest Reserves contribute to conserving the last remaining habitat for many species and provide in part a representation of land cover before the gross changes post European settlement.
- The size and relative isolation of many Native Forest Reserves increases the risk of species loss caused by fire, drought or disease, where isolation is a barrier to natural recolonisation.
- Ecosystems are dynamic and will continue to change with time.
- In most instances biological data for decision making represents a single 'snapshot' in time.
- Decisions will generally be for management of ecosystems, communities and processes, as all information on individual species or for all species will never be available.
- Due to the long-term changes in ecosystems, the availability of data showing changes over time is uncommon.
- The least disturbed sites will be protected and used as benchmark areas to monitor changes due to natural succession without fire, and may be used as reference sites for restoration of adjacent disturbed areas.
- The 'scale' of post settlement disturbance may influence the subsequent rates of change in the ecosystem. The larger and more perceptible the scale of disturbance eg. logging or bushfires, the easier it is to document impacts and to develop restoration programs.
- To maximise diversity all areas will not be treated the same way at the same time.
- Maximising the conservation value of an area may involve consultation and cooperation with neighbouring landowners (private individuals, Local Government and other Government Agencies).

4.2 Long-term Management Objectives For Native Forest Reserves

ForestrySA is committed to the following broad management objectives for the native forests under its control for the benefit of the people of South Australia.

4.2.1 Conservation Management

- Manage for the long-term conservation of native plant and animal communities.
- Promote integrated planning and management where native forest areas adjoin but are under different ownership.
- Evaluate the options and desirability of species reintroduction programs.

4.2.2 Community Use

- Manage community use consistent with the primary conservation purpose of the Reserve.
- Promote understanding and awareness of the conservation values of the Reserve.

4.2.3 Protection

- Protect the Reserves to minimise impacts from human induced or natural events.
- Control pest plants and animals.

4.2.4 Rehabilitation

- Rehabilitate sites that have been severely degraded by human activity since European settlement.

SOUTH EAST REGION

THE POW LANE NATIVE FOREST RESERVES

5 YEAR MANAGEMENT PROGRAM

5. FIVE YEAR MANAGEMENT PROGRAM

The Management actions proposed will be carried out in accordance with guidelines contained in the relevant procedural policies listed in Appendix 1.

5.1 Conservation Management

Goal - Manage The POW Lane NFRs for the long term conservation of native plant and animal communities.

5.1.1 Specific Objectives – Habitat Management

- Maintain diverse vegetation structure and composition.

Action

- Review the requirement for prescribed burning or other management operations to maintain biodiversity in Red and Manna gum associations.
- Plan experimental prescribed burning of parts of the various vegetation associations and monitor the regeneration results. NVC application needed.

Priority
Med

Timing
Ongoing

5.1.2 Specific Objective – Conservation Research

- Coordinate and facilitate projects to improve knowledge and understanding of the natural features and biological community.

High

Ongoing

5.1.3 Specific Objective – Cooperative Management

- Consult with adjoining land owners
- Advise neighbours of management operations which may affect them, eg. pest plant and animal control, community use.
- To facilitate Glider species movement between The Heath NFR and adjoining privately owned native forest, establish a revegetated corridor on ForestrySA land and Local Council road reserve.

High

Ongoing

High

2001

5.2 Community Use

Goals – Manage community use of the Reserves consistent with its primary conservation purpose

- Promote understanding and awareness of their conservation values.

5.2.1 Specific Objective – Reserve Identity

- Identify ownership of the Reserves, their names, status, area, and permitted activities.

High Ongoing

Low 2000

- Erect and maintain signs at appropriate locations
- Nominate these reserves for listing on the register of the National Estate

5.2.2 Specific Objective – Access

- Prohibit unauthorised access to minimise damage to natural features.

High

Ongoing

- Restrict public vehicle access to permitted activities.

5.2.3 Specific Objectives – Community Use

- Manage recreation activities to minimise impacts on natural features.

High

Ongoing

- Ensure that permitted activities and approved public events are compatible with the conservation aims of the Reserve and comply with regulations under the relevant Acts for the protection of native flora and fauna and water quality.

- Identify activities that have the potential for deleterious impacts and implement appropriate monitoring programs.

High

Ongoing

- Ensure that the impacts of permitted activities are monitored and reported by recreation users or ForestrySA.

5.3 Protection

Goal – Protect the Reserves to minimise impacts from human induced or natural events.

