



**NSW NATIONAL PARKS & WILDLIFE SERVICE**

# **Eurobodalla National Park**

**Plan of Management**



© 2022 State of NSW and Department of Planning and Environment

With the exception of photographs, the State of NSW and Department of Planning and Environment are pleased to allow this material to be reproduced in whole or in part for educational and non-commercial use, provided the meaning is unchanged and its source, publisher and authorship are acknowledged. Specific permission is required for the reproduction of photographs.

The Department of Planning and Environment (DPE) has compiled this report in good faith, exercising all due care and attention. No representation is made about the accuracy, completeness or suitability of the information in this publication for any particular purpose. DPE shall not be liable for any damage which may occur to any person or organisation taking action or not on the basis of this publication. Readers should seek appropriate advice when applying the information to their specific needs.

All content in this publication is owned by DPE and is protected by Crown Copyright, unless credited otherwise. It is licensed under the [Creative Commons Attribution 4.0 International \(CC BY 4.0\)](#), subject to the exemptions contained in the licence. The legal code for the licence is available at [Creative Commons](#).

DPE asserts the right to be attributed as author of the original material in the following manner: © State of New South Wales and Department of Planning and Environment 2022.

Cover photo: Eurobodalla National Park. Christina Bullivant/DPE

This plan of management was adopted by the Minister for the Environment on 23 August 2000.

Acknowledgments: This plan of management was written by the Field Services Division, New South Wales National Parks and Wildlife Service, with the assistance of a steering committee comprised of representatives of the former Narooma District Advisory Committee and staff from the Far South Coast Region. Special acknowledgment is also made of the assistance given by all those who provided submissions on the draft plan.

Published by:

Environment, Energy and Science  
Department of Planning and Environment  
Locked Bag 5022, Parramatta NSW 2124  
Phone: +61 2 9995 5000 (switchboard)  
Phone: 1300 361 967 (Environment, Energy and Science enquiries)  
TTY users: phone 133 677, then ask for 1300 361 967  
Speak and listen users: phone 1300 555 727, then ask for 1300 361 967  
Email: [info@environment.nsw.gov.au](mailto:info@environment.nsw.gov.au)  
Website: [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

Report pollution and environmental incidents  
Environment Line: 131 555 (NSW only) or [info@environment.nsw.gov.au](mailto:info@environment.nsw.gov.au)  
See also [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

ISBN 0-73136-1172  
EES 2022/0079

First published in August 2008; reprinted February 2022 with corrections to the maps.

Find out more about your environment at:

**[www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)**

# Contents

Foreword	v
Part A. Introduction	1
Part B. Management context	2
1. National parks in New South Wales	2
2. Eurobodalla National Park	2
2.1 Location, reservation and regional setting	2
2.2 Importance of Eurobodalla National Park	4
Part C. Objectives of management	6
3. General objectives	6
3.1 Specific objectives for Eurobodalla National Park	6
3.2 Overall Strategy	7
Part D. Policies and framework for management	8
4. Eurobodalla National Park: its natural heritage	8
4.1 Geology, soils and landscapes	8
4.2 Climate	9
4.3 Coastal lagoons and their islands	10
4.4 The intertidal zone	11
4.5 Native and introduced vegetation	11
4.6 Native and introduced animals	17
4.7 Fire management	22
5. Eurobodalla National Park: its cultural heritage	23
5.1 Aboriginal cultural heritage	23
5.2 Other historic places	24
6. Eurobodalla National Park: use of the area	28
6.1 Recreation opportunities	28
6.2 Promotion and interpretation	38
6.3 Neighbour relations	39
6.4 Research	40
6.5 Management operations	41
Part E. Plan implementation	46
Selected references	50

## List of tables

Table 1	Flora species of significance recorded within or adjacent to Eurobodalla National Park.	14
Table 2	Endangered and vulnerable fauna species of Eurobodalla National Park	19
Table 3	Historic features at South Head Moruya	25

## List of figures

Figure 1	Eurobodalla National Park Plan of Management	3
Figure 2	Visitor use summary	32

# Foreword

Eurobodalla National Park covers 2220 hectares of coastal lands on the south coast of New South Wales between Moruya and Bermagui. It includes approximately 27 hectares of land within the intertidal zone, as well as numerous coastal lakes.

Eurobodalla National Park is a discontinuous park, comprising 16 geographically discrete areas of land. However, despite its fragmented nature, the park supports a diverse range of vegetation and native fauna communities. It also contains numerous sites of importance to the local Aboriginal community, as well as sites of historic importance.

One of the primary attractions of this park is its largely undeveloped nature and the range of coastal landforms that it protects. Eurobodalla National Park has received widespread but low-level recreational use over a long period, predominantly from local people. This plan aims to provide appropriate recreation opportunities that complement those available elsewhere along this part of the south coast.

Promotion and interpretation of the park and its values to visitors and nearby residential populations is recognised as a major aspect of the park's management, as is the explanation of management programs to the local community and neighbours.

This plan of management establishes the scheme of operations for Eurobodalla National Park. In accordance with the provisions of Section 75 of the *National Parks and Wildlife Act 1974* this plan of management is hereby adopted.

**Bob Debus**

**Minister for the Environment**



## Part A. Introduction

The National Parks and Wildlife Act requires that a plan of management be prepared for each national park. The Plan of Management is a legal document that provides guidelines to balance the conservation of natural and cultural resources with the use of Eurobodalla National Park. The procedures for the adoption of a plan of management are specified in the Act and involve 5 stages:

- The Director-General gives notice that a plan of management has been prepared.
- The plan is placed on public exhibition for at least one month and any person may comment on it.
- The plan and copies of all representations are referred to the National Parks and Wildlife Advisory Council for consideration.
- The Director-General submits the plan, together with the recommendations of the Advisory Council, to the Minister.
- The Minister may adopt the plan after considering the recommendations of the Advisory Council or may refer the plan back to the Director-General and Council for further consideration.

Once the plan has been adopted by the Minister no operations may be carried out in the park unless they are in accordance with the plan.

A draft plan of management for Eurobodalla National Park was placed on public exhibition from March 1999 to May 1999. During the period of public exhibition 131 representations were received which raised 23 issues. These representations were referred to the National Parks and Wildlife Advisory Council for review and report to the Minister. The comments and suggestions of the Advisory Council were in turn considered by the Minister when adopting this plan.

Additional information or enquiries about the park or reserve or this plan of management may be obtained from the Service's Narooma Office at cnr. of Field Street and Princes Highway, Narooma (telephone (02) 4476 2888).

## Part B. Management context

### 1. National parks in New South Wales

The national park concept was introduced into Australia with the establishment of Royal National Park in 1879, only seven years after the world's first national park was created at Yellowstone in the United States of America.

The International Union for the Conservation of Nature and Natural Resources (IUCN) in 1994 defined a national park as:

'A natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area, and (c) provide a foundation for spiritual, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.'

National parks are part of the regional pattern of land use. Many land uses, for example, agriculture, forestry and mining, require substantial modification of the natural environment. Management of national parks, however, aims to balance the conservation of natural and cultural resources with recreational use.

### 2. Eurobodalla National Park

#### 2.1 Location, reservation and regional setting

Eurobodalla National Park is located on the south coast of New South Wales, approximately 300 kilometres south of Sydney, between South Head Moruya and the mouth of Tilba Tilba Lake south of Narooma. Map 1 illustrates its location and extent.

The park is comprised of 16 geographically discrete areas of land ranging from narrow parcels along the coast to more consolidated areas incorporating the coast and fringing forests. Importantly the park also includes the intertidal zone (that is, to mean low-water mark) for much of its seaward boundary. It includes a number of lakes (Lakes Tarourga, Meringo, Brou, Mummuga, Kellys Lake and part of Lake Corunna) that are reserved to high-water mark or beyond. The intertidal zone of the lakes and the lake beds are also incorporated within the park. Quandolo Island is reserved to mean high-water mark, while the islands in Tuross Lake are reserved to mean low-water mark. The park has a total area of 2220 hectares of which approximately 27 hectares lie within the intertidal zone.

Eurobodalla National Park was gazetted on 22 December 1995, and a 40-hectare addition in the area south of Bingie Bingie Point was gazetted on 24 September 1997. The park incorporates crown land and land that was purchased under the Coastal Lands Protection Scheme (CLPS) for incorporation within the park system. The CLPS, administered by the Department of Urban Affairs and Planning, other purposes, including state forests, agricultural lands and numerous urban areas. That portion of the park north of the town of Dalmeny is fringed by Bodalla State Forest and naturally vegetated freehold land, as well as some small areas of agricultural land. These northern sections of the park are interspersed by the small townships of Congo, Meringo and Potato Point and the larger urban area of Tuross Head. South of Narooma, land uses surrounding the park are dominated by agriculture, particularly near Tilba Tilba Lake, Bogola Head and Bodalla State Forest.

The highly fragmented and linear nature of the park, coupled with a range of land uses nearby that have the potential to negatively affect park values, pose significant challenges for park management.

# MAP I EUROBODALLA NATIONAL PARK

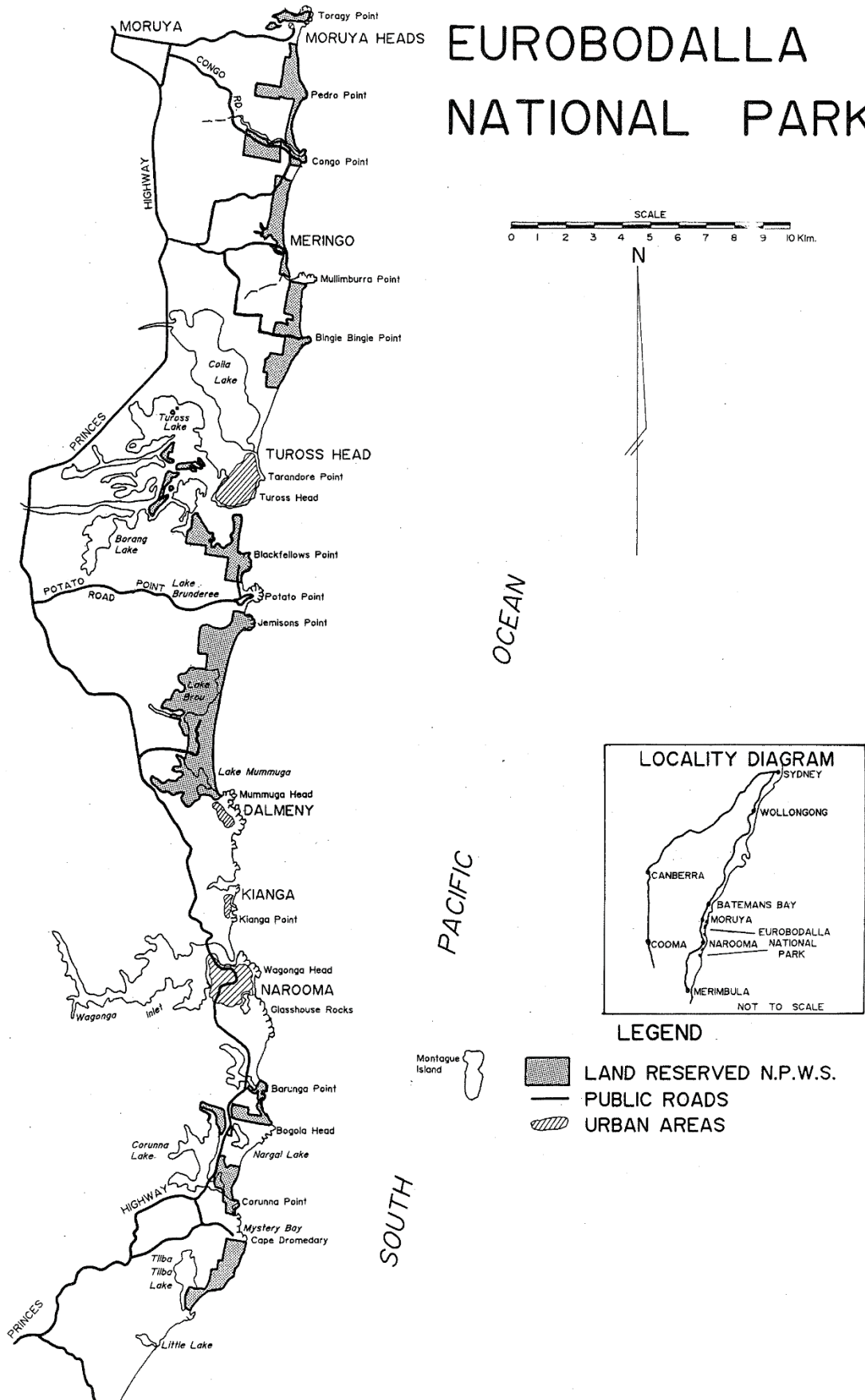


Figure 1 Eurobodalla National Park Plan of Management



## 2.2 Importance of Eurobodalla National Park

Eurobodalla National Park reserves a 30-kilometre stretch of coastline between South Head Moruya in the north and the mouth of Tilba Tilba Lake in the south. It is recognised as being one of a number of coastal protected areas in the south of New South Wales that together contribute to the protection of the biodiversity values of the state's coastal lands.

An essential part of the management of the national park is recognising its significance as a part of a regional conservation strategy. Such a strategy should take into account the relationships between individual protected areas and other forms of land use. A network of protected areas, such as that which exists on the state's south coast, is essential to allow coastal plant and animal communities to survive and adapt during environmental change.

Although the park is very fragmented and has been highly disturbed by past use patterns, it has a significant conservation role in the network of south coast national parks and reserves. Additionally, the park can provide recreational opportunities that complement other major coastal parks in the area, such as Murramarang and Mimosa Rocks National Parks.

Eurobodalla National Park is significant in its own right because of its biodiversity, its landscape, and its cultural and recreational values. Key **natural values** include:

- a diverse range of native plant communities, 12 in total, that are reasonably widespread in the region and representative of coastal vegetation. These communities provide a range of habitats for the fauna of the area
- one rare plant, one vulnerable plant and a further 13 native plant species regarded as regionally significant as they occur at the limit of their known distribution
- a diverse vertebrate fauna of 194 identified species. Twenty-one of these species are regarded as either endangered or vulnerable, representing over a quarter of the total endangered or vulnerable species of the Eurobodalla coastal region
- the provision of an important link for the north–south migration of significant migratory bird species such as the Large (Greater) Sand Plover and the Black-tailed Godwit
- the fact that, unlike many other coastal parks, Eurobodalla National Park extends to the mean low-water mark to include the intertidal zone and associated flora and fauna. Similarly, the park incorporates a number of coastal lagoons (and one estuary) to the mean high-water mark, including lagoon beds.

Significant **landscape values** of the park include:

- a range of coastal landforms typical of the area, including a variety of beaches (from long and exposed to small and sheltered), parallel dune systems and headlands
- portions of freshwater and estuarine wetland systems all of which have some of their catchment outside of the park
- a geological site at Bingie Bingie Point regarded as regionally significant because of the highly unusual but very clear exposure of two distinct igneous rock types in a confined area.

Cultural heritage values of the park comprise:

- a diversity and concentration of sites that are significant and important to the contemporary Aboriginal community
- a large number of sites that indicate the extensive and lengthy utilisation of the area by Aboriginal people
- sites that demonstrate the non-Aboriginal occupation of the area, most notably the South Head Moruya pilot station and nearby cemetery, Corunna Point historic features and the Corunna goldfields.

The key educational and scientific values of the park are:

- the opportunities the area offers for environmental education and field studies, particularly for the primary and secondary schools of nearby towns

- the opportunities offered for scientific studies of coastal processes, endangered and vulnerable species, fire ecology and management techniques as applied to fragmented protected areas
- the opportunities available to the Aboriginal community to inform both Aboriginal and non-Aboriginal people about traditional land management practices.

Major recreational and tourism values of the park include:

- a range of opportunities for land and water-based recreation in a largely undeveloped and unmodified coastal environment
- its significance as a tourism destination for visitors to the south coast seeking to experience the natural and scenic qualities of a coastal environment.

## Part C. Objectives of management

### 3. General objectives

The following general objectives relate to the management of national parks in New South Wales:

- the protection and preservation of scenic and natural features; the conservation of wildlife
- the maintenance of natural processes as far as is possible; the preservation of Aboriginal sites and historic features; the provision of appropriate recreation opportunities
- the encouragement of scientific and educational inquiry into environmental features and processes, prehistoric and historic features and public use patterns.

