# Narawntapu National Park, Hawley Nature Reserve

# Management Plan

2000

**Parks and Wildlife Service**

Department *of* Primary Industries,
Water *and* Environment

**NARAWNTAPU NATIONAL PARK**
**HAWLEY NATURE RESERVE**
**MANAGEMENT PLAN 2000**

This Management Plan for the Narawntapu National Park and the Hawley Nature Reserve has been prepared in accordance with the requirements of Part IV of the *National Parks and Wildlife Act 1970.* A draft of this plan was released for public comment from 4 March 2000 to 5 May 2000.

Unless otherwise specified, this plan adopts the interpretation of terms given in Section 3 of the *National Parks and Wildlife Act 1970*. The term "Minister" when used in the plan means the Minister administering the *Act.* The term "Park" refers to the Narawntapu National Park. The term "Reserve" refers to the Hawley Nature Reserve.

In accordance with Section 23(1)(a) of the *National Parks and Wildlife Act 1970,* the managing authority for the Park and the Reserve, in this case the Director of National Parks and Wildlife, is to manage them in accordance with this management plan.

**ACKNOWLEDGEMENTS**

Many people have assisted in the preparation of this plan by providing information and comments on earlier drafts. Their time and effort is gratefully acknowledged.

**APPROVAL**

This management plan was approved by His Excellency the Governor-in-Council on 28 August 2000 and took effect on 18 October 2000, being seven days after publication of that approval in the *Government Gazette.*

ISBN 0 7246 2122 9



Published by Parks and Wildlife Service,
Department of Primary Industries,
Water and Environment
GPO Box 44A
HOBART TASMANIA 7001

# Summary

The scenic natural landscapes of the Park contain intrinsically important environmental values which also underpin the value of the Park for recreation and tourism. Many features of the Park are also of scientific and educational interest. The Park also contains features of Aboriginal and historic heritage value.

The management plan provides for conservation of the values of the Park and the Reserve. In the case of Narawntapu National Park, the plan also provides for visitor access and facilities.

To these ends, the management plan:

- zones the Park and Reserve to take account of different features and values and direct and manage visitor activities and impacts;

- focuses on conservation of threatened and priority flora and fauna species and communities with CAR or National Estate values;

- protects Aboriginal and historic heritage features and values;

- in the national park, identifies key locations for provision of visitor facilities and services at a number of locations in the Springlawn area, and at Badger Head and West Head; and

- promotes the Park as an important visitor destination in northern Tasmania.

# Contents

# 1 Introduction

## 1.1 An Overview of the Park and the Reserve

### 1.1.1 Location and Regional Context

Narawntapu National Park (formerly Asbestos Range National Park) lies on the central north coast of Tasmania (see Map 1). The Park stretches along the coast of Bass Strait from the Port Sorell estuary in the west to the mouth of the Tamar River in the east. Noted for its long beaches and rugged headlands, the Park includes coastal heathlands and wetlands rising to forested hills and ranges inland.

The Park contributes to the regional tourism industry of the central north coast, with a noticeable pattern of visitation coinciding with the Spirit of Tasmania timetable.

The combination of location, and environmental and heritage features provide a contrast with, and a complement to other destinations on the coast where more developed, urban-style facilities are provided for visitors.

Hawley Nature Reserve is located on the outskirts of Port Sorell. Although it is visited at times by local people, it is not a significant visitor destination.

### 1.1.2 Climate

The Narawntapu National Park has a temperate maritime climate. The prevailing winds are north-westerly and north-easterly. The mean rainfall is of the order of 750 mm per annum with precipitation greatest between April and August. The mean temperature in January is about $17^0$C and in July about $9^0$C.

### 1.1.3 Importance of the Park and the Reserve

Narawntapu National Park is similar to a Category II Protected Area in the categorisation system of the International Union for the Conservation of Nature (IUCN). Category II reserves are protected areas managed mainly for ecosystem protection and recreation.

Hawley Nature Reserve is similar to a Category I Protected Area in the categorisation system of the International Union for the Conservation of Nature (IUCN). Category I reserves are protected areas managed mainly for science or wilderness protection.

The geology of Narawntapu National Park is of scientific interest as it contains features from many geological ages, including some recognised to have National Estate values.

In much of the Park and Reserve, biodiversity is high and in a relatively natural state. However, particularly on or adjacent to the pasture areas of Springlawn, natural mammal biodiversity is modified because of altered habitat created by former pasture land. The Park and Reserve are substantially free of pollution of air, land, and water.

The Park's native vegetation consists of a great diversity of predominantly dry sclerophyll plant communities, heathlands and coastal vegetation. These communities have high conservation value. This is due to the presence of geographically significant endemic species such as velvet bush, threatened species such as the grass tree, and several plant communities which are unreserved or poorly reserved elsewhere in the State reserve system.

The Reserve is primarily important for its flora conservation values.

The Park is valuable for wildlife conservation and at Springlawn has one of the best wetlands in the region. The high densities of marsupials such as wombats, wallabies, kangaroos and Tasmanian devils are a key feature and provide both visitor interest and a valuable research resource.

Past use of the Park and Reserve by Aborigines and Europeans has left a series of sites, buildings, relics, cultural landscapes and records which form a cultural resource and provide source material for educative and interpretive programs.

The Aboriginal sites and areas, particularly in the Park, are diverse, with both coastal and inland sites, generally well preserved.

A wide diversity of flora and fauna, landforms and adjacent estuarine and marine environments characterise the Park. All are readily apparent and accessible to visitors. The Park has perhaps the State's highest densities of easily accessible wombats, macropods and Tasmanian devils providing ready opportunities for visitors to

encounter these untamed but relatively unafraid wildlife. The spectacular natural landscapes including mountains, rocky headlands and cliffs at West Head and Badger Head, the long, unspoilt Bakers and Badger beaches, and the variety of vegetation communities are valued experiences for visitors. Hence, the Park and Area provides an attractive tourism and recreational setting.

At Springlawn, the presence of the farm buildings set amidst a pastoral landscape with European trees adds an additional dimension to the visitor's experience.

The Park is characterised by quietness and a relaxing coastal atmosphere. This is a very significant element of the Park's value and character. Inland, the forested ranges and valleys are also characterised by quietness and a sense of remoteness. These values are emphasised by the close proximity of the Park to the cities of Devonport and Launceston.

Swimming, snorkelling, surfing, and boating are popular. The Park provides for bushwalking, nature study, bicycling, horse riding, and camping. The range of recreational opportunities for visitors, some of them unique, together with a mild reliable climate, makes the Park a valuable tourist and recreational asset.

The Park has many educational and interpretation possibilities, with a combination of diverse vegetation, spectacular coastlines, readily accessible wildlife, and history. With the relatively benign climate, the Park provides an attractive and interesting learning environment and is a potential educational resource for a wide variety of school and community groups.

### 1.1.4 Park Name

The Park was renamed Narawntapu National Park in 2000. This was done to overcome concerns that potential visitors were avoiding the Park because of the reference to asbestos in the Park's former name of Asbestos Range National Park. Narawntapu is a Tasmanian Aboriginal word offered by the Tasmanian Aboriginal community as a suitable name for the Park. Narawntapu refers to one or both of West Head and Badger Head which are prominent coastal features within the Park.

## 1.2 Creation of the Park and Reserve

### 1.2.1 Reservation History

The reservation of the Park as a State Reserve, to be known (then) as the Asbestos Range National Park, was formally proclaimed on 29 June, 1976, by Statutory Rule No. 151. At that time the Park extended from the Port Sorell estuary, including islands in the estuary and The Carbuncle off Point Sorell, to Badger Head and had an area of approximately 3,330 hectares. By proclamation of Statutory Rule No. 169 on 20 June 1978, the Park was extended to include Badger Beach and its hinterland, and West Head, increasing its total area to 4,281 hectares approximately. A further proclamation by Statutory Rule No. 68 of 6 May 1991 added another 67.94 hectares of Badger Head.

The Park was proclaimed with the new name of Narawntapu National Park by Statutory Rules 2000, No 98, effective 5 July 2000.

The Reserve was formally proclaimed on 7 August, 1995 by Statutory Rules 1995, No. 86, and notified in the Gazette on 16 August 1995.

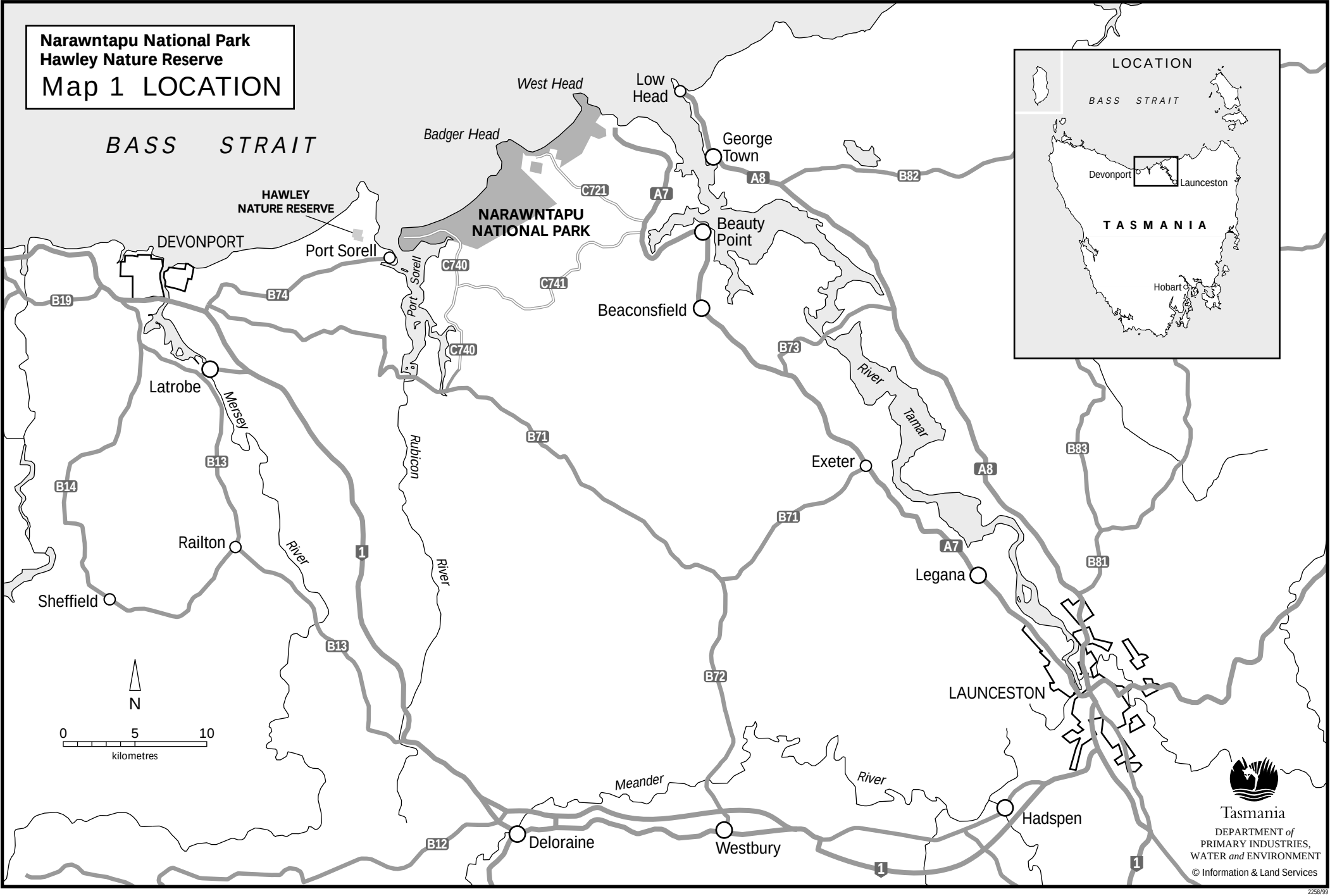
The Park is listed on the register of the National Estate.

### 1.2.2 Area and Boundaries

The Park has a total area of about 4,349 hectares (Map 2). The Park includes the adjacent islands in the Port Sorell estuary and The Carbuncle but does not include marine or estuarine waters. The land mass stretches some 17 kilometres from east to west and is approximately 6 kilometres wide at its widest point. At the Badger Head end of Badger Beach, the Park narrows to an approximate 30 metre wide strip along the foreshore.

The Park covers all of the land mass extending to low water mark, including the tidal flats to the centre of North East Arm. The exact boundaries of the Park are set out on Plan Numbers LM 23, LM 63, and LD 1246, registered in the Central Plan Office, Department of Primary Industries, Water and Environment. Map information on the current edition (Edition 2) of the 1 : 25 000 map series shows the boundary near the Badger Beach side of Badger Head incorrectly, being issued prior to the 1991 addition to the Park which is shown on LD 1246.

