

ForestrySA

KHAYYAM NATIVE FOREST RESERVE

MANAGEMENT PLAN

MT BURR FOREST

GREEN TRIANGLE REGION

FOREWORD

The Khayyam Native Forest Reserve Management Plan has been prepared by ForestrySA to clearly state the purpose and objectives for this yet to be proclaimed Native Forest Reserve.

The Reserve 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 was submitted to the Native Vegetation Council, other land management authorities and relevant community organisations, the Final Plan has been amended where appropriate as a consequence of advice received.

The administrative details contained in this document are current as at July 2002.

I hereby approve the Khayyam Native Forest Reserve Management Plan for implementation.



Ian B Millard
CHIEF EXECUTIVE
SOUTH AUSTRALIAN FORESTRY CORPORATION

8 / 8 / 2002

CONTENTS

FOREWORD

1. PURPOSE, LEGAL DESIGNATION, PLANNING AND PROTECTION

1.1 Khayyam Native Forest Reserve

- 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 Native Forest Reserves

- 1.5.1 Forestry Act 1950
- 1.5.2 National Parks and Wildlife Act 1972
- 1.5.3 Native Vegetation Act 1991
- 1.5.4 Aboriginal Heritage Act 1988

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 Site Modification
- 3.2.6 Pest 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
- 5.4 Rehabilitation

6. NATURAL RESOURCE DATA

7. APPENDICES

REFERENCES

ACKNOWLEDGEMENTS

1. PURPOSE, LEGAL DESIGNATION, PLANNING AND PROTECTION

1.1 Khayyam Native Forest Reserve

1.1.1 Statement of Purpose

Khayyam Native Forest Reserve will be managed and protected to maintain and enhance its 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 areas 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 Khayyam Native Forest Reserve is an IUCN (International Union for the Conservation of Nature) Category IV Reserve. Category IV Reserves are defined as habitat or species management areas, protected areas managed mainly for conservation through management intervention to ensure the maintenance of habitats and/or meet the requirements of species. This Reserve conserves native flora and fauna which contribute to bio-diversity in this Region.

The following attributes have been used to determine the conservation and cultural values of Khayyam Native Forest Reserve:

Conservation Values

- This Reserve of 220.9 hectares conserves remnant native vegetation characteristic of the district in the Hundred of Fox where it is estimated that only 6.4% of the original vegetation remains (Cutten and Littlely 1996).
- The Reserve and approximately 30 hectares of largely intact native vegetation adjoining on private land to the south and east, and roadside vegetation on the northern and western boundaries, make an important contribution to bio-diversity in this Region.
- The Reserve conserves woodland areas of *Eucalyptus viminalis* ssp. *cygnetensis* rated as Endangered, and *E.camaldulensis* var. *camaldulensis* and *E.leucoxyton* ssp. *leucoxyton* / *E.fasciculosa* rated as Vulnerable in the SE Region of South Australia (DEH 2001).
- A total of 124 native plant species have been recorded for this Reserve to date. Of these 10 have a conservation status rating equal to or greater than Uncommon for the South East Region.
- A large number of trees containing hollows are present in the reserved areas providing habitat for hollow dependent species.
- The availability of water in Drain M throughout the year in close proximity to the Reserve adds habitat value and the probability of increased water-bird and bat species presence.

Cultural Heritage

- According to '*Tribal Boundaries in Aboriginal Australia*' by Norman B. Tindale, this Reserve is near the northern boundary of the territory previously occupied by the Bunganditj Tribe.
- A map of Pastoral Leases in the South-East of SA circa 1865 places this Reserve within Edward Crow's 'Mount Bruce' Lease No. 354.
- Following land surveys in the early 1880s when Pastoral Leases were subdivided for closer settlement, Agriculture and Grazing Lease No. 482 (which included the area now reserved) was issued to Alfred Butler on 1.10.1886. Land tenure as Perpetual lease, Land Grant or Certificate of Title were held by seven tenants up until purchased by ForestrySA in March 1988.

1.1.3 Location and Access

Location

Khayyam Native Forest Reserve is located 10 kilometres north from the Robe-Penola Road (Figures 1 and 2) and is shown but not named on the SA Department for Environment and Heritage 1:50,000 Topographic Map 'Kennion' 6923-11 grid reference 437:750.

The Reserve, compartmental sub-division and areas of the compartments are shown in Figure 3.

Cadastral location

The Reserve contains 220.9 hectares occupying Allotments 1 & 2 Deposited Plan No. 15559 Hundred of Fox in the Naracoorte Lucindale Council area.

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 Khayyam Native Forest Reserve is by public roads and forest tracks.

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

1.1.4 Administration

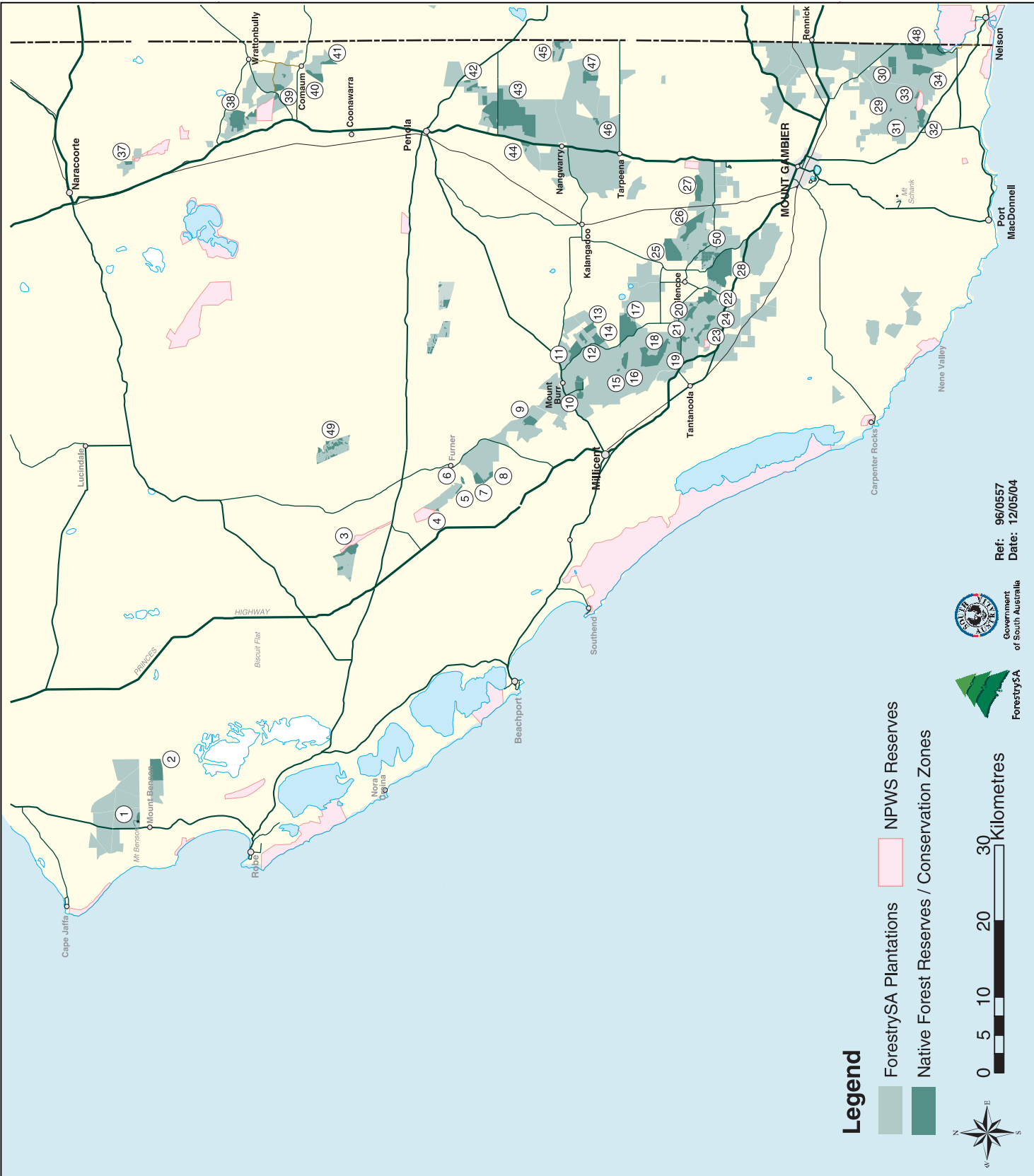
The Native Forest Reserve is managed by ForestrySA, Mt. Gambier Office, Jubilee Highway East, Mount Gambier 5290.