#### 3.1 Specific objectives for Eurobodalla National Park

In addition to the above general objectives the management of Eurobodalla National Park will be subject to the following specific objectives:

- the protection of Eurobodalla National Park as part of a regionally important system of national parks and reserves on the south coast of New South Wales
- the maintenance of high water quality in the freshwater wetlands and coastal lagoons within the park
- the protection of the area's scenic landscape values through the sensitive location and design of infrastructure and access
- the protection of several intertidal areas within the park; the management of vegetation to:
  - maintain natural floristic and structural diversity
  - conserve the rare, vulnerable or otherwise significant species known to occur in the park
  - conserve communities of significance known to occur in the park
  - regenerate disturbed areas that have been cleared or grazed previously
  - maximise habitat values for native animal species.
- the maintenance of faunal diversity with priority given to the endangered species of Little Tern and Hooded Plover and species regarded as vulnerable, including the Pied Oystercatcher, the Glossy Black Cockatoo, the Masked Owl, the White-footed Dunnart, the Eastern Little Mastiff Bat and the Greater Broad-nosed Bat
- the protection of Aboriginal sites and places and the provision of opportunities for the local Aboriginal community to be involved in the management of the park
- the management of historic places and structures in accordance with the provisions of the Burra Charter
- the encouragement of a range of water and land-based recreational pursuits appropriate to the conservation of natural and cultural heritage values of the park. The provision of recreational opportunities within the park will recognise prior use patterns and emphasise the provision of a range of vehicle, horse riding and walking access opportunities with a minimum of facilities
- the promotion of public awareness and appreciation of Eurobodalla National Park with emphasis on:
  - the Aboriginal cultural value of the park and its importance to the contemporary Aboriginal community
  - the European history of the area, particularly the maritime history of the region
  - the natural and ecological processes of coastal lagoons and their conservation values
  - the appropriate recreational use of the park, particularly the lagoon and ocean foreshore environments.

## 3.2 Overall Strategy

Eurobodalla National Park will be managed as a significant, albeit fragmented, area of native plant and animal communities on the south coast of New South Wales. It is recognised that the park's conservation, landscape and recreational values are greatly affected by the actions of other land-use authorities and neighbours. Close liaison will be maintained with relevant state and local government agencies, community organisations and neighbours.

A catchment management approach to the management of freshwater and estuarine waterbodies will be adopted. At the intertidal zone, the establishment of a number of ecologically representative protected areas, where the harvesting of marine organisms would be prohibited, will be investigated. Management of the intertidal zone will be undertaken in close consultation with NSW Fisheries.

The protection of the existing native plant and animal communities will be achieved by reducing, and where possible eliminating, threats to these species and communities. A fire regime that helps to maintain native plant and animal diversity in the region will also be adopted.

Management of historic sites within the park will accord with the provisions of the Burra Charter. Cultural sites and places will be protected and managed in close liaison with the relevant Aboriginal communities.

The management of public use of the park will centre on providing and maintaining access and facilities at varying standards, focusing on the supply of recreational opportunities in a largely undeveloped coastal environment. A limited number of sites will be managed to allow for seasonal high levels of use by providing an appropriate standard of access and facilities.

As resources allow, interpretive material will be provided at selected visitor destinations and this may be augmented by face-to-face interpretive programs in periods of high public use, such as school holidays and summer months. Emphasis will be placed on explaining park management programs and actions to the local community, neighbours, Eurobodalla Shire Council and other government agencies.

## Part D. Policies and framework for management

This section of the plan contains the policies and framework for the management of Eurobodalla National Park together with relevant background information. Policies are summarised under the following section headings:

4. Eurobodalla National Park: Its Natural Heritage
5. Eurobodalla National Park: Its Cultural Heritage
6. Eurobodalla National Park: Use of the Area

The policies established in this Plan of Management will provide the framework for management consistent with anticipated resources available to the Service and anticipated community trends over the next five to ten years. Such policies will also apply equally to any additions to the national park made during the life of this plan.

The actions identified in this plan are those that will take priority in the foreseeable future. Other management actions may be developed over the life span of this plan consistent with the policies set out here.

Where not specifically noted in this plan, management will also be in accordance with the National Parks and Wildlife Act and with general Service policies.

## 4. Eurobodalla National Park: its natural heritage

### 4.1 Geology, soils and landscapes

In broad geological terms the vast Lachlan Fold Belt, extending from the Queensland border through mid-western New South Wales and Victoria to the eastern half of Tasmania, incorporates the whole park. This fold belt can be classified into smaller areas of similar geology, called terranes, that are bounded by geological faults. The park occurs within both the Narooma and Molong–Monaro terranes (Scheibner and Basden, 1996).

Much of the detailed geology of the land that occurs in the park is addressed in Lewis et al.'s 1994 report titled *Bega — Mallecoota Geological Sheet 1:250,000 SJ 55–4, SJ/55–8: Explanatory Notes*. The geological descriptions that follow have been derived from this report. References to the geographic extent of each geological type are approximate only.

The park contains reasonably diverse geology consisting primarily of igneous and sedimentary rock types ranging from as little as two million years old to over 500 million years old. The northern section of the park near South Head Moruya and Congo Point is dominated by Tertiary basalts and sediments (commonly fluvial sands, grits and clays) up to two million years old. Further south to the Coila Lake sand bar, early Devonian granites of the Moruya batholith (410 to 390 million years old) occur, most notably the Tuross Head tonalite and Bingie Bingie suite of gabbroic diorite.

The area of the park between Tuross and Mummuga Lakes is dominated by the interbedded sandstone/siltstone shale and chert beds of the Adaminaby group (500 to 460 million years old) and the very recent Tertiary sediments (50 to 30 million years old) characterised by fluvial sands, grits and clays. South of Narooma the Cambrian/Ordovician (520 to 430 million years old) Wagonga group dominates with

the Bogolo formation, comprised of broken blocks of sandstone and chert in a slaty matrix, and Narooma chert. The Adaminaby group and areas of Tertiary sediments occur south of Cape Dromedary.

The main geological interest in the park centres on Bingie Bingie Point where a complex association of two igneous rock types exists — granite (Tuross Head tonalite) and gabbroic diorite (Bingie Bingie



suite). The clear exposure of two differing igneous rock types and their relationship to each other in such a confined area is regarded as outstanding among exposures of igneous intrusive rocks in the state (Percival, 1985).

The soils of the park have been little surveyed and have received only a minor mention in any of the surveys undertaken within the park. However, the range of soils occurring in the park reflects the diverse geology described earlier. There are extensive areas of highly erodible Quaternary sand and alluvium along the coasts and estuaries. Those areas of the park underlain by Tertiary basalts and the granites of the Moruya batholith would contain deeper and better developed texture contrast soils.

Soils of coastal or sedimentary origin limit use as they are sandy, poorly structured, highly erodible and infertile. These soils are unable to sustain regular vehicle traffic or high pedestrian use without eroding. Various control mechanisms are available to minimise erosion of these soils where access is a necessity for management or other purposes.

The park is dominated by coastal environments of a variety of types. The northern area of the park is characterised by long and exposed beaches and associated parallel dune systems interspersed with small headlands or cliffs. To the south of Narooma the coast is mostly comprised of smaller, sheltered beaches bordered by cliffs and headlands. Throughout the park the beaches and small headlands are regularly interspersed by either small creeks or entrances to several major lagoons, many of which are contained in the park.

Behind the coastal dunes the park incorporates low undulating country supporting a variety of forest communities. This undulating country contains a number of freshwater wetlands that are generally either near-coastal lagoons or swamps. Of these, Pedro Swamp is one of the few in the region with an almost totally undeveloped catchment. A number of these freshwater wetlands, as well as some of the estuarine lakes and creeks, are partially designated under State Environmental Planning Policy 14 (SEPP 14). This policy requires development consent for a number of activities, including land draining, clearing or filling.

## **Policies**

- Erosion is recognised as a naturally occurring process in the park. Control measures will be undertaken where erosion has been accelerated by human activity or is threatening significant habitats or other values.
- All geological features and areas of scientific interest will be protected, particularly the site at Bingie Bingie Point. Disturbance or collection will not be permitted except for purposes of authorised scientific research.
- All works will be sited, designed and undertaken in a manner that minimises soil erosion and other negative effects on the park's landscape.
- Freshwater wetlands and estuarine lakes and creeks will be managed according to the principles of SEPP 14.

## **Actions**

- Existing areas of soil erosion will be mapped and priorities will be established for rehabilitation work.
- As resources allow, existing areas of soil erosion will be progressively rehabilitated.
- A methodology to measure the effects of visitor use on the geological site at Bingie Bingie Point will be established and implemented. Mechanisms may be required to reduce any effects that appear.

## **4.2 Climate**

The climate of the park is best indicated by data from the Narooma climate station and is characterised by warm to hot summers and cool winters. The average temperatures for the hottest month (February) are a mean maximum of 23.9°C and mean minimum of 15.9°C, while the respective means for the coldest month of July are 15.7°C and 6.0°C. Rainfall peaks slightly in summer. The climate has

important implications for seasonal tourism patterns in the area with the warm summer months being the most popular times to visit.

### 4.3 Coastal lagoons and their islands

A feature of the park is the number of its coastal lagoons, the larger ones being Lakes Mummuga, Tarourga and Brou. The small area of Corunna Lake east of the Princes Highway and including the lake mouth is also within the park, while the remaining area of the lake is managed by Eurobodalla Shire Council. These coastal lagoons are generally shallow and often contain estuarine islands and associated sand bars.

Quandolo Island in the Moruya River and several of the estuarine islands of Tuross Lake are reserved in the park. The islands have significant natural value because they are important to migratory birds and other wildlife as refuges from disturbance and predation. Infrequent and low-level boat-based day-use recreational activity occurs on Cambathin Island in Tuross Lake (see section 6.1.5). There is some evidence of bank erosion, weeds and rubbish on the islands of Tuross Lake.

Deuaumba Island in Tuross Lake has been subject to a grazing lease (see section 6.5.6).

Without exception at least a portion of the catchment of each of the park's coastal lagoons is outside the park, generally within agricultural lands, state forests or residential areas. The long-term maintenance of water quality in the lagoons will require coordinated management across their catchments. A number of sites and areas within the catchments, particularly residential areas, have the potential to affect the water quality of the lagoons. Regular monitoring of water quality in Lake Mummuga is undertaken by Eurobodalla Shire Council with expenses for laboratory analysis being shared by the Service.

The *Catchment Management Act* 1989 provides an umbrella framework for managing for cleaner water, less soil erosion, improved vegetation cover, the maintenance of ecological processes and a balanced and healthier environment. It also helps to balance conservation needs and development pressures and encourages community awareness and involvement. An important means of achieving these aims is the formation and support of catchment management committees at a local level.

In 1991 the New South Wales Government adopted the Estuary Management Plan and, through the New South Wales State Rivers and Estuaries Policy, developed a manual that details the estuary management planning processes to be undertaken. The Service is currently represented on the Lower South Coast Total Catchment Management Committee and the Tuross/Coila Lakes Estuary Management Committee. In the case of coastal lagoons incorporated within protected areas, the New South Wales National Parks and Wildlife Service is the lead agency in producing estuary management plans.

Coastal lagoons typically remain closed for most of the time, opening naturally only after prolonged or heavy rain causes rising water levels to breach the sand barrier to the sea. Lagoon water levels then drop dramatically, and lagoons often become tidal until the barrier is reformed by wind and wave action. This cycle results in distinctive ecosystems that reflect changing salinity and nutrient levels as well as variable inundation periods.

There are often demands for lagoons to be opened artificially to overcome real or perceived problems. These typically involve preventing the flooding of private land or public amenities, ameliorating smell, improving water quality and encouraging fish recruitment. However, artificial openings may have significant environmental effects, including adverse impacts on the lifecycles of fish and other aquatic organisms, the removal of wader feeding sites, the destruction of waterbird nesting areas and the degradation of recreational opportunities.

State Environment Planning Policy 35 relates to the 'Maintenance Dredging of Tidal Waterways' and proposes the principle that lagoons are opened only as frequently as is necessary to restore natural tidal conditions and that any artificial openings occur in the natural breakout range of water level for the lagoon. Additionally, the policy advocates the preparation of estuary management plans that would address the issue of coastal lagoon openings, or as a short-term alternative the preparation of interim lagoon opening strategies. Artificial opening of coastal lagoons is regarded as an assessable activity under Part 5 of the *Environmental Planning and Assessment Act* 1979 and requires formal assessment.

## Policies

- The Service supports the principles of catchment management and will liaise with local government and other authorities to maintain and improve the water quality of the national park catchments, associated coastal lagoons and freshwater bodies.
- The Service supports minimal intervention in lagoon dynamics.

## Actions

- As the managing agency, the Service, in conjunction with related agencies and community interest groups, will prepare estuary management plans for Lakes Mummuga, Brou and Tarourga, as well as for Congo Creek. Such plans will aim for ecologically sustainable management of the lakes and their catchments.
- The Service will, in conjunction with related agencies and community interest groups, prepare interim lagoon opening strategies for Congo Creek and Lakes Mummuga, Brou and Corunna.
- Liaison with the Eurobodalla Shire Council will be maintained over the development and implementation of a policy for the management of the opening of Lakes Mummuga and Corunna.

## 4.4 The intertidal zone

The park is one of the few areas currently managed by the National Parks and Wildlife Service that incorporates land to the mean low-water mark. The 27 hectares of the park regarded as being within the intertidal zone support a diverse flora and fauna and an ecosystem generally under-represented in the protected areas of New South Wales.

The intertidal zone is attractive to park visitors, who use it for a variety of activities ranging from bait gathering to the opportunities it provides for exploration and enjoyment. In addition, the area is used by commercial fishing operators for beach haul fishing activities.

The provisions of the National Parks and Wildlife Act offer protection to some species commonly found in the intertidal zone (such as seabirds), while the *Fisheries Management Act 1994* covers 'fish' (including worms, crustacea and finfish) molluscs, and anything with an aquatic phase in its life cycle (except amphibians, reptiles, birds and mammals), and marine vegetation (such as mangroves, seagrasses and macroalgae). The nature of the intertidal zone means that both Acts contain relevant management provisions.

## Policy

- The National Parks and Wildlife Service will collaborate with New South Wales Fisheries to determine the most appropriate means of protecting species and habitats of the intertidal zone.

## 4.5 Native and introduced vegetation

### 4.5.1 Native vegetation

The vegetation communities of Eurobodalla National Park have been described recently in the report, *Eurobodalla National Park Flora Surveys*, based on a survey conducted by staff of the Johnstone Centre of Parks, Recreation and Heritage at Charles Sturt University (CSU) in Albury (Lockwood et al., 1997). The summary of vegetation communities that follows is based on the findings of the above survey undertaken in early 1996.

The communities identified within the park are generally widespread throughout the surrounding region, are often disturbed or immature and contain several significant species. Table 1 provides information on known species of conservation significance. The following 13 vegetation communities have been identified:

**Coastal Low Woodland:** Dominant overstorey species are Woollybutt (*Eucalyptus longifolia*), Thin-leaved Stringybark (*E eugenioides*) and Cabbage Gum (*E amplifolia*), which in this exposed community occur as stunted

individuals when compared to their occurrence in more sheltered locations. A heathy understorey is dominated by Guinea-flower (*Hibbertia aspera*), Coast Wattle (*Acacia sophorae*), Hairpin Banksia (*Banksia spinulosa*) and Netted Shaggy Pea (*Oxylobium scandens*). The community generally occurs on southeast to easterly aspects on moderate slopes, predominantly close to the coast and often on headlands. Approximately 6% of the species in this community are not native to the park. Two native species (Netted Shaggy Pea and *Polymeria calycina*) are regarded as significant because their previously known range has been extended.

**Melaleuca Closed Forest:** This community is characterised by dense thickets of Swamp Paperbark (*Melaleuca ericifolia*) and a generally sparse understorey of various herbaceous species. The community dominates the margins of low-lying coastal swamps throughout the park. Two native species, Devil's Needles (*Solanum stelligerum*) and *Commelina cyanea*, are regarded as significant as they are near the limit of their distribution. The occurrence of the aquatic herb *Myriophyllum simulans* in this area represents an extension to its previously known range. A high 23% of species recorded in this community are not native to the park.

**Banksia Woodland:** A community of variable species composition but usually dominated in the overstorey by Coast Banksia (*Banksia integrifolia*) and Saw Banksia (*Banksia serrata*), often with a dense understorey dominated by Spiny-headed Mat-rush (*Lomandra longifolia*) and *Lepidosperma* spp. The community generally occurs adjacent to and immediately inland from the hind dune areas of the park. Two native species, Devil's Needles (*Solanum stelligerum*) and *Commelina cyanea*, are regarded as significant as they are near the limit of their distribution. A third species, *Polymeria calycina*, is regarded as significant because its previously known range has been extended. Approximately 19% of species recorded in this community are not native to the park.