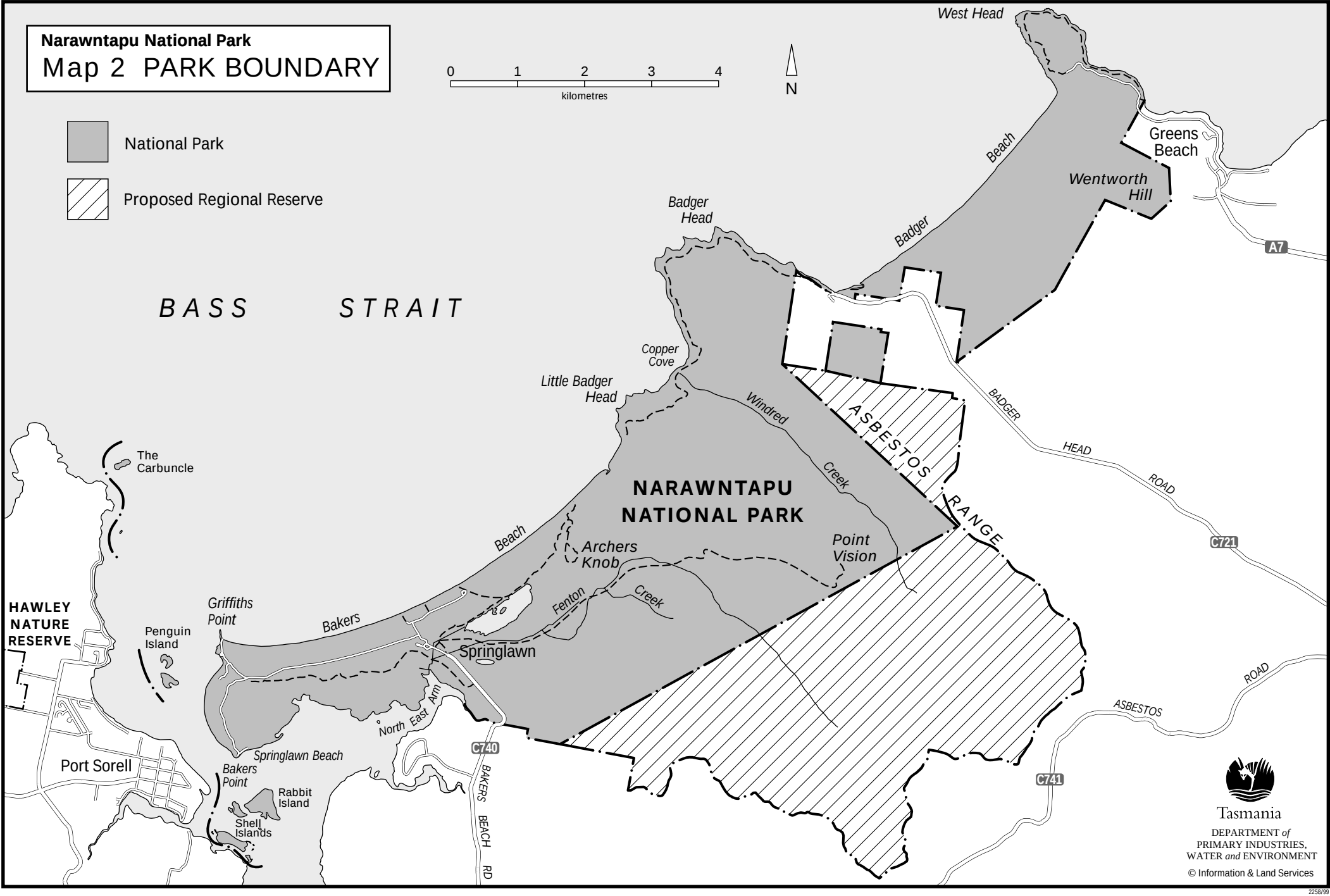
To the south, the Park is bordered by a proposed regional reserve and by freehold land. The Park


Narawntapu National Park
Hawley Nature Reserve
Map 1 LOCATION
BASS STRAIT
West Head
Low Head
Badger Head
George Town
HAWLEY NATURE RESERVE
NARAWNTAPU NATIONAL PARK
DEVONPORT
Port Sorell
Beauty Point
Beaconsfield
Latrobe
Mersey
Rubicon
River
Tamar
Exeter
Railton
Sheffield
LAUNCESTON
Legana
Meander
Deloraine
Westbury
Hadspen
C721
C740
C741
A7
A8
B82
B19
B74
B73
B71
B13
B14
B72
B83
B81
B12
1
N
0 5 10
kilometres
LOCATION
BASS STRAIT
Devonport
Launceston
TASMANIA
Hobart
Tasmania
DEPARTMENT of PRIMARY INDUSTRIES, WATER and ENVIRONMENT
© Information & Land Services
2258/99

boundary from Badger Head Road over Wentworth Hill to Greens Beach is fenced with a stock fence, maintained by the Parks and Wildlife Service.

The Reserve has a total area of 49.66 hectares. The boundaries of the Reserve are set out on Plan No. 3379 (LD 1650) registered in the Central Plan Office. The Reserve is completely surrounded by freehold land.

The Park is partly in the Municipality of West Tamar and partly in the Municipality of Latrobe. The Reserve is in the Municipality of Latrobe.


Narawntapu National Park
Map 2 PARK BOUNDARY
0 1 2 3 4
kilometres
N
National Park
Proposed Regional Reserve
West Head
Greens Beach
Wentworth Hill
Badger Beach
Badger Head
A7
BASS STRAIT
Copper Cove
Little Badger Head
Windred Creek
ASBESTOS RANGE
BADGER HEAD ROAD
C721
NARAWNTAPU NATIONAL PARK
Point Vision
Archers Knob
Beach
Fenton Creek
The Carbuncle
HAWLEY NATURE RESERVE
Penguin Island
Griffiths Point
Bakers
Springlawn
North East Arm
Springlawn Beach
Port Sorell
Bakers Point
Rabbit Island
Shell Islands
C740
BAKERS BEACH RD
C741
ASBESTOS ROAD
Tasmania
DEPARTMENT of PRIMARY INDUSTRIES, WATER and ENVIRONMENT
© Information & Land Services
2258/99

# 2 The Vision And Objectives for the Park and Reserve

## 2.1 The Vision for the Park and Reserve

The vision for the Park and the Reserve gives a picture of how they will be in the future and provides direction to management. The vision helps avoid inappropriate development and management, and the "tyranny of small decisions", guiding management not just for the short term, but for the benefit of future generations.

### 2.1.1 The Vision

***Narawntapu National Park***

A visitor to the Park finds healthy natural biodiversity, and viable populations of all indigenous species. Ecological processes and systems have a high natural integrity.

Landforms are undisturbed and the air, land and water are unpolluted.

The Aboriginal and historic heritage of the Park is identified, protected and explained.

Visitors enjoy the Park for its quietness and relaxed and uncrowded atmosphere. They make ready contact with undisturbed flora, fauna and natural features and processes and appreciate the scenic natural and cultural landscapes.

The features and values of the Park are presented to visitors in high quality interpretation and education programs and materials which add to their experience, appreciation and understanding of the Park.

Visitors pursue recreation based on the features and values of the Park, without disturbing or detracting from the experiences of other visitors.

There are small scale, well designed, high quality recreation and tourism facilities and services which are discretely located in carefully delineated areas and do not threaten the environmental, heritage or recreational values of the Park.

***Hawley Nature Reserve***

A visitor to the Reserve finds healthy natural biodiversity, and viable populations of all indigenous species. Ecological processes and systems have a high natural integrity.

### 2.1.2 Achieving the Vision

This management plan sets out how the vision for the Park and the Reserve will be achieved. To check the effectiveness of the management plan in doing this, indicators can be used to evaluate implementation of the plan and to check if the vision and management objectives have been achieved.

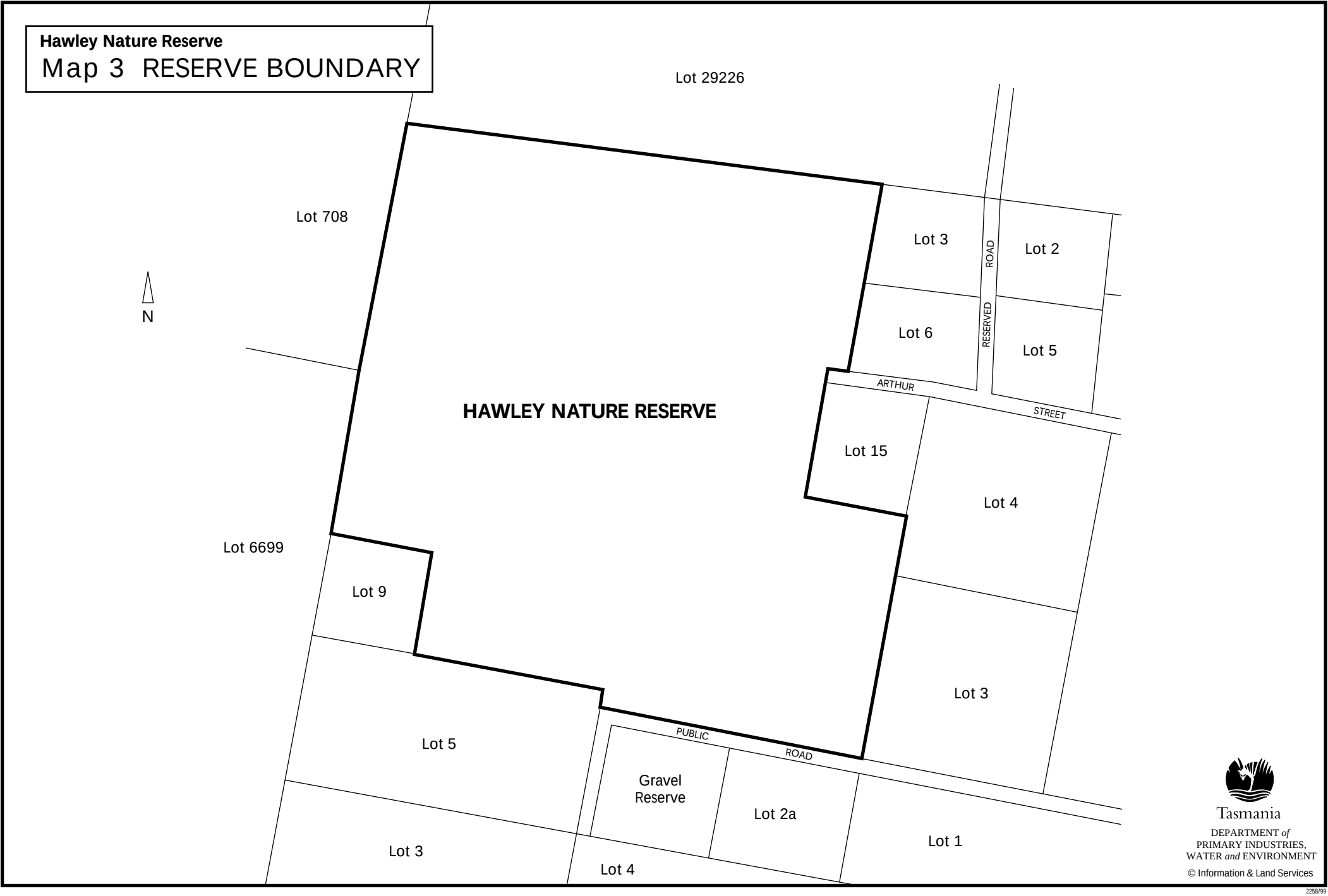
- Review the plan ten years after gazettal of its approval by the Governor, or sooner if research, monitoring, or other circumstances show this to be needed.
- In the review of the plan, evaluate the implementation of the management prescriptions and their effectiveness in achieving the vision and management objectives of the plan.
- As a minimum, use the performance indicators set out in Appendix 4 when evaluating the plan's implementation and outcomes.
- Utilise any relevant, additional monitoring and evaluation procedures developed during the period of the plan when evaluating the plan's implementation and outcomes.

## 2.2 Purposes and Objectives of National Parks

National parks are a class of reserved land under the *National Parks and Wildlife Act 1970*. They are large natural areas of land containing a representative or outstanding sample of major natural regions, features or scenery.

**Hawley Nature Reserve**

# Map 3 RESERVE BOUNDARY




Tasmania

DEPARTMENT *of*
PRIMARY INDUSTRIES,
WATER *and* ENVIRONMENT



2258/99

***Purposes***

The purposes of reservation of national parks, as set out in the *National Parks and Wildlife Act 1970*, are the protection and maintenance of the natural and cultural values of the area of land while providing for ecologically sustainable recreation consistent with conserving those values. Narawntapu National Park is reserved for these purposes.

***Objectives***

The objectives of national parks are set out in the *National Parks and Wildlife Act 1970* (see below). Not all of the general objectives for national parks set out in the Act apply in Narawntapu National Park. Using the National Estate threshold for wilderness (Tasmanian Public Land Use Commission, 1997; page 37), Narawntapu National Park does not contain any areas of wilderness. Therefore, the objective dealing with wilderness will not apply. All the other objectives for national parks listed below apply to the Narawntapu National Park.

Because of the complex interrelationship of factors to be considered in managing the Park, the reasons these objectives apply and the manner in which the objectives will be achieved are dealt with in a number of sections of the mangement plan. The sections of the management plan which primarily deal with each management objective in the Act are shown in brackets below.

The management objectives of national parks which apply in Narawntapu National Park are:

- to conserve natural biological diversity (Sections 3.3 and 3.4);
- to conserve geological diversity (Section 3.1);
- to preserve the quality of water and protect catchments (Section 3.2);
- to conserve sites or areas of cultural significance (Section 3.5);
- to encourage education based on the purpose of reservation and the natural or cultural values of the national park, or both (Section 5.3);
- to encourage research, particularly that which furthers the purpose of reservation (Section 7.4);
- to protect the national park against, and rehabilitate the national park following, adverse impacts such as those of fire, introduced species, diseases and soil erosion on the national park's natural and cultural values and on assets within and adjacent to the national park (Section 2.5, 4, and 5.5.7);
- to encourage and provide for tourism, recreational use and enjoyment consistent with the conservation of the national park's natural and cultural values (Section 5 and 7.2);
- to encourage cooperative management programs with Aboriginal people in areas of significance to them in a manner consistent with the purpose of reservation and the other management objectives (Section 3.5.1).

## 2.3 Purposes and Objectives of Nature Reserves

Nature reserves are a class of reserved land under the *National Parks and Wildlife Act 1970*. They are an area of land that contains natural values that -

(a) contribute to the natural biological diversity or geological diversity of the land, or both; and
(b) are unique, important or have representative value.

***Purposes***

The purposes of reservation of nature reserves, as set out in the *National Parks and Wildlife Act 1970*, are the conservation of the natural biological diversity or geological diversity of the area of land , or both, and the conservation of the natural values of that area of land that are unique, important or have representative value. Hawley Nature Reserve is reserved for these purposes.

***Objectives***

The objectives of nature reserves are set out in the *National Parks and Wildlife Act 1970* (see below). All of the general objectives for nature reserves set out in the Act apply to Hawley Nature Reserve. Because of the complex interrelationship of factors to be considered in managing the Reserve, the reasons these objectives apply and the manner in which the objectives will be achieved are dealt with in a number of sections of the mangement plan. The sections of the management plan which primarily deal with each management objective in the Act are shown in brackets below.

The management objectives of nature reserves are:

- to conserve natural biological diversity (Sections 3.3 and 3.4);
- to conserve geological diversity (Section 3.1);
- to preserve the quality of water and protect catchments (Section 3.2);

- to conserve sites or areas of cultural significance (Section 3.5);
- to encourage education based on the purpose of reservation and the natural or cultural values of the nature reserve, or both (Section 5.3);
- to encourage research, particularly that which furthers the purposes of reservation (Section 7.4);
- to protect the nature reserve against, and rehabilitate the nature reserve following, adverse impacts such as those of fire, introduced species, diseases and soil erosion on the nature reserve's natural and cultural values and on assets within and adjacent to the nature reserve (Section 2.5, 4, and 5.5.7);
- to encourage cooperative management programs with Aboriginal people in areas of significance to them in a manner consistent with the purpose of reservation and the other management objectives (Section 3.5.1).

## 2.4 Specific Park and Reserve Objectives

To maintain the Park and Reserve values, and to achieve the visions for them, specific objectives are set out below. These specific objectives are fundamental to the long term protection of the Park and the Reserve. They underpin sustainable recreational and tourism use. These objectives elaborate upon and give emphasis to the statutory management objectives in the light of the particular features, circumstances, issues and values which prevail in the Narawntapu National Park and the Hawley Nature Reserve, as identified in this management plan. The context makes clear to which reserve the objectives apply. Where no particular category of reserve is mentioned then the objectives apply to both of them.