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

FIGURE 1

Native Forest Reserves

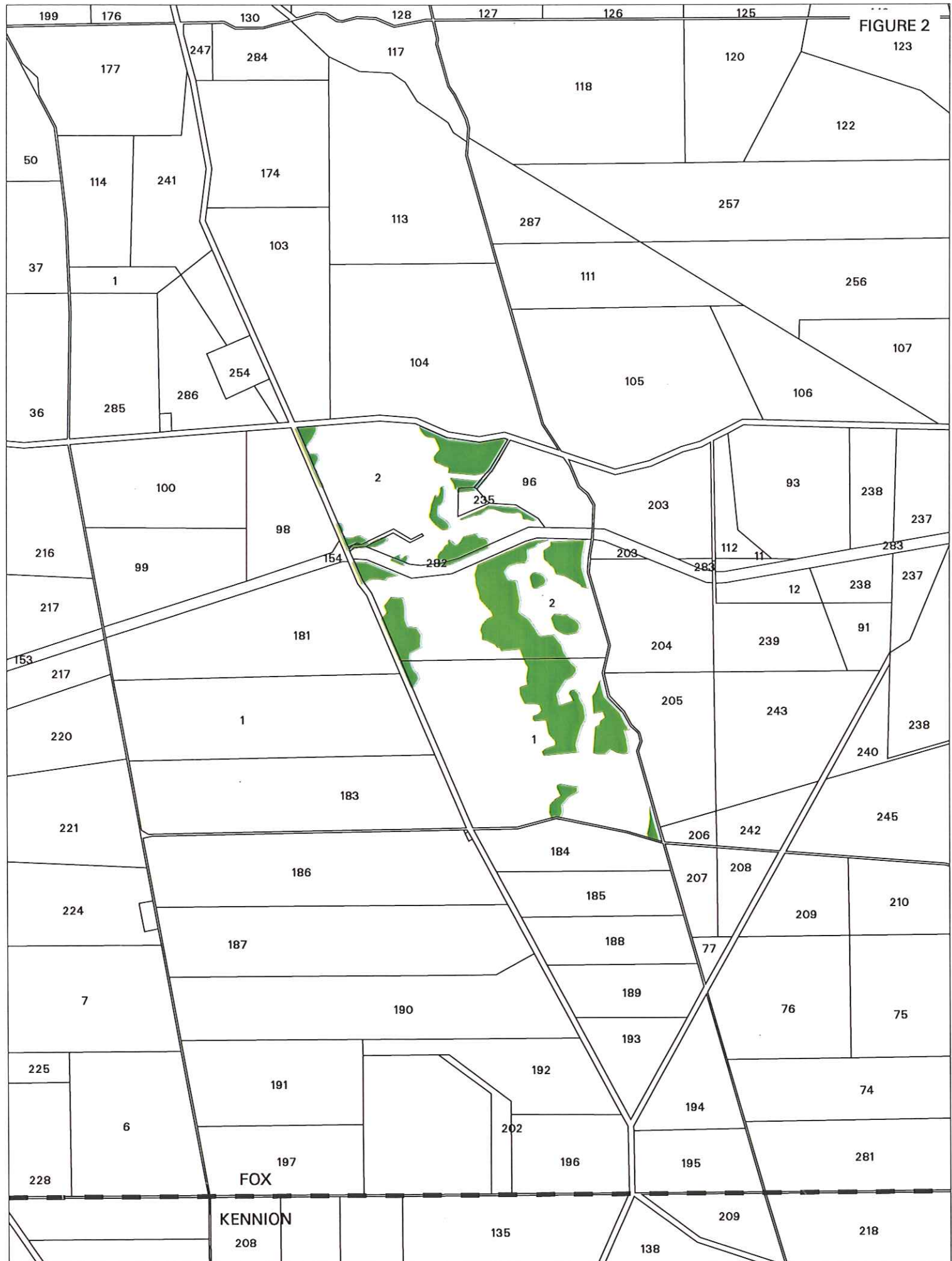
No.	N.F.R. Name	Area (ha)
1	Mount Benson	66.2
2	Bagdad	453.6
3	Konetta	241.6
4	Gillap North	12.9
5	Gillap South	25.1
6	Kennion	30.7
7	Rocky Reserve	131.8
8	White Waterhole	60.2
9	Malone Heath	156.3
10	Kay	249.9
11	Whennen	244.4
12	Mount McInyre	63.1
13	McRosies	111.2
14	Overland Track	144.1
15	Rock Shelter	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