5.3.1 Specific Objective – Wild-fire Protection

- Minimise the area burnt in wild-fires using a range of wildfire prevention measures

• Regulate public access and use of the Reserve in the fire danger period.	High	Ongoing
• When necessary take special measures eg: track or fire break construction, and back burning to minimise the area burnt.	High	Ongoing
• Maintain effective perimeter fire breaks and internal access tracks to facilitate wild fire control.	High	Ongoing

5.3.2 Specific Objective – Introduced Species

- Minimise impacts from introduced plants and animals

• Monitor feral animal populations and implement control operations as required.	High	Ongoing
• Assess the need for follow up pine regeneration removal.	Med	Ongoing

5.3.3 Specific Objective – Commercial Activity

- Regulate and monitor commercial activities in the Reserve and adjacent plantation areas to minimise damage to the biological community

• Ensure precautions are taken to prevent damage to the Reserve by commercial forestry activities such as herbicide spraying, fertiliser application, and logging operations.	High	Ongoing
• Prohibit firewood removal unless as approved management operation eg. track widening.	High	Ongoing
• Prohibit Bee Husbandry on ForestrySA land which may impact on the flora in these Reserves.	High	Ongoing
• Regulate native species seed harvesting in accordance with ForestrySA policy.		
• Regulate Petroleum activities as per Petroleum Act 2000, and Regulations.	High	Ongoing

SOUTH EAST REGION

THE POW LANE NATIVE FOREST RESERVES

6. NATURAL RESOURCE DATA

TABLE 1

PLANT SPECIES RECORDED FOR THE POW LANE NATIVE FOREST RESERVES

Botanical Name	Common Name	Conservation Significance	Source
<i>Acacia longifolia</i> var. <i>sophorae</i>	Coastal wattle		3
<i>Acacia mearnsii</i>	Black wattle		1
<i>Acacia melanoxylon</i>	Blackwood		1
<i>Acacia myrtifolia</i> var. <i>myrtifolia</i>	Bitter-leaved wattle		3
<i>Acacia oxycedrus</i>	Spike wattle	U/U	1
<i>Acacia verticillata</i>	Prickly Moses		1
<i>Acaena echinata</i>	Sheeps burr		3
<i>Acaena novae-zelandiae</i>	Bidgee-widgee		2
<i>Acrotriche serrulata</i>	Honeypots		3
<i>Allocasuarina paludosa</i>	Scrub sheoak		1
<i>Amperea xiphoclada</i>	Broom spurge	U/U	1
<i>Amyema pendulum</i> ssp. <i>pendulum</i>	Drooping mistletoe		3
* <i>Arctotheca calendula</i>	Capeweed		2
<i>Argentipallium blandowskianum</i>	Woolly everlasting		3
<i>Arthropodium strictum</i>	Chocolate-lily		2
<i>Astroloma conostephioides</i>	Flame heath		1
<i>Astroloma humifusum</i>	Native cranberry		2
<i>Banksia marginata</i>	Silver banksia		1
<i>Banksia ornata</i>	Desert banksia		3
<i>Baumea juncea</i>	Bare twig-rush		3
<i>Bossiaea prostrata</i>	Creeping bossiaea		3
<i>Brachycome basaltica</i> var. <i>gracilis</i>	Swamp daisy	R/E	1
<i>Brachyloma ciliatum</i>	Fringed brachyloma		3
* <i>Briza minor</i>	Shivery grass		3
<i>Brunonia australis</i>	Blue pincushion		2
<i>Burchardia umbellata</i>	Milkmaids		2
<i>Bursaria spinosa</i>	Sweet bursaria		3
<i>Caladenia carnea</i> var. <i>carnea</i>	Pink fingers		1
<i>Caladenia dilata</i> complex	King spider		1
<i>Caladenia patersonii</i> complex	White spider-orchid		1
<i>Calytrix alpestris</i> ??	Snow myrtle		3
<i>Calytrix tetragona</i>	Common fringe-myrtle		1
<i>Carex tereticaulis</i>	Sedge		3
<i>Cassytha glabella</i> forma <i>dispar</i>	Slender dodder-laurel		2
<i>Cassytha pubescens</i>	Downy dodder-laurel		2
* <i>Centaurium erythraea</i>	Common centaury		2
<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	Blue squill		2
<i>Convolvulus remotus</i>	Australian bindweed		3
<i>Correa reflexa</i> var. <i>reflexa</i>	Common correa		2
<i>Corybas diemenicus</i>	Veined helmet-orchid		2