***Objectives***

- Conserve threatened and priority flora species, plant communities with CAR values and other communities of conservation significance, National Estate flora values, and natural flora diversity.

- Conserve threatened and priority fauna species, habitats of conservation significance, National Estate fauna values, and natural fauna diversity.

- Conserve natural landscapes and sites of geoconservation and National Estate significance.
- Protect and retain the recreational and tourism character of the Park.

- Enrich visitor experiences of the Park values through education and interpretation.

- Develop public understanding of the values and goals for management of Narawntapu National Park and the Hawley Nature Reserve.

- Manage the size and diversity of marsupial populations in the Springlawn area.

## 2.5 Management Zones and Sites

Although the applicable visions and management objectives apply to the entire national park and nature reserve, in the case of the national park different conditions prevail in different areas of it. To ensure appropriate management of these differing conditions, management zones have been designated to provide for visitor use and take account of and protect Park values. By zoning for management purposes, more specific management objectives can deal with the localised values and character within each zone.

***Objectives***

- The objectives of zoning are to:

  - take account of localised features, conditions, and values;
  - ensure substantial areas of the Park are undisturbed;
  - protect and enhance Park values by concentrating and directing tourism and recreation development to designated locations; and
  - provide a range of recreational and tourism opportunities consistent with the values of the Park.

***Policies***

- Four management zones and one management site are designated for Narawntapu National Park (refer to Map 3):

  1. Springlawn Visitor Services Zone
  2. West Head Visitor Services Zone
  3. Badger Head Visitor Services Site
  4. Recreation Zone
  5. Conservation Zone

- Hawley Nature Reserve is not zoned but will generally be managed in accordance with the prescriptions for the Conservation Zone
- A site plan will be prepared for each Visitor Services Zone in accordance with the prescriptions of Sections 4.5 and 5.5.

- Tourism and recreation facilities and services in each Zone or Site will be limited to those provided for in Section 5 of this management plan.

---

## Table 1 Management Zones and Sites - Narawntapu National Park and Hawley Nature Reserve

| ZONE/SITE & LOCATION | VALUES AND USE | OBJECTIVES |
|---|---|---|
| **Springlawn**<br>**Visitor Services Zone**<br>This zone encompasses Springlawn to Griffiths Point and Bakers Point. The road to Springlawn is the main visitor access point to the Park. | The Zone has some heritage significance. It receives the majority of visitors to the Park and the highest visitor impact. The main visitor facilities are located here and it is also the centre for administration and management of the Park. | - protect, maintain and monitor environmental and heritage features and values;<br>- protect, maintain and monitor the recreational and tourism character;<br>- provide recreational and tourism opportunities consistent with the above objectives; and<br>- provide the principal visitor and management services and facilities for the Park. |
| **West Head**<br>**Visitor Services Zone**<br>This Zone extends from the Park boundary near Greens Beach along the access road to the eastern end of Badger Beach and includes West Head. | The Zone is a day visitor destination, popular with visitors from Launceston and throughout the Tamar Valley. This Zone is subject to greatest visitor use outside the Springlawn area. | - protect, maintain and monitor environmental features and values;<br>- protect, maintain and monitor the recreational and tourism character;<br>- provide a range of recreational and tourism opportunities consistent with the above objectives; and<br>- provide a level of visitor services and facilities secondary to those in the Springlawn Visitor Services Zone. |
| **Badger Head**<br>**Visitor Services Site**<br>This Site encompasses a small area around the end of Badger Head Road. | The Site is a low key day visitor destination. A small coastal settlement of holiday shacks and homes lies immediately adjacent to this Site. The Park narrows to a thin coastal strip here, limiting options for any larger scale development of visitor facilities | - protect, maintain and monitor environmental features and values;<br>- protect, maintain and monitor the recreational and tourism character;<br>- provide a limited range of low key recreational and tourism opportunities consistent with the above objectives; and<br>- provide a basic level of visitor services. |

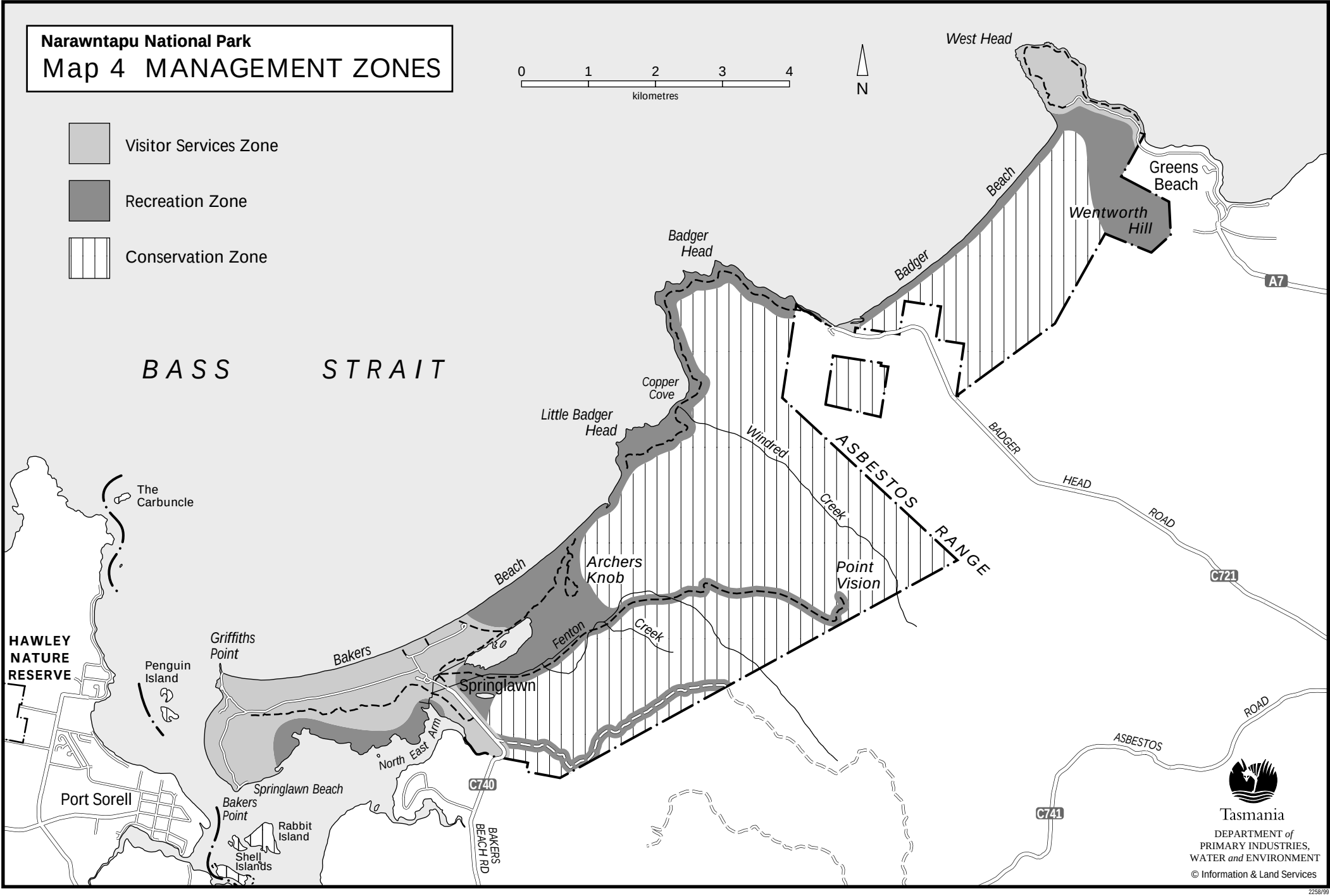

Narawntapu National Park
Map 4 MANAGEMENT ZONES
0 1 2 3 4
kilometres
N
Visitor Services Zone
Recreation Zone
Conservation Zone
West Head
Greens Beach
Wentworth Hill
Badger Beach
Badger Head
A7
BASS STRAIT
Copper Cove
Little Badger Head
Windred Creek
ASBESTOS RANGE
BADGER HEAD ROAD
C721
The Carbuncle
Beach
Archers Knob
Point Vision
HAWLEY NATURE RESERVE
Griffiths Point
Bakers
Fenton Creek
Penguin Island
Springlawn
North East Arm
ASBESTOS ROAD
Springlawn Beach
C740
Port Sorell
Bakers Point
Rabbit Island
Shell Islands
BAKERS BEACH RD
C741
Tasmania
DEPARTMENT of PRIMARY INDUSTRIES, WATER and ENVIRONMENT
© Information & Land Services
2258/09

**Table 1 (cont.)**

| ZONE/SITE & LOCATION | VALUES AND USE | OBJECTIVES |
|---|---|---|
| **Recreation Zone**<br>The Recreation Zone essentially covers the existing tracks along the coast and to key locations inland, and includes Bakers Beach and Badger Beach. | The Zone is chiefly a corridor for recreational travel and access to beaches, other natural features, and heritage areas. It also provides for low key, nature based beach recreation. | - protect, maintain and monitor environmental and heritage features and values; and<br>- provide for low impact, low density, non-intrusive recreational use and enjoyment of the area. |
| **Conservation Zone**<br>Much of this Zone covers the more remote and rugged parts of the Park, a substantially undisturbed landscape with important environmental values. Except for the provisions of Section 5.5.6, Hawley Nature Reserve is equivalent to the Conservation Zone for the purposes of this management plan. | The Zone includes high quality natural landscape values, old growth and priority forest communities and key fauna habitat for threatened species. | - conserve the natural integrity of the Zone;<br>- protect, maintain and monitor the diversity of plant and animal species and communities;<br>- conserve heritage values; and<br>- maintain scenic quality and the character of natural quiet, tranquillity and sense of solitude. |

# 3 Park and Reserve Conservation

## 3.1 Geodiversity

Narawntapu National Park was previously named Asbestos Range National Park after the range which roughly bisects the Park in the middle, rising from Badger Head and extending in a south-easterly direction. At its highest point on the Park boundary the range rises to 392 metres. Nearby to the west, and wholly within the Park, Point Vision rises to some 370 metres. At the eastern end of the Park, the highest point is Wentworth Hill at 120 metres.

The coastline consists of long beaches broken by headlands and cliffs. In the east, Jurassic dolerite forms West Head. Badger Beach and its low lying hinterland is predominantly beach and active sand dune with areas of windblown and locally derived sand, including old dunes and occasional patches of gravel. The distinctive headlands of Badger Head and Little Badger Head, which enclose Copper Cove, and the Asbestos Range rising inland, are composed of Precambrian sandstone, slate and phyllite known as the Badger Head Group, with orthoquartzitic layers in places. Mining on a small scale has occurred for asbestos in the Asbestos Range and for copper in the vicinity of Copper Cove. The Badger Head Structures have been assessed on National Estate criteria A1 as being an indicative area of National Estate significance (Tasmanian Public Land Use Commission, 1997).

Bakers Beach is composed of beach and active dune sand and areas of vegetated, stabilised longitudinal beach sand ridges. Inland is sand, clay and gravel of Tertiary age. Around North East Arm and along Fenton Creek there are alluvium and marsh deposits. Offshore, The Carbuncle and Penguin Island are dolerite while the Shell Islands are alluvium and marsh deposits. Just offshore at Griffiths Point are Cambrian dykes of altered dolerite and micro dolerite.

The topography and geology of Asbestos Range contributes to a varied and scenic landscape which is of great appeal to visitors.

The Hawley Nature Reserve is in an area composed of dolerite and Tertiary sand, gravel and clay deposits. The Reserve itself is on Tertiary sediments. At its highest point, the Reserve rises to 68 metres and gives excellent views of the Asbestos Range, Rubicon Estuary and Bass Strait. There are marshy areas in parts of the Reserve.

***Objectives***

- The objectives of geodiversity conservation in the Park and Reserve are to:
  - protect, maintain and monitor geodiversity;
  - protect, maintain and monitor sites of geoconservation significance;
  - maintain the natural rates and magnitudes of change in earth processes; and
  - minimise harmful impacts on geoconservation values.

***Policies***

- Potential adverse impacts on geodiversity and earth processes will be assessed when planning any development or action, including land rehabilitation and stabilisation (see Section 4.5).
- Management practices and development will avoid or otherwise minimise impacts on the integrity of sites of geoconservation significance.

***Actions***

- Prepare and disseminate an inventory of sites of geoconservation significance.
- Monitor impacts on geodiversity.
- Protect the National Estate values of significance at Badger Head.

## 3.2 Natural Landscape and Water Quality

Narawntapu National Park contains large relatively undisturbed areas with topographic and catchment integrity where natural processes continue largely unmodified by human intervention. A large portion of the Park has been assessed as an indicative area of National Estate significance as a natural landscape (Tasmanian Public Land Use Commission, 1997). Except for the effects of wildfire, much of the Reserve is in an undisturbed state. There are no water bodies in the Reserve.

In accordance with the *State Policy on Water Quality Management 1997*, protected environmental values are required to be set for the surface waters and ground waters within the Park. Because the Park extends to low water mark, the marine waters between low water and high water are within the Park for the purposes of the State Policy. For these marine areas however, protected environmental values will be set at a later stage.

The Board of Environmental Management and Pollution Control and the Director have set the values, which were initially proposed in a public draft version of this plan. The Board will determine appropriate indicators for each of the values and would be expected to apply the most stringent numerical criteria to all indicators. This set of indicators and numbers will be the Water Quality Objectives for the Park. They will ensure protection of all of the values and be used to determine whether the values are being met over time. The protected environmental values are:

A Protection of aquatic ecosystems:

- pristine or nearly pristine ecosystems for those watercourses with their headwaters in the Park;
- modified (not pristine) ecosystems from which edible fish, crustacea and shellfish are harvested for all other waters within the Park; and

B Protection of recreational water quality and aesthetics (for activities permitted by the management plan or regulations):

- primary contact for all fresh waters;
- secondary contact for all fresh waters; and
- aesthetics.

***Objectives***

- The objectives of natural landscape and water quality management in the Park and the Reserve are to:

  - protect, maintain and monitor the National Estate values of the natural landscape;
  - maintain or enhance water quality required by protected environmental values; and
  - protect scenic values.

***Policies***

- Identified protected environmental values will be achieved in accordance with the requirements of the *State Policy on Water Quality Management 1997.*

***Actions***

- Ensure developments or activities do not compromise water quality.

- Identify and protect the significant natural landscape features and attributes that contribute to the National Estate value of the Park as a natural landscape.

- Identify and protect views of significant scenic natural landscapes.

- Assess the visual impact of proposed developments on natural landscape values prior to approval of such developments.

- Where feasible, remove, relocate, or replace facilities whose location or design significantly impact on natural landscape quality.