**Low Open Woodland/Grassland:** This community is generally dominated by native and exotic grassland species intermixed with sparse and generally low woodland cover, usually of Coast Banksia (*Banksia integrifolia*). It occurs close to the coast, frequently on headlands. Several areas of this community show the results of past land clearing activities. Almost 35% of recorded species are not native to the park. The significant species *Commelina cyanea* and *Polymeria calycina* were also recorded in this community.

**Damp Forest:** This community is a mixture of eucalypts, generally Spotted Gum (*Corymbia maculata*) and Southern Mahogany (*E botryoides*) combined with rainforest species such as *Pomaderris* spp, Lilly-pilly (*Acmena smithii*), Blue Howittia (*Howittia trilocularis*) and Scentless Rosewood (*Synoum glandulosum*). The community generally occurs in protected sites such as gullies and lower slopes with southerly aspects. Only 4% of recorded species are not native to the park, however, the invasive *Lantana camara* has infested areas of this community. Three species in this community are of significance, two (Blue Howittia and Scentless Rosewood) because their previously known range has been extended and Devil's Needles (*Solanum stelligerum*) as it occurs near the limit of its distribution.

**Coastal Woodland Complex:** A community with variable overstorey composition including such species as Forest Red Gum (*Eucalyptus tereticornis*), Southern Mahogany (*E botryoides*), Coast Banksia (*Banksia integrifolia*) and Swamp She Oak (*Casuarina glauca*). It is found on flat land, in gullies or on gentle slopes with a southerly aspect. Approximately 11% of recorded species are not native to the park. Two species, Devil's Needles

(*Solanum stelligerum*) and *Commelina cyanea*, are regarded as significant as they are near the limit of their known distribution.

**Dune Complex:** Pioneer species of the strandline and foredunes such as Coast Wattle (*Acacia longifolia*), *Spinifex sericeus* and tussock grasses such as Beach Fescue (*Austrofestuca littoralis*) dominate this community. The community occurs on Quaternary sands and alluvium on the dunes and beach flats. No species occurring in this community is regarded as significant. Twenty per cent of recorded species are not native to the park.



**Casuarina:** Swamp She Oak (*Casuarina glauca*) dominates the overstorey together with Coast Banksia (*Banksia integrifolia*). This community tends to have a dense understorey of introduced species such as Bitou Bush (*Chrysanthemoides monilifera* ssp *rotundata*), Bridal Creeper (*Myrsiphyllum asparagoides*) or introduced grasses. The community occurs behind the foredunes or fringes of estuaries. Two species, Devil's Needles (*Solanum stelligerum*) and *Commelina cyanea*, are regarded as significant as they are near the limit of their known distribution. Approximately 25% of recorded species are not native to the park, including the invasive *Lantana camara*.

**Casuarina/Mangrove Complex:** This community is dominated by a mixture of salt-tolerant species such as Grey Mangrove (*Avicennia marina* ssp *australasica*) and Swamp She Oak (*Casuarina glauca*) and generally occurs in low-lying areas bordering estuaries. Two species, Devil's Needles (*Solanum stelligerum*) and *Commelina cyanea*, are regarded as significant as they are near the limit of their known distribution. A relatively low 10% of recorded species are not native to the park.

**Spotted Gum Forest:** A widespread community in the park characterised by a Spotted Gum (*Corymbia maculata*) dominated overstorey interspersed with a mixture of other eucalypts such as Blackbutt (*E pilularis*), Grey Ironbark (*E paniculata*) and Blue-leaved Stringybark (*E agglomerata*). A dense covering of Burrawang (*Macrozamia communis*) is usually also present. The community occurs mostly on sedimentary soils on drier slopes with northerly aspects. A very low 2% of recorded species in this community are not native to the park. Two species are regarded as significant: Scentless Rosewood (*Synoum glandulosum*) represents an extension to its previously known range and Devil's Needles (*Solanum stelligerum*) is near the known limit of its range.

**Coastal Forest:** This community occurs further inland from the Banksia woodland but closer to the coast than Spotted Gum forests. Dominant overstorey species are Southern Mahogany (*Eucalyptus botryoides*), Woollybutt (*E longifolia*), White Stringybark (*E globoidea*), and Rough-barked Apple (*Angophora floribunda*). Coast Wattle (*Acacia longifolia*) is a common mid-storey species. The community is generally found on gentle slopes or flat land within a kilometre of the coast. Two species of significance have been recorded within this community: *Commelina cyanea* and *Polymeria calycina*. Approximately 9% of recorded species are not native to the park.

**Blackbutt Forest:** Blackbutt (*Eucalyptus pilularis*) forest occurs within the park on gentle slopes with a southwestern aspect. The understorey is comprised of shrubs such as Common Correa (*Correa reflexa*) together with thickets of *Lepidosperma* spp and *Gahnia* sp. The significant species *Polymeria calycina* also occurs in this community. Only 3% of recorded species are not native to the park.

The CSU survey mapped an additional community, **Bitou Scrubland**, even though it is not a vegetation community native to the park. The community is highly disturbed and is dominated by Bitou Bush (*Chrysanthemoides monilifera* ssp *rotundata*). The community has a low species diversity (eight in total), reflecting the impact Bitou Bush has on native vegetation. The community generally occurs close to the coast on areas of flat land, mostly in the northern areas of the park. Almost 30% of recorded species are not native to the park. No species of significance have been identified in this community.

### (i) Significant species and communities

The rare plant, *Myoporum bateae*, was recorded in the park in September 1984. A brief survey by Service botanists in late 1997 of the same area failed to relocate the species. With more survey effort the species may be relocated (Briggs, 1997).

A brief site visit to selected grasslands within the park by Service botanists recorded one vulnerable plant, *Thesium australe*. The presence of this biennial forb in the park represents its most southerly coastal record, having previously been noted in Sydney in 1802 and Ulladulla in 1911. The same survey by Service staff recorded the perennial pea, *Zornia dictyocarpa*, an uncommon species on the south coast of the state.



An additional 12 species are regarded as significant as they are at the geographic limit of their known distribution or their recording in the park represents an extension of their known range. Table 1 provides details on all 15 species of significance.

The brief survey by Service officers of selected grasslands in the park preliminarily identified grassland communities of significance at South Head Moruya, Bingie Bingie Point and Jemisons Point. The three areas are regarded as supporting different communities, principally due to variation in the dominant species — either *Themeda* and *Poa* spp, or a combination of both. Each of the three sites was regarded as species rich with the Jemisons Point grassland containing over 100 species. A revegetation plan for the park (see section 4.5.3 for further details) also addressed the park's grasslands, and identified nine grasslands of significance. The nine sites accorded a high priority for management actions to maintain or enhance areas of native grassland are at South Head Moruya, the headland three kilometres north of Meringo, Mullimburra Point, the south side of Bingie Bingie Point, Jemisons Point and Bogola Head. Maintenance of the communities' structure and their diversity is likely to be dependent on appropriate fire regimes and/or the control of the impacts of human activities (Rehwinkel, 1997).

**Table 1 Flora species of significance recorded within or adjacent to Eurobodalla National Park.**

Species	Significance	Habit/environment	Community in park
<i>Myoporum bateae</i>	Rare (Briggs and Leigh, 1996)	Shrub to 4 metres in height/ Sclerophyll forest in coastal ranges.	Not known. Recorded adjacent to Tuross Lake.
<i>Thesium australe</i>	Vulnerable (Briggs and Leigh, 1996)	Biennial forb/Grasslands.	Grasslands. Recorded at Jemisons Point.
<i>Zornia dictyocarpa</i>	Uncommon (Briggs, 1997)	Perennial pea/Grasslands	Grasslands. Recorded at Jemisons Point.
<i>Commelina cyanea</i>	Southern limit at Narooma	Perennial herb/moist forest or woodland.	Melaleuca closed forest, Banksia woodland, Low open woodland/ grassland, Coastal woodland complex, Casuarina, Casuarina/mangrove complex, Coastal forest.
<i>Polymeria calycina</i>	Extension of southern limit to Bodalla (previously Batemans Bay)	Perennial /Grassy woodland in coastal areas.	Coastal low woodland, Banksia woodland, Low open woodland/ grassland, Coastal forest, Blackbutt forest.
<i>Oxylobium scandens</i>	Southern limit at Bodalla	Prostrate trailing shrub/sclerophyll forest on gravelly clay soils.	Coastal low woodland, Coastal forest.
<i>Acacia trachyphloia</i>	Southern limit at Bodalla	Tree/dry sclerophyll forest, often on creek banks.	Not specified in survey report.
<i>Angophora costata</i>	Southern limit at Bodalla	Tree/deep sandy soils on sandstone.	Blackbutt forest.

Species	Significance	Habit/environment	Community in park
<i>Cymbidium suave</i>	Extension of southern limit to Mystery Bay (from Moruya)	Epiphytic orchid/tree hollows in wet sclerophyll forest.	Coastal forest.
<i>Passiflora herbertiana</i>	Southern limit at Narooma	Climbing vine/widespread in moist forest.	Damp forest, Coastal woodland complex, Casuarina/mangrove complex
<i>Solanum stelligerum</i>	Southern limit at Narooma	Woody shrub/coastal sand dunes, sclerophyll forest and rainforest margins.	Melaleuca closed forest, Banksia woodland, Damp forest, Coastal woodland complex, Casuarina, Casuarina/mangrove complex, Spotted Gum forest.
<i>Synoum glandulosum</i>	Extension of southern range by 100 km.	Small tree/rainforest. Shrub/chiefly in eucalypt forest	Damp forest, Spotted Gum forest.
<i>Howittia trilocularis</i>	Extension of southern range of northern population		Damp forest.
<i>Myriophyllum simulans</i>	Not previously known from south coast	Perennial herb/still water or emergent on mud.	Melaleuca closed forest.
<i>Dendrobium linguifrome</i>	Extension of southern limit (from Ulladulla)	Epiphytic orchid/trees in sclerophyll forest and rainforest.	Coastal forest complex.

## 4.5.2 Introduced vegetation

Introduced species within the national park and on adjoining land are of concern because they have the potential to have detrimental effects on ecological values and can spread to and from neighbouring land.

Introduced plants have been recorded to varying degrees in all of the 13 identified plant communities in the park. Of the 552 species recorded in the park during the Charles Sturt University flora survey, 80 were introduced species. The number of weed species present in each of the communities ranges from as low as 2 to 3% of total species up to as much as 35% of total species in the case of the Low open woodland/grassland community. One of the identified plant communities is the highly disturbed community of Bitou scrubland, dominated by the introduced Bitou Bush. Several other communities, notably Damp forest and Casuarina, have small infestations of Lantana.

The *Noxious Weeds Act* 1993 took effect from 1 July 1993. The Act allows for the declaration of noxious weeds in each local government area and categorises them according to the action required for their control. The Act places an obligation upon public authorities to control noxious weeds on land that they occupy to the extent necessary to prevent such weeds spreading to adjoining lands.

A Pest Management Strategy sets the overall directions and priorities for dealing with pest species. The strategy identifies the following species that occur in the park as priorities for management action:

**Bitou Bush** (*Chrysanthemoides monilifera* ssp *rotundata*): A prolific seeder and aggressive coloniser of dune and near-coast ecosystems which eventually dominates and replaces native communities. Bitou Bush is a declared Category W3 noxious weed. The coastal fringe from South Head Moruya to Mullimburra Point is the most heavily infested area, and there are only scattered isolated occurrences in the southern part of the park.

A working draft weed control plan for Bitou Bush has been prepared to guide management activities. Infestations have been mapped and categorised according to extent and density with specific control strategies established for each of the four categories. Treatments currently utilised include hand pulling, ground and aerial winter spraying, low intensity burning and physical compaction and breaking up of larger bushes. A biological control, the Bitou Tip Moth (*Comostolopsis germania*), has been experimentally released at several sites in the park as part of a CSIRO research program. The draft control plan aims to reduce the total distribution of infestation to an area of coastline from Pedro Point to South Head Moruya by July 2001. Within this area of remnant infestation the aim is to reduce the dominance of Bitou Bush, reduce the size of the seed bank in the soil and increase accessibility to aid follow-up control work.

The Service has taken an aggressive approach to controlling Bitou Bush with work conducted in the latter half of 1996 and 1997 using a combination of the techniques described above. To date approximately 90% of the 400 hectares in the park that are infested by the weed have been subject to control activities. Continuing follow-up activities will be required to consolidate recent success.

**Blackberry** (*Rubus fruticosus*): An aggressive invader with the capability of completely dominating native communities. Blackberry is a declared Category W3 noxious weed. The park contains a small number of isolated but

reasonably dense infestations, usually in coastal and gully environments. The Pest Management Strategy advocates treatment by ground spraying with follow up as required. Control works to date have resulted in significant reductions in the number and extent of infestations within the park.

**Exotic Vines:** The park contains a number of vine species regarded as weeds which are localised in occurrence, predominantly at disturbed sites. Species include Cape Ivy (*Delaria odorata*), Potato Vine (*Acetosa sagittata*), Wandering Jew (*Tradescantia albiflora*) and Bridal creeper (*Myrsiphyllum asparagoides*). To date these low-level, localised weeds have not been subject to control action.

**Sea Spurge** (*Euphorbia paralias*): A perennial plant of the coastal foredune originally introduced to Australia from the Mediterranean, Sea Spurge now has an approximate distribution extending from Perth to southern New South Wales. Within the park Sea Spurge is limited to an area between Bogola Head and Barunga Point, the southern end of Loader beach and several other isolated occurrences. The Pest Management Strategy proposes an eradication of infestations using ground spraying and hand pulling techniques. Application of both these techniques has resulted in major reductions in the occurrence of Sea Spurge in the park.

### 4.5.3 Disturbed areas

Some areas within the park have been historically cleared of native vegetation and now support both native and exotic grasslands. The majority of such cleared areas were mapped by Charles Sturt University's report *Eurobodalla National Park Flora Surveys* as Community 4, Low open woodland/grassland.

In early 1997 the Service contracted a consultant to prepare a revegetation plan for the park. The aim was to provide a prioritised revegetation plan for disturbed areas as well as recommend actions for management of native grassland areas. The resultant report, *Eurobodalla National Park Revegetation Plan* (Stone, 1997) considered 12 areas within the park, mostly centred on headlands and adjoining areas. Two estuarine islands (Deuaumba and Cambathin) and two leased sites (Goulburn Workers Club and Meringo) were also included. Each of the 12 areas was divided into component sites so that a total of 40 individual sites in the park were considered in detail. An on-site assessment of the conservation significance of each of these sites was conducted and specific revegetation and management recommendations were suggested.

## Policies

- Native vegetation will be managed to:
  - maintain floristic and structural diversity
  - conserve the rare, vulnerable or otherwise significant species known to occur in the park
  - conserve communities of significance known to occur in the park; encourage regeneration of areas previously cleared or grazed; and maximise habitat values for native animal species.
- The Revegetation Plan for the park will form the basis for management actions to conserve areas of native grasslands of moderate to high conservation value.
- Introduced plant control programs will reflect a balance between the need to use the most effective control techniques and a desire to minimise non-target effects. Integrated control programs using a variety of techniques will be adopted where possible.
- The cooperation of other authorities and park neighbours will be sought in implementing weed control programs.
- Removal of exotic plants at historic sites will be based on an assessment of their historic and landscape significance and their potential to spread.

## Actions

- Research into the distribution and management requirements of rare and vulnerable plants known to occur in the park will be encouraged.
- Management actions to conserve moderate to high-value areas of native grasslands will be based on the recommendations in the park's Revegetation Plan.
- The Service will formulate a methodology to monitor the abundance and vigour of priority species over time to gauge and improve the effectiveness of management actions.
- The Service will formulate a methodology to monitor the structure and species diversity of high-value grasslands over time to gauge and improve the effectiveness of management actions.
- The Service will develop and implement rehabilitation plans for disturbed areas.
- Introduced plant species, including noxious weeds, will be controlled and if possible eradicated. Priority for treatment will be given to Bitou Bush, Blackberry and exotic vine species as detailed in the Pest Management Strategy.

## 4.6 Native and introduced animals

### 4.6.1 Native animals

The fauna of Eurobodalla National Park has recently been surveyed by staff and students of the Johnstone Centre of Parks, Recreation and Heritage at Charles Sturt University in Albury (Klomp and Wise, 1997). The survey work was conducted over nine weeks during late 1996 and early 1997 and involved three replicate studies of each vegetation community. The following information is based on the report which resulted from that work and was provided to the Service, *Fauna Survey of Eurobodalla National Park, NSW*.