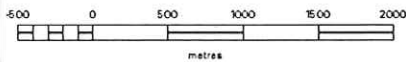
Ref: 96/0557
 Date: 12/05/04

Government of South Australia
 ForestrySA

FIGURE 2



Gross Area = 220.9 ha



KHAYYAM NATIVE FOREST RESERVE

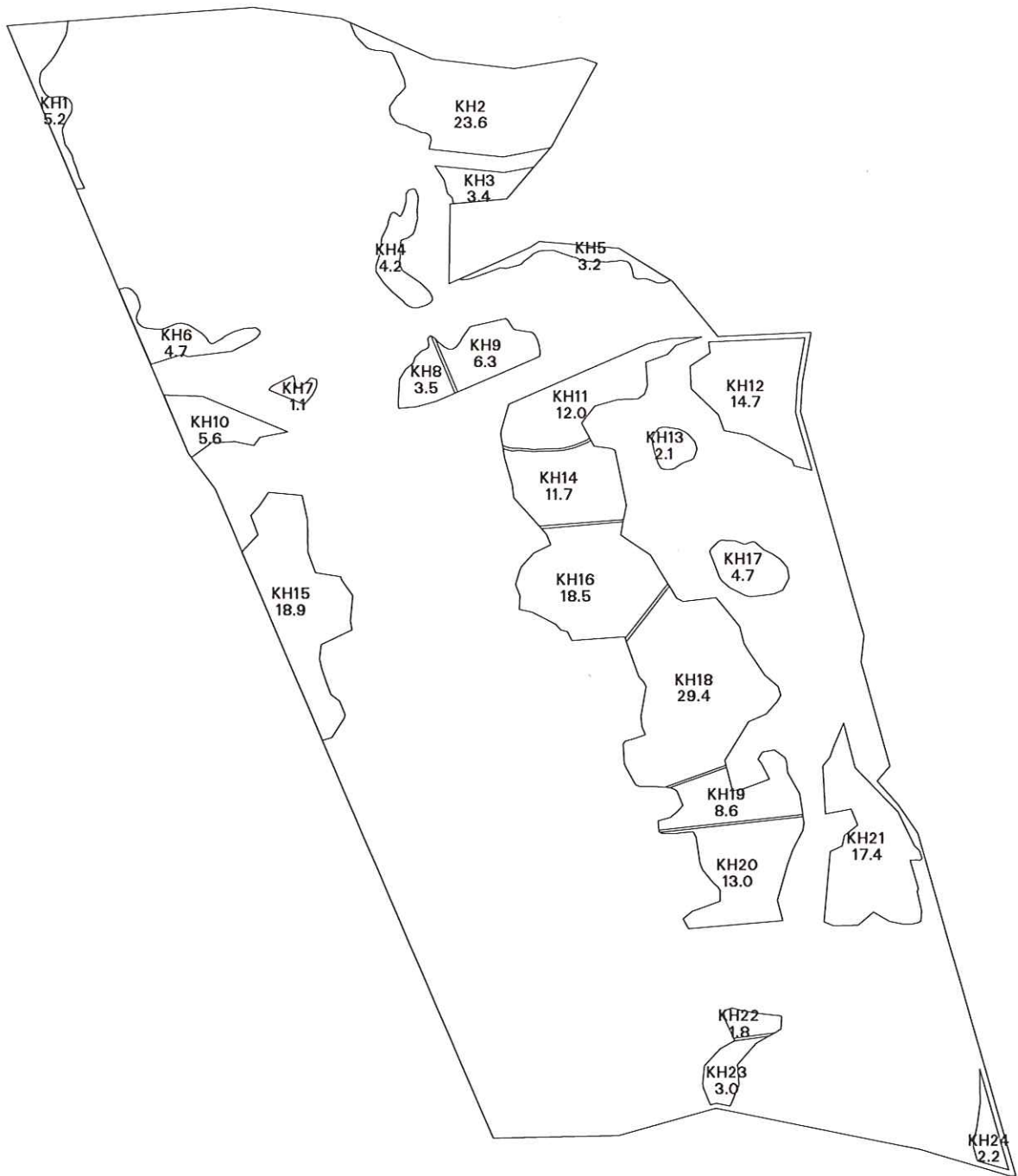
CADASTRAL BOUNDARIES

(KHAYYAM NATIVE FOREST RESERVE MANAGEMENT PLAN)



Ref : 96/0557/7

31-OCT-2001



Gross Area = 220.9 ha



**KHAYYAM NATIVE FOREST RESERVE
COMPARTMENT CODES**



1.2 Land Tenure

The Khayyam Native Forest Reserve will be gazetted as a Native Forest Reserve under the Forestry Act 1950. ForestrySA¹, is responsible for the management of 126,000 hectares of gazetted Forest Reserves in South Australia.

Approximately 24,200 hectares of this land is native forest, woodland or enclosed wetland, located in the Southern Flinders Ranges (4,200 hectares), the Mount Lofty Ranges (6,500 hectares) and the Lower South East of South Australia (13,500 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. Khayyam NFR is one of 48 Native Forest Reserves in the South East of SA for which management plans have been or are being prepared.

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 prevention/suppression 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 located mainly 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 Native Forest Reserves under the Forestry Act since purchase 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

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

invasion by introduced plants. Since then, most of these areas have remained relatively undisturbed.

Compared with other areas of native vegetation in South Australia, those managed by ForestrySA are often less 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;
- management for specifically threatened species.

1.5 Legislative Protection of Native Forest Reserves

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;
 - (c) assign a name to a forest reserve, or 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 Corporation must manage a native forest reserve having regard to the purposes for which it was established and must 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.

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 habitat creation. Both of these activities may be approved as part of a management plan and compliance with this is mandatory.

1.5.4 Aboriginal Heritage Act 1988

The Aboriginal Heritage Act provides for the protection and preservation of sites and items of sacred, ceremonial, mythological or historical significance to Aboriginal people.

ForestrySA manages Aboriginal heritage in accordance with its Aboriginal Heritage Policy, which reflects the requirements of the Aboriginal Heritage Act.

2. NATURAL RESOURCES

2.1 Climate

The Reserve has a typical Mediterranean climate with warm dry summers and cool wet winters.

Average annual rainfall for these Reserves based on the 10 year record 1991-2000 from an adjoining property, and the regional rainfall isohyet map is estimated to be in the range from 600 to 650 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 result and 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

Khayyam NFR is located on the East Avenue Range. It has two main elements, an older one dating to around 367 kyBP and a younger one, dating from around 330 kyBP. There is a part on the native forest reserve that is located on the highest and oldest calcarenite dunes forming the main NNW-SSE axis and part on the western flanks, younger calcarenite, and serving as the core for low siliceous dunes. The lower lying areas to the east and west of the main dune are covered with shallow sand sheets over lagoonal sediments with impeded drainage resting on the Bridgewater Formation (evident in the sides of Drain M that cuts across the range in an E-W direction). Resorted, siliceous sand, only moderately-leached, has been deposited by wind over the remnants of the original East Avenue Range. These sands probably date from 220 kyBP, when the Reedy Creek Range originated and Caroline sands were deposited on the southern flanks of the Mingbool Range. Altitude ranges from around 32 m to over 50 m. (Boardman, R. 2001).

2.2.3 Soils

A soil survey of the Khayyam property which includes the reserved areas was completed in May 1996 prior to purchase by ForestrySA. The following broad soil types were identified.

Normal podsols with varying depth to clay have developed on the well drained elevated dune sands.

Humus and Meadow podsols associated with impeded drainage, seasonally high water tables and water-logging occur on the lower dune slopes and flats.

Terra rossa soil and transitionals derived from or influenced by limestone parent material occur as isolated patches on the dune ridges and slopes.

Rendzina soil occurs as shallow dark loamy-clays over limestone in low lying areas inundated for long periods prior to the construction of drains.

2.2.4 Hydrology

Most of the area reserved lies on the calcarenite based low dunes of the East Avenue Range with no swamps, streams or drains. Three small areas on low lying

flats in Compartments KH 2, 12 and 21 may be subject to seasonal flooding in periods of heavy rainfall.

The large Drain M which passes through Khayyam Forest Reserve, and which was constructed in this locality in 1966, would have had a significant effect on the hydrology of its immediate environs by lowering the existing water-table, and draining those few sites in the area now reserved which may have been classified as seasonal swamps.

Average rainfall estimated to be between 600 to 650 mm is absorbed through the soil to the water-table ranging from 1 to 15 metres below ground level depending on topography.

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) 66 and 83 exist over Khayyam Native Forest Reserve. These tenements provide rights to explore for petroleum beneath the Reserve and adjacent lands. The PEL also permits the licensee to apply for Petroleum Production Licences in the case of resource discovery. Appendix II shows the Petroleum Exploration Licence status as at January 2002, no Mineral Exploration Licences existed at that time. (M. Bayly, pers.comm.)

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

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.