- Liaise with neighbouring land owners and land managers to limit the impact of developments outside the Park and Nature Reserve on their natural landscape values.

## 3.3 Flora

The vegetation of the Park is dominated by coastal heathlands with six distinct heath communities. Dry sclerophyll woodlands occur on the hills inland. Behind Badger Beach there is coastal wattle and tea tree scrub. The vegetation zonation on dunes at Bakers Beach consists of grassland, heath, thickets of coastal wattle, herbland in the swales and swamp forest in the drainage line behind the dunes (Chladil & Kirkpatrick, 1989). Towards Griffiths Point and Springlawn Beach *Eucalyptus viminalis* occurs but has suffered serious dieback. A number of theories have been proposed to explain the dieback without a definite explanation being established. Around North East Arm there are extensive areas of salt marshes above the tidal flats.

In the vicinity of Archers Knob occurs the rare fern-like club moss, *Phylloglossum drummondii*, listed in the *Threatened Species Protection Act* 1995, and the uncommon *Lycopodium serpentinum.* Near Badger Head and Little Badger Head, and also listed as rare, are some of

Tasmania's only known stands of velvet bush *Lasiopetalum baueri*. The trigger plant, *Stylidium perpusillum*, and *Pomaderris oraria*, both listed as rare, are also found in the Park, as is *Spyridium obcordatum*, listed as vulnerable. Both species of grass tree, which are listed as vulnerable in the *Threatened Species Protection Act* 1995, occur in the Park. The uncommon prickly tree fern *Cyathea australis* occurs in gullies to the south of the Park.

The Park's forest communities have been mapped as part of the comprehensive regional assessment for the Tasmania-Commonwealth Regional Forest Agreement (Tasmanian Public Land Use Commission, 1996). West Head is predominantly *Allocasuarina verticillata* forest, with an area of *Eucalyptus amygdalina* forest along the shoreline and boundary nearest to Greens Beach. The area behind Badger Head added to the Park in 1991 contains *Eucalyptus amygdalina* forest, which is also found on the upper hill slopes towards Point Vision. Most of the hill slopes are covered with dry *Eucalyptus obliqua* forest. Small areas of tall wet *Eucalyptus obliqua* forest occur, mainly on the west facing slopes on the eastern side of Freshwater Creek below Point Vision. An area of *Eucalyptus regnans/Eucalyptus globulus* forest occurs on west facing slopes east of Windred Creek.

The forest communities identified in the Park as priority communities having Comprehensive, Adequate and Representative (CAR) values, are small areas of coastal *Eucalyptus amygdalina* dry sclerophyll forest, areas of dry *Eucalyptus obliqua* forest, small areas of tall, wet *Eucalyptus obliqua* forest, small areas of *Eucalyptus regnans*/*globulus* forest, and, at West Head, *Allocasuarina verticillata* forest. Except for the *Allocasuarina verticillata* forest, all these CAR value forest types occur over larger areas in the adjacent proposed regional reserve.

A vegetation map of the Park is in preparation, combining RFA mapping, earlier field maps, and further on-site mapping of heathlands. Flora species are listed in Appendix 1.

The vegetation of the Park has significant conservations values. The Park contains a number of threatened species and excellent examples of coastal heath, scrub and wetland. The Park contains indicative areas of National Estate value exhibiting major floral disjunctions and flora species and forest community richness, and small areas of old growth forest (Tasmanian Public Land Use Commission, 1997). The CAR values of the Park include the priority forest communities identified above and the areas of old growth forest. The Park does not include any wilderness areas. The importance of the Park for vegetation conservation means that conservation of plant communities and species is one of the major considerations of management.

The vegetation of Hawley Nature Reserve was the primary reason for its reservation. The Reserve protects four plant species with high conservation status. They are the low growing shrub *Spyridium obcordatum*, listed as vulnerable under the *Threatened Species Protection Act* 1995, the climber *Pandorea pandorana*, the sedge *Lepidosperma viscidum* and the pygmy club-moss *Phylloglossum drummondii*, all listed as rare. A fifth, rare orchid *Cyrtostylis robusta* occurs in the Reserve and may also be listed in the future. There is a high diversity of plant species in the Reserve, with around 150 species recorded (See Appendix 1b).

***Objectives***

- The objectives of flora conservation in the Park and Reserve are to:
  - protect, maintain and monitor natural flora diversity;
  - protect, maintain and monitor threatened flora species;
  - protect, maintain and monitor plant communities with CAR values and of conservation and National Estate significance; and
  - minimise harmful impacts on Park and Reserve indigenous flora.

***Policies***

- The following areas will be given high flora conservation priority:
  - old growth forest communities;
  - priority forest communities;
  - saltmarsh and lagoons;
  - heathlands; and
  - any area containing threatened flora species or communities of conservation significance.
- Adverse impacts in high conservation priority areas will be avoided or limited to those which are localised and of minimal impact.
- Only local provenance of species native to the Park or Reserve will be used in rehabilitation works unless written approval is given for alternatives.

***Actions***

- Complete preparation of a detailed vegetation map for the Park and Reserve.

- Prepare and/or implement management programs for threatened flora species or communities of conservation significance.

## 3.4 Fauna

Much of the Park provides key fauna habitat for threatened species (Tasmanian Public Land Use Commission, 1997), but a comprehensive fauna survey for the Park has not been carried out. A list of fauna known to occur in the Park is included in Appendices 2 and 3.

**Mammals**

The Park contains a great diversity of wildlife with some species in abundance. Around Springlawn, common wombats *Vombatus ursinus*, Bennetts wallaby *Macropus rufogriseus* and Tasmanian pademelon *Thylogale billardierii* reach some of Tasmania's highest densities. The area also has some of Tasmania's highest densities of accessible and observable Tasmanian devils *Sarcophilus harrisii*.

Before European settlement, the Forester kangaroo *Macropus giganteus* occurred in the general vicinity of the Park but disappeared during the 19th century. They were re-introduced to the Park in 1975 in an effort to re-establish them close to their former range and ensure conservation of the species. Subsequent to their introduction to the Park, populations of the kangaroo have been protected in other reserves and also occur on private land. The population in the Park is considered to be low priority for conservation of the species (Hocking, pers com).

The kangaroos established on the former pastures around Springlawn, an area where the original natural vegetation would not have provided suitable habitat. Because farming and consequently maintenance of improved pastures no longer occurs, the suitability of the former pastures for the kangaroos has declined and with it the population of kangaroos. Without regular pasture maintenance, which could take resources away from other priority management tasks, the population of forester kangaroos is likely to continue to decline in the Park to much lower levels than in the early years of introduction.

The abundance of wildlife in the Springlawn area has been a significant attraction to visitors, providing encounters with wildlife that few other places offer.

High densities of macropods, particularly wallabies, made possible by the large areas of cleared former pasture around Springlawn, result in some years in very heavy grazing and mortality through disease or starvation increases.

There is potentially suitable heathland habitat for the New Holland mouse *Pseudomys novaehollandiae* in the Park although the nearest confirmed location of the species is approximately 10 kilometres south at Scotts Hill near Beaconsfield. The New Holland mouse is listed as rare under the *Threatened Species Protection Act 1995*.

Brushtail possums *Trichosurus vulpecula* and white-footed dunnart *Sminthopsis leucopus* are common. The spotted-tailed quoll *Dasyurus maculatus* and the eastern quoll *Dasyurus viverrinus* occur but are uncommon. The Park is a priority fauna area for the spotted-tailed quoll (Resource Planning and Development Commission, 1998 a). The introduced rabbit *Oryctolagus cuniculus* is common in disturbed areas around the Park boundaries and in the Springlawn area.

**Birds**

Bird life in the Park is rich and varied, the variety of habitat favouring many species. Field surveys and literature reviews of the birds of Narawntapu National Park record approximately 116 species. The species most likely to be observed are listed in Appendix 3. A list of birds observed at Hawley Nature Reserve is included in Appendix 3b.

Beach breeding birds use the sandy beaches and dunes in the Park. This includes the hooded plover *Thinornis rubricollis* which is vulnerable nationally and requires monitoring in Tasmania.

The Park is the principal foraging habitat for at least one pair of the endangered Tasmanian wedge-tailed eagle *Aquila audax fleayi*, and white-bellied sea eagles *Haliaeetus leucogaster* are often seen. North East Arm is an important habitat for wading birds.

**Reptiles and Amphibians**

The three species of Tasmanian land snakes have been recorded in the Park. These are the tiger snake *Notechis ater*, copperhead *Austrelaps superbus*, and white-lipped whipsnake *Drysdalia coronoides.* Nine species of lizards are recorded as well as six of the ten frog species occurring in Tasmania. Reptile and amphibian species are listed in Appendix 2.

**Fish**

There are several permanent streams in the Park and these carry populations of native fish. Two species of galaxids and the Tasmanian smelt *Retropinna tasmanica* have been recorded.

***Objectives***

- The objectives for fauna conservation in the Park and Reserve are to:
  - protect, maintain and monitor threatened fauna species;
  - protect, maintain and monitor the diversity of indigenous fauna and habitat;
  - minimise harmful impacts on indigenous fauna and habitats; and
  - provide opportunities for visitors to encounter wildlife.

***Policies***

- The following significant habitats will be left undisturbed or otherwise given special protection or management:
  - threatened species habitat;
  - habitats of shore breeding birds during the breeding season between early September and late February.
- All practicable efforts will be made to prevent adverse fire and other impacts on breeding of threatened species.
- If the New Holland mouse is found in the Park, adopt appropriate fire regimes to maintain its habitat.
- Use of shore breeding birds areas may be limited or access restricted if monitoring shows disturbance of breeding.
- Information and education will be provided to visitors on minimising impacts on shore breeding birds.
- Animals will not be fed to compensate for drought or overpopulation and, if necessary, sick, dying, or overpopulations of macropods will be culled.
- Animal management and control measures, including fencing, culling, biological control, pasture improvement, removal, or relocation, will be adopted if studies show them to be warranted and practicable.
- Opportunities for ready visitor contact with wildlife in the Springlawn area will be developed.

***Actions***

- Prepare and/or implement programs for protection of threatened fauna habitat and species.
- Monitor the breeding success of shore birds.
- Monitor the conservation status of the Hooded Plover.
- Monitor the conservation status of the spotted-tailed quoll.
- Conduct fauna surveys to fill gaps in knowledge useful for management and protection.
- Discourage visitors from feeding wildlife by making them aware of the harmful effects of inappropriate food and dependence on humans.
- Develop and implement a detailed, practical, scientifically based macropod management program for the Springlawn area.

## 3.5 Aboriginal and Historic Heritage

### 3.5.1 Aboriginal Heritage

The Aboriginal heritage of the Park and Reserve has not been systematically investigated. European knowledge of human history in the Narawntapu and Port Sorell area is restricted to a combination of historical records and archaeological investigation of the sites created by thousands of years of Aboriginal occupation and use. Evidence shows that Aboriginal people have lived in Tasmania continuously from at least 37,000 years ago.

Narawntapu and the Port Sorell area are within the territory of the North Midlands Tribe (Kee, 1990). The historical records suggest that the area was used by either or both the LE.TER.RE.MAIR.RE.NER and the PY.HE.MAIR.RE.ME.NER bands of the tribe.

Aboriginal people occupied the area on a permanent basis, living there for extended periods and carried out a variety of social activities (Kee, 1990). They built huts at Port Dalrymple at the eastern end of the Park, recorded by John Bass in 1799 and at Port Sorell to the west, recorded by Robinson in his diary in 1831 (Kee, 1990). Bass also reported grass baskets from the Port Dalrymple area.

The Park contains physical evidence of Aboriginal use of the area, mainly in the form of middens, quarries and artefact scatters. A number of these have been listed on the Register of the National Estate because of their cultural significance. The coastal hinterland provided food sources in the form of vegetable foods and game. Hunters regularly burned thick vegetation to make it easier to travel through and to encourage new growth to attract game.

The Park is considered to be an area of high archaeological sensitivity and significance because it contains a diversity of Aboriginal sites, both coastal and hinterland. The sites are generally well preserved.

The Aboriginal heritage of the Park and Reserve has a strong and continuing significance to the Tasmanian Aboriginal community. Heritage needs to be identified and protected, particularly from the impacts of development and visitor use. There is potential for the Tasmanian Aboriginal community to promote and interpret their heritage to the wider community and provide greater understanding of Aboriginal culture in the Park and Reserve.

New legislation dealing with Aboriginal heritage management is under consideration. At present, the *Aboriginal Relics Act* 1975 applies.

***Objectives***

- The objectives of management of Aboriginal heritage are, in cooperation with the Aboriginal community, to:

  - identify and record Aboriginal heritage;
  - protect and conserve Aboriginal heritage; and
  - interpret Aboriginal heritage.

***Policies***

- Aboriginal heritage values will be assessed and protected in accordance with applicable legislation, this management plan and any agreed national or state charter or guidelines for Aboriginal heritage.

- Locations of Aboriginal heritage significance will not be publicised unless the location has been assessed, in cooperation with the Aboriginal community, as suitable for educational or interpretative use. Where applicable, make use of any agreed Aboriginal interpretation strategy.

- The Aboriginal community will be consulted on any undertaking or development which may impinge upon Aboriginal heritage.

- All proposed landscape modification, development, or maintenance within the Park or Reserve will be subject to the prescriptions of Section 4.5.

- As far as possible, development will be located well away from areas of Aboriginal heritage.

- Aboriginal heritage will not be deliberately disturbed for management, development or research purposes unless the Director determines there is no practicable alternative and a permit to disturb aboriginal relics has been issued under the *Aboriginal Relics Act* 1975.

***Actions***

- In cooperation with the Aboriginal community, identify, record, monitor and protect Aboriginal heritage.

- Report all Aboriginal relics discovered in the Park or Reserve to the Director, in accordance with the *Aboriginal Relics Act 1975*.

- In consultation with the Aboriginal community, rehabilitate and protect locations of Aboriginal heritage significance which have been damaged by development or use.

- Consult with the Aboriginal community on the management of Aboriginal heritage.

- Develop interpretation of the Aboriginal heritage in consultation with the Aboriginal community.

### 3.5.2 Historic Heritage

In 1828, a B. B. Thomas became the first European settler at Port Sorell but was killed in a spearing incident in 1831. In 1833, George Hall selected land on the east side of Port Sorell and established a farm on the site of what is now known as Springlawn. Drains were constructed and crops included potatoes. Fenton Creek is named after another early European settler, James Fenton, an historian who was said to have lived near Badger Head. Badger Head and Badger Beach are said to be named after Charlotte Badger, a convict who, in 1806, escaped from a ship anchored off the coast.

George Robson and his son Robert Taylor Robson lived on Shell Island and in 1844 assisted in the capture of five convicts who had escaped from Port Arthur in a whale boat (Brand, 1983).