The survey identified 194 species of vertebrate animal within the park, comprising mammals, birds, reptiles and amphibians. Despite the park's fragmentation it supports a diverse vertebrate fauna including 21 species listed as either endangered or vulnerable in schedules 1 or 2 of the *Threatened Species Conservation Act 1995* (see Table 2).

### Mammals

A total of 37 mammals were recorded during the survey, eight of which are listed as vulnerable in the *Threatened Species Conservation Act* (see Table 2). Most common and widespread species include the Bush Rat, Brown Antechinus, Common Ringtail Possum, Sugar Glider and Common Brushtail Possum. Included in the 37 mammal species are 11 species of bat.

## Birds

A total of 131 bird species were recorded, including 13 species listed as endangered or vulnerable in the Threatened Species Conservation Act (see Table 2). Numerous species are subject to international conservation agreements, particularly the agreements between the Government of Australia and:

- the Government of Japan for the protection of migratory birds and birds in danger of extinction and their environment (JAMBA)
- the Government of the People's Republic of China for the protection of migratory birds and their environment (CAMBA).

Estuaries and headlands within the park are of significance as overwintering areas for migratory birds, many of which are subject to one or both of the above agreements. Seventeen species of waders occurring in the park, all of which are summer migrants, are identified in both of these international agreements.

## Reptiles

A total of 15 species were recorded, with the occurrence of the Eastern Water Skink and the White-lipped Snake of note since both species have not been recorded previously in coastal environments in the region.

## Amphibians

Eleven species of frog were recorded using active searching, pitfall traps and incidental observations.

### (i) Significant species

Species recorded in the park and regarded as either endangered or vulnerable are detailed below in Table 2. As indicated in the table, two endangered species are known to occur in the park — the Little Tern (*Sterna albifrons*) and the Hooded Plover (*Charadrius rubricollis*).

The Little Tern has a wide but patchy distribution in Europe, Africa, Asia and Australia. The breeding population in southeast Australia numbers approximately 400 pairs, is distributed mostly within New South Wales and eastern Victoria and migrates away from the region for winter. Little Terns nest on the ground in the open in places such as sand islands, sandspits and dunes. As a result they are highly vulnerable to disturbance by people and introduced predators such as dogs and foxes. Over the last 20 years the species is recorded as having nested at five

suitable areas within the park. Each of these sites has received varying amounts of use by breeding pairs with records indicating that Tuross, Brou and Tilba Lake mouths are most commonly utilised (Smith, 1995). A draft management plan for Little Tern colonies in the area was prepared in early 1995 to direct management efforts.

The Hooded Plover mainly lives on sandy beaches in eastern Australia but is also found near inland and coastal lakes in Western Australia. The species was only recently recorded in the park as part of the Charles Sturt University fauna survey and a Hooded Plover survey coordinated by Birds Australia. The fauna survey report does not identify where the species was recorded except in general terms (beaches/estuaries/headlands) and identifies potential threats to the species as similar to those for the Little Tern.

Management for the protection and enhancement of native animal populations is dependent on the maintenance of suitable habitats, wildlife corridors and management of known threats. Maintenance of suitable habitats is heavily reliant on the protection of the diverse vegetation communities within the park and the maintenance of appropriate fire regimes (see section 4.7). Linking of the various parts of the park would improve its long term habitat value. Table 2 briefly details the known threats to rare and vulnerable fauna in the park, with disturbance (often during breeding periods) and habitat destruction the most common threats.

Protection of habitats within the park will minimise habitat destruction while the management of public access according to the guidelines of this plan (see section 6) will assist in minimising disturbances



caused by human activities. The control of feral predators such as foxes and cats is also important in the protection of native animal species (see section 4.6.2)

## 4.6.2 Introduced animals

An introduced species is defined in this plan as any animal species not native to the park. Introduced species within the park and on adjoining land are of concern because they have the potential to detrimentally affect ecological values and can spread to and from neighbouring land.

The Charles Sturt University fauna survey identified nine introduced species within the park but was unable to estimate population densities for any of the species.

Identified species include European Red Fox, European Wild Rabbit, wild dogs, the House Mouse and the Black Rat. The Pest Management Strategy identifies foxes, feral cats and rabbits as priority animals for control works.

**Table 2 Endangered and vulnerable fauna species of Eurobodalla National Park**

Common name	Habitat	Sites recorded in park	Threats
<b>Endangered</b>			
Little Tern ( <i>Sterna albifrons</i> )	Coastal areas on open surf beaches, estuaries and inlets.	Most commonly at Tuross Estuary, Lake Brou and Tilba Tilba Lake.	Ground nesting period coincides with periods of high visitation. Nest flooding.
Hooded Plover ( <i>Charadrius rubricollis</i> )	Beaches, often backed by open dunes and with large amounts of beach washed seaweed. Also reef platforms, inlets and lakes.	Two records — location not specified.	Vulnerable when breeding. Susceptible to disturbance and nest flooding.
<b>Vulnerable</b>			
Large (Greater) Sand Plover ( <i>Charadrius leschenaultii</i> )	Entirely coastal in Australia. Forages on mudflats and intertidal sand, roosts on sandy beaches or rocky shores.	Tuross Estuary.	Disturbance to feeding grounds and roosting sites, particularly from recreation activities.
Sooty Oystercatcher ( <i>Haematopus fuliginosus</i> )	Feeds among rocks, intertidal mudflats and the rear of ocean beaches. Breeding appears restricted to offshore islands.	Moruya Estuary and Congo Point.	Habitat destruction and alteration, disturbance to feeding, breeding and roosting sites.
Pied Oystercatcher ( <i>Haematopus longirostris</i> )	Ocean beaches and estuarine sand and mudflats. Breeds mostly on beaches.	Moruya Estuary, Tuross Estuary and Congo Point.	Most vulnerable to disturbance when breeding.
Black-tailed Godwit ( <i>Limosa limosa</i> )	Forages on intertidal sand and mudflats. Roosts on sandy beaches, mudbanks and saltflats behind mangroves.	Tuross Estuary.	Habitat destruction, excessive disturbance and pollution. (A substantial proportion of the world population overwinters in Australia.)
Glossy Black Cockatoo ( <i>Calyptorhynchus lathami</i> )	Eucalypt woodlands and forests with stands of casuarinas.	Coastal forest only.	Habitat destruction, particularly woodlands with casuarinas and eucalypts with nest hollows.

Common name	Habitat	Sites recorded in park	Threats
Powerful Owl ( <i>Ninox strenua</i> )	Wet and dry eucalypt forests.	Spotted Gum forest only.	Habitat destruction, disturbance and lack of nest hollows.
Masked Owl ( <i>Tyto novaehollandiae</i> )	Forests through to largely treeless plains. Requires open country for hunting.	Spotted Gum forest only.	Habitat destruction, disturbance and lack of nest hollows.
Sooty Owl ( <i>Tyto tenebricosa</i> )	Roosts and breeds in eucalypt forests in deep moist gullies.	Spotted Gum forest only.	Habitat destruction, disturbance and lack of nest hollows.
Yellow-bellied Glider ( <i>Petaurus australis</i> )	Tall mature wet eucalypt forests.	Mixed stands of Spotted Gum and Blackbutt with acacia understorey only.	Distributed sparsely within park. No threats specified.
Square-tailed Kite ( <i>Lophoictinia isura</i> )	Open eucalypt forests, woodlands, mallee and riverine timber.	Over ecotone of Spotted Gum forest and Melaleuca closed forest.	Habitat destruction, disturbance and lack of nest hollows.
White-footed Dunnart ( <i>Sminthopsis leucopus</i> )	Treeless ridges and midslopes with less than 50% ground cover.	Dune complex, Spotted Gum forest and Coastal woodland complex.	Further research required, particularly regarding the use of seral stages of communities for habitat.
Yellow-bellied Sheath-tailed Bat ( <i>Saccolaimus flaviventris</i> )	Roosts in tree hollows.	Damp forest only.	Lack of knowledge on species.
Eastern Little Mastiff Bat ( <i>Mormopterus norfolkensis</i> )	Warm temperate sclerophyll forest and woodland.	Coastal forest community.	Status within park unknown. Highly sensitive to disturbance.
Common Bentwing Bat ( <i>Miniopterus schreibersii</i> )	Roosts in caves, old mines, stormwater channels and similar structures. Forages in welltimbered valleys.	Spotted Gum forest. Roosting sites unknown as species flies long distances.	Difficult to determine due to lack of data. Human disturbance to breeding colonies.
Large-footed Mouse-eared Bat ( <i>Myotis adversus</i> )	Roosts in caves, mines, under bridges and dense foliage. Always associated with permanent, slowflowing water bodies.	Spotted Gum forest near Tuross Estuary.	Difficult to determine due to lack of data. Likely threats as for Eastern Little Mastiff Bat.
White-striped Mastiff Bat ( <i>Nyctinomus australis</i> )	Recorded over canopy of forests, woodlands and scrub.	Widespread and common throughout park.	Reduction in number or quality of roosting sites, probably older trees.
Greater Broad-nosed Bat ( <i>Scoteonax rueppellii</i> )	Eucalypt woodlands, particularly over creeks and rivers.	Woodland dominated by banksia and ecotone of Spotted Gum and Coastal woodland. Rare in park.	Likely threats as for Eastern Little Mastiff Bat.
Osprey ( <i>Pandion haliaetus</i> )	Reliant on water bodies for food supply. Roosts on dead trees and logs.	One individual recorded at Moruya estuary.	Degradation of estuarine systems, loss of nest trees and disturbance during breeding.
Striated Fieldwren ( <i>Sericornis fuliginosus</i> )	Heathlands, grasslands bordering swamps, stunted scrub and open habitat.	Low open woodland/grassland and Casuarina community.	Clearance or fragmentation of habitat.

**European Red Fox (*Vulpes vulpes*):** Believed to be widespread in more settled areas along the coastal fringe, foxes are recognised as a major threat to the survival of native mammal and ground-nesting bird populations.

Additionally, foxes are major agents in the distribution of weed species such as Bitou Bush and Blackberry through the spread of seeds in their faeces.

The Pest Management Strategy proposes targeted baiting of areas where significant populations of threatened species occur. In this way, predation pressures may be reduced at key breeding times. Control actions to date have been limited to areas around known habitats of Little Terns and those parts of the park in proximity to residential areas. The success rate of targeted baiting efforts has been high though variable, as is generally the case with passive control methods.

**Feral Cat (*Felis catus*):** Feral cats are becoming widespread near more settled areas along the coastal fringe with populations expected to be higher in semi-urban areas. Predation by cats is recognised as a major threat to the survival of native mammal and ground-nesting bird populations. The Pest Management Strategy proposes strategic baiting of cats, in conjunction with fox control, in areas where significant populations of threatened species occur. Control actions to date have been undertaken in conjunction with fox control programs and have been similarly successful.

**European Wild Rabbit (*Oryctolagus cuniculus*):** The population of rabbits in the park is very low in forested areas but locally high in some places, such as headlands and cleared sites. Rabbits compete with native wildlife for food and shelter, eat seedlings and therefore prevent native plant regeneration and damage revegetation areas. The Pest Management Strategy advocates selective poisoning programs and the fumigation of burrows, especially in regenerating areas. Such programs are coordinated with the spread and release of Rabbit Calicivirus Disease for maximum effect.

## Policies

- The diversity and quality of habitats for native animals occurring in the park will be conserved.
- Endangered and vulnerable native animals will be managed according to the provisions of the Threatened Species Conservation Act and any species management or recovery plans.
- Priority will be given to management strategies or programs which favour conservation of endangered and vulnerable fauna species. However, as far as possible programs will be designed to conserve the full range of native animal species in the park.
- Special attention will be afforded to the requirements of rare and vulnerable fauna, particularly those ground species occurring in the coastal margins, in the planning and construction of additional visitor use sites within the park.
- The understanding and protection of native animals and their habitats will be promoted through the park's interpretation program, for example, the needs of migratory shore birds using rock platforms and beaches for feeding and nesting.
- The public may be temporarily excluded from some small parts of the park to assist the breeding success of vulnerable and endangered ground species such as Little Terns and Hooded Plovers.
- Consolidation of the park through additions or voluntary conservation agreements will be encouraged.
- Feral animal control programs will be designed to avoid impact on non-target species and will be undertaken in cooperation with the Bega Rural Lands Protection Board and neighbouring landholders where appropriate. Public access may be temporarily curtailed while feral animal control programs are being conducted.

## Actions

- Management actions contained in statewide species recovery plans for species of significance that are known to occur in the park will be implemented.

- The Service will encourage survey work into the invertebrate populations within the park.
- Research into the distribution, abundance and habitat requirements of those endangered or vulnerable animals recorded in the park will be encouraged.
- Introduced animals will be controlled and where possible eradicated. Feral animal control programs will give priority to species such as the European Red Fox, Feral Cat and European Wild Rabbit, which are known to have a significant impact on native fauna species.
- The Service will encourage research into the impact of feral animals on the park's native fauna, particularly endangered and vulnerable species.

## 4.7 Fire management

The Service will prepare a fire management plan which will deal in detail with fire management issues in relation to Eurobodalla National Park. In the interim the Service will continue to meet its obligations under the National Parks and Wildlife Act and the *Rural Fires Act 1997*.

The park is narrow and located adjacent to the ocean for most of its length. Consequently the risk from wildfires leaving the park and entering private property is low, given worst fire conditions are during westerly and northerly winds. The fire management plan will use objective techniques to assess risk and bushfire potential as set out in *Improving Bushfire Management for Southern New South Wales* (Dovey, 1994).

Survey work on the flora and fauna of the park will be used to identify appropriate fire regimes for use in enhancing the conservation values of the park. This will include regimes for areas that have been cleared previously and are regenerating, as well as areas the Service will be replanting.

### Policies

- Fire Management in the park will aim to: protect life and property;
  - maintain species and habitat diversity, avoid local extinctions of native plant and animal species and enhance the conservation of endangered and vulnerable species;
  - prevent fire moving off the park into neighbouring properties; and prevent fire moving into the park from neighbouring properties.
- The fire management plan for the park will be subject to periodic review and amendments made to fire management and fuel management strategies as necessary.

### Action

- The Service will prepare and implement a fire management plan for Eurobodalla National Park by the end of the year 2000.

## 5. Eurobodalla National Park: its cultural heritage

Cultural heritage includes both indigenous and non-indigenous histories. It comprises important components of the environment that may have aesthetic, historic, scientific and social significance to present and future generations.

### 5.1 Aboriginal cultural heritage

Eurobodalla National Park lies within the territory of the Yuin people, of which there are several clans. The Yuin territory stretches from the Shoalhaven River in the north to around Eden in the south and inland to the eastern edge of the tablelands (Williams and Barber, 1995).

Before European settlement, the Yuin people had a diverse economy, with fish, shellfish, sea mammals, macropods and possums being common food sources. Along with a diversity of food sources the Yuin possessed a diverse material culture with an extensive range of items having been recorded. Records include barbed and unbarbed spears, 3 to 4-metre-long bark canoes, vine traps, ropes and weirs. Bark huts, shields, possum and kangaroo-skin cloaks, belts and a range of ceremonial items such as bull-roarers were also commonly recorded. However, few such items are contained in archaeological records, with stones, bone and shell most commonly recorded instead.

Whaling expeditions to the south coast during the 1790s represented the initial intrusion of Europeans into the Yuin country. A short time later cedar cutters began entering the area and initial land grants occurred in 1817. A large number of settlers were using the northern portion of the Yuin territory by 1820 and it was around this time that the land was first stocked (Williams and Barber, 1995). However, this small-scale pastoralism did not greatly affect the Yuin's movement and access across the land. The 1861 passing of the Robertson Land Acts resulted in changing land use patterns, closer settlement and restricted access to the land for the Yuin. This loss of access and the concurrent impact of European diseases (to which the Yuin had no immunity) resulted in a marked decline in their numbers.

Despite this the Yuin have survived and retained their identity, and there has been considerable transfer of traditional information to contemporary Yuin people from past generations. Eurobodalla National Park is recognised as falling within the boundaries of the Cobowra, Bodalla, Wagonga and Merrimans Local Aboriginal Land Councils.

The National Parks and Wildlife Service's Aboriginal sites register lists approximately 85 sites for the park and its immediate surrounds, including middens, camp sites, quarries, artefact scatters, burial sites and fish traps. Middens and camp sites make up the vast majority (84%) of recorded sites. Many of the records are a result of opportunistic observations and the recorded sites should not be regarded as a comprehensive indication of Aboriginal sites within the park.