2.3 Biological Environment

2.4.1 Vegetation

In 1885 the surveyor described the land which includes this Reserve as either 'Stringybark and ferns and Messmate gum on low sandhills' or 'Open heath and yakka with scattered honeysuckle on light sandy soil flats'. This description ignores at least two important vegetation associations present at that time (ie. Manna gum and Pink gum) but the survey diagram produced provides information on the extent of the vegetation cover before clearing which was still occurring up to 1983.

The following vegetation associations were identified during on site assessments by J. Cutten and T. Littlely (DEH) in 1996, and B.R.Grigg (ForestrySA) in 2001, their more common constituent species listed.

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

Eucalyptus baxteri is the dominant species growing on the well drained deeper dune sands in those areas least disturbed by clearing and grazing prior to purchase by ForestrySA. Floral composition ranges from a very simple Brown stringybark – bracken presence on the more elevated drier sands, to a relatively diverse association containing up to 20 species on the lower slopes and flats with improved soil moisture and fertility.

E.obliqua is generally present over shrub and ground flora containing *Acacia pycnantha*, *Bursaria spinosa*, *A.oxycedrus*, *Banksia ornata*, *Leptospermum myrsinoides*, *Xanthorrhoea caespitosa*, *Leucopogon ericoides*, *Pteridium esculentum*, *Epacris impressa*, *Tetradlea ciliata* and *Acrotriche serrulata*.

***Eucalyptus obliqua* (Messmate stringybark) Association**

Eucalyptus obliqua occurs on Terra Rossa or Rendzina soils or their transitionals derived from or influenced by shallow underlying limestone. These soils have developed on exposures of the calcarenite dune core, or calcareous material of the base Bridgewater Formation on the flats.

Shrub and ground flora may contain *Bursaria spinosa*, *Dodonaea viscosa* ssp. *spatulata*, *Gahnia trifida*, *Hakea rugosa*, *Xanthorrhoea caespitosa*, *Stipa* sp., *Thomasia petalocalyx*, *Lepidosperma* spp., *Vittadinia dissecta* var. *hirta*, *Astroloma humifusum*, and *Danthonia* sp..

E. leucoxylon ssp. *leucoxylon* is present in one small area only in Compartment KH17.

***Eucalyptus fasciculosa* (Pink Gum) Association**

Most of this association has been degraded to scattered trees or woodland structure due to partial clearing and grazing prior to purchase by ForestrySA. Only a few small remnants remain intact on shallow Terra rossa soil with shrub and ground flora which may contain *Acacia pycnantha*, *Bursaria spinosa*, *Banksia marginata*, *Dodonaea viscosa* ssp. *spatulata*, *Xanthorrhoea caespitosa*, *Thomasia petalocalyx*, *Acaena echinata*, *Vittadinia dissecta* var. *hirta*, *Stipa* sp. and *Danthonia* sp.

Heath

Relatively few and small areas of heath occur on seasonally wetter flats and depressions in Compartments KH 12 and 21. These sites may contain *Leptospermum continentale*, *Xanthorrhoea caespitosa*, *Allocasuarina paludosa*, *Banksia ornata*, *Calytrix tetragona*, *Dillwynia glaberrima*, *Melaleuca gibbosa*, *Leptocarpus tenax*, *Isolepis nodosa*, *Bossiaea prostrata*, *Hibbertia* spp. and *Lepidosperma carphoides*.

Woodland and Scattered Trees

The balance of the reserved areas occur on the more fertile flats and lower dunes and are remnants of former pure or mixed woodland associations containing *E.baxteri*, *E.camaldulensis*, *E.fasciculosa*, *E.obliqua*, *E.ovata* and *E.viminalis* ssp.

cygnetensis. These areas were previously partially cleared for grazing and are now dominated by bracken and introduced grasses.

A total of 124 native plant species have been recorded for Khayyam NFR of which 10 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

Formal surveys of fauna in this Reserve were carried out by G Carpenter (Department for Environment and Heritage) in 1996, and B Hill and S Collard (Environmental Biology Department, University of Adelaide) in 1998.

B Hill reports that because pitfall trapping was not employed it is probable that additional small mammals are present but were not detected. She also recorded the presence of a number of skink species and many bats which were not identified specifically.

Species recorded in these surveys and those reported incidental observations of mammals, reptiles and amphibians are included in the Natural Resources Data (Tables 2-4).

Birds

Bird species may be grouped according to their preferred habitat. The presence of species from many different groups reflects the diversity of habitat and the potential to support many species. The birds recorded so far were observed prior to the cleared areas on the property being planted with pines. A further formal survey should be undertaken when the pines have closed canopy and fully occupy the plantation areas, to determine any species gain or loss due to altered habitat.

Included in the 91 species recorded to date, the following are rated as Vulnerable or Rare in South Australia. (Table 1, Natural Resources Data.)

Yellow-tailed Black Cockatoo	V
Crested Shrike-tit	V
Black-chinned Honeyeater	V
Painted Button-quail	V
Shinning Bronze-Cuckoo	R
Blue-faced Honeyeater	R
Flame Robin	R

Mammals

Seven native mammal species have been recorded in this Reserve (See Table 3, Natural Resource Data). Of these, two species have a conservation status rating of Rare in South Australia viz.,

Red-necked Wallaby	R
Eastern Grey Kangaroo	R

Bats have not been surveyed but several species are likely to forage in this Reserve and over the permanent water present in the adjoining Drain M.

Reptiles and Amphibians

Five reptile and six amphibian species have been recorded in this Reserve. (See Table 4 Natural Resource Data). The habitat diversity including access to permanent water suggests that more of these species common to the Lower South East are likely to be present.

3. LAND USE

3.1 History

According to Tindale (1974), these Reserves are located within the territory previously occupied by Aboriginal people of the Bunganditj tribe now known and referred to as the Boandik. Flint flakes discarded from tool making are exposed on one sandy rise near a former waterhole, and local narrative records the presence of a green stone axe on the property indicating that the Reserve had been occupied by Aboriginal people prior to European settlement.

3.1.1 Acquisition and Name

Prior to purchase by ForestrySA on 6.3.98, land tenure following subdivision of the original pastoral lease is shown below.

TENURE	LESSEE/OWNER	TERM
Agriculture & Grazing Lease	Alfred Ernest Butler	1.10.86 - 8.1.90
Perpetual Lease	Alfred Ernest Butler	9.1.90 – 19.6.08
“ “	Frank Gladstone Cowan	20.6.08 – 4.7.17
“ “	Elsie Blanche Hantke	5.7.17 – 22.7.35
“ “	Ronald William Cowan	23.7.35 – 3.3.55
Land Grant	Khayyam Pastoral Co. Ltd	4.3.55 – 10.1.63
“ “	MA & HG Richardson	11.1.63 – 5.7.65
Certificate of Title	“ “	6.7.65 – 1.5.68
“ “	RL & LJ Dean	2.5.68 – 19.2.73
“ “	Khayyam Pastoral Co P/L	20.2.73 – 5.3.98

Khayyam Native Forest Reserve takes its name from the property containing the Reserve which is shown on the 1:50,000 Topographic Map 'Kennion'. According to Jack Cunneen a long time resident and land owner in this region, an Adelaide businessman named Martin purchased this property trading as Khayyam Pastoral Co. Ltd., and another in this district in the mid-fifties. He named them Khayyam and Omar presumably in honour of the renowned Persian philosopher and poet.