Botanical Name	Common Name	Conservation Significance	Source
<i>Corybus dilatatus</i>	Common helmet-orchid		1
<i>Craspedia glauca</i>	Batchelors buttons		1
<i>Cynoglossum australe</i>	Australian hounds tongue		3
<i>Cyrtostylis reniformis</i>	Gnat orchid		1
<i>Danthonia</i> sp.	Wallaby-grass		3
<i>Dianella revoluta</i> var. <i>brevicaulis</i>	Black-anther flax-lily		1
<i>Dianella revoluta</i> var. <i>revoluta</i>	Black-anther flax-lily		3
<i>Dichondra repens</i>	Kidney weed		3
<i>Dillwynia glaberrima</i>	Smooth parrot-pea		3
<i>Diuris pardina</i>	Common donkey-orchid		1
<i>Diuris sulphurea</i>	Tiger-orchid	R/R	2
<i>Drosera binata</i>	Forked sundew	R/E	2
<i>Drosera peltata</i>	Pale sundew		1
<i>Drosera whittakeri</i> ssp. <i>aberrane</i>	Scented sundew		1
<i>Epacris impressa</i>	Common heath		1
<i>Eleocharis sphacelata</i>	Tall Spike-rush	R/R	3
<i>Eriochilus cucullatus</i>	Parsons bands		1
<i>Eucalyptus baxteri</i>	Brown stringybark		1
<i>Eucalyptus camaldulensis</i> var. <i>camaldulensis</i>	(River) red gum		1
<i>Eucalyptus ovata</i>	Swamp gum	U/U	1
<i>Eucalyptus viminalis</i> ssp. <i>cygnetensis</i>	Rough-barked manna Gum		1
<i>Exocarpos cupressiformis</i>	Native cherry		1
<i>Gahnia radula</i>	Thatch saw-sedge	R/R	3
<i>Gahnia trifida</i>	Cutting grass		3
<i>Gastrodia sesamoides</i>	Potato orchid	R/K	4
<i>Glossodia major</i>	Purple cockatoo		1
<i>Glycine clandestina</i> var. <i>clandestina</i>	Twining glycine	Q/-	3
<i>Goodenia humilis</i>	Swamp goodenia		2
<i>Goodia medicaginea</i>	Golden-tip		1
<i>Hakea nodosa</i>	Yellow hakea		3
<i>Hemarthria uncinata</i>	Mat grass		3
<i>Hibbertia prostrata</i>	Bundled guinea-flower		1
<i>Hibbertia sericea</i> var. <i>sericea</i>	Silky guinea-flower		2
<i>Hydrocotyle</i> sp.	Pennywort		3
* <i>Hypochoeris radicata</i>	Deep-rooted catsear		2
<i>Hypolaena fastigiata</i>	Tassel rope-rush		2
<i>Hypoxis vaginata</i> var. <i>vaginata</i>	Yellow star	U/U	1
<i>Imperata cylindrica</i>	Kunai grass	R/R	3
<i>Isolepis nodosa</i>	Knobby club-rush		1
<i>Isopogon ceratophyllus</i>	Cone bush		1
<i>Juncus pallidus</i>	Pale rush		2