The next owner of Springlawn was Edwin Baker after whom Bakers Beach is named. The farm changed hands several times until 1974 when it was purchased to form the nucleus of the Park.

Edwin Baker's original homestead was gutted by fire. The weatherboard house that replaced it still stands. A number of farm outbuildings also remain as do some exotic trees.

The history of the Park presents an opportunity for interpretation and education. However, the significance and integrity of the historic sites needs to be respected and maintained.

The historic heritage values of the Park and Reserve need protection from avoidable decay or disturbance, and maintenance of their integrity.

Historic features, including previously cleared areas, all form an identifiable heritage setting of varying significance.

***Objectives***

- The objectives of historic heritage conservation and management are to:
    - identify and record historic heritage in the Park and Reserve;
    - actively conserve and maintain the heritage integrity and quality of significant cultural landscapes, heritage structures and vegetation, and other heritage features;
    - protect and conserve historic heritage from damage;
    - present and interpret historic heritage; and
    - exclude intrusive development and activity.

***Policies***

- Irrespective of Zone, conservation and management of historic heritage in the Park and Reserve will adhere to the Burra Charter (see Australia ICOMOS Inc, 1999) and its associated guidelines.
- Conservation, use, and management of historic heritage will conform with this management plan.
- Management of sites on the Tasmanian Heritage Register will be subject to the *Historic Cultural Heritage Act 1995*.
- A conservation policy statement or conservation plan, including specific assessment of significance, will be prepared before any decisions about major works on, use, removal or interpretation of individual elements of historic heritage. Such statements or plans will be prepared in accordance with the principles outlined in the Burra Charter, using the methodology outlined in Kerr (1996).
- Accurate, detailed working documentation, appropriate to the scale and significance of the works, will be prepared prior to any conservation works and will be prepared to record any conservation works “as built”.
- An archaeological assessment will be required before approval of any development or ground-breaking work in areas of heritage significance (see Section 4.5).
- Interpretation, either on-site or off-site, may be used as a means of identifying historic heritage places and values.
- A cyclical and catch up maintenance program will be developed and implemented for significant historic features.

***Actions***

- Identify, record and assess the significance and the condition of all historic features.
- Protect historic places from processes and actions which have an adverse effect.
- Make safe any dangerous structures, in keeping with their heritage significance.
- Prepare conservation policy statements or plans for all significant historic heritage features.
- Catalogue, appropriately store, or present historic artefacts to visitors. When warranted, adopt conservation measures.
- Provide suitable fire protection for all heritage structures.
- Identify and develop interpretation devices for historic heritage places and values in the Park and Reserve.

### 3.5.3 Cultural Landscape

Conservation of historic heritage values requires not only attention to remaining structures, features, and artefacts, but also careful and sympathetic management of the surrounding settings and cultural landscapes. The Springlawn area is a former farm with historic links to the earliest European presence in the area.

Aboriginal cultural landscapes form part of Aboriginal heritage and are covered by Section 3.5.1.

***Objectives***

- The objectives of cultural landscape management in the Park are to:
    - identify and maintain significant heritage vegetation and cultural landscapes; and
    - revegetate or allow natural regeneration of all other disturbed areas.

***Policies***

- Cultural landscape management will be based on:
    - identification, management and maintenance of significant cultural landscapes and heritage vegetation; and
    - identification and protection of views of heritage significance.
- Relevant archaeological, historic heritage, botanical and zoological information will be used in developing cultural landscape management programs.
- Introduced plants of heritage significance will be retained and, if necessary, replaced to maintain continuity of the historic cultural landscape.
- Pasture that forms part of significant cultural landscapes will be retained.
- Cultural landscape maintenance and renewal will be based on the researched layout of heritage plantings and cleared areas.

***Actions***

- Identify, record and assess the significance of historic plantings and cultural landscapes.
- Maintain, propagate and re-establish significant historic plantings.
- Prevent introduced plant species retained for their heritage significance spreading into indigenous plant communities.
- Identify and protect significant cultural landscape views.
- Assess the visual impact of proposed developments on cultural landscape values prior to approval of such developments.
- Where feasible, remove, relocate, or replace facilities whose location or design significantly impact on cultural landscape quality.

# 4 Park and Reserve Protection

## 4.1 Fire Management

The vegetation of the Narawntapu and Port Sorell area has been exposed to periodic fire for thousands of years and fire is a natural part of the Park and Reserve environment. In some cases, fire maintains a diversity of plant communities by enabling more fire-tolerant communities (principally grasslands, heathlands and woodlands) to regenerate. The fire frequency in the heathlands of Narawntapu National Park appears to have declined since the Park was declared. The plant species diversity in heathlands is lower in long unburnt areas than in adjacent more recently burnt areas. This is because many heathland species are short lived, but regenerate freely after fire. Fire management activities need to take particular account of the distribution and regeneration strategies of different plant communities. The exclusion of fire can also adversely impact on some flora and fauna species. For example, the New Holland mouse favours the early post fire seral stages in heathland. If fire is excluded for too long in these communities, the habitat becomes unsuitable for it.

The topography of Narawntapu National Park greatly influences visitor use of the Park and thus the fire risk associated with visitor activities. The few inland tracks in the Park limit visits but nevertheless fire risks need to be considered. Illegal uses, such as vehicle access, including by trail bikes, is a potential problem for fire management.

Vehicular access in the Park is currently available along a series of public roads. Illegal use of fire trails sometimes occurs.

Park visitor activities and arson pose the main fire risk to the Park but records show that the incidence of such fires is low. Campfires are allowed, subject to certain conditions, in designated campgrounds in the Park. Around Springlawn with its areas of pasture, macropod grazing keeps down grass fuel loads.

Fires escaping from surrounding land activities or arson pose the main fire risk to the Hawley Nature Reserve. A wildfire, believed to have been caused by arson, burnt through the Reserve in recent years.

The Parks and Wildlife Service is responsible under the *Fire Service Act* 1979 and the *Fire Service (Miscellaneous) Regulations* 1996 for all aspects of fire management within the Park and Reserve including prevention, containment and suppression.

The Park abuts the settlement of Greens Beach at West Head/Wentworth Hill and there is a small settlement of homes and holiday shacks adjacent to Badger Head. State forest to the south and east of the Park contains important timber assets. The Reserve is surrounded by private farmland, hobby farms and, to the south-west, subdivided residential land.

The focus of wildfire prevention is on protection of heavily visited areas and neighbouring properties, and areas of high environmental or heritage significance.

The highest priority for wildfire suppression is protection of visitors, neighbouring properties, and Park facilities and buildings. The safety of walkers and campers in the event of bushfire is of particular concern. Nevertheless, during a wildfire, fire behaviour and suppression necessity will determine the on-ground actions and may mean that priorities need modification on the day.

***Objectives***

- The objectives of fire management are to:
  - protect visitors and staff;
  - protect neighbours and their property;
  - protect Park and Reserve facilities and assets; and
  - maintain or improve nature conservation values.

***Policies***

- Fire management will accord with this management plan.
- On the basis of contemporary knowledge and resources, fire management priorities will be directed towards providing the fire regimes and other protection measures considered necessary to protect human life and property. The areas thus treated will only be as extensive as is considered necessary to provide adequate protection. Outside of these areas, fire management will focus on maintaining the diversity of flora and fauna species and communities.

- Fire management will be undertaken in consultation with relevant authorities and local landholders including Forestry Tasmania.

- Fire management and suppression procedures will accord with the Inter-Agency Fire Management Protocol agreed between the Parks and Wildlife Service, the Tasmania Fire Service and Forestry Tasmania (Forestry Tasmania et al, 1998).

- Except for emergency fire suppression, all fire management actions including habitat management burning, fuel reduction burning, water hole and fire track construction or maintenance will be undertaken in accordance with Section 4.5.

- Fuel reduction, including burning, slashing, mowing, and similar methods, may be used for wildfire prevention and containment.

- Ecological management burning may be undertaken.

- Fire frequencies set out in ecological management programs will aim to maintain viable populations of and/or habitats for plants and animals of conservation value.

- All practicable measures consistent with this management plan will be taken to diminish the risk of wildfires occurring in the Park and Reserve and to lessen their impact.

- All practicable efforts will be made, consistent with the available resources, prevailing Fire Danger Index, fire intensity and fire crew safety, to exclude wildfire from or restrict its spread in high flora conservation priority areas and significant habitats (see 3.3 and 3.4).

- Existing vehicular tracks will be maintained if they are required for fire management.

- Visitors will not be allowed to light fires in the Reserve.

- Park visitors may only light fires in a designated fireplace, except in an emergency or as otherwise authorised.

- Rangers may, by display of a sign or notice, prohibit or restrict fires in the Park when the Fire Danger Index requires such measures, as well as during days of Total Fire Ban.

- Except on days of relatively low Fire Danger Index, suppression procedures will usually involve bringing the fire to safe edges provided by the sea, firebreaks, and any low fuel areas.

***Actions***

- Develop and implement fire management plans and/or programs for the Park and Reserve.

- Explain fire management policies and fire safety procedures to visitors as part of an interpretive program for the Park and Reserve.

- Maintain all firebreaks and firetrails.

- Prevent public vehicular access to fire breaks and fire trails not designated for such use.

- Assess the usefulness for fire management purposes of the old vehicular track behind Copper Cove. Close and rehabilitate the track if not required.

- Assess the usefulness for fire management purposes of the now closed vehicular track from Arthur Street through the Reserve. Close and rehabilitate the track if not required.

- Strictly enforce any restrictions which apply to lighting fires.

- Provide suitable fire protection for all structures.

- Maintain fire suppression equipment to operational standards.

- Train staff in fire prevention and suppression procedures, including fuel reduction burning, wildfire and structural fire fighting, use of fire fighting equipment, and actions to be taken at different fire ratings.

## 4.2 Introduced Pests and Diseases

### 4.2.1 Introduced Fauna

Mammals introduced or brought into the Park and Reserve include rabbits, black rats, house mice, and domestic/feral cats. Domestic dogs sometimes enter the Park or Reserve with or without their owners. Feral goats have been reported near West Head. Some introduced birds also occur, including common starling, house sparrow, gold finch, green finch and European

blackbird (see Appendix 3). Pacific oysters have spread to Penguin and Shell Islands.

All these introduced animals have impacts on native species and ecosystems, hunting native species, introducing diseases, causing erosion, competing for habitat or disturbing visitors. The presence of pest species not indigenous to the Park or Reserve is out of keeping with the reasons for reservation.

***Objectives***

- The objectives of management of introduced fauna in the Park and Reserve are to:

  - eradicate introduced species where this is feasible and warranted by the damage being caused; and
  - control and manage introduced species where eradication is not practicable or warranted.

***Policies***

- Any proposal to introduce or translocate to the Park or Reserve fauna (including Tasmanian fauna) not historically indigenous within their boundaries will require a prior comprehensive scientific assessment before approval.

- Eradication of introduced fauna will only be attempted where populations of non target species are not threatened by the proposed methods, unless the threat from the introduced species is greater than the threat from eradication methods.

- Eradication, control, and containment programs and priorities will be based on clear, well documented contemporary knowledge or, where necessary, additional research.

- Except in accordance with the *National Parks and Reserved Land Regulations* 1999, animals not native to the Park or Reserve must not be taken into or allowed to be in or remain in the Park or the Reserve.

- Authorities for horses may be issued for the designated horse trails shown in this management plan, and in accordance with the plan, but under no other circumstances (see 5.4.6).

***Actions***

- Monitor introduced animal populations within the Park and Reserve.

- Make visitors aware that dogs are not allowed in the Park or Reserve.

- Liaise with and educate adjacent residents to manage pets so that they do not enter the Park or Reserve.

- Prepare management programs for any introduced fauna species which monitoring suggests require active management.

### 4.2.2 Introduced Flora

Many plants have been introduced to the Park, and to a lesser degree, into the Reserve. Some have become weeds, invading bushland and competing with indigenous species. Effective control and management of weeds is necessary and priority targets for control need to be identified. Planning and resources area required. Land owners and land managers have a responsibility to prevent weed spreading from their land to neighbouring tenures.

The most pernicious introduced plant is gorse *Ulex europaeus* which occurs in a large area behind Badger Beach near Badger Head. This patch of gorse appears to be spreading inexorably. There are effective control measures available but they are costly. Some of this cost may be reduced with the assistance of volunteers.

Introduced marram grass *Ammophila arenaria* occurs on Bakers Beach. It is considered an invasive weed which alters natural dune and beach processes. The introduced sea spurge *Euphorbia paralias* has a strong hold on some dune areas within the Park.

Rice grass *Spartina anglica* is a vigorous intertidal saltmarsh grass introduced into Tasmania from the northern hemisphere. One of Australia's largest infestations occurs in the Rubicon estuary at the southern end of Port Sorell. The intertidal region of Narawntapu National Park along North East Arm has also been colonised, at this stage by small clumps.

The heritage significance of introduced plants needs to be established, and managed accordingly. Those without cultural heritage value are unwanted intruders in the reserves but the possibility of complete removal of many of the species is remote. Nevertheless, control and, where possible, eradication are important management requirements.

***Objectives***

- The objectives of management of introduced flora in the Park and Reserve are to:

  - eradicate introduced flora where this is feasible and warranted by the damage being caused; and
  - control and manage introduced flora where eradication is not possible or warranted.

***Policies***

- In general, management of introduced flora will accord with the provisions of the introduced plants policy (Parks and Wildlife Service, 1998)

- Introduced flora management will be linked with:

  - protection of natural and cultural values;
  - erosion control; and
  - revegetation works.

- An integrated regional approach to introduced flora management, involving neighbouring land owners and managers, will be supported.

- Eradication or control of introduced flora will only be attempted where non target species are not threatened by the proposed methods, unless the threat from the introduced flora is greater than the threat from eradication methods.

- Introduced flora eradication, control, and containment actions and priorities will be based on clear, well documented contemporary knowledge or, where necessary, additional research.

- The assistance of volunteers will be sought for control and eradication where suitable planned and programmed works and effective supervision or direction are available.

***Actions***

- Monitor the species and distribution of introduced flora within the Park and Reserve.

- Prepare introduced flora management programs for gorse and any other introduced flora which monitoring suggests require active management.

- Prevent the spread of introduced plant species retained for heritage purposes.

- Maintain North East Arm as a rice grass-free area in accordance with the Rice Grass Area Based Management Plan for Rubicon/Port Sorell (Dept Primary Industries, Water and Environment, 2000).

- Liaise with and educate adjacent residents to manage garden plants so that they do not escape into the Park or Reserve.

### 4.2.3 Plant Diseases

*Phytophthora cinnamomi* is a microscopic fungus which lives in the soil and roots and causes severe dieback or death in at least 136 native plant species in sedgeland, heath, open forest, scrub and disturbed rainforest. Although the disease can spread by natural means, it is spread more rapidly and over greater areas by human activity. The disease can be spread in infected soil carried on boots, wheels and tracks of vehicles and machinery and by animals which scratch or dig in the soil. Except for localised infections, once an area is infected there is no known practical means to eliminate it from that area. Treatments are being trialed to determine whether the impacts may be reduced within new infection sites.