Middens exist in a range of locations, including rocky headlands, beach dunes, estuarine river banks and lagoon shorelines. They vary in size from single eating events to sites of hundreds of square metres in area. Often middens also incorporate artefacts that further enhance their archaeological value. Artefact scatters are generally found on ridgelines and spurs, although large sites have been recorded from the margins of waterways.

Mythological sites may include those without physical evidence of occupation and such sites continue to have spiritual and cultural value for the Aboriginal people of the area. These sites may be associated with a geographical feature such as rock formations and headlands.

Archaeological sites are important to Aboriginal communities as they are a testament to their culture's great antiquity. Aboriginal people may also have traditional spiritual links with an area and hold knowledge that is important for nature conservation.

The major non-natural threats to Aboriginal sites within the park arise from uncontrolled public access, chiefly by vehicles and pedestrians accessing the park's beaches. Numerous middens located on the hind dunes of beaches have been subject to significant disturbance as a result of the indiscriminate



location of vehicle and pedestrian accesses in the past. The rationalisation and relocation of such accesses, as detailed in Section 6.5.5, will assist in preventing additional damage to such sites.

While the Service currently has legal responsibility for the protection of Aboriginal sites, it acknowledges the right of Aboriginal people to make decisions about their heritage. It is therefore policy that Aboriginal communities be consulted about decisions regarding the management of Aboriginal sites and related issues, and about how the Aboriginal culture and history of an area managed by the Service will be promoted and presented.

The involvement of Aboriginal communities in park issues beyond those purely related to protection of sites of significance is regarded as also having benefits for park management.

## **Policies**

- The Service will liaise closely with local Aboriginal land councils and communities regarding park management activities, with an emphasis on realising opportunities for the involvement of the Aboriginal community in park management activities.
- The Cobowra, Bodalla, Wagonga and Merrimans Local Aboriginal Land Councils and other relevant Aboriginal community organisations will be consulted and actively involved in all aspects of the management of Aboriginal sites in the park.
- Aboriginal people will be encouraged to carry out activities in the national park related to maintenance of their traditional links to the land. To this end, Aboriginal people may seek access to areas of the park where public access is not encouraged, for traditional and ceremonial purposes.
- Aboriginal sites will be afforded proper care, preservation and protection.
- All work with the potential to affect Aboriginal sites will be preceded by an archaeological assessment.
- Aboriginal sites may be opened to the public to encourage an understanding and awareness of Aboriginal culture and the prehistory of the park.
- The location of Aboriginal sites will not be publicised except where:
  - the agreement of the relevant local Aboriginal land council and other relevant Aboriginal community organisations has been obtained
  - a conservation study has been prepared and any management works necessary to protect the site from damage have been implemented
  - the site will be interpreted to promote public knowledge and appreciation of Aboriginal culture.

## **Actions**

- Where opportunities exist, the Service will encourage joint park management activities with Aboriginal communities.
- The Service will advise the relevant Aboriginal communities of major work proposals within the park so that comments about potential effects on cultural sites may be provided.
- The Service will liaise with Aboriginal communities to protect sites and where appropriate provide interpretive information for visitors.
- In conjunction with the Aboriginal community, the Service will develop methodologies to monitor the effects of recreational use and park management activities on Aboriginal sites within the park. Appropriate action will be taken to alleviate any identified adverse impacts.

## **5.2 Other historic places**

The historical development of the south coast region in which the park occurs has followed a pattern common to many areas of coastal New South Wales. Initial movements into the area by Europeans were led by explorers, whalers and timber getters. The development of pastoral interests in the area resulted in scattered settlements centred on station houses and associated land clearing activities. The period from the 1840s to the 1900s saw a rapid development of the area as a result of several often short-lived gold rushes, the growth of more intensive pastoral and agricultural land uses and the

expansion of timber getting activities. To service these expanding industries, numerous small towns gradually became established throughout the area, often acting as transport nodes and points of supply for surrounding districts. Several of these towns, such as Moruya, became important ports, bringing in much-needed supplies as well as exporting local products north to Sydney ( Bayley, 1978).

From the early twentieth century the population and level of development in the area steadily increased, although both world wars and the 1930s depression retarded growth in the region. With improving conditions the importance of road transport increased and the volume of shipping activity to the area gradually declined. The Moruya Pilot Station, located on South Head Moruya, ceased to function as a pilot station in 1974, reflecting the declining shipping activity in the area.

The South Head Moruya area contains numerous reminders of the important role shipping played in the settlement of the surrounding region. A range of physical structures are evident in the area. The most prominent of these are several breakwalls and training walls constructed to assist shipping access through the river mouth, as well as the pilot's cottage and several smaller buildings situated on the headland. At several other sites little evidence remains of buildings that once stood on the headland. However, sufficient historical structures remain to enable visitors to gain a reasonably clear picture of the operational nature of the site.

A report titled *Former Pilot Station, South Head Moruya — a Conservation Management Plan, Volumes 1–4* was prepared for the Service in early 1997 by Peter Freeman Pty Ltd. It contains a detailed description of each of the historic sites and structures associated with the maritime history of South Head Moruya, their present condition, cultural significance and recommended conservation policies.

Table 3 provides a brief summary of the cultural significance of and recommendations for each of the major historical elements of the area.

The old pilot station and a surrounding area of 6700 square metres, incorporating the former pilot's cottage, office, stables, enclosure and landscaped area, is currently leased to a residential occupant. The lessee records meteorological data several times daily as part of the station's ongoing role as one of the longest continually operating meteorological stations in Australia.

The Toragy Point cemetery contains approximately 12 graves, some of which are marked with headstones. The names and dates on the headstones provide an interesting insight into life in the area during the late 1800s and early 1900s. The cemetery is fenced off and regularly mowed.

**Table 3 Historic features at South Head Moruya**

Site	Cultural significance	Conservation policy
Pilot station precinct (comprises sites below)	Precinct is significant in its connection to the suite of maritime sites at the Heads, harbour mouth and within the Moruya River, an assemblage of sites of considerable historical importance. One of the few pilot and signal station complexes that survives in close association with physical remains.	Implementation of policies for component sites (listed below) will retain character and significance of precinct as a whole.
Pilot's cottage	Last expression of piloting function that occupied the site for almost 140 years. Representative of now uncommon pilot station buildings of the early twentieth century.	Maintain intact with no major reconstruction or restoration.
Pilot's office	One of the oldest operating meteorological stations in Australia, the oldest standing structure in the precinct, it has direct associations with maritime activities at Moruya and the south coast generally.	Maintain intact with no major reconstruction or restoration.

Pilot's stables	Associations with early twentieth century pilot station.	Maintain intact with no major reconstruction or restoration.
Garden/Garage	Recent additions are illustrative of the continuing evolution and development of the precinct.	Maintain intact with no major reconstruction or restoration.
Pilot's cottage enclosure	Delineates the social and functional structure of the pilot station.	Limited reconstruction of original southern fence. Elsewhere fence alignment is conserved.
Landscape	Integral to character of site.	Maintain mid-twentieth century character, including garden and uninterrupted coastal view.
<b>General Area</b>		
Area around pilot's cottage	Site of one of the buildings associated with the operations of the pilot station.	Maintain mowing, avoid disturbance of ground surface. Retain and conserve existing mast, retain evidence of other signal masts.
Grassed area (east of precinct to hill top)	Significant as site of boatmen's houses and possibly a late nineteenth- century schoolhouse.	No developments. Fence posts left to natural decay.
Quarry sites	Directly associated with early developments of Moruya River harbour improvements and pilot station. Integral part of area.	Leave as is.
Toragy Point Cemetery	Reflects early history of Moruya Heads.	Maintain mowing. Control developments to protect evidence of signal mast site.
Iron wharf	One of surviving elements of pilot station operations.	Stabilise when nearby Bitou Bush has been removed.
Semaphore Hill	Site of one of the buildings associated with operation of the pilot station.	Retain vegetation.

In the late 1800s and early 1900s the headland west of Corunna Point supported a small velodrome and pavilion, with the area acting as a focal point for community recreation. Today nothing remains of either of these structures although earth mounding associated with the velodrome can still be distinguished. Similarly, little structural evidence remains of either the Corunna goldfields or Loader Farm.

The rusted remains of steel infrastructure are evident on the eastern end of Bingie Bingie Point. In the morning of 29 May 1879 the SS *Monaro* ran ashore at the point. The 521-ton vessel broke up several hours later from the impact of bad weather and heavy seas (Loney, 1993). Several kilometres north at Pedro Point the steamer *Kameruka* ran aground 150 metres offshore at about midnight on 16 October 1897 (Loney, 1993). The vessel eventually broke up and no remains are obvious from the shore.

The history of South Head Moruya pilot station are likely to be of interest to park visitors. The site will be incorporated into the interpretation program for the park (see sections 6.1 and 6.2).

## Policies

- The provisions of the Burra Charter (revised 1987) for the conservation of places of cultural significance will guide the management of the cultural heritage of Eurobodalla National Park.
- Research into the cultural heritage of the park will be encouraged, particularly in accordance with the recommendations contained within the Former Pilot Station, South Head Moruya, Conservation Management Plan.

- Management of historic sites within the park at South Head Moruya will be based on recommendations in the conservation plan for the area.
- The buildings of the South Head Moruya pilot station precinct will continue to be leased to a resident caretaker and will not be available for public visitation except as part of an organised interpretive tour.

## **Actions**

- The Former Pilot Station, South Head Moruya, Conservation Management Plan will be progressively implemented.
- The history of South Head Moruya will be interpreted to park visitors.
- A conservation plan for the Toragy Point cemetery will be prepared to address a statement of cultural significance and suggest management actions for the site.
- Research into the historic significance of the Corunna goldfields, Corunna Point velodrome, Loader Farm and the origin of steel remains at Bingie Bingie Point will be encouraged. As appropriate, a follow-up conservation plan will be prepared for each site and recommended management actions will be implemented.

## 6. Eurobodalla National Park: use of the area

The park will be managed to ensure that its use, whether by the general public, special interest groups, National Parks and Wildlife Service managers or other authorities, is appropriate and consistent with the *National Parks and Wildlife Act 1974*, Service policies and the objectives and policies of this draft Plan of Management.

The major categories of use that may be appropriate within Service areas are:

- environmental education and the promotion of natural and cultural heritage conservation,
- recreation in a natural setting, scientific research, and
- management operations by the Service and other authorities with statutory responsibilities in the area.

The extent to which these categories of use will be provided for in Eurobodalla National Park is indicated below.

### 6.1 Recreation opportunities

The *Eurobodalla Nature Coast Tourism Development Strategy* (Advance Tourism, 1997) found that the two non-local points of origin for visitors to the Eurobodalla coast were, not surprisingly, Sydney and Canberra. However, Sydney residents

were likely to visit the area as part of a touring holiday while Canberra residents visit the area as a prime destination. According to this survey the five most appealing features of the coast include beaches, national parks and historic sites, emphasising the position of Eurobodalla National Park as a key tourism destination in the region. The area is generally perceived as having beautiful beaches and as being unspoiled by development, and it has an image as a family beach destination. Given the seasonal variation in temperature the area experiences a high summer peak in visitation. The strategy aims to increase economic activity by increasing visitor numbers, achieving greater expenditure and increasing length of stay. Market segments identified as having potential for further development include adventure tourism, nature-based tourism and Aboriginal tourism.

#### (i) Visitor surveys

With the park gazetted only relatively recently the Service has had limited opportunities to undertake visitor monitoring activities. Accordingly definitive statements on visitor use of locations and total numbers of visitors are not possible. However, observations by Service staff indicate that Moruya Heads, Congo Point, Bingie Bingie Point, Blackfellows Point Caravan Park and the area of coast between Lake Brou and Dalmeny are major nodes of visitor use. At each of these major use sites, visitor use peaks in the summer holiday season. Each area, with the possible exception of Blackfellows Point Caravan Park, experiences consistent levels of use from neighbouring townships throughout the year.

The Johnstone Centre of Parks, Recreation and Heritage at Charles Sturt University undertook a visitor survey in April 1996 and a community survey in late 1996 (Lindberg and Lockwood, 1997). The visitor survey sampled more than 600 visitors

to the park before, during and after Easter of 1996. Half of the visitors were found to be locals (who had less than one hour's travel time to the park) and 20% of remaining visitors were from Sydney and Canberra. Not surprisingly, locals indicated that they visit the park several times a month while many visitors (67% of respondents) visit the park a few times a year or less. The vast majority (86%) of visitors travelled to the park by car. Visitors were found to come to the park for specific purposes (mostly fishing, surfing and camping) and non-specific purposes (relaxing, enjoying scenery and socialising). A majority of respondents to the survey participated in walking, swimming and fishing with picnicking, surfing and camping also popular. Additionally, the survey clearly showed that a high number of users of the park are regular repeat visitors, particularly to places such as Congo camping area.



The survey highlighted a strong belief that visitor facilities should remain at existing levels of development, except for improved toilets at key sites and the construction of walking tracks in appropriate locations. This is not unusual, as people who currently visit the park are likely to be attracted by the undeveloped nature of the area and could be expected to want to retain most sites within the park at this level of development. This reinforces the finding that the area's main attraction to tourists is its unspoiled nature and minimal development, as detailed in the Tourism Strategy.

The park is one of only a few coastal national parks and nature reserves within the popular holiday district from Ulladulla to Bermagui. There are numerous recreation and tourism opportunities in this area of the coast, including developed day-use and accommodation facilities in nearby towns and villages. However, there are not as many less developed facilities in largely undisturbed coastal environments.

Eurobodalla National Park is therefore almost uniquely positioned and can play an important role in providing recreation opportunities at the relatively undeveloped end of the spectrum. In this way, recreational opportunities available in the park will complement rather than duplicate those on offer in nearby areas.

The continued growth of tourism within the region is expected to lead to further increases in recreational use of the park.

## **Policies**

- Outdoor recreation and environmental education opportunities in the park will:
  - be consistent with the protection of natural and cultural values
  - minimise visual impacts and other environmental impacts including impacts on Aboriginal sites
  - be directed towards an appreciation and understanding of the natural and cultural heritage of the park
  - complement those opportunities available elsewhere in the region.
- Where site conditions permit, facilities suitable for the use of mobility impaired and elderly people will be provided.
- In general, accommodation facilities will not be provided in national parks adjacent to large urban areas or town centres, where a wide range of alternative accommodation already exists. The only site where developments for accommodation purposes will be considered is at Blackfellows Point and such consideration will occur as part of the comprehensive review of options for the site (see section 6.1.2).
- Low key accommodation, such as cabins, may be provided in appropriate Service areas.
- Any work proposed in the park will be preceded by the appropriate environmental impact assessment process according to the prescriptions of the Environmental Planning and Assessment Act.

## **Actions**

- The Service will develop a nature tourism and recreation plan for the park.
- The Service will develop and implement a program to assess quantitative and qualitative aspects of recreational use of the park as well as visitor impacts within the park.

### **6.1.1 Vehicle access**

Vehicle access to Eurobodalla National Park is primarily from the Princes Highway with sealed roads to Moruya Heads, Potato Point, Dalmeny and Mystery Bay townships. A series of two-wheel-drive gravel roads or tracks provide access to other locations within the park:

- from Moruya Head to Pedro Point and further south to the site of the Goulburn Workers Club
- to Congo Point (although sealed roads exist within the township of Congo)
- to Meringo beach and Grey Rocks

- to Bingie Bingie Point
- to Blackfellows Point Caravan Park
- to the southern shores of Lake Brou and the nearby stretches of Brou beach
- to Corunna Lake, Bogola Head and Loader beach
- to several headlands and beaches south of Mystery Bay township.

The two-wheel-drive gravel access road from Potato Point township to the park boundary south of Blackfellows Point, while serving as the primary access to this portion of the park, is not a designated public road. The gravel road is owned and maintained by Eurobodalla Shire Council. Alternative access to this area of the park could be provided through the construction of a road on a declared public road west of the area.

In addition there is a proliferation of two-wheel and four-wheel-drive informal tracks throughout the park that provide access to many of the park's headlands and beaches. These tracks have been established by previous use of the area and are often wheel ruts on the natural ground surface rather than formally constructed accesses. The tracks are often degraded as a result of a lack of maintenance. In wet conditions they are usually impassable and at these times visitors have pushed new access ways through vegetated areas, often parallel to the impassable track. A rationalisation of vehicle tracks is required to reduce environmental impacts while retaining an appropriate diversity of recreational opportunities.