3.2 Historical Impacts

3.2.1 Grazing

All areas now reserved have been exposed to grazing by introduced herbivores to some extent from the time of Edward Crow's pastoral lease in the 1860s. Those areas on the more fertile and wetter flats supporting native grass and heath species would have been more intensively grazed than those carrying stringybark and

bracken on the deeper dune sands. Compartment KH 12 believed to have been fenced to exclude stock following the 1983 wild fire has a relatively diverse floral composition and is a valuable guide in determining the impact of grazing on the other areas now reserved.

Following removal of managed stock in March 1999 significant regrowth of wattles in particular has occurred in some areas. Feral deer occupy the Reserve and have damaged some transplanted red gum seedlings demonstrating that they have a deleterious impact on native vegetation.

3.2.2 Timber Production

According to Jack Cunneen hardwood mills operated in the vicinity of Khayyam NFR from the 1930s to the 1950s, one being located near Callendale only a few kilometres to the east. These mills produced sawn red gum (including sleepers) and stringybark timber from trees cut from properties in the district. He also recalls that fuel wood was cut from the West Avenue Range north-west of Khayyam to feed a wood fired power plant at Cellulose Pty. Ltd. in the 1940s and 1950s. As well as fencing, stock yard and shed timber used on the property, it is possible that sawn timber and fuel wood were also cut from the Khayyam property.

3.2.3 Wildfire

Although it may be assumed that this native vegetation, like all other dry sclerophyll forest in the region, would have been subject to wild fires of varying intensity at random intervals from the time the forest and climate have existed in the present state, there is no record of wild fire on this property prior to or since that which occurred in 1983.

An aerial photograph of the area burnt in the 1983 wild fire shows that all compartments south of Drain M were burnt. Those least affected and retaining some green crown in the over-storey at least being Compartments KH 12,13 and 14. Because much of the scattered and isolated intact native vegetation now reserved and similar privately owned areas adjoining were destroyed, the probability that some mammal or reptile species have been made locally extinct by this event is not unreasonable.

3.2.4 Prescribed Burning

Aboriginal people living in this area would probably have used fire on this land as a tool to hunt and attract game and for other reasons as documented by Pyne 1992.

It was noted during the assessments of the property prior to purchase by ForestrySA that some areas now reserved had been burnt since the 1983 wild fire. It was an accepted practice of farmers and graziers to regularly burn native forest to promote fresh green shoots for stock to browse, and to degrade and eventually kill native vegetation to increase the productive grazing area of the property. Over time and combined with grazing this practice would have significantly reduced the diversity of the plant and animal species present.

Any future prescribed burning scheduled to maintain biodiversity at Khayyam Native Forest Reserve will be submitted to and endorsed by the Native Vegetation Council when monitoring requirements have been agreed. Because grazing was excluded

from Compartment KH 12 following the 1983 wild fire allowing a more diverse plant community to develop, this compartment will be designated as a Scientific Reference Area and will not be included in any future prescribed burning program.

3.2.5 Site Modification

Apart from the impacts of intermittent burning and grazing over much of the area now reserved, some of the compartments (KH2,8,9,15 and 23 for example) have been partially cleared to the extent that they now consist of open woodland or scattered trees with negligible native species under-storey. These areas were intensively grazed and cut for hay on some occasions. The thick growth of bracken and introduced grasses and the resulting build up of 'thatch' on these sites following exclusion of stock will impede natural regeneration and increase the intensity of any fire that may enter these areas.

However, these severely modified sites do provide grazing and foraging for native herbivores and seed eaters and may best be converted to native grasses by appropriate management.

3.2.6 Pest plants and animals

Deer, foxes, cats, rabbits and house mice are known to occur in this Reserve and may be continuing to modify the biological community as a result of their presence. Apart from a few scattered African daisy plants and Phalaris sp. in the woodland areas the Reserve appears to be relatively free of invasive weed species that are difficult to control and threaten biodiversity.

3.3 **Current Uses**

3.3.1 Conservation

From 1970 it was the stated intent of ForestrySA to maintain remaining native forests 'in their natural condition' for the conservation of native flora and fauna. (Woods and Forests Department, Annual Report 1970/71).

Prior to purchasing the property, ForestrySA submitted a land use proposal to the Native Vegetation Council which defined those areas of relatively intact native vegetation to be reserved for conservation, and which sought approval to clear isolated and scattered trees with least conservation value for pine plantation. The decision on the application to clear native vegetation was notified on 5.12.97 with conditions agreed to by ForestrySA that specified designated areas 'be permanently set aside and managed for the growth of native vegetation and no other purpose'. It is ForestrySA's intention to revegetate some of the existing areas containing scattered trees over introduced pasture to produce a three tiered structure by establishing a native species shrub and ground layer.

It is proposed that the areas shown in Figure 3 will be proclaimed and managed as a Native Forest Reserve under the Forestry Act 1950 which provides similar security and protection to that provided by a Conservation Park under the National Parks and Wildlife Act 1972.

3.3.2 Community Use

Khayyam Native Forest Reserve offers opportunities for recreation such as bush walking and bird watching. Field naturalists and researchers are infrequent visitors to the Reserve.

3.4 **Adjacent Land Use**

Most of the reserved area is surrounded by pine plantations managed by ForestrySA. The balance adjoins road reserves, the Drain M Reserve or private land devoted to grazing, blue gum plantations and native vegetation.

4. **MANAGEMENT OBJECTIVES**

4.1 **Native Forest Management Philosophies**

In managing native forests ForestrySA recognises the following factors:

- Native Forest Reserves contribute to conserving valuable remnant habitats for many species and provide in part a representation of land cover before clearance and other changes following 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 re-colonisation.
- Ecosystems are dynamic and will continue to change with time.
- In most instances biological data for decision making represents a single point in time.
- Decisions will generally be for management of ecosystems, communities and processes, as complete 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 European 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 co-operation 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 for 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.

KHAYYAM NATIVE FOREST RESERVE

FIVE 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 KHAYYAM NFR 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

- Investigate the feasibility of burning selected parts of the reserved grassy woodland compartment to
 - (a) encourage natural regeneration within those compartments and to provide more effective links between compartments currently containing more diverse vegetation, and
 - (b) to promote the growth of any existing native grasses
 - (c) control introduced grasses to prepare for any revegetation projects

Priority
Medium

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.
- Collaborate with other agencies involved in ecological studies to ensure that information obtained is added to the Natural Resource Data section of this plan.
- Promote further monitoring of bird survey sites established in 1996 and 1998 by G. Carpenter and S. Collard.

Medium

Ongoing

Medium

2006

5.1.3 Specific Objective – Cooperative Management

- Consult with adjoining land owners. High Ongoing
- Advise neighbours of management operations which may affect them, eg. Prescribed burning, pest plant and animal control, community use. High Ongoing
- Pursue opportunities for cooperative planning with owners of the adjoining native forest. Medium Ongoing

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, purpose and permitted activities. High Ongoing

5.2.2 Specific Objective – Access

- Prohibit unauthorised access to minimise damage to natural features. High Ongoing
- Restrict public vehicle access to permitted activities. High Ongoing

5.2.3 Specific Objectives – Community Use

- Manage recreation activities to minimise impacts on the physical environment and the biological communities it supports. Medium 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. Medium Ongoing

- Identify activities that have the potential for deleterious impacts and implement appropriate monitoring programs.
- .Ensure that impacts of permitted activities are monitored and reported by recreation users or ForestrySA as required.