The Park and Reserve are climatically suitable for *Phytophthora*, plant communities on the sandy heaths being most susceptible to attack. The Park already has *Phytophthora cinnamomi* infections in a number of places. The heath communities east of Springlawn are infected. Infection occurs along the inland fire trail leading through the Park. The status of *Phytophthora* infection in the Reserve has not been determined

With care, it may be possible to avoid spreading *Phytophthora cinnamomi* and other soil borne pathogens to vulnerable areas as yet uninfected.

***Objectives***

- The objectives of plant disease management are to:

  - protect populations of threatened species; and
  - limit the spread of *Phytophthora cinnamomi* and other plant pathogens in the Park and Reserve.

***Policies***

- All practicable steps will be taken to prevent the spread of *Phytophthora* or other plant pathogens into uninfected areas where efforts to exclude the disease are warranted by the values at risk.

- Any imported soil, fill or crushed rock used in any construction project in areas known to be free of *Phytophthora* and where exclusion of the disease is a priority, will be obtained from sites where *Phytophthora* is not found, using *Phytophthora*-free machinery.

- Where direct seeding is not used, all plants used in planting works within areas free of *Phytophthora* will be propagated, in *Phytophthora*-free soil or other medium from certified *Phytophthora* free nurseries.

***Actions***

- Designate *Phytophthora* management areas, and adopt catchment protection, access and activity controls for protection of representative areas of susceptible communities of threatened species.

- Monitor *Phytophthora* prone areas.

- Inform visitors of plant disease threats to the Park and Reserve and educate them in disease prevention hygiene measures.

- Limit development and recreation activity to those areas already infected or of low priority for disease exclusion.

## 4.3 Soil Conservation and Erosion Control

Erosion from past clearing and grazing is a problem, particularly in the Springlawn area and along drainage lines in the cleared areas. Macropods overgrazing may have exacerbated the problem. Although the areas are reseeded to grass each winter, by mid summer the camping areas at Springlawn Beach and particularly at Griffiths Point are in places eroding areas of bare ground and sand bowls.

Potential dune erosion problems have been identified at Badger Beach and Bakers Beach.

There is potential for erosion along the now closed vehicular track through the Reserve.

Some action has been taken to combat erosion but more work is required to control existing erosion problems and prevent future degradation.

***Objective***

- The objective of soil conservation and erosion control in the Park and Reserve is to:

  - prevent erosion and rehabilitate damaged areas.

***Policies***

- The priority for soil conservation will be to prevent erosion from occurring.

- Erosion hazard and status assessments will be made where significant ground disturbance or soil exposure is proposed.

- Land rehabilitation and stabilisation will be carried out on the basis of a prior geomorphological assessment.

***Actions***

- Rehabilitate, revegetate or otherwise stabilise disturbed or eroding areas, including unwanted vehicular trails.

- Monitor beaches and dunes for erosion and dune stability and rehabilitate if necessary.

- Construct and maintain suitably designed dune crossings and barriers where necessary.

- Undertake stabilisation and revegetation of drainage lines and creek banks in the Springlawn area where required.

## 4.4 Managing Visitor Impacts

A simple recycling program is in place in the Park. Other rubbish is collected from skip bins by a private contractor. However, rubbish is found around campgrounds, in carparks, along tracks and on beaches.

Visitors in large groups may disturb the recreational character of some Zones within the Park.

Firewood collection is causing degradation at some campsites and campers can spread campsite impacts into previously undisturbed areas.

To minimise impact, a minimal impact bushwalking program has been developed by the Parks and Wildlife Service.

***Objectives***

- The objectives for managing visitor impacts are to:
  - protect, maintain and monitor environmental and heritage values;
  - protect, maintain and monitor the special tourism and recreation character of the Park and Reserve; and
  - perpetuate the Park and Reserve in states that are valued by visitors.

***Policies***

- Visitor numbers, services and activities will be limited to those which are ecologically sustainable.
- The best available and practicable technology will be used to protect environmental quality from human impacts.
- The maximum party size for licensed groups will be consistent with the principles of the Walking Track Management Strategy (Parks and Wildlife Service, 1998).
- The general public will be encouraged to observe the same party size requirements as licensed groups.
- Toilets not connected to sewage treatment facilities will be managed to ensure that adjacent environments are not polluted by waste discharge.
- Camping areas will be designated within the Park and, if necessary, the overall size and capacity of camping areas, and the location of tent sites within them, will be defined to prevent environmental damage and protect the quality of the camping experience for visitors(See 5.5).

***Actions***

- Provide environmentally sustainable toilets in designated visitor areas.
- Inform visitors of, and encourage them to apply techniques for minimal impact use of the Park and Reserve.
- Prior to the establishment of any licensed camp, undertake a baseline environmental inventory of the proposed site for reference in future monitoring.
- Continue the contracted collection of garbage at Springlawn.
- Encourage visitors to take their garbage with them.
- Continue and where possible improve upon the recycling program.
- Develop and disseminate regulations for refuelling and cleaning of vehicles and boats within the Park.
- Enforce the authority conditions and/or codes of conduct for the use of vehicles, bicycles and horses.

## 4.5 Managing Development

Development can range from manipulative research, works, including fire management works, which change the natural or existing condition or topography of land, and construction, alteration, repair or removal of tracks, toilets, buildings, other facilities or services. For the purposes of this plan, all prescribed burning can be considered to be development.

Major developments are those which are large in scale, or have high public interest, or the potential for substantial impacts on the values of the Park or Reserve, or have a material impact outside the Park or Reserve boundaries. Examples include accommodation developments and interpretation centres.

The *National Parks and Wildlife Act 1970* requires that, in managing development on reserved land, regard must be had to the resource management and planning system objectives. The legislative framework for dealing with development continues to be refined and updated.

***Objectives***

- The objectives of managing development are to:
  - avoid or minimise the impact of development on Park or Reserve values;
  - protect, maintain and monitor the special tourism and recreation character of the Park; and
  - foster public confidence in approved developments.

***Policies***

- All development will be consistent with this management plan.
- All proposals for any development, landscape modification, research, management or maintenance work involving any ground breaking, structural disturbance, or environmental manipulation of any kind will be assessed in accordance with procedures approved by the Director.
- Development will be limited to that allowed by the zoning.
- In all Zones, site planning sufficient for the scale of the proposed development will be undertaken to control and guide development in a co-ordinated and integrated manner.
- Development in Visitor Services Zones will accord with an overall site plan for the Zone. The site plan for a Visitor Services Zone may be an individual plan for the Zone or combined with site plans for other Visitor Service Zones in the Park.
- For all major developments and for proposed site developments or changes that will, while permitted by the zoning, appreciably alter the existing use or character of a Zone, a development specific site plan will be prepared.
- The site plan for a Visitor Service Zone and a development specific site plan may be combined in one document.
- All site plans will be made available in draft form for public comment for a period of not less than thirty days prior to finalising and approving them, and subsequently whenever modifications are proposed to them.
- All development will meet applicable statutory requirements.

***Actions***

- Confirm and meet statutory requirements for planning and building approval before proceeding.
- Where they apply, ensure compliance with relevant Australian standards.
- Ensure development is consistent with the *Tasmanian State Coastal Policy 1996*.
- Prepare site plans for each of the Visitor Service Zones.
- Ensure the design, placement and construction of facilities is consistent with the scenic values of the Park or Reserve.
- Rationalise provision of facilities where impacts or demand do not warrant the number or type of facilities provided.
- Provide visitors with on-site information about the intent and progress of any significant developments.

# 5 Tourism and Recreation

## 5.1 Understanding the Park and Reserve Visit

Most visitors to the Park arrive at Springlawn, where the only reliable visitor statistics are collected. Current use of the Springlawn/Bakers Beach area is in the vicinity of 31 000 visitors per year.

Figures are not collected at Badger Head or West Head, except for the period September 1994 to June 1995 when some 17,000 visitors to West Head were recorded for the 10 month period. Statistics for people arriving by boat, usually in the Springlawn Beach area, are not reliably collected.

December and January are the busiest months, with November through to March receiving more than half of all visitors.

There are three broad categories of visitors to the Park. Day visitors consist predominantly of small groups of families, friends and independent tourists, but include some coach tour passengers. During summer and holidays, local Tasmanian holiday campers predominate amongst overnight visitors but during other periods overnight visitors are mainly tourists and school and community groups.

The number of campers staying at least one night has varied between 3000 and 4000 per year for the past five years with an average duration of approximately 1.7 nights. The busiest time of year for camping is between December and March. In winter, very few people camp.

Visitors with boats use the beaches around the coast as a base for fishing, water skiing and other water-based activities. The Springlawn Beach area is the most popular destination for them. The Springlawn area is also popular with horse riders. At West Head, surfing and snorkelling are popular activities. Although some overnight walkers use the Park, most visitors use the Park for short walks of less than a day. There is considerable scope for increasing the number of day and overnight visitors.

The Reserve does not receive many visitors.

***Objectives***

- The objectives of understanding the Park and Reserve visit are to:
  - understand visitor pressures on the Park and Reserve; and
  - provide the basis for effective visitor management.

***Policies***

- Visitor research will be focussed on improving the inventory and understanding of visitor numbers and characteristics, behaviour, needs and expectations, and assisting visitor management.

***Actions***

- Collect visitor arrival information regularly at major access points to the Park.
- Monitor and investigate visitor pressures on the Park and Reserve.

## 5.2 Promoting the Park

According to the Department of Tourism, Sport and Recreation (1990), the growth market in tourism and recreation is composed of visitors who are not satisfied with derivations or imitations of other places and experiences. The Commonwealth Department of Tourism (1994) state that visitors seek experiences that are authentic and incorporate learning, rather than contrived entertainment. In this regard, Narawntapu National Park is a place that is inherently and uniquely attractive to visitors.

Much of the Park is characterised by a recovering, or apparently unspoiled natural environment, spectacular scenery, and peace and quiet. At Springlawn, the visitor finds the remnants of past agricultural use and the cultural landscape of the former farm.

In the Park, visitors can “get away from it all”, and relax in close contact with wildlife, beaches and a scenic environment. Springlawn provides an relatively safe environment for children, and a mild, pleasant environment and recreational opportunities suitable for families and less active people.

Good marketing and pre-visit information will attract visitors seeking the experiences provided by the Park and direct others to areas more suitable for their needs. It will also allow visitors to plan their visit to the region to experience the variety of attractions available.

According to the Tasmanian visitor survey (Tourism Tasmania, 1997), some 2% of adult visitors to Tasmania in 1996-97 spent some time in the Narawntapu National Park that is, about 10,100 people. In comparison 205,000 people visited Devonport to the west, and 56,200 visited Beaconsfield to the south east. This means many visitors to the State are bypassing the Park.

Narawntapu National Park is a component of tourism in the region. However, if more visitors could be attracted to the Park, there could be economic benefits to nearby communities.

Given its particular values, an increase in visitor numbers to the Hawley Nature Reserve is not proposed.

***Objectives***

- The objectives of promoting the Park are to:
  - increase the profile of the Park's features and values with potential visitors; and
  - encourage visits to the Park and the region.

***Policies***

- The tourism and recreational themes for Narawntapu National Park will be:
  - attractive and accessible flora, fauna (particularly wildlife at Springlawn) and landscapes; and
  - an atmosphere of quietness and relaxation.
- All tourism and recreational development and marketing for the Park will conform with and emphasise the tourism and recreational themes.
- The Park and surrounding areas will be promoted cooperatively with local and regional tourism groups.

***Actions***

- Develop and implement a visitor strategy for the Park, consistent with this management plan and the Statewide Visitor Strategy (Parks and Wildlife Service, in prep).
- In the strategy, make links to other nearby reserves where this can realistically improve its effectiveness.
- Liaise with Tourism Tasmania, Forestry Tasmania, the Latrobe and West Tamar Councils and local tourism groups in developing and implementing the visitor strategy.
- Publicise the features and values of the Park.
- Use visitor monitoring and research to guide future marketing of the Park and related attractions.
- Provide staff training in visitor reception and communication.

## 5.3 Interpretation and Education

Visitors are increasingly looking to enjoy, understand and appreciate their visit through high standard presentation of information, interpretation and education. Therefore, interpretation and education are critical to the delivery of quality Park experiences, as well as fostering an appreciation of and caring attitude towards the Park (Department of Tourism, Sport and Recreation, 1994).

Pamphlets, maps and brochures have been prepared for interpretive use in the Park. At Springlawn, a small rustic style building houses visitor displays which provides both Park orientation and interpretation. No interpretation is provided at Badger Head. Some orientation information is provided at West Head.

Overnight visitors can discover and appreciate a great deal more about the Park than day visitors. Day visitors require simple and concise orientation and interpretation to make the most of their short stay. Orientation information and interpretation is insufficient in some locations and some existing information is out of date and poorly presented (eg the Springlawn interpretation shelter).

Visitors to the Hawley Nature Reserve need to be aware of the values of the Reserve and low impact use of it.

***Objectives***

- The objectives of interpretation and education for the Park and Reserve are to:

  - encourage pre-visit awareness of the Park's special recreational and tourism character, facilities, opportunities and experiences;
  - reveal the diversity and values of the environmental and heritage features of the Park and Reserve;
  - explain the different periods of people's use of the Park;
  - encourage visitors to pursue their interests and explore what the Park has to offer;
  - utilise the educational values of the Park and Reserve;
  - canvas issues to be confronted in managing the Park and Reserve;
  - increase public awareness of safety issues; and
  - inform visitors of Park and Reserve etiquette and minimal impact practices.

***Policies***

- High priority will be given to provision of good quality visitor information and interpretation in the Park.

- Interpretation programs and facilities will mainly be concentrated in the Springlawn Visitor Services Zone and to a lesser extent the West Head Visitor Services Zone. Some basic interpretation will be provided at the Badger Head Visitor Services Site and possibly in the Recreation Zone. No interpretation facilities will be located in the Conservation Zone.

- Use of the Park and Reserve for teaching about its environmental and heritage values will be encouraged.

- School and other groups undertaking educational activities will be encouraged to discuss their proposed program with staff when planning their visit.

- Interpretation and education material for the Hawley Nature Reserve will focus on information on values and minimal impact use.

***Actions***

- Prepare and implement an interpretation plan to guide development of interpretation for the Park.

- Provide Park visitors with pre-visit information.

- Upgrade interpretation for day visitors in the Visitor Services Zones.

- Develop interpretation of the Aboriginal heritage of Narawntapu National Park in consultation with the Aboriginal community.

- Provide information about potential hazards and encourage visitors to adopt safe practices.