Four public roads traverse the park but are not part of the lands gazetted as Eurobodalla National Park (see section 6.5.2).

The park includes the intertidal zone to mean low-water mark. Four-wheel-drive use of the beach and the foreshore can be in conflict with the nature conservation and recreational use values of the park. Numerous professional fishing operations are currently licensed to use specific four-wheel-drive beach access routes, while several apiarists utilise management tracks to access their licensed sites. At certain sites past access patterns have resulted in damage to the dune system and on occasions middens within these dune systems.

## **Policies**

- Vehicles will be permitted on park roads only, apart from public roads, unless otherwise authorised for emergency, management or licensed commercial apiarist or fishing purposes.
- The number of tracks available for public use will be rationalised on the basis of environmental impact, value in providing recreational opportunities and present condition. Park roads retained for public use are indicated on Map 2.
- Park roads comprising the public access system will be maintained to a minimum of two-wheel-drive gravel track standard. Certain high-use tracks may be upgraded beyond this standard, depending on levels of use, track degradation, environmental impacts and the intended recreational setting of the site.
- The Service will seek to have the access road between Potato Point township and the park boundary south of Blackfellows Point reserved as a public road.
- No four-wheel-drive tracks will be provided for public use within the park.
- Vehicles are prohibited on beaches and rock platforms within the park, except in the case of emergencies, park management activities, licensed commercial fishing access and to launch boats on Congo Beach when the mouth of Congo Creek is closed.

## **Action**

- The Service will negotiate with the relevant authority to have the access road between Potato Point township and the park boundary south of Blackfellows Point reserved as a public road.

## 6.1.2 Camping and day use

### Camping areas

The only designated camping areas in the park are located at Congo Point and Blackfellows Point Caravan Park. Before being incorporated into the park the Congo Point camping area was managed by Eurobodalla Shire Council. It is currently maintained by a contractor under Section 152 of the National Parks and Wildlife Act. The camping area, accessed by the two-wheel-drive gravel Congo Road, comprises a grassed area with undefined camping sites, two toilet blocks, rubbish and recycling bins. Water and firewood are also supplied for visitors. In times of peak visitation the camping area is at capacity. The area is linear in nature, being bound on its northern side by Congo Creek and on the south by a small but steep rise: as a result the site has limited potential for expansion. Several Aboriginal middens and other sites of significance are being affected by the ongoing use of this area. A known breeding site of Little Terns is located at the mouth of Congo Creek, less than 200 metres from the camping area.

Blackfellows Point Caravan Park incorporates a 7-hectare area at the rear of the beach which lies immediately north of Blackfellows Point. The site is accessed by the sealed road to Potato Point and then a two-wheel-drive gravel road. The caravan park incorporates a range of privately owned on-site holiday caravans, camping sites, ablution blocks, a manager's residence and associated buildings, sewage ponds and water pumping facilities. Since gazettal of Eurobodalla National Park the caravan park has continued to operate under a Department of Land and Water Conservation lease due to expire in 2007.

Informal camping also occurs in the park at sites where no facilities or formal access is provided. The most prominent of these sites is located on the southeastern shore of Lake Brou. The feasibility of formalising use of this site is to be investigated.

Vehicle-based camping at locations other than the designated camping areas will not be permitted in the park owing to environmental impacts.

### Day-use areas

The proximity of the park to the Princes Highway and several townships, combined with relatively easy access to and within the park, makes it a popular day visit destination. Facilities for day use are provided at the following locations.

At Shelly beach, South Head Moruya, a picnic area comprising a toilet block, barbecues, tables and water is located in a grassy area near the small beach. The area offers opportunities for beach walking, picnicking, ocean beach fishing, swimming and surfing.

A small lookout offering views north along the coast is located at Toragy Point, South Head Moruya. An historic cemetery provides an insight into the history of the Moruya district. The site also provides a pedestrian access point to the rock platforms below where fishing is a popular pastime. The Service is in the process of undertaking minor works at the site to maintain the historic cemetery and improve pedestrian safety and vehicle access to and around the area.

On the northern side of Congo Creek an area of approximately 3 hectares is leased to the Goulburn Workers Club until August 2000. The site includes a large grassy area and several holiday cottages with power and is used exclusively by members of the Goulburn Workers Club. The area is accessed from South Head Moruya by a two-wheel-drive gravel road and, although no facilities are provided, is subject to a degree of day-use activity.

The Congo campground also serves as a day-use area although a discrete day-use area with facilities is not provided. Consequently there are conflicts between different park users during peak use times such as school holidays and the summer period. The site offers beach access for pedestrians and a small lookout provides views to the south along the coast.

On the southern side of Meringo headland a small picnic area with two tables and a barbecue is located at the rear of the dune system among a grove of casuarinas.

The site itself appears to receive little use, however, the access it provides through to the beach appears to be heavily used by locals.

# MAP 2 - VISITOR USE SUMMARY SECTION A

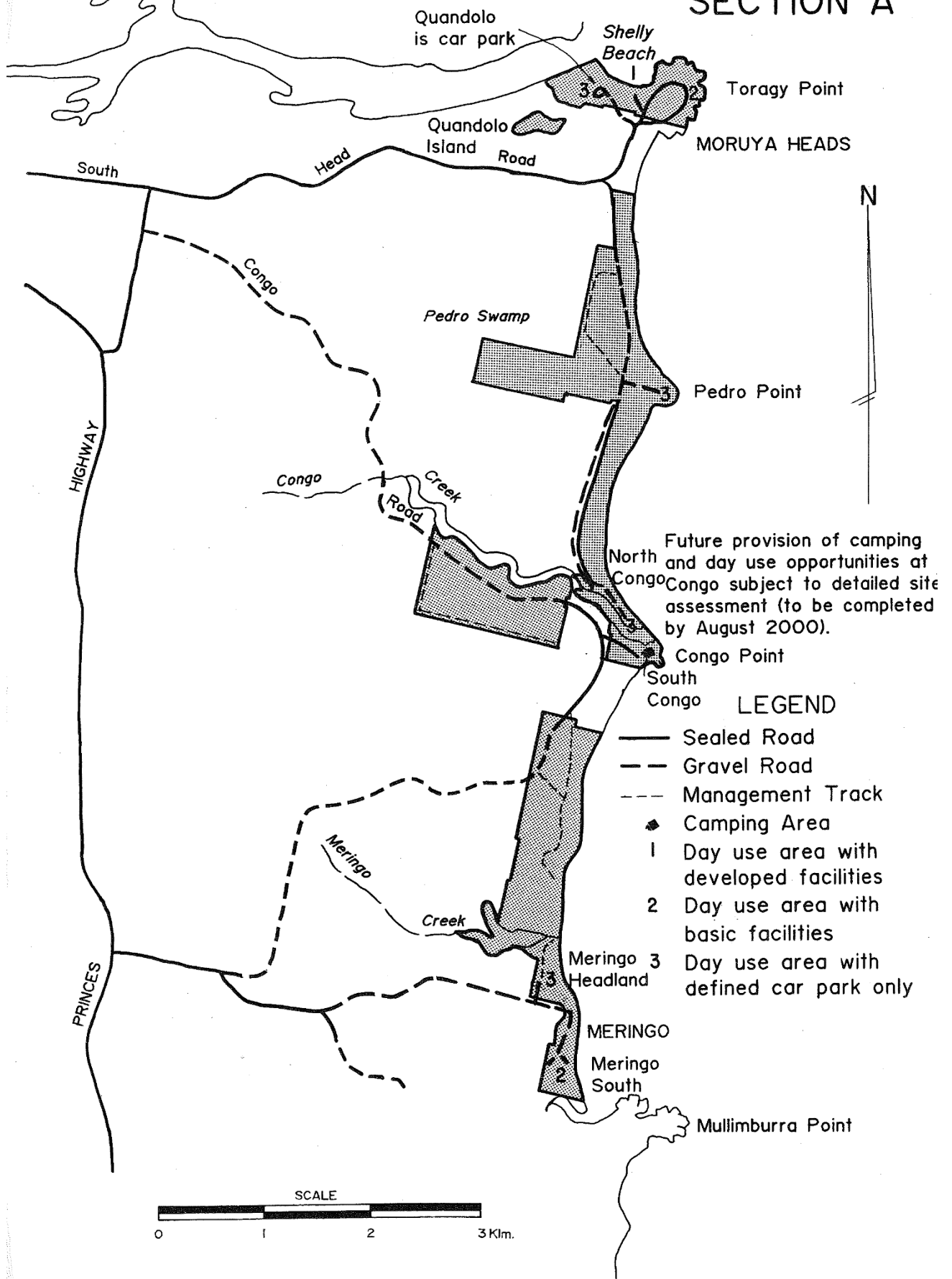


Figure 2 Visitor use summary

A small car park with board and chain walkways to the adjacent beaches is located on the small headland known as Grey Rocks (between Mullimburra Point and Bingie Bingie Point).

Bingie Bingie Point is a highly visited destination that offers opportunities for surfing, beach fishing and exploring the intertidal zone. The area also has significant geological and Aboriginal values which may not be obvious to visitors. Uncontrolled vehicle access to the main headland and adjacent beaches has affected middens, vegetation and dune systems. The Service has recently carried out work to define both vehicle and pedestrian access at the site and has provided interpretive information on natural and cultural values.

At Corunna Lake, west of the Princes Highway, a developed day-use area provides toilets, tables, barbecues and a boat ramp for park visitors. Recent work by the Service has provided upgraded facilities and a more defined car park.

A small picnic area comprising several tables and an old water tank is located at Mystery Bay.

A lookout providing views south over Tilba Tilba Lake toward Bermagui is located on a small dune north of the lake entrance. The lookout was constructed by a LEAP (Local Employment Assistance Program) grant. A board and chain vehicle track provides vehicular access to the beach for licensed professional fisherman.

There are a number of other sites used by park visitors where no facilities are provided and access is by way of informal two-wheel-drive and four-wheel-drive tracks. The sites are a result of established visitor use patterns and most have resulted in a degree of environmental impact, including clearing or trampling of vegetation, introduction of weed species and disturbance of native fauna. Each of these sites is located on the coast and a balanced rationalisation of day-use sites within the park is required to provide public use while minimising environmental impacts.

## Policies

- The following vehicle-based camping opportunities will be provided within the park:
  - **Fully serviced camping area**, car-based with a high standard of access and ablution facilities and possibly mains power. The Congo area of the park will offer this style of camping (see Actions below as to the preferred location).
  - **Car-based with basic facilities**, park road access, basic toilet facilities and fire places usually provided. Power is not supplied. An area on the southern shore of Lake Brou has potential for this form of camping.
- The lease for the operation of Blackfellows Point Caravan Park will be permitted to continue until its expiry in 2007, unless action to terminate the lease prior to this date is initiated by the leaseholder. Upon expiry of the lease, all on-site privately owned caravans will be removed. In the event of an early (prior to August 2007) termination of the existing lease arrangement, the preferred site management option (see policy below) will be implemented and will provide for the removal of on-site privately owned holiday caravans by 31 August 2007.
- In the short term the Blackfellows Point Caravan Park will be maintained under the provisions of the existing lease and relevant legislation, such as the National Parks and Wildlife Act and the Environmental Planning and Assessment Act. The area will be maintained at its present standard of facilities and access, except for work required to comply with health and safety regulations. Permanent occupancy within the caravan park is not permitted under the conditions of the current lease.
- The Service will undertake a comprehensive review of the management options for the site of the Blackfellows Point Caravan Park. Options for consideration will include complete removal of the facility and rehabilitation of the site, replacement with a fully serviced camping area (as described above) and replacement with a combination of fully serviced camping/casual caravanning and limited cabin accommodation, designed in sympathy with the natural setting. Options for Service operation, contract management or lessee management of the preferred facility will also be considered.
- Vehicle-based camping will be permitted only in the designated camping areas mentioned above.
-



- Walk-in camping will be permitted at locations more than 250 m from roads and other facilities. It may be prohibited in locations where the impacts on natural or cultural values will be unacceptable.
- Portable fossil-fuel-driven generators will not be permitted in camping or day- use areas.
- The following day-use sites and associated level of facility development will be provided. Each day-use site will provide walker access to the adjacent beach with the standard of walking track varying consistent with the level of facilities on site.

Defined carpark only	Basic facilities (maximum of picnic table and barbeques)	Developed facilities (toilets, bins, picnic tables and barbeques)
Quandolo Island car park	Toragy Point	Shelly beach
Pedro Point	Meringo (south of headland)	South Congo (pending Congo camping area assessment)
North Congo (pending Congo camping area assessment)	Bingie Bingie Point	
Meringo Headland	Mystery Bay	Lake Brou
Mullimburra (south of Point)	1080 beach	Corunna Lake
Grey Rocks		
South Tuross Beach		
Brou beach		
Bogola Head		
Honeysuckle beach		
Pooles Beach		
Seconds Beach		

## Actions

- An assessment of the option of relocating the existing Congo camping area to the site on the northern side of the Congo Creek (known as the Goulburn Workers Club) will be undertaken. The assessment will consider the strengths and weaknesses of camping at each site, the implications of the relocation for park visitors and the Congo community, and will make recommendations on the future use and management of both areas. The assessment will be undertaken so that any recommendations may be immediately implemented upon the scheduled August 2000 expiry of the Goulburn Workers Club lease. While the above assessment is being carried out the existing Congo camping area will remain in operation and be managed consistent with past practices. The site will not be expanded and no additional facilities will be provided during this time.
- The Service will coordinate the investigation of management options for the site of the Blackfellows Point Caravan Park. This assessment of options will be completed within two years and will be consistent with the policies of this plan and relevant Service policies.
- A site selection process will be undertaken to identify the site for the proposed small car-based camping site and/or day use area at Lake Brou. The vicinity of the current informal camping area is the preferred location. If a suitable site is located, the camping and/or day use area will be constructed. As a minimum, defined parking areas, basic toilet facilities and fire places will be provided.
- Interpretation signs will be used to inform campers of Little Tern nesting sites as required.
- As resources allow, facilities will be progressively provided at day-use sites according to the above table. Siting of the carpark near Pooles Beach will attempt to reduce the visual impacts of the carpark from the beach and other environmental impacts including impacts on Aboriginal sites.

### 6.1.3 Dogs

Before Eurobodalla National Park was gazetted, the beaches and fringing landforms now within the park were used, not always legally, by locals and to a lesser extent non-locals, for walking with domestic dogs. The Eurobodalla Shire Council currently permits restricted (on leash) and unrestricted (no leash) 24-hour beach access for people and their dogs on a number of beaches managed by the shire. Some of these beaches are close to the park.

Introduced animals such as dogs compete with and prey on native species and may put populations under stress. In some circumstances domestic pets may also detract from the public use and enjoyment of an area. Since 1996, however, conditional approval has been granted for several people and their companion animals to walk within the park in the vicinity of Congo Point.

The *Companions Animals Act* 1998 creates the category of trained assistance animals, the definition of which includes guide dogs, including dogs for the sight and hearing impaired, and for people with other types of disability who have a legitimate need for a trained assistance animal. The Companion Animals Act provides for the regulation and accreditation of animals, trainers and handlers for trained assistance animals.

In each of the cases where permits have been issued to walk with dogs in the park, the permits have conditions requiring that they comply with the Companion Animals Act once it came into force.

### Policies

- A person shall not bring any companion animal, other than a trained assistance animal, into Eurobodalla National Park.
- A person may bring a registered trained assistance animal for their personal use into Eurobodalla National Park, except in areas generally closed to the public.

### Action

- Existing consents and approvals to take companion animals (dogs) into Eurobodalla National Park will be reviewed. In accordance with Service policy, only trained assistance animals will be permitted in the park.”

### 6.1.4 Bushwalking and horseriding

There is no formal system of walking tracks in the park, but the large number of existing vehicle tracks and the open spaces of the beaches provide opportunities for a range of walks ranging from one to two hours duration to longer, overnight walks. Although not continuous, some sections of the park, such as between Dalmeny and Potato Point as well as between Tuross Head and Congo Point, would allow walkers an undisturbed experience in a reasonably undeveloped coastal environment. The park is interspersed with vehicle access points and townships of varying sizes which are potential access nodes for walkers.

Areas of the park have been popular horseriding destination for locals for many years, with most use centred on the park's sandy beaches. A key horseriding group has listed the major use sites within the park as being Moruya beach, the beach between Pedro and Congo Points, Meringo, Bingie and Brou beaches, Potato Point north to Blackfellow Point Caravan Park and Loader beach. Existing Service policy allows for horseriding in certain areas of Service-managed land, subject to conditions. The policy provides a list of types of environmentally sensitive areas where horseriding will not be permitted.