Botanical Name	Common Name	Conservation Significance	Source
<i>Juncus subsecundus</i>	Finger rush		3
<i>Kennedia prostrata</i>	Running postman		1
<i>Leptoceras menziesii</i>	Rabbit orchid	N/U	1
<i>Lepidosperma concavum</i>	Sand-hill sword-sedge		3
<i>Lepidosperma laterale</i>	Variable sword-sedge		2
<i>Leptocarpus brownii</i>	Coarse twine-rush		1
<i>Leptocarpus tenax</i>	Slender twine-rush		3
<i>Leptospermum continentale</i>	Prickly tea-tree		1
<i>Leptospermum myrsinoides</i>	Heath tea-tree		2
<i>Lepyrodia muelleri</i>	Common scale-rush		3
<i>Leucopogon ericoides</i>	Pink bearded-heath		3
<i>Leucopogon virgatus</i>	Lance bearded-heath		1
<i>Lomandra juncea</i>	Desert mat-rush		3
<i>Lomandra longifolia</i>	Spiny-headed mat-rush		2
<i>Lomandra nana</i>	Pale mat-rush	U/U	3
<i>Melaleuca brevifolia</i>	Mallee honey-myrtle		2
<i>Melaleuca gibbosa</i>	Slender honey-myrtle		2
<i>Microseris lanceolata</i>	Yam daisy		2
<i>Microtis parviflora</i>	Slender onion-orchid	U/U	1
<i>Microtis unifolia</i> complex	Common onion-orchid		1
* <i>Monadenia bracteata</i>	African weed orchid		3
<i>Monotoca scoparia</i>	Broom heath	U/U	3
<i>Ozothamnus ferrugineus</i>	Tree everlasting		3
<i>Patersonia fragilis</i>	Swamp iris	U/U	2
<i>Patersonia occidentalis</i>	Long purple-flag	U/R	3
<i>Phragmites australis</i>	Common reed		3
<i>Pimelea humilis</i>	Common rice-flower		3
<i>Pimelea octophylla</i>	Woolly rice-flower		2
<i>Poa labillardieri</i> var. <i>labillardieri</i>	Tussock grass		3
<i>Pteridium esculentum</i>	Bracken		2
<i>Pterostylis nana</i>	Dwarf green-hood		2
<i>Pterostylis nutans</i>	Nodding green-hood	-/U	1
<i>Pterostylis pedunculata</i>	Maroon-hood		2
<i>Pyrorchis nigricans</i>	Red beaks		1
<i>Ranunculus lappaceus</i>	Common buttercup	-/K	3
<i>Senecio lautus</i>	Variable groundsel		3
<i>Stipa</i> sp.	Spear-grass		3
<i>Sphaerolobium minus</i>	Leafless globe-pea	R/R	3
* <i>Sporobolus indicus</i> var. <i>capensis</i>	Rats-tail grass		3
<i>Styphelia adscendens</i>	Golden heath	R/R	2
<i>Tetratheca ciliata</i>	Pink-bells		1
<i>Thelymitra ixioides</i> / <i>juncifolia</i>	Spotted sun-orchid		1
<i>Thelymitra pauciflora</i>	(Slender) sun-orchid		2

Botanical Name	Common Name	Conservation Significance	Source
Themeda triandra	Kangaroo grass	-/U	3
Typha domingensis	Bulrush		2
Veronica calycina	Hairy speedwell	U/U	3
Viola sp.	Violet		3
Wahlenbergia stricta ssp. stricta	Tall bluebell		2
Wurmbea dioica ssp. dioica	Early Nancy		1
Xanthorrhoea caespitosa	Grass-tree		3

Interim conservation significance codes are shown where warranted as a state and region rating in the format SA/SE.

Code	E	=	Endangered
	V	=	Vulnerable
	T	=	Threatened, ie. either Vulnerable or Endangered
	K	=	Uncertain, but likely to be Rare or Threatened
	R	=	Rare
	?	=	Not rated, but of possible significance
	U	=	Uncommon
	N	=	Common
	Q	=	Not yet assessed

1997 Update of Conservation Status Codes Report by Lang, P.J. and Kraehenbuehl, D.N. - Department for Environment, Heritage and Aboriginal Affairs

- * = Introduced
- 1. = Mount Gambier Field Naturalists Society Surveys 1983 and 1989.
- 2. = Margaret McEachern 1989.
- 3. = Barrie Grigg ForestrySA 2000.
- 4. = Troy Horn ForestrySA 2001.

TABLE 2**BIRD SPECIES RECORDED FOR THE POW LANE NATIVE FOREST RESERVES**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Conservation Status</u>
<i>Acanthiza lineata</i>	Striated Thornbill	C
<i>Acanthiza pusilla</i>	Brown Thornbill	C
<i>Acanthorhynchus tenuirostris</i>	Eastern Spinebill	C
<i>Anthochaera carunculata</i>	Red Wattlebird	C
<i>Aquila audax</i>	Wedge-tailed Eagle	C
<i>Artamus cyanopterus</i>	Dusky Woodswallow	C
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	C
<i>Cacatua roseicapilla</i>	Galah	C
<i>Cacatua tenuirostris</i>	Long-billed Corella	C
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo	C
<i>Calyptorhynchus funereus</i>	Yellow-tailed Black-Cockatoo	V
<i>Chrysococcyx basalis</i>	Horsfield's Bronze-Cuckoo	C
<i>Chrysococcyx lucidus</i>	Shining Bronze-Cuckoo	R
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	C
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	C
<i>Cormobates leucopaeus</i>	White-throated Treecreeper	C
<i>Corvus coronoides</i>	Australian Raven	C
<i>Cuculus pallidus</i>	Pallid Cuckoo	C
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	C
<i>Daphoenositta chrysoptera</i>	Varied Sittella	U
<i>Dromaius novaehollandiae</i>	Emu	C
<i>Eopsaltria australis</i>	Eastern Yellow Robin	U
<i>Falcunculus frontatus</i>	Crested Shrike-tit	V
<i>Gallinago hardwickii</i>	Latham's Snipe	V
<i>Glossopsitta porphyrocephala</i>	Purple-crowned Lorikeet	C
<i>Grallina cyanoleuca</i>	Magpie-lark	C
<i>Gymnorhina tibicen</i>	Australian Magpie	C
<i>Hirundo neoxena</i>	Welcome Swallow	C
<i>Hirundo nigricans</i>	Tree Martin	C
<i>Lichenostomus chrysops</i>	Yellow-faced Honeyeater	C
<i>Lichenostomus leucotis</i>	White-eared Honeyeater	C
<i>Lichenostomus penicillatus</i>	White-plumed Honeyeater	C
<i>Malurus cyaneus</i>	Superb Fairy-wren	C
<i>Melithreptus lunatus</i>	White-naped Honeyeater	C
<i>Microeca fascinans</i>	Jacky Winter	C
<i>Neochima temporalis</i>	Red-browed Finch	C