- Develop and disseminate guidelines and information on requirements for water skiing and boating from and sea access to the Park.

## 5.4 Access

***Objectives***

- The objectives for access to and within the Park and Reserve are to:

- maintain, develop and promote opportunities for people, including those with disabilities, to visit the Park;
- protect Park and Reserve values by concentrating and limiting developed visitor arrival points and travel routes to designated locations;
- monitor and manage access by boating visitors;
- prevent vehicular access to the Reserve; and
- direct and develop access within the Park appropriate to the Zone or Site in which it occurs.

### 5.4.1 Boating Access

Access by boat to the islands of the Park in the Port Sorell estuary and to the estuary beaches of the Park is relatively easy, particularly in the Springlawn Beach area where water skiing is undertaken (see Map 2). Boats are also launched from the boat ramp at Bakers Point and at times from beaches in the Park.

Yachting and boating occur on the waters adjacent to the Park. The waters of Port Sorell, although not in the Park, are a popular boating destination because of the beauty of the area and the sheltered waters. Boating visitors travel only a short distant to reach the Park from other points around Port Sorell. Springlawn Beach near Bakers Point is a favoured arrival area. Fishing and water skiing are both popular.

The Bakers Point boat ramp is the only formed launch point in the Park. This ramp receives some maintenance. Boat launching from the beach is also available from Griffiths Point and the Badger Head end of Badger Beach.

There are potential public safety problems at Springlawn Beach where conflicts of use arise between swimmers and water skiers. To resolve this, and with the cooperation of Marine and Safety Tasmania, a length of the beach has been designated as a base for water skiing activities with swimming not allowed.

***Policies***

- Constructed public boat ramp facilities will be limited to the existing ramp at Bakers Point, unless otherwise provided for in accordance with Section 5.5.2.

- Access to the beach for boat launching will be retained at the Badger Head end of Badger Beach, limited to a 50 metre length of beach defined at its western edge by the rocky foreshore of Badger Head, and at Griffiths Point, subject to monitoring of impacts on natural and cultural values.

***Actions***

- Develop and disseminate guidelines and information on requirements for boating from and sea access to the Park, including water skiing.

- In cooperation with Marine and Safety Tasmania, strictly enforce the separation of swimmers and water skiers at Springlawn Beach.

- Maintain the boat ramp at Bakers Point.

### 5.4.2 Air Access

There are no aircraft landing grounds in the Park or Reserve. Flight training is sometimes conducted over the Springlawn/Bakers Beach area.

***Policies***

- Airdrops within the Park or Reserve will only be allowed for management or emergency purposes.

- Except in an emergency, or for management purposes, all aircraft, including helicopters, will require an authority, consistent with this management plan and the management zones, to land or take off in the Park, as required by the *National Parks and Reserved Land Regulations* 1999.

***Actions***

- In consultation with the Civil Aviation Safety Authority, the Royal Australian Air Force, and commercial and private pilots, develop, or make use of existing overflight guidelines to minimise the impact of low flying aircraft on the recreational experiences of Park visitors and on wildlife.

### 5.4.3 Vehicular Access

The Park has three main access roads (see Map 1). The western, Bakers Beach/Springlawn end can be reached from the Exeter Highway via a 13.5 kilometre gravel road. This road provides access to the camping areas at Griffiths Point, Springlawn Beach, Springlawn adjacent to the Ranger Station inland from Bakers Beach, and at the nearby horse yards. From this area of the Park, it is less than 40 kilometres to Devonport. The eastern side of Badger Head is accessible by Badger Head Road which turns off 1 kilometre north of York Town on the West Tamar Road. Launceston lies some 58 kilometres away. A third road extends into the Park near Greens Beach at the eastern end of the Park. From here, it is some 60 kilometres to Launceston.

Within the Park there is a system of vehicular roads, tracks and fire trails. Private motor vehicles are allowed on the Springlawn access road, roads to beach access points, and campground access roads, and on the road to the West Head carpark but on no other vehicular tracks in the Park. During regulated hours, subject to regular review of environmental and visitor impacts, vehicles are allowed on sections of Bakers Beach. Except for launching boats at the Badger Head end of Badger beach, off road driving is not allowed anywhere else in the Park.

The condition of some roads and tracks is poor in places and causes excessive wear on management and visitor vehicles. This applies both within the Park and on access roads to the Park and on the inland roads connecting one section of the Park to another. Access from one end of the Park to the other is limited to round-about routes over poor roads. This makes effective supervision and other management of the Park within the resources available more difficult.

Both local government, which is responsible for roads outside the Park, and the Parks and Wildlife Service, which maintains roads within the Park, have limited resources for road construction and maintenance.

Direction signs on highways, roads, and intersections leading to the Park are, in some

cases, poorly located or absent, making it more difficult for visitors to find the Park than it could otherwise be.

Illegal use of trail bikes occasionally occurs, particularly on fire trails in the hinterland area of the Park.

The Hawley Nature Reserve can be accessed from the end of Arthur Street on the eastern boundary of the Reserve and, in the south, from Tip Road. Access to private freehold land (Lot 9, See Map 3) is through the Reserve from this road.

There is a now disused vehicular track through the Reserve. The track was constructed on a former public road, which was revoked by Order No 19 of 1997, on 25 July 1997.

***Policies***

- Support from relevant authorities will be sought to provide adequate direction signs to the Park.
- Relevant authorities will be encouraged to upgrade road access to the Park.
- Except for management purposes, only motorised vehicles registered for use on public roads will be authorised in the Park.
- Except for management or other authorised purposes, vehicles will not be allowed in the Reserve.
- Public use of motorised vehicles within the Park, including trail bikes and off-road vehicles, will only be authorised on designated formed roads within Visitor Services Zones and to launch boats at Springlawn Beach, at the Badger Head end of Badger Beach, limited to a 50 metre length of beach defined at its western edge by the rocky foreshore of Badger Head, and at Griffiths Point, subject to monitoring of impacts on natural and cultural values.. Motorised vehicles may be authorised on Bakers Beach during regulated hours, subject to this management plan. Use anywhere else in the Park, including beaches, will not be authorised.
- Before construction of any new roads or vehicular tracks, or re-routing of existing ones, survey the proposed route for disease risk, habitat and species significance, and heritage significance.
- The impacts of vehicular use of Bakers Beach will be monitored and use modified or prohibited if the need arises (for example during the breeding season of shore birds, or if vehicles are used inappropriately).
- In cases where vehicles are authorised on Bakers Beach, they will be limited to the area of beach between high water mark and low water mark.
- Roads and vehicular track development and maintenance will accord with the prescriptions of Section 4.5.

***Actions***

- Assess and approve vehicular tracks to be retained or constructed as firebreaks or fire trails.
- Keep open the vehicular track along the firebreak and fenceline from Greens Beach, around Wentworth Hill to Badger Head Road for management purposes only.
- Consult with Forestry Tasmania on planning and maintaining fire trails that cross between reserved land and State forest.
- Ensure roads and vehicular tracks are of a sufficient standard for their purpose.
- Gate or otherwise restrict public access to vehicular tracks designated for management purposes or authorised access only.
- Permanently close roads and vehicular tracks not required for public or management use.
- Adopt measures to control vehicle speeds on roads within the Park.
- Provide a secure, legal access to Lot 9 through Hawley Nature Reserve along the southern boundary of the Reserve, without compromising the values of the Reserve.

### 5.4.4 Walking Access

There are marked walking tracks to the lagoon bird hide, to a number of points on Bakers Beach, to Point Vision and Archers Knob, from the eastern end of Bakers Beach to Badger Beach via Little Badger Head, Copper Cove, and Badger Head, and around West Head. The walking track to the bird hide includes self guided interpretive signs along the route.

There are no constructed walking tracks in the Reserve.

***Policies***

- In all circumstances, pedestrians will have right of way over any motor vehicle, bicycle

or other wheeled vehicle, and any horse or horse drawn vehicle.

- The priorities for upgrading existing walking tracks or constructing new tracks will be determined and approved before any work commences.

- In general, priority will be given to maintenance or development of short walks within or from the Visitor Services Zones or Site over upgrading of longer walks.

- Before construction of any new walking tracks, or re-routing of existing tracks, survey the proposed route for disease risk, habitat and species significance, and heritage significance.

- Walking track development and maintenance will accord with the prescriptions of Section 5.5.

- Exact track locations and standards will be determined, and construction undertaken, using appropriate guidelines of the Walking Track Management Manual (Blamey, 1987) and/or the Walking Track Management Strategy (Parks and Wildlife Service, 1998) and according to any applicable site plan.

- Where feasible, some disabled access will be provided in the Visitor Services Zones.

- To retain its natural character, walking tracks will not be constructed in the Conservation Zone unless monitoring of routes indicates the need for minimal surfacing and drainage for environmental protection purposes only.

- Walking tracks will not be constructed in the Reserve in the foreseeable future.

***Actions***

- Investigate provision of an additional walking track in the Wentworth Hill area.

- Improve the safety standard of the steep, slippery, rocky section of the Badger Head track where it climbs up from the Badger Head settlement just past the picnic shelter.

- Maintain viewing openings for visitors to enjoy the panoramic views on the Point Vision walking track and from the top of Mt Asbestos.

- Investigate options for improving the access onto Badger Beach over the rocks at the base of West Head.

- Maintain and clearly mark all designated walking tracks.

### 5.4.5 Bicycle Access

Vehicular tracks are used by cyclists, particularly by mountain bikes. Bikes are sometimes used illegally on walking tracks.

The use of bicycles, particularly mountain bikes, is increasing. On suitable vehicular tracks, bicycle use can provide enjoyment for visitors. Inappropriate use of bicycles can cause conflict with other users and impact on environmental, Aboriginal and historic heritage.

***Policies***

- In all circumstances, bicycle riders will be required to give way to pedestrians and horses.

- Bicycles will only be allowed on public roads and designated vehicular tracks, subject to the bicycle code of practice.

- Bicycles will not be allowed on any walking track, including the walking track/fire trail to Point Vision.

- Bicycles will not be allowed in the Reserve.

- The impacts of bicycle use in the Park will be monitored and use modified if the need arises.

***Actions***

- Designate and signpost roads and vehicular tracks available for bicycle use.

- If firetrails closed to public vehicle access are determined suitable for bicycle use, consider installation of bicycle gates adjacent to locked vehicle gates.

- Prepare, disseminate and apply a code of practice for the use of bicycles in the Park.

### 5.4.6 Horse Access

The Springlawn area of the Park is a former farm. Horse riding has occurred in this former farm area for many years and a horse trail extends from the Park boundary on Bakers Beach Road near Springlawn to Griffiths Point. Horse yards and a camping area for riders are provided in the Springlawn Visitor Service Zone. Horses are also ridden on Bakers Beach, including, at times, trotters and gigs.

The Park provides designated areas for horse riders to enjoy their recreation in a rural and natural setting. New link tracks could provide a circuit route for riders.

Beaches, walking tracks and natural areas of the Park are popular with other visitors. Shore birds occur on all the beaches of the Park. Danger to other visitors and threats to successful breeding of shore birds need to be avoided.

***Policies***

- Recreational horse riding opportunities will be recognised as a feature of parts of the Park.
- In all circumstances, horse riders and handlers will be required to give way to pedestrians and beach users.
- In accordance with Regulation 17.(1)(b) of the *National Parks and Reserved Land Regulations 1999* and by virtue of, and subject to, this management plan, the use of horses is authorised on roads, tracks and facilities in the Springlawn Visitor Services Zone as may be, from time to time, designated for that purpose, on sections of Bakers Beach as may be, from time to time, designated for that purpose, and, subject to investigation and approval, on the additional trails indicated on Map 5. Horses will not be authorised elsewhere in the Park.
- The granting of authority to use horses in the Park will be subject a code of practice for their use with which all persons using horses within designated areas must comply, and which will require, among other things, compliance with any booking system and limits on numbers of horses.
- The impacts of horse use in the Park will be monitored and use modified, and areas available for use reduced, if the need arises (for example during the breeding season of shore birds).
- Horses will not be authorised in the Reserve.

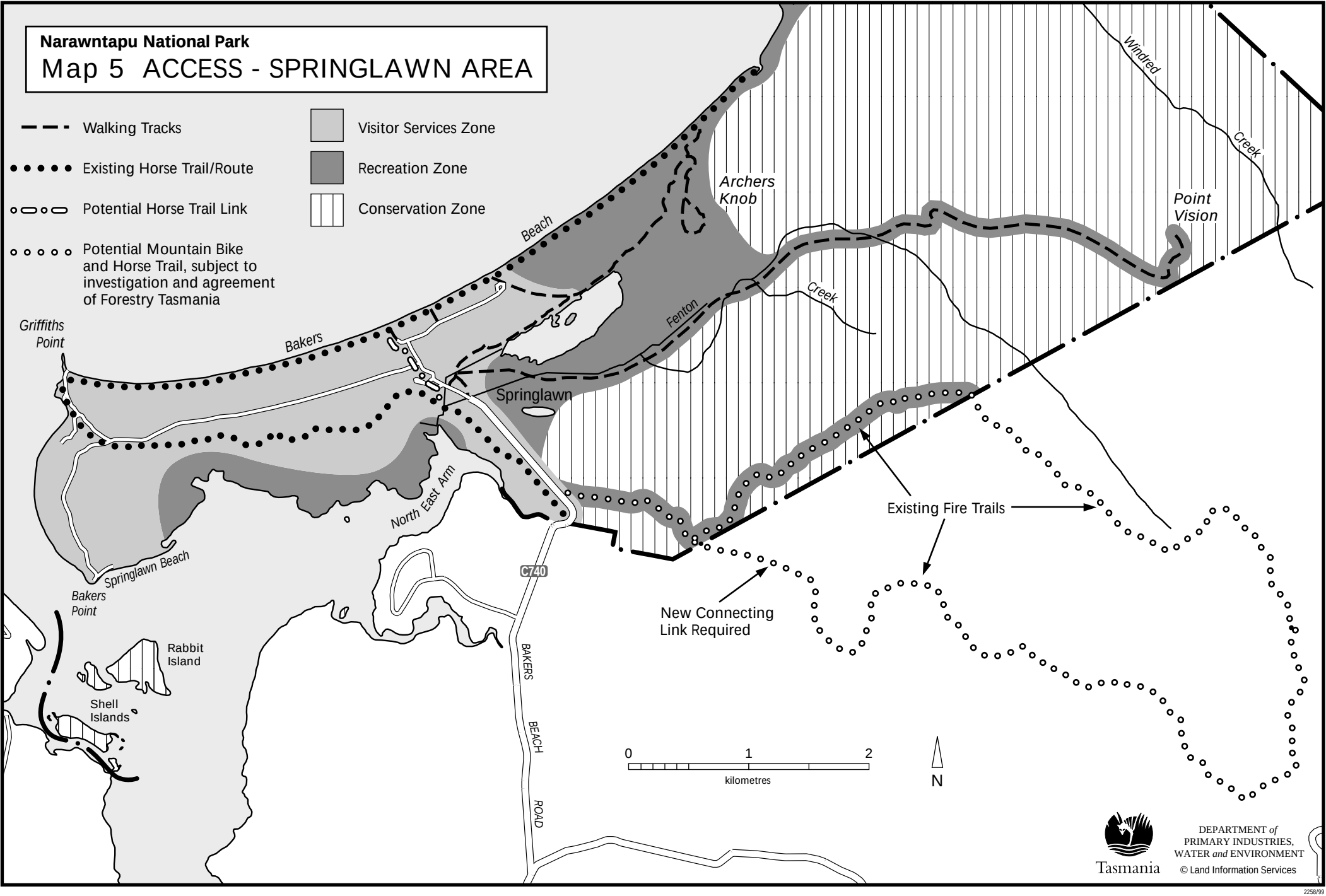
***Actions***

- Prepare, disseminate and apply a code of practice for the use of horses in the Park.
- Before designation or construction of any new horse tracks, or re-routing of existing tracks, survey the proposed route for traffic risks, disease risk, habitat and species significance, and heritage significance.
- Subject to the assessment required above, construct a new horse trail link connecting from Bakers Beach along the approximate route indicated on Map 5 (but no further east) and complete a link connecting fire trails to provide an inland forest circuit.
- If a horse trail link from Bakers Beach is provided (see Map 5), discontinue the authority to use horses on Bakers Beach east of such a link.
- Investigate re-configuration of the horse yards to provide additional small yards for individual horses.
- In accordance with Section 6.1, seek assistance from horse riding groups to construct, maintain or upgrade designated tracks and the horse yards.

## 5.5 Developing Facilities and Services

The Park is a valuable tourism, recreational and educational resource which the Parks and Wildlife Service has an interest in developing further. Tourism and recreation facilities and services which respect and complement the Park's inherent values are needed to provide for visitors to experience the Park. Hawley Nature Reserve also has value as a low key, educational visitor destination.

Because of their inherent values, the Park and the Reserve do not need invented attractions. Inappropriate development could have a detrimental impact on the tourism and recreational character of the Park, both in very obvious and immediate ways, and in more subtle, incremental ways.


Narawntapu National Park
Map 5 ACCESS - SPRINGLAWN AREA
Walking Tracks
Existing Horse Trail/Route
Potential Horse Trail Link
Potential Mountain Bike and Horse Trail, subject to investigation and agreement of Forestry Tasmania
Visitor Services Zone
Recreation Zone
Conservation Zone
Griffiths Point
Bakers Beach
Archers Knob
Windred Creek
Point Vision
Fenton Creek
Springlawn
North East Arm
Springlawn Beach
Bakers Point
Rabbit Island
Shell Islands
C740
BAKERS BEACH ROAD
Existing Fire Trails
New Connecting Link Required
0 1 2
kilometres
N
Tasmania
DEPARTMENT of PRIMARY INDUSTRIES, WATER and ENVIRONMENT
© Land Information Services
2258/99

The challenge for management is to provide facilities and services in a co-ordinated way, without destroying the values which attract visitors in the first place. To maintain these values, the type, location and level of facilities and services has to be determined and made explicit. Locating the spectrum of recreational opportunities by the system of Park zoning, and maintaining and enhancing recreational settings helps do this.

The sandy beaches, rocky headlands and bays attract visitors for their remoteness, spaciousness and solitude, for beach and water activities, and as a place to explore. Visitors to Springlawn use the nearby beaches and take the nature walk to the lagoon bird hide. Longer walks to Archers Knob, Copper Cove, and Point Vision are also undertaken.

Visitors to West Head can use Badger Beach or take the walk around the headland. From the Badger Head end of Badger Beach, visitors make use of the beach. A picnic shelter with barbecue is also provided there.

The four designated campgrounds in the Park are located at Springlawn, the Horse Yards, Griffiths Point and Springlawn Beach. Although camping elsewhere is not encouraged, walkers camp at other sites including Copper Cove. Fireplaces, rubbish and tree cutting are evidence of this use.

There is a septic toilet block at Springlawn campground and pit toilets at the three other designated campgrounds and at the Griffiths Point carpark.

Piped tank water and water from a dam inland on Fenton Creek is available from taps at the toilet block at the Springlawn campground. Hand operated pumps provide groundwater at the Springlawn Beach and Griffiths Point campgrounds. Water at the horse yards campsite is provided from the dam on Fenton Creek Limited tank water is also available. There are no showers or hot water available to visitors within the Park.

Near the Springlawn campground, three shelters with electric barbecues are used by day and overnight visitors. The campgrounds are provided with fireplaces. Basic treated pine pole play equipment is located at the campgrounds at Springlawn Beach and Griffiths Point. The equipment does not meet modern safety standards and would be costly to upgrade, maintain and supervise to an acceptable standard.

At some campsites, environmental degradation, such as the cutting of living trees, has occurred. Excessive use of alcohol by some visitors, and excessive noise at times disturbs the quiet enjoyment of the Park by other visitors. Dogs are sometimes illegally brought ashore at the Springlawn Beach camping area and onto the beach at Badger Head.

There is no built accommodation provided for overnight visitors. Overnight visitors are most able to appreciate the wildlife values of the Park because many of the key wildlife species of visitor interest are nocturnal.

Narawntapu National Park has few permanent watercourses. Those that are most reliable are Fenton Creek which drains to North East Arm at Springlawn and Windred Creek which runs into Copper Cove. However, there are good ground water supplies near Griffiths Point and Bakers Point. This ground water is already tapped for drinking water but unless it can be sustainably tapped in greater quantities, water remains a major constraint on future provision of shower facilities.

There are no visitor facilities at Hawley Nature Reserve.

***Objectives***

- The objectives of developing visitor facilities and services are to:

    - provide opportunities for activities, relaxation, contemplation, enjoyment and educational experiences through direct contact or participatory involvement with the values of the Park or Reserve;
    - enrich visitor experiences of the Park or Reserve;
    - encourage understanding of and support for national parks and nature reserves by highlighting and presenting their values;
    - safeguard the special tourism and recreational character of the Park;
    - minimise impacts on Park and Reserve values;
    - promote sound, sustainable, environmental behaviour and practices;
    - contribute directly to meeting the costs of researching, protecting, and managing the Park and Reserve; and
    - provide economic benefit to the community.

While flexibility in response to visitor needs, budgetary circumstances and protection of Park and Reserve values must be maintained, the general policies for development of visitor facilities and services are set out below.

***Policies***

- All tourism and recreational development will conform with this management plan, site plans, conservation plans, and the visitor strategy prepared for the Park.
- All tourism and recreation will accord with any requirements and codes established by the Parks and Wildlife Service for sustainable environmental practices and behaviour and protection of heritage values.
- Consistent with this plan, tourism and recreation facilities and services will be provided, principally in the Springlawn Visitor Services Zone.
- To provide for the heaviest visitor pressures and make most effective use of management resources, generally priority will be given to developing visitor facilities in the Springlawn Visitor Services Zone before any in the West Head Visitor Services Zone, which in turn will have priority over the Recreation Zone and the Badger Head Visitor Services Site.
- The range of visitor facilities provided will complement rather than replicate those which are or could be provided in nearby areas.
- In the Visitor Services Zones, development will be guided by the site plans for each Zone, prepared in accordance with Section 4.5.
- To ensure equity of access for visitors, an occupancy time limit for people and camping equipment may be applied to camp sites in the Park. The managing authority may also designate intervals between repeat visits.

### 5.5.1 Springlawn Visitor Services Zone

While the exact provision and extent of visitor and management facilities depends on the preparation of a site plan for the Zone and on funding, the Springlawn Visitor Services Zone is intended to serve as the principal location for development of facilities for visitors to the Park.

The range of native animals which visitors can encounter provides opportunities to further develop wildlife based visitor experiences in this Zone. There is potential to develop a wider range of visitor accommodation than the camping provisions already available. For example, a proposal to develop a lodge or licensed camp for wildlife viewing has been suggested for the Springlawn area.

***Policies***

- Overnight and day visitors will be provided for in this Zone.
- Facilities in this Zone may include built accommodation, licensed camps, camping, visitor information and interpretation buildings, picnic facilities, nature trails, interpretive displays, toilets, showers, and management buildings and facilities.
- Construction and maintenance in the Zone will be sufficient to withstand the impact of visitors.
- Potential uses of any historic building will be determined by preparation of a conservation plan (see Section 3.5.2).
- The provision of licensed camps, hostel-type accommodation, bunk house, and self-contained accommodation, consistent with the prescriptions of this management plan and the site plan, will be considered.
- The site plan will encourage integration of visitor services and facilities at concentrated development sites.
- Camping in this zone will be available only in designated camping areas.
- Opportunities for ready visitor contact with wildlife will be developed.

***Actions***

- Prepare a site plan for the Springlawn Visitor Services Zone.
- Encourage campers to bring fuel stoves.
- Investigate and report upon environmentally sustainable sources of water supply.
- Consider provision of showers in one or more of the campgrounds if sufficient and environmentally sustainable sources of water and grey water disposal can be provided.
- Upgrade campground toilets to the extent that available resources allow.
- Inform visitors on the quality of bore water provided in campgrounds.
- Encourage efficient energy use by management and visitors.
- Remove the existing unsafe play equipment.

### 5.5.2 West Head Visitor Services Zone

This Zone is used regularly by locals from the Greens Beach area, surfers, divers, fishers, day visitors from the surrounding Tamar Region and to a lesser extent, tourists. Some users want the area to retain its present character. Additional facilities ranging from new walking tracks, interpretation, public toilets through to the provision of a boat ramp have also been suggested.

***Policies***

- Day visitors will be provided for in this Zone, but overnight visitors will not be provided for.
- Facilities in this Zone may include picnic shelters and barbeques, nature trails and walking access to Badger Beach, interpretive displays, toilets, and roof water collection from buildings approved for this Zone.
- No provision for overnight visitors will be made in this Zone.
- Camping will not be allowed.
- Rubbish bins will not be provided and visitors will be required to remove their rubbish.
- A boat ramp development may be considered if it is consistent with the site plan for the Zone and development specific investigations show that it conforms with the State Coastal Policy, does not compromise environmental and heritage values, and does not cause noise or safety problems in or adjacent to the Park.

***Actions***

- Prepare a site plan for the West Head Visitor Services Zone.

### 5.5.3 Badger Head Visitor Services Site

This area will be less developed than the two visitor services zones. While a picnic shelter and barbecue is already provided, toilets are not, and fresh water is not available. This can cause environmental impact and visitor dissatisfaction, especially if visitor numbers increase.

Pedestrian access to the beach from the carpark and road is poorly defined.

***Policies***

- Day visitors will be provided for in this Site, but overnight visitors will not be provided for.
- Facilities in this Site may include picnic shelters and barbeques, nature trails, interpretive displays, toilets, and roof water collection from buildings approved for this Site.
- No provision for overnight visitors will be made in this zone.
- Camping will not be allowed.
- Rubbish bins will not be provided and visitors will be required to remove their rubbish.

***Actions***

- Consider provision of a basic toilet.

### 5.5.4 Recreation Zone

There are no formally designated campgrounds in this Zone at present. Camping occasionally occurs at Copper Cove.

***Policies***

- Types of recreational uses and levels of use will limited to those which minimise impacts on environmental and heritage features and values.
- Facilities in this Zone may be developed to the level of walking tracks, a combined horse and bicycle track (see map 5), vehicle tracks for management purposes, a licensed camp, designated camping area with environmentally minimal impact toilets, roof water collection from them, and signs.
- Track marking and upgrading will accord with prescriptions set out in Sections 4.5 and 5.4.4.
- Buildings for accommodation purposes will not be allowed in the Recreation Zone.
- A camping area of not more than 10 tent sites may be developed at Copper Cove. Facilities will be limited to pit toilets and possibly a roof water tank.
- In the Recreation Zone, camping will only be allowed in camping areas designated by the managing authority.

## Table 2 Summary of Facilities, Services, and Activities by Management Zone or Site

e = existing, p = potential

| | Management Zone | | | | |
|---|---|---|---|---|---|
| **Facility, Service or Use** | **Springlawn VSZ** | **Badger Head VSS** | **West Head VSZ** | **Recreation Zone** | **Conservation Zone** |
| Built accommodation | Yes (p) | No | No | No | No |
| Camping | Yes (e) | No | No | Conditional (p) | No |
| Licensed Camp | Yes (p) | No | No | Conditional (p) | No |
| Bicycles | Yes (e) | Yes (e) | Yes (e) | Conditional (p) | No |
| Horses | Authority (e, p) | No | No | Authority (e, p) | No |
| Vehicles | Yes (e) | Yes (e) | Yes (e) | No | No |
| Walking tracks | Yes (e, p) | Yes (e) | Yes (e, p) | Yes (e) | No |
| Toilets | Yes (e, p) | Yes (p) | Yes (p) | Yes (p) | No |
| Showers | Yes (p) | No | No | No | No |
| Fires | Yes (e) | No | No | No | No |
| Gas barbeques | Yes (e, p) | Yes (e) | Yes (p) | No | No |
| Water Skiing | Yes (e) | No | No | No | No |
| Swimming | Yes (e) | Yes (e) | Yes (e) | Yes (e) | No |
| Sea fishing | Yes (e) | Yes (e) | Yes (e) | Yes (e) | No |
| Picnic facilities | Yes (e, p) | Yes (e) | Yes (p) | No | No |
| Animals not native (excl horses) | No | No | No | No | No |
| Hunting | No | No | No | No | No |
| Interpretation centre | Yes (e, p) | No | No | No | No |
| Interpretive displays | Yes (e) | Yes (p) | Yes (p) | No | No |
| Direction signs | Yes (e, p) | Yes (e, p) | Yes (e, p) | Yes (e, p) | No |
| Rubbish Collection | Yes (e) | No | No | No | No |

- Subject to environmental assessment and conditions, a single licensed camp may be authorised in the Recreation Zone, located at Copper Cove within 200 metres of any designated or potential public camping area, and of no greater capacity than it.
- Fires will not be allowed in the Zone which will be a fuel stove only area.
- Signs will be limited to those giving information on directions, historic features, safety of users, or protection of the Park.
- Rubbish bins will not be provided and visitors will be required to carry out their rubbish.

***Actions***

- Maintain and, as necessary, upgrade tracks to ensure protection of the environment and the reasonable safety of users.
- Clearly mark tracks.
- Monitor user impacts.

### 5.5.5 Conservation Zone

***Policies***

- Except for environmental or heritage protection, and fire management, structures or any other type of development (including tracks) will not be allowed in the Zone.
- No visitor buildings or similar facilities will be provided in the Conservation