Medium

Ongoing

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 including prescribed burning.

- Regulate public access and use of the Reserve in the fire danger period.

High

Ongoing

- In the event of a wildfire, when necessary, take special measures (eg. 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

- Burn prescribed sections of the reserved grassy woodlands to reduce the hazardous introduced grass fuel loads.

Medium

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.

Medium

Ongoing

- Eradicate weed species with the potential to impact on bio-diversity.

High

Ongoing

5.3.3 Specific Objective – Commercial Activity

- | | | |
|---|-------------|---------------|
| <ul style="list-style-type: none"> Regulate and monitor commercial activities in the Reserve and adjacent plantation areas to minimise damage to the biological community | High | Ongoing |
| <ul style="list-style-type: none"> 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 |
| <ul style="list-style-type: none"> Prohibit firewood removal unless as approved management operation. | High | Ongoing |
| <ul style="list-style-type: none"> Prohibit Bee Husbandry on ForestrySA land to reduce any harmful impacts from this source on the native flora in this Reserve. | High | Ongoing |
| <ul style="list-style-type: none"> Regulate native species seed harvesting in accordance with ForestrySA policy. | As required | Ongoing |
| <ul style="list-style-type: none"> Negotiate with petroleum and mineral exploration licence holders to minimise impacts in this Reserve in accordance with the Petroleum Act 2000, and Mining Act 1971, and regulations. | As required | When required |

5.4 Rehabilitation

Goal – Rehabilitate sites that have been degraded by post-European settlement

5.4.1 Specific Objective – Restoration

- | | | |
|---|--------|------|
| <ul style="list-style-type: none"> Remove fencing | Medium | 2002 |
| <ul style="list-style-type: none"> Rehabilitate Quarry | Medium | 2003 |

KHAYYAM NATIVE FOREST RESERVE

6. NATURAL RESOURCE DATA

TABLE 1

PLANT SPECIES RECORDED FOR
KHAYYAM NATIVE FOREST RESERVE

<u>Botanical Name</u>	<u>Common Name</u>	<u>Conservation Significance</u>
<i>*Acacia baileyana</i>	Cootamundra wattle	
<i>Acacia longifolia</i> var. <i>longifolia</i>	Sallow wattle	
<i>Acacia melanoxylon</i>	Blackwood	
<i>Acacia myrtifolia</i> var. <i>myrtifolia</i>	Myrtle Wattle	
<i>Acacia oxycedrus</i>	Spike wattle	U/U
<i>Acacia paradoxa</i>	Kangaroo thorn	
<i>Acacia pycnantha</i>	Golden Wattle	
<i>Acacia verticillata</i>	Prickly Moses	
<i>Acaena echinata</i> var.	Sheep's burr	
<i>Acaena novae-zelandiae</i>	Biddy-biddy	
<i>*Acetosella vulgaris</i>	Sorrel	
<i>Acrotriche serrulata</i>	Cushion ground-berry	
<i>*Aira</i> sp.	Hair-grass	
<i>Allocasuarina muelleriana</i> ssp. <i>muelleriana</i>	Common oakbush	
<i>Allocasuarina paludosa</i>	Swamp oakbush	
<i>Allocasuarina verticillata</i>	Drooping sheoak	
<i>Amyema pendulum</i> ssp. <i>pendulum</i>	Drooping mistletoe	
<i>*Arctotheca calendula</i>	Capeweed	
<i>Argentipallium blandowskianum</i>	Woolly everlasting	
<i>Arthropodium strictum</i>	Common vanilla-lily	
<i>Astroloma conostephoides</i>	Flame heath	
<i>Astroloma humifusum</i>	Cranberry heath	
<i>*Avena</i> sp.	Oat	
<i>Banksia marginata</i>	Silver banksia	
<i>Banksia ornata</i>	Desert banksia	
<i>Baumea juncea</i>	Bare twig-rush	
<i>Billardiera cymosa</i>	Sweet apple-berry	
<i>Boronia nana</i>	Dwarf boronia	U/U
<i>Bossiaea prostrata</i>	Creeping bossiaea	
<i>Brachyloma ciliatum</i>	Fringed brachyloma	
<i>Brunonia australis</i>	Blue pincushion	
<i>Burchardia umbellata</i>	Milkmaids	
<i>Bursaria spinosa</i>	Sweet bursaria	
<i>Calytrix tetragona</i>	Common fringe-myrtle	
<i>Caustis pentandra</i>	Thick twist-rush	
<i>*Centaurium spicatum</i>	Spike centaury	
<i>Chrysocephalum apiculatum</i>	Common everlasting	
<i>Clematis microphylla</i>	Old man's beard	
<i>Comesperma volubile</i>	Love creeper	
<i>Correa reflexa</i> var. <i>reflexa</i>	Common correa	

<u>Botanical Name</u>	<u>Common Name</u>	<u>Conservation Significance</u>
* <i>Crepis</i> sp.	Hawksbeard	
<i>Cynoglossum australe</i>	Aust. Hound's-tongue	
* <i>Cynosurus echinatus</i>	Rough dog's-tail grass	
<i>Danthonia geniculata</i>	Kneed wallaby-grass	
<i>Danthonia</i> sp.	Wallaby-grass	
<i>Daviesia brevifolia</i>	Leafless bitter-pea	
<i>Dianella brevicaulis</i>	Short stem flax-lily	
<i>Dianella revoluta</i> var. <i>revoluta</i>	Black-anther flax-lily	
<i>Dichondra repens</i>	Kidney weed	
<i>Dillwynia glaberrima</i>	Smooth parot-pea	
<i>Distichlis distichophylla</i>	Emu-grass	
<i>Dodonaea viscosa</i> ssp. <i>spatulata</i>	Sticky hop-bush	
<i>Epacris impressa</i>	Common heath	
<i>Eucalyptus baxteri</i>	Brown stringy-bark	
<i>Eucalyptus camaldulensis</i> var. <i>camaldulensis</i>	River red gum	
<i>Eucalyptus fasciculosa</i>	Pink gum	
<i>Eucalyptus leucoxylon</i> ssp. <i>leucoxylon</i>	S.A. blue gum	
<i>Eucalyptus obliqua</i>	Messmate stringy-bark	
<i>Eucalyptus ovata</i>	Swamp gum	
<i>Eucalyptus viminalis</i> ssp. <i>cygnetensis</i>	Rough-bark manna gum	
<i>Exocarpos cupressiformis</i>	Native cherry	
<i>Gahnia trifida</i>	Cutting grass	
<i>Geranium</i> sp.	Geranium	
<i>Geranium solanderi</i> var. <i>solanderi</i>	Austral geranium	
<i>Gompholobium ecostatum</i>	Dwarf wedge-pea	
<i>Gonocarpus tetragynus</i>	Small-leaf raspwort	
<i>Goodenia geniculata</i>	Bent goodenia	
<i>Goodia medicaginea</i>	Western golden - tip	
<i>Hakea nodosa</i>	Yellow hakea	
<i>Hakea rostrata</i>	Beaked hakea	
<i>Hakea rugosa</i>	Dwarf hakea	
<i>Hemarthria uncinata</i> var. <i>uncinata</i>	Mat grass	
<i>Hibbertia prostrata</i>	Bundled guinea-flower	
<i>Hibbertia riparia</i>	Guinea-flower	
<i>Hibbertia sericea</i> var. <i>sericea</i>	Silky guinea-flower	
* <i>Holcus lanatus</i>	Yorkshire fog	
* <i>Hordeum vulgare</i> ssp.	Barley	
<i>Hydrocotyle laxiflora</i>	Stinking pennywort	
* <i>Hypochoeris glabra</i>	Smooth cat's ear	
* <i>Hypochoeris radicata</i>	Rough cat's ear	
<i>Hypolaena fastigiata</i>	Tassel rope-rush	
<i>Isolepis nodosa</i>	Knobby club-rush	
<i>Isopogon ceratophyllus</i>	Horny cone bush	