A horseriding code of practice has been developed by the Australian Trail Horse Riders Association and the Service and explains a range of suggested riding practices within national parks.

Bushwalking and horseriding can cause erosion, damage to Aboriginal sites and dispersal of weeds, with associated high rehabilitation costs. It is essential for both activities to be limited to appropriate tracks and environments where potential effects may be minimised. Overnight camping by horse riders will not be permitted because of unacceptable impacts.

## Policies

- The establishment of a walking track network to provide minimum impact access to, and interpretation of, the coastal environment and selected cultural sites will be investigated. The area of the park most suited to the provision of this recreational opportunity is between Dalmeny and Potato Point as well as between Tuross Head and Congo Point. The walking track will be designed and located to provide visitors with opportunities to gain a reasonably undisturbed experience of the park in an unmodified setting. The proposed tracks will be constructed to class 2 standards, (except on beaches) as detailed in the Service's walking track policy. A class 2 track is well defined but with minimal construction and is suitable for people of average fitness with some bushwalking experience.
- Horseriding will be permitted primarily along management access tracks and beaches, in accordance with Service policy. With the exception of beach access points, horseriding on beaches will be restricted to tidally inundated sections of the beach. Beach access points will be those necessary for walking or commercial fishing access to the beach.
- Where necessary, and according to Service policy, bridle tracks may be established in locations where they will serve as links between management access tracks and beaches that are used for horseriding.
- Certain areas of the park may be periodically closed due to nesting activities of vulnerable and endangered fauna.
- Access to beaches for horseriders will be by management tracks and identified access points only.
- Overnight camping of horses in the park will not be permitted.

## Actions

- The Service will establish a walking track network to class 2 standard.
- Within the areas described above, the Service, in conjunction with horseriding groups, will determine specific management tracks, beach access points and linking bridle trails available for horseriding. Track and access point markers will be provided where necessary.

### 6.1.5 Recreational use of waterways and lagoons

Each of the park's three major coastal lagoons experiences a range of recreational uses depending on its size and proximity to urban areas. The range of known uses at these sites within the park are:

Lake or waterway	Known activities
Congo Creek	swimming, canoeing, power boating, fishing
Kellys Lake	non-powered craft
Lake Tarourga	non-powered craft
Lake Brou	boating for commercial fishing purposes, canoeing
Lake Mummuga	windsurfing, water skiing, jet skiing, fishing, swimming, power boating
Corunna Lake (east of Princes Highway)	windsurfing, swimming, canoeing, fishing

Within the park, boat ramps are provided at Congo Creek and Corunna Lake (west of the Princes Highway). A boat ramp at Evans Point in Dalmeny is outside the park boundary but provides access to the waters of Lake Mummuga. Boats are also launched at the southern shore of Lake Brou and less frequently at Kellys Lake, although no formal facility is provided at either location.

Problems associated with motorised vessels in the park include safety implications resulting from use in shallow waters, disturbance of other users, disturbance of sediments and damage to aquatic flora, pollution from motor fuels and noise disturbance generally. Disturbance to the nesting habits of migratory birds is a seasonal problem in some locations.

Cambathin Island in Tuross Lake experiences a low level of boat-based day use, predominantly by locals. There is minimal evidence of camping on the island in the form of several infrequently used fire rings. From time to time there is a small amount of domestic rubbish left on the island by day users.

## Policies

- The Service recognises community demand for a range of recreational opportunities on the lakes of the park. To cater for this need, while minimising ecological impacts and conflicts between user groups, the following water craft will be permitted on the lagoons and waterways of the park.

Lake or waterway	Permitted activities
Congo Creek	non-powered craft power boating permitted in that area of the creek upstream of the Council-managed playground and downstream of the eastern-most boat ramp
Kellys Lake	non-powered craft only
Lake Tarourga	non-powered craft only
Lake Brou	non-powered craft, powered craft with motors less than 10 horsepower (excluding commercial fishing operators)
Lake Mummuga	recreational power boats (not personal water craft), windsurfing
Corunna Lake (east of Princes Highway)	non-powered craft only

- Boat-based day-use recreation will be permitted on Cambathin Island. Camping on the island will not be permitted. No day-use facilities will be provided on the island but information signs explaining the natural values of the island and appropriate visitor behaviour will be provided.
- The Service will not provide additional boat launching facilities within the park.
- As they were licensed to use the park before its declaration, commercial fishing operators may continue to use power boats in the park's lagoons (in accordance with their licence conditions and where such activity is a demonstrated traditional use of the area, see section 6.5.5).

## Action

- The Service will provide information signs at appropriate locations outlining waterway and lagoon uses and regulations.

### 6.1.6 Commercial recreation activities and services

Eurobodalla National Park provides opportunities for commercial recreation and education tours licensed under the National Parks and Wildlife Act. These activities

may complement park management and provide increased opportunities for visitors consistent with the objectives of the Service and this plan. The performance of commercial operators in the park will provide the Service with an opportunity to more extensively promote the importance of nature conservation and cultural heritage conservation generally.

There are a number of commercial recreation activities currently undertaken in the park, ranging from cultural tours to horseriding tours. To date such tours are conducted on an irregular basis and appropriate consents are issued. In addition, the Service receives requests for permission to undertake one-off community or charitable events in the park. A licence currently exists for commercial camel rides on the beach but this activity will be reviewed in the future.

## Policies

- Commercial recreation, educational and cultural tours that are consistent with the conservation and appreciation of the natural and cultural features of the park will be encouraged. Commercial activities will be licensed under the National Parks and Wildlife Act and will be subject to Service policies and this plan. The granting of such licences will have regard to the location and frequency of the proposed use, existing commercial recreational activities in the proposed location, potential ecological effects of the activity and potential conflicts with other park users.
- Any publicity and oral or written interpretation undertaken by commercial operators will be required to be consistent with environmental education and interpretation programs for the park.
- At high-use camping and day-use areas the Service will consider proposals for the temporary provision of services that will be of benefit to park users. The erection of permanent or temporary structures in the course of providing such services will not be permitted in the park.

## Actions

- The Service will license commercial recreational activities and services where they are consistent with the above policy statements.
- The Service will assess and recommend preferred future use options for all commercial sites within two years of the finalisation of this plan.

## 6.2 Promotion and interpretation

The proximity of the park to urban areas and popular holiday destinations creates pressure to provide the public with a community resource for nature-based recreation, environmental study and research. The majority of the park's recreation opportunities are centred on its beaches and coastal lagoons. Visitation is predominantly seasonal with a marked summer peak (see section 6.1).

Promoting public awareness of the National Parks and Wildlife Service's conservation responsibilities, the natural and cultural values of the park, and appropriate recreational opportunities is a major aspect of visitor use management. Increased public awareness and understanding can assist with the management of natural and cultural heritage and can enhance visitor enjoyment of the park.

Existing facilities and programs that promote public awareness and appreciation of the park include:

- a brochure that offers general park information, interpretive signs at known Little Tern nesting sites, interpretive signs at Bingie Bingie Point day-use area
- Discovery Ranger activities in school holiday periods
- strategically placed 'Eurobodalla National Park' signs at park entrances.

Visitors have expressed difficulty in understanding the location of the park's boundaries and, despite strategically placed park entrance signs, are often unsure whether they are within or outside the park. The lack of visitor orientation and directional signs in the park serves to compound visitor confusion on this matter.

The park is being used increasingly for environmental and cultural education. In conjunction with the Service, Charles Sturt University has conducted flora, fauna and visitor surveys in the park, providing opportunities for tertiary students to carry out applied research. Aboriginal cultural tours to Congo and Bingie Bingie Point are conducted for local primary and secondary schools, as well as for other interested people.

## Policies

- Public understanding and appreciation of the natural and cultural values of the park will be promoted. The following themes will be emphasised in interpretation programs:
  - the Aboriginal cultural value of the park, past and present uses of the area, and the park's importance to the contemporary Aboriginal community;
  - the European history of the area, particularly the maritime history;



- the natural and ecological processes of coastal lagoons and their conservation values; and
- the appropriate recreational use of the park, particularly of the lagoon and ocean foreshore environments.
- Promotional material and interpretive programs will be designed to promote care for the environment, so assisting the Service to protect natural and cultural heritage values.
- Directional signs will be provided to help visitors find the park.
- Orientation information to help visitors determine their location in the park and in relation to park attractions will be provided in the park and at selected off-park visitor information points.

## Actions

- As resources allow, the following interpretive facilities will be provided:
  - An interpretive walking track at South Head Moruya precinct incorporating the pilot station, Toragy Point cemetery and other evidence of the European and Aboriginal history of the precinct, such as breakwalls and quarries, where the changing use of the area and its effects on the natural environment could be seen and understood. This site also provides expansive views inland to the escarpment, offering opportunities for interpretation of the park's role in a regional network of national parks and reserves.
  - Interpretation of Congo camping area and Bingie Bingie Point, where the history of Aboriginal use and the importance of each site to the contemporary Aboriginal community are of interest. Bingie Bingie Point also features unusual geological formations.
  - Interpretation of Lake Brou and Corunna Lake (west of the Princes Highway), which both offer opportunities to examine natural landscapes within the park, particularly coastal lagoon dynamics and their role as important migratory bird habitat and nesting areas.
- The Service will produce a map identifying activities permitted in the park, particularly regarding bushwalking, horseriding and waterway activities.
- Directional signs may be provided at the intersection of the Princes Highway and key park access roads, such as the South Head Moruya Road, the Congo access road at Bergalia, the Lake Brou Road and the Corunna Lake day-use area access road.
- Park orientation information will be located at South Head Moruya and the Corunna Lake day-use area. Information will also be provided at the Lake Brou camping and day-use areas once they are established. Orientation information will also be made available at the Service's shop front at the Narooma office.
- The Service will approach the Eurobodalla Shire Council regarding the provision of orientation information at the shire-managed Dalmeny camping and day-use area and the shire's information centre.

## 6.3 Neighbour relations

An important aspect of the Service's public awareness program is keeping members of the local community, neighbours, Eurobodalla Shire Council and other government agencies informed of the park's management programs, particularly regarding fire management and weed and feral animal control. Eurobodalla National Park has a relatively high number of neighbours (approximately 230) for a park of its size, so effective communication with this group in the community is particularly important. Potential issues to address with neighbours include the control of domestic dogs and cats, the dumping of domestic rubbish in the park, the encroachment of structures and cleared areas into the park, fire management control measures, exotic plants and the proliferation of informal walking tracks into the park.

## Policy

- Emphasis will be placed on explaining park management programs and actions to the local community, neighbours and stakeholders.

## Actions

- The Service will explain park management programs through the timely issuing of media releases, information sheets and through the region's annual report.
- The Service will maintain a high level of neighbour relations by continued personal face-to-face contact as well as attendance at forums such as public meetings.

## 6.4 Research

Despite the relatively recent declaration of Eurobodalla National Park, the Service has already coordinated a number of research projects into the natural and cultural values, and appropriate management, of the area. These projects have provided valuable information for this Plan of Management. Major projects have included:

Charles Sturt University	Visitor survey, 1996 Flora survey, 1997 Fauna survey, 1997 Visitor survey, 1996 Flora survey, 1997 Community survey, 1997
D Williams and M Barber, 1995	Survey of Congo silcrete quarries
Heather Stone, 1997	Eurobodalla National Park revegetation plan
Peter Freeman Pty Ltd, 1997	South Head Moruya pilot station conservation plan

The National Parks and Wildlife Service, however, does not currently have the resources to undertake long-term monitoring or research and relies heavily on the work of other institutions. As part of a strategy to encourage scientific use of the park, the Service has a memorandum of understanding with the Johnstone Centre of Parks, Recreation and Heritage of Charles Sturt University that allows for cooperative research efforts into the natural values and recreational use of the park.

The need for research into park management issues has been identified in a number of sections in this plan. To this end a prospectus identifying Service priorities for research will be prepared to encourage the involvement of other organisations and individuals.

Research projects to be undertaken in the park are required to be licensed by the National Parks and Wildlife Service.

## Policies

Eurobodalla National Park will be available for appropriate research.

Service-conducted research will aim to provide information on natural and cultural heritage and on human use in order to facilitate improved management of the park.

- The existing memorandum of understanding with Charles Sturt University will be maintained.
- Researchers from other organisations will be encouraged to undertake research that provides information of direct use to the management of the park.
- Liaison will be maintained with researchers to share as much information and assistance as possible. The results of research must be provided to the managers of the relevant area.
- Short-term research structures must be placed in locations that will minimise their visual impact. Such structures must be removed upon completion of the research project.

## Action

- A prospectus will be prepared as a guide to preferred research projects in the park, particularly those of direct relevance to management, and will include:

- additional surveys of native fauna, particularly the park's invertebrate and fish populations, and the habitat management requirements of vulnerable or endangered species;
- the impact of feral animals on the park's native fauna, particularly its endangered and vulnerable species;
- the management of fire for the conservation of native plants and animals, and the effects of present and proposed fire management regimes;
- water quality monitoring of coastal lagoons in the park, particularly Lakes Brou and Mummuga;
- the impact of estuary haul fishing and artificial openings on the ecology of coastal lagoons;
- in consultation with local Aboriginal communities, surveys of Aboriginal sites and areas of cultural significance;
- surveys of qualitative and quantitative visitor information, as well as of the social and environmental impacts of visitor use; and
- the significance of the Corunna goldfields, Corunna Point velodrome, Loader Farm and the steel remains at Bingie Bingie Point and some of the buildings at South Head Moruya (as recommended in the conservation management plan for the area).

## 6.5 Management operations

### 6.5.1 Management tracks

In addition to the public access system described in section 6.1.1 and illustrated on Map 2, there is a network of tracks in Eurobodalla National Park which have been retained for fire and other management purposes. All of these tracks were in existence when the park was gazetted and are a result of maintenance by Eurobodalla Shire Council (in the case of gravel tracks) or continuing use by visitors to the area. Those tracks not required to promote vehicle-based public use of the park or for management purposes will be closed. The management track system is also shown on Map 2.

All the management tracks within the park are of a two-wheel-drive and four-wheel-drive standard on either a natural surface or gravel pavements. It is anticipated that limited work to upgrade or maintain the management tracks will be required.

The management track system is also used by scientists to access research sites and by individuals such as apiarists. Public vehicle access for recreational purposes is not permitted on park management tracks. However, management tracks will also be available for horseriders and bushwalkers (section 6.1.4).

### Policies

- The system of management tracks outlined on Map 2 will be maintained to Service standards of access and stability.
- Additional tracks may be constructed where necessary for fire control and other emergency operations. Such tracks will be closed and rehabilitated as soon as possible after each incident.

### Actions

- Gates or other vehicle barriers will be erected at appropriate access points throughout the park to restrict use of tracks to authorised vehicles only.
- Minor rerouting of management tracks within the park will be undertaken where poor alignment is leading to erosion."
- The Service will rehabilitate/revegetate existing tracks not required for vehicle-based public access or management purposes.

### **6.5.2 Inholdings and public roads**

The park contains two Aboriginal-owned inholdings — one at the southern shore of Lake Brou and the other at the southern end of Loader beach. The Lake Brou inholding is accessible via a public road extending from the park's western boundary. The Loader beach inholding is not accompanied by a public road but is accessed by a park road.

The park is also traversed by four public roads, which are excluded from the park. Two of these provide access through the park to Congo residential areas while another provides access to the area leased by the Goulburn Workers Club. These three public roads are of two-wheel-drive gravel standard. The fourth is located in the park immediately south of Congo, is of two-wheel to four-wheel-drive standard on a natural base and serves no access purpose.

#### **Policies**

- The Service will maintain close liaison with the owners of the two inholdings regarding park management issues and other matters of mutual concern.
- The owners of the inholding at the rear of Loader beach will be permitted continued rights of access to the inholding via the park road to the area.
- The Service will seek to have revoked the existing public road that serves no access purpose.

#### **Action**

- The Service will negotiate with the relevant authority to incorporate the unconstructed public road in the park.

### **6.5.3 Park encroachments**

Structures of adjoining land uses and other elements may encroach on the park. Encroachments must be identified and if necessary surveyed. Some encroachments have caused environmental degradation.

#### **Policy**

- Those responsible for park encroachments and associated structures will, wherever possible, be required to remove them from the park. Where necessary, park boundaries will be fenced and the encroachment area rehabilitated.

#### **Action**

- The Service will determine the location and extent of park encroachments and take appropriate action.