<i>Neophema chrysostoma</i>	Blue-winged Parrot	V
<i>Pachycephala pectoralis</i>	Golden Whistler	C
<i>Pachycephala rufiventris</i>	Rufous Whistler	C
<i>Pardalotus striatus</i>	Striated Pardalote	C
<i>Pardalotus punctatus</i>	Spotted Pardalote	U
<i>Petroica multicolor</i>	Scarlet Robin	C
<i>Phaps chalcoptera</i>	Common Bronzewing	C
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	C
<i>Platycercus elegans</i>	Crimson Rosella	U
<i>Platycercus eximius</i>	Eastern Rosella	C
<i>Rhipidura fuliginosa</i>	Grey Fantail	C
<i>Rhipidura leucophrys</i>	Willie Wagtail	C
<i>Sericornis frontalis</i>	White-browed Scrubwren	C
<i>Smicrornis brevirostris</i>	Weebill	C
<i>Strepera versicolor</i>	Grey Currawong	C
<i>Stipiturus malachurus</i>	Southern Emu-wren	V
<i>Threskiornis spinicollis</i>	Straw-necked Ibis	
<i>Turdus merula</i>	Common Blackbird	C
<i>Turnix varia</i>	Painted Button-quail	V
<i>Zosterops lateralis</i>	Silvereye	C

Status of species in South Australia is shown as :

- V = Vulnerable Taxa believed likely to move into the Endangered category in the near Future if causal factors continue operating.
- U = Uncommon Taxa occurring in relatively low numbers in South Australia but not Rare.
- C = Common The category of greatest abundance; relatively numerous generally, Locally and/or seasonally. (Local abundance applies to species with Restricted distribution.)

TABLE 3**MAMMAL SPECIES RECORDED FOR THE POW LANE NATIVE FOREST RESERVES**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Conservation Significance</u>
Antechinus flavipes	Yellow-footed Antechinus	C
Isoodon obesulus	Southern Brown Bandicoot	V
Macropus giganteus	Eastern Grey Kangaroo	V
Macropus rufogriseus	Red-necked Wallaby	R
*Oryctolagus cuniculus	Rabbit	-
Petaurus breviceps	Sugar Glider	E
Phascolarctos cinereus	Koala	R**
Pseudocheirus peregrinus	Common Ringtail	C
Rattus lutreolus	Swamp Rat	U
Tachyglossus aculeatus	Short-beaked Echidna	C
Trichosurus vulpecula	Common Brushtail	C
*Vulpes vulpes	Fox	-

* = Introduction

** = Introduction from Kangaroo Island.

Conservation Significance (Vertebrates of South Australia, C.H.S. Watts, 1990)

E = Endangered

V = Vulnerable

R = Rare

U = Uncommon

C = Common

7. APPENDICES

APPENDIX I

FORESTRYSA – Community Forestry – Legislation and Policy

The management actions proposed in Section 5 of this plan are supported by Regulations under the Acts, and guidelines from the Policies in the following list.