<u>Botanical Name</u>	<u>Common Name</u>	<u>Conservation Significance</u>
<i>Juncus kraussii</i>	Sea rush	
<i>Juncus pallidus</i>	Pale rush	
<i>Kennedia prostrata</i>	Scarlet runner	
* <i>Lagurus ovatus</i>	Hare's tail-grass	
<i>Lepidosperma canescens</i>	Hoary rapier-sedge	N/U
<i>Lepidosperma carphoides</i>	Black rapier-sedge	
<i>Lepidosperma concavum</i>	Spreading sword-sedge	
<i>Lepidosperma congestum</i>	Clustered sword-sedge	
<i>Lepidosperma curtisiae</i>	Little sword-sedge	N/T
<i>Lepidosperma laterale</i> s.str.	Tall sword-sedge	U/R
<i>Lepidosperma semiteres</i>	Wire rapier-sedge	
<i>Lepidosperma viscidum</i>	Sticky sword-sedge	
<i>Leptocarpus tenax</i>	Slender twine-rush	
<i>Leptospermum continentale</i>	Prickly tea-tree	
<i>Leptospermum coriaceum</i>	Dune tea-tree	
<i>Leptospermum myrsinoides</i>	Heath tea-tree	
<i>Leucopogon ericoides</i>	Pink beard-heath	
<i>Leucopogon glacialis</i>	Twisted beard-heath	
<i>Leucopogon virgatus</i>	Common beard-heath	
<i>Lobelia simplicaulis</i>	Narrow lobelia	
* <i>Lolium</i> sp.	Ryegrass	
<i>Lomandra juncea</i>	Desert mat-rush	
<i>Lomandra micrantha</i> ssp.	Small-flower mat-rush	
<i>Lomandra nana</i>	Pale mat-rush	
<i>Lomandra sororia</i>	Sword mat-rush	U/U
<i>Lobelia simplicaulis</i>	Narrow lobelia	
<i>Melaleuca brevifolia</i>	Short-leaf honey-myrtle	
<i>Melaleuca gibbosa</i>	Slender honey-myrtle	
<i>Monotoca scoparia</i>	Prickly broom-heath	U/U
<i>Neurachne alopecuroidea</i>	Fox-tail mulga-grass	
<i>Oxalis perennans</i>	Native sorrel	
<i>Patersonia fragilis</i>	Short purple-flag	U/U
<i>Pelargonium rodneyanum</i>	Magenta pelargonium	
<i>Persoonia juniperina</i>	Prickly geebung	
* <i>Phalaris</i> sp.	Canary-grass	
<i>Pimelea glauca</i>	Smooth rice-flower	
<i>Pimelea humilis</i>	Low rice-flower	
<i>Pimelea stricta</i>	Erect rice-flower	
<i>Poa</i> sp.	Poa	
<i>Podolepis jaceoides</i>	Showy copper-wire daisy	R/R
<i>Pseudognaphthium luteoalbum</i>	Jersey cudweed	
<i>Pteridium esculentum</i>	Bracken	
<i>Ptilotus macrocephalus</i>	Feather-heads	U/U

<u>Botanical Name</u>	<u>Common Name</u>	<u>Conservation Significance</u>
* <i>Scabiosa atropurpurea</i>	Pincushion	
<i>Schoenus breviculmus</i>	Matted bog-rush	
* <i>Senecio pterophorus</i> var. <i>pterophorus</i>	African daisy	
<i>Senecio quadridentatus</i>	Cotton groundsel	
<i>Stipa</i> sp.	Spear-grass	
<i>Stipa scabra</i> group	Falcate-awn spear-grass	
<i>Stylidium graminifolium</i>	Grass trigger-plant	
<i>Tetralochea ciliata</i>	Pink-bells	
<i>Thelymitra</i> sp.	Sun-orchid	
<i>Themeda triandra</i>	Kangaroo grass	
<i>Thomasia petalocalyx</i>	Paper-flower	
<i>Thysanotus patersonii</i>	Twining fringe-lily	
<i>Tricoryne elatior</i>	Yellow rush-lily	
* <i>Trifolium campestre</i>	Hop clover	
* <i>Trifolium angustifolium</i>	Narrow-leaf clover	
<i>Viola hederacea</i>	Ivy-leaf violet	
<i>Vittadinia dissecta</i> var. <i>hirta</i>	Dissected New Holland daisy	
<i>Xanthorrhoea caespitosa</i>	Sand-heath yacca	

Interim conservation significance codes are shown where warranted as a state and region rating in the format SA/SE as indicated in the 2000 update of *Conservation Status Codes* report by Lang, P.J. and Kraehenbuehl, D.N. – Department for Environment and Heritage.

Status of species in South Australia under the National Parks and Wildlife Act 1972 – Schedules 7, 8 and 9 are shown as :

- Code E = Endangered
 T = Threatened, ie either Endangered or Vulnerable
 V = Vulnerable
 K = Uncertain, but likely to be Rare or Threatened
 R = Rare
 U = Uncommon
 Q = Not yet assessed but flagged as being of possible significance
 N = Common
- * = Introduced

Species identified by Joanne Cutten, Tanya Littlely and Graham Carpenter (Department for Environment and Heritage), and Barrie Grigg (ForestrySA) April and June 1996.

TABLE 2**BIRD SPECIES RECORDED FOR KHAYYAM NATIVE FOREST RESERVE**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Conservation Status</u>
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	
<i>Acanthiza lineata</i>	Striated Thornbill	
<i>Acanthiza pusilla</i>	Brown Thornbill	
<i>Acanthiza reguloides</i>	Buff-rumped Thornbill	
<i>Acanthorhynchus tenuirostris</i>	Eastern Spinebill	
<i>Accipiter cirrhocephalus</i>	Collared Sparrowhawk	
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar	
<i>Anas superciliosa</i>	Pacific Black Duck	
<i>Anthochaera carunculata</i>	Red Wattlebird	
<i>Anthochaera chrysoptera</i>	Little Wattlebird	
<i>Anthus novaeseelandiae</i>	Richard's Pipit	
<i>Aquila audax</i>	Wedge-tailed Eagle	
<i>Artamus cyanopterus</i>	Dusky Woodswallow	
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	
<i>Cacatua roseicapilla</i>	Galah	
<i>Cacatua tenuirostris</i>	Long-billed Corella	
<i>Calyptorhynchus funereus</i>	Yellow-tailed Black-Cockatoo	V
<i>Carduelis carduelis</i>	European Goldfinch	
<i>Chrysococcyx lucidus</i>	Shining Bronze-Cuckoo	R
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	
<i>Cormobates leucophaeus</i>	White-throated Treecreeper	
<i>Corvus mellori</i>	Little Raven	
<i>Corvus tasmanicus</i>	Forest Raven	
<i>Coturnix pectoralis</i>	Stubble Quail	
<i>Cracticus torquatus</i>	Grey Butcherbird	
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	
<i>Daphoenositta chrysoptera</i>	Varied Sittella	
<i>Dicaeum hirundinaceum</i>	Mistletoebird	
<i>Dromaius novaehollandiae</i>	Emu	
<i>Egretta novaehollandiae</i>	White-faced Heron	
<i>Elanus notatus</i>	Black-shouldered Kite	
<i>Emblema bellum</i>	Beautiful Firetail	
<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater	R
<i>Eopsaltria australis</i>	Eastern Yellow Robin	
<i>Ephthianura albifrons</i>	White-fronted Chat	
<i>Falco berigora</i>	Brown Falcon	
<i>Falco cenchroides</i>	Nankeen Kestrel	
<i>Falco longipennis</i>	Australian Hobby	
<i>Falcunculus frontatus</i>	Crested Shrike-tit	V
<i>Glossopsitta concinna</i>	Musk Lorikeet	