### **6.5.4 Non-NPWS infrastructure**

The Department of Land and Water Conservation maintains an electronic distance measuring and trig station on South Head Moruya. The facility is used by surveyors from the south coast as a means of verifying measuring equipment. The Department of Land and Water Conservation's Land Information Centre owns and maintains the facility as well as lines of sight between each of the calibration points. To date, no agreement regarding access and maintenance issues has been established between the Service and the Department of Land and Water Conservation.

Several Telstra cables traverse the park in the area between Mullimburra and Bingie Bingie Points. The cables predate the gazettal of the park in late 1995. In accordance with section 153 (3) of the National Parks and Wildlife Act, easements or rights of way for the cables will continue to apply. Telstra may need to access the cable routes if there is a cable failure.

## Policies

- New work, facilities or operations proposed by any organisation or individual will not be permitted unless they are consistent with the purposes of reservation of the area and this Plan of Management.
- Department of Land and Water Conservation access to the facility at South Head Moruya will continue. The Department of Land and Water Conservation will be responsible for ongoing maintenance of the facility and necessary lines of sight between each of the calibration points.

## Action

- The Service and the Department of Land and Water Conservation will establish an agreement regarding permitted access and activities necessary for maintenance of the electronic distance measuring station on South Head Moruya.

### 6.5.5 Commercial fishing

A variety of commercial fishing operations are undertaken within the park or use sections of the park to gain access to fishing areas. The four prominent commercial fishing uses are beach haul fishing, estuary haul fishing, bait and kelp gathering and illegal access by oyster farmers.

The Service's access for professional fishing policy states that an access permit will only be issued if:

- the Service is satisfied that the consequent environmental damage is limited and acceptable,
- a pre-existing traditional pattern of use can be demonstrated, there is no reasonable alternative means of access,
- the Service is satisfied that any conflict with recreational users of the foreshores is minimal and that the safety of visitors is not prejudiced,
- access is an essential part of the fishing enterprise, and
- the cost of maintaining the access track is shared by the users.

The activities of commercial fishing operations are managed and regulated by New South Wales Fisheries through the *Fisheries Management Act 1994*. Commercial fishing properly authorised under this Act cannot be prohibited in National Parks and Wildlife Service-managed estate, although conditions addressing the location and management of access routes can be introduced by the Service.

#### Beach haul fishing

Many of the ocean beaches within the park are used by commercial beach haul fishing operators, requiring four-wheel-drive vehicle access to the beach and intensive use of the intertidal zone for boat launching and hauling of fishing nets.

Points of access to the beaches are often sandy tracks through hind dunes that have been located and defined through ongoing traditional use by fishing operators. Such access arrangements have often resulted in environmental damage through destruction of fragile dune vegetation and erosion resulting from loss of the soil binding properties of vegetation. Damage to Aboriginal sites, most commonly middens, has occasionally resulted from the indiscriminate location of the tracks.

Conflicts between commercial fishing and park visitors can also occur where both activities are undertaken in the same areas.

The conduct of commercial beach haul fishing operations within the park is an accepted activity however, their continuation requires licensing and the rationalisation and sensitive location of access points. The erection of gates or other vehicle barriers at access tracks not for public use will be required in some locations.



## **Policies**

- Commercial fishing access will be permitted according to the Service's access for professional fishing policy.
- Commercial fishing operators will be required to prepare a comprehensive review of environmental factors document that addresses each existing beach access route.
- Where existing beach access routes are shown to have significant environmental or cultural impacts, and where beach access is required for the continuation of established commercial fishing operations, new beach access routes may be established in environmentally and culturally appropriate sites.
- Commercial fishing operators will be responsible for the ongoing maintenance and security of access tracks.

## **Actions**

- The Service and commercial fishing operators will assess existing beach accesses and determine those that will be retained, relocated or closed.
- Commercial fishing access routes will be formalised through licensing.

### **Estuary haul fishing**

A limited amount of licensed estuary haul fishing and prawning occurs within the park, primarily at Lakes Brou and Mummuga, and is characterised by intense fishing efforts over a short time. Management issues associated with this style of commercial fishing include requirements for vehicle access to lake shores, effects on sites used to store fishing equipment, the potential for conflicts with recreational users of the park, and impacts of fishing efforts on lake ecology.

## **Policies**

- Estuary haul fishing and prawning will be permitted according to the Service's access for professional fishing policy.
- Estuary haul fishing operators will not be permitted to camp or store equipment in the park.
- Research into the ecological impacts of estuary haul fishing will be encouraged.

### **Bait and kelp gathering**

The commercial collection of bait, usually pipis, from the intertidal zone occurs occasionally within the park and may be licensed by New South Wales Fisheries. The collection of bait is also occasionally undertaken by recreational fishers for their personal use.

The gathering of kelp that has been washed onto the beach is a commercial activity licensed by New South Wales Fisheries. Only one such licence has been issued over the park for small-scale gathering activities.

## **Policies**

- The Service will seek to have the commercial collection of bait prohibited.
- Collection of invertebrate bait animals for recreational fishing purposes will be permitted to continue, excluding any intertidal protected areas that may be established.
- The Service will seek to have the commercial collection of kelp prohibited.

## Actions

- The Service will liaise with New South Wales Fisheries on the prohibition of licensed commercial collection of invertebrate animals.
- The Service will liaise with New South Wales Fisheries on the prohibition of commercial kelp gathering in the park.

### Oyster farmer access

A number of oyster plots are located within Tuross Lake and are frequently accessed from informal boat launching sites within the park. In turn, the boat launching sites are accessed from unmaintained tracks that are degraded to varying degrees. Several locations in the park, some of which are on the islands of Tuross Lake, are illegally used as storage areas for materials required in maintaining the oyster plots.

None of the oyster-farming related activities undertaken within the park are licensed by the Service.

## Policies

- Oyster farmers will be permitted to use only those tracks within the park that are park roads or declared public roads (see Map 2).
- The Service will enforce the removal of materials that are illegally stored within the park.

### 6.5.6 Leases and licences

A number of leases and licences have been issued for activities within the park. Leases relating to the occupation of South Head Moruya pilot station, Goulburn Workers Club and the operation of the Blackfellows Point Caravan Park have been discussed earlier in this plan (sections 5.2 and 6.1.2). Two grazing licences over a total of 31 hectares of the park are current for Deuaumba Island and an area near Meringo. Both licences expire on 30 June 1999 and the licensees concerned have been advised that their licences will not be renewed.

Two beekeepers have three apiary sites within Eurobodalla National Park. These are in the Brou and Corunna Lake areas and are licensed in accordance with Service policy. The European honey bee is an exotic species that has an adverse impact on some native biota.

## Policies

- The Goulburn Workers Club lease will not be renewed. Existing grazing licences will not be renewed.
- Bee keeping will be managed in accordance with Service policies.

## Action

- At the cessation of each grazing licence the site concerned will be revegetated according to recommendations in the *Eurobodalla National Park Revegetation Plan*.

## Part E. Plan implementation

This Plan of Management is part of the system of management developed by the National Parks and Wildlife Service. The system includes the National Parks and Wildlife Act, the Service's corporate plan, associated strategies and management policies. It also includes regional operational planning.

The implementation of this Plan of Management will be undertaken within the annual programs of the Service's Far South Coast Region. Priorities will be determined during the development of these programs and will be subject to regional priorities, the availability of funding and staff and to any specific requirements of the Director-General or the Minister.

Regional programs are subject to ongoing review within which works and any other activities carried out in Eurobodalla National Park will be evaluated in relation to objectives laid down in this plan.

In accordance with section 81 of the National Parks and Wildlife Act this plan shall be carried out and given effect to and no operations shall be undertaken in relation to Eurobodalla National Park unless those operations are in accordance with the Plan of Management. If after adequate investigation operations not included in the plan are found to be justified, the plan may be amended in accordance with section 75 of the Act.

The management proposals outlined in the plan have been prioritised as detailed in the table below. The actions in the table are a summarised version of statements appearing in the body of the plan. Further details may be gained from the relevant section of the plan. The priorities have been assigned as follows:

<b>High</b>	Imperative to achieve the plan's stated objectives;
<b>Medium</b>	Very important to achieve the plan's stated objectives but subject to the availability of resources;
<b>Low</b>	Desirable but will be undertaken only if the necessary resources are available; and
<b>Ongoing</b>	Already underway, to be continued.
<b>Priority</b>	Action

### 4.1 Geology, soils and landscape

Medium	Map areas of soil erosion and prioritise for rehabilitation work.
Medium	Progressively rehabilitate areas of soil erosion.
Medium	Develop and implement a methodology to measure effects of visitors on the geological site at Bingie Bingie Point.

### 4.3 Coastal lagoons and their islands

Medium	Prepare estuary management plans for Lakes Mummuga, Brou and Tarourga, as well as Congo Creek.
High	Prepare interim lagoon opening strategies for Lakes Mummuga, Brou and Corunna, as well as Congo Creek.
High	Maintain liaison with Eurobodalla Shire Council regarding opening of Lakes Mummuga and Corunna.

### 4.5 Native and introduced vegetation

High	Encourage research into the distribution and management requirements of rare and vulnerable species.
High	Implement management actions for the conservation of high to moderate value areas of native grasslands, as detailed in the park's revegetation plan.
Low	Formulate and implement a methodology to monitor the abundance and vigour of priority species.

- Low Formulate and implement a methodology to monitor the structure and species diversity of high to moderate-value grasslands.
- High Control introduced plant species, including noxious weeds.
- High Develop and implement rehabilitation plans for disturbed areas.

#### **4.6 Native and introduced animals**

- High Implement management actions in statewide species recovery plans for species known to occur in the park.
- Medium Encourage survey work into invertebrate populations.
- High Encourage research into the distribution, abundance and habitat requirements of endangered and vulnerable species.
- High Control, and where possible eradicate, feral animals.
- High Encourage research into the impact of feral animals on native fauna.

#### **4.7 Fire management**

- High Prepare and implement a fire management plan for the park.

#### **5.1 Aboriginal cultural heritage**

- High Encourage joint management activities with Aboriginal communities.
- Ongoing Advise relevant Aboriginal communities of major work proposals.
- High Liaise with Aboriginal communities to protect sites and, where appropriate, provide interpretation.
- Medium In conjunction with the Aboriginal community, develop methodologies to monitor effects of recreational use and park management activities on Aboriginal sites.

#### **5.2 Other historic places**

- Low Implement conservation plan for South Head Moruya pilot station.
- Medium Prepare a conservation plan for Toragy Point cemetery. Medium Interpret the history of South Head Moruya to visitors.
- Low Prepare conservation plans for Corunna goldfields, Corunna Point velodrome, Loader Farm and steel remains at Bingie Bingie Point.

#### **6.1 Recreation opportunities**

- High Develop a nature tourism and recreation plan for the park.
- High Develop and implement a program to assess qualitative and quantitative aspects of recreational use as well as effects of visitor use.

##### **6.1.1 Vehicle access**

- Medium Negotiate with the relevant authority to establish a public road to the Blackfellows Point boundary from Potato Point.

##### **6.1.2 Camping and day use**

- Medium Assess future use options for Congo campground. High Investigate management options for the site of Blackfellows Point Caravan Park.
- High Identify a site for a vehicle-based camping area near Lake Brou, and if appropriate, construct it.
- High Provide day-use facilities in accordance with the policies of this plan.

##### **6.1.3 Dogs**

- High Review existing consents and approvals to take companion animals (dogs) into the park.

#### **6.1.4 Bushwalking and horseriding**

- Medium            Establish a walking track network.
- Medium            In conjunction with horseriding groups, determine specific management tracks, beach access points and linking bridle trails available for horseriding.

#### **6.1.5 Recreational use of waterways and lagoons**

- Medium            Provide appropriate information signs outlining waterway and lagoon uses and regulations where appropriate.

#### **6.1.6 Commercial recreation activities and services**

- High                License commercial recreational activities and services where they are consistent with the policies in this plan.
- High                Assess and recommend preferred management options for all commercial sites within two years.

#### **6.2 Promotion and interpretation**

- Medium            Provide interpretive facilities at South Head Moruya, Congo camping area, Bingie Bingie Point, Lake Brou and Dalmeny, Corunna Lake and Mystery Bay.
- High                Provide directional signs at strategic locations on key park access roads.
- Medium            Produce a map identifying activities permitted in the park, particularly with regard to bushwalking, horseriding and waterway activities.

#### **6.3 Neighbour relations**

- High                Explain park management programs through the timely issuing of media releases, information sheets and the region's annual report.
- High                Maintain a high level of neighbour relations by continued personal face-to-face contact as well as attendance at forums such as public meetings.

#### **6.4 Research**

- Medium            Prepare a prospectus of preferred research projects.

#### **6.5.1 Management tracks**

- High                Erect gates or other barriers to prevent vehicular access to management tracks.
- High                Close and rehabilitate existing tracks not required for public or management access purposes.
- Medium            Minor rerouting of management tracks to prevent erosion.

#### **6.5.2 Inholdings and public roads**

- Low                Negotiate with the relevant authority to close the unconstructed public road in the park.

#### **6.5.3 Park encroachments**

- Low                Determine park encroachments and take appropriate action.

#### **6.5.4 Non-NPWS infrastructure**

- Low                Establish an agreement with the Department of Land and Water Conservation regarding maintenance of the facility at South Head Moruya.

#### **6.5.5 Commercial fishing**

- High                In conjunction with commercial fishing operators, assess existing beach accesses and determine those that will be retained, relocated or closed.
- High                Licence access by commercial fishers.



Medium Liaise with New South Wales Fisheries regarding the prohibition of the commercial collection of bait animals and kelp gathering.

**6.5.6 Leases and licences**

High Upon expiry of licences, revegetate areas currently subject to grazing.

## Selected references

- Advance Tourism. 1997. *Eurobodalla Nature Coast Tourism Development Strategy*. Eurobodalla Shire Council.
- Bayley, WA. 1978. *Behind Broulee: History of Eurobodalla Shire*, Central South Coast, New South Wales. Eurobodalla Shire Council.
- Briggs, JD. 1997. Personal communication.
- Briggs, JD and Leigh, JH. 1996. *Rare or Threatened Australian Plants*. CSIRO. Dovey, S. 1994. *Improving Bushfire Management for Southern New South Wales*. Southern Regional Fire Association.
- Kevin Mills & Associates Pty Limited. 1994. *The Eurobodalla Coast: Its Natural and Cultural Values*. (A report prepared for NSW NPWS, Eurobodalla Shire Council and The Coastwatchers Association.) Kevin Mills & Associates Pty Limited.
- Klomp, NI and Wise, P. 1997. *Fauna Survey of Eurobodalla National Park, NSW*. Charles Sturt University, Johnstone Centre of Parks, Recreation and Heritage.
- Lewis, PC, et al. 1994. *Bega — Mallacoota Geological Sheet 1:250,000 SJ 55–4, SJ/55–8: Explanatory Notes*. Geological Survey of New South Wales.
- Lindberg, K. 1997. *Community Survey for Eurobodalla National Park*. Charles Sturt University, Johnstone Centre of Parks, Recreation and Heritage.
- Lindberg, K and Lockwood, M. 1997. *Visitor Survey for Eurobodalla National Park*. Charles Sturt University, Johnstone Centre of Parks, Recreation and Heritage.
- Lockwood, M, et al. 1997. *Eurobodalla National Park Flora Surveys*. Charles Sturt University, Johnstone Centre of Parks, Recreation and Heritage.
- Loney, J. 1993. *Wrecks on the New South Wales Coast*. Oceans Enterprises.
- Percival, IG. 1985. *The Geological Heritage of New South Wales*. New South Wales National Parks and Wildlife Service, published on behalf of the Geological Sites and Monuments Sub-Committee of the Geological Society of Australia (NSW Division).
- Peter Freeman Pty Ltd, et al. 1997. *Former Pilot Station, South Head Moruya — Conservation Management Plan*, Volumes 1–4. Peter Freeman Pty Ltd.
- Rehwinkel, R. 1997. Personal communication.
- Scheibner, E and Basden, H ed. 1996. *Geology of New South Wales: Synthesis. Volume 1 Structural Framework*. Geological Survey of NSW, Memoir Geology 13 (1).
- Smith, P. 1995. *Draft Management Plan for Little Tern (Sterna albifrons) Colonies in Narooma District*. NSW National Parks and Wildlife Service.
- Stone, H. 1997. *Eurobodalla National Park Revegetation Plan*. Heather Stone.
- Williams, D, and Barber, M. 1995. *The Congo Silcrete Quarries, An Archaeological Survey of a Selected Area at Congo, Near Moruya, South Coast NSW*. A Report to the Cobowra Local Aboriginal Land Council. Williams Barber Archaeological Services.