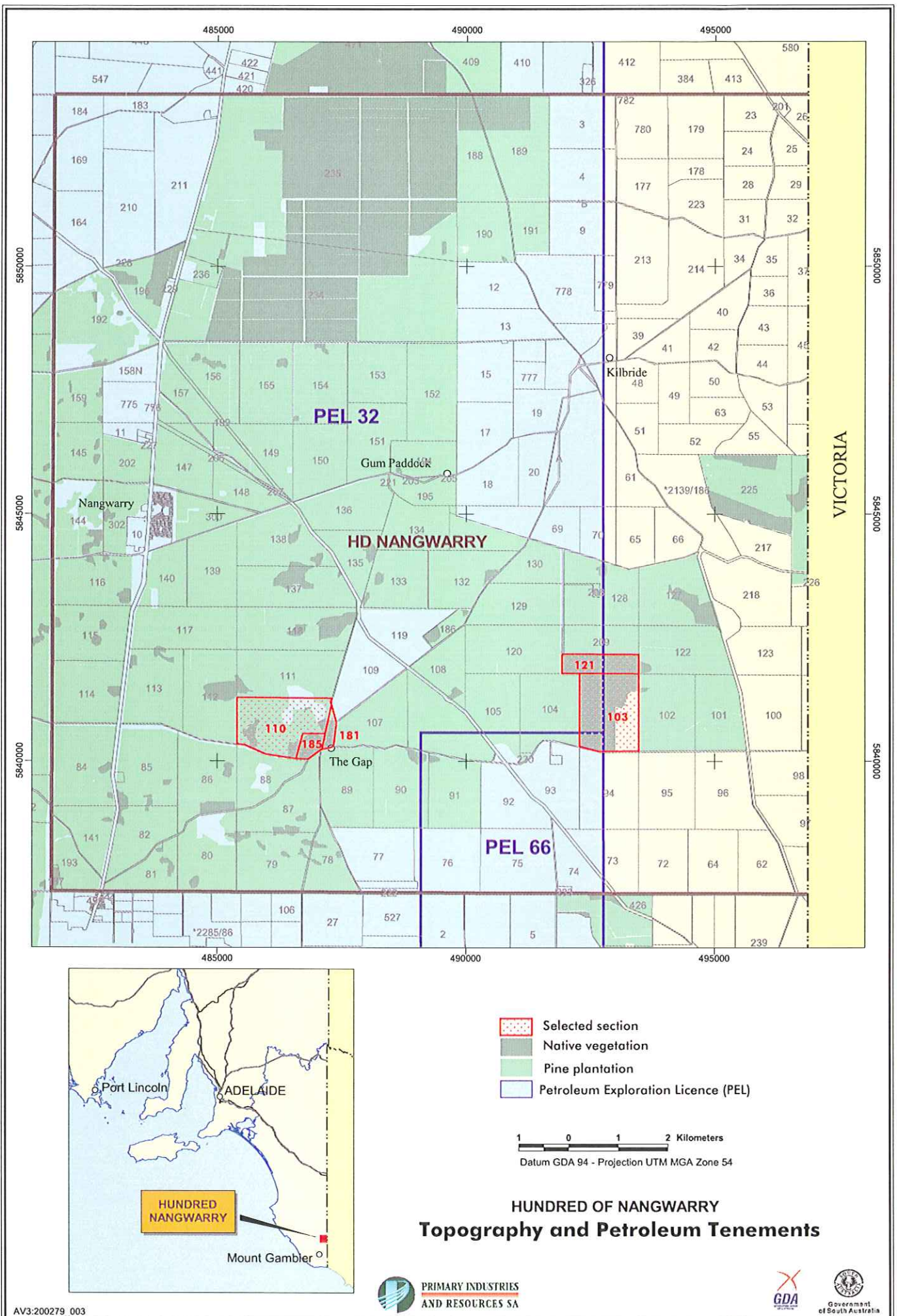
Forestry Act 1950

National Parks and Wildlife Act 1972

Country Fires Act 1989

Native Vegetation Act 1991

ForestrySA	Policy Name	Policy Number
Corporate	- Community Use	CF – C1
	- Law enforcement	CF – C4
	- Information Signs	CF – C5
Recreation	- Day Visitors	CF – R2
	- Camping	CF – R4
	- Orienteering & Rogaining	CF – R6
	- Pets in the Forest	CF – R7
	- Horse riding in SE Forests	CF – R9
	- Bicycling	CF – R10
	- Public Vehicle Access	CF – R11
	- Policy for Motor Sport	CF – R12
	- Cave Exploration	CF – R14
	- Policy on Military Exercises	CF – R15
- Public Events Policy	CF – R16	
Native Forest Management	- Native Forest Management	CF – NF1- Pending
	- Prescribed Burning	CF – NF2
	- Seed collection	CF – NF4 – Pending



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