<i>Glossopsitta porphyrocephala</i>	Purple-crowned Lorikeet	
<i>Grallina cyanoleuca</i>	Magpie-lark	
<i>Gymnorhina tibicen</i>	Australian Magpie	
<i>Halcyon sancta</i>	Sacred Kingfisher	
<i>Hieraaetus morphnoides</i>	Little Eagle	
<i>Hirundo neoxena</i>	Welcome Swallow	
<i>Larus novaehollandiae</i>	Silver Gull	
<i>Lichenostomus chrysops</i>	Yellow-faced Honeyeater	
<i>Lichenostomus leucotis</i>	White-eared Honeyeater	
<i>Lichenostomus penicillatus</i>	White-plumed Honeyeater	
<i>Malurus cyaneus</i>	Superb Fairy-wren	
<i>Manorina melanocephala</i>	Noisy Miner	
<i>Melanodryas cucullata</i>	Hooded Robin	
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater	
<i>Melithreptus gularis</i>	Black-chinned Honeyeater	V
<i>Melithreptus lunatus</i>	White-naped Honeyeater	
<i>Microeca fascinans</i>	Jacky Winter	
<i>Myiagra inquieta</i>	Restless Flycatcher	
<i>Neochmia temporalis</i>	Red-browed Finch	
<i>Ocyphaps lophotes</i>	Crested Pigeon	
<i>Pachycephala pectoralis</i>	Golden Whistler	
<i>Pachycephala rufiventris</i>	Rufous Whistler	
<i>Pardalotus striatus</i>	Striated Pardalote	
<i>Pardalotus punctatus</i>	Spotted Pardalote	
<i>Pelicanus conspicillatus</i>	Australian Pelican	
<i>Petroica multicolor</i>	Scarlet Robin	
<i>Petroica phoenicea</i>	Flame Robin	R
<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant	
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	
<i>Phaps chalcoptera</i>	Common Bronzewing	
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	
<i>Platycercus elegans</i>	Crimson Rosella	
<i>Platycercus eximius</i>	Eastern Rosella	
<i>Podargus strigoides</i>	Tawny Frogmouth	
<i>Psephotus haematonotus</i>	Red-rumped Parrot	
<i>Pterochelidon nigricans</i>	Tree Martin	
<i>Rhipidura fuliginosa</i>	Grey Fantail	
<i>Rhipidura leucophrys</i>	Willie Wagtail	
<i>Sericornis frontalis</i>	White-browed Scrubwren	
<i>Strepera versicolor</i>	Grey Currawong	
<i>Sturnus vulgaris</i>	Common Starling	
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe	
<i>Tadorna tadornoides</i>	Australian Shelduck	
<i>Threskiornis aethiopica</i>	Sacred Ibis	

<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	
<i>Tringa stagnatilis</i>	Marsh Sandpiper	
<i>Turnix varia</i>	Painted Button-quail	V
<i>Tyto alba</i>	Barn Owl	
<i>Vanellus miles</i>	Masked Lapwing	
<i>Zosterops lateralis</i>	Silvereye	

Status of species in South Australia under the National Parks and Wildlife Act 1972 – Schedules 7,8 and 9 are shown as :

V = Vulnerable

R = Rare

Observations by Graham Carpenter June 1996, and Stuart Collard July – December 1998.

TABLE 3**MAMMAL SPECIES RECORDED FOR KHAYYAM NATIVE FOREST RESERVE**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Conservation Status</u>
* <i>Cervus dama</i>	Fallow Deer	-
* <i>Felis catus</i>	Cat	-
<i>Hydromys chrysogaster</i>	Water Rat	-
<i>Macropus fuliginosis</i>	Western Grey Kangaroo	-
<i>Macropus giganteus</i>	Eastern Grey Kangaroo	R
<i>Macropus rufogriseus</i>	Red-necked Wallaby	R
* <i>Mus musculus</i>	House Mouse	-
* <i>Oryctolagus cuniculus</i>	Rabbit	-
<i>Pseudocheirus peregrinus</i>	Common Ringtail	-
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna	-
<i>Trichosurus vulpecula</i>	Common Brushtail	-
* <i>Vulpes vulpes</i>	Fox	-

* = introduction

Status of species in South Australia under the National Parks and Wildlife Act 1972 – Schedules 7, 8 and 9 are shown as :

V = Vulnerable

R = Rare

TABLE 4**AMPHIBIAN AND REPTILE SPECIES RECORDED FOR
KHAYYAM NATIVE FOREST RESERVE**

<u>Scientific Name</u>	<u>Common Name</u>
<i>Crinia signifera</i>	Common Froglet
<i>Limnodynastes dumerili</i>	Bull Frog
<i>Limnodynastes peroni</i>	Striped Marsh Frog
<i>Limnodynastes tasmaniensis</i>	Spotted Grass Frog
<i>Litoria ewingi</i>	Brown Tree Frog
<i>Neobatrachus pictus</i>	Painted Frog
<i>Notechis scutatus</i>	Eastern Tiger Snake
<i>Pogona barbata</i>	Eastern Bearded Dragon
<i>Pseudonaja textilis</i>	Eastern Brown Snake
<i>Tiliqua rugosa</i>	Sleepy Lizard
<i>Tiliqua scincoides</i>	Eastern Blue tongue

7. APPENDICES

APPENDIX I

FORESTRYSA – Corporate & 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
 Mining Act 1971
 National Parks and Wildlife Act 1972
 Aboriginal Heritage Act 1988
 Country Fires Act 1989
 Native Vegetation Act 1991
 Petroleum Act 2000

ForestrySA Number	Policy Name	Policy
Corporate	Community Use	PCP0031
	Law Enforcement	PCP0034
	Information Signs	PCP0035
	Prescribed Burning of Native Forests	PCP0040
	Management of Aboriginal Cultural Heritage	PCP0046
	Management of the Conservation Zone	PCP0053
Community Forestry	Day Visitors	PCF0002
	Camping	PCF0004
	Orienteering & Rogaining	PCF0006
	Pets in the Forest	PCF0007
	Horse Riding in SE Forests	PCF0009
	Bicycling	PCF0010
	Public Vehicle Access	PCF0011
	Motor Sports	PCF0012
	Cave Exploration	PCF0014
	Military Exercises	PCF0015
	Public Events	PCF0016
Seed Collection	Pending	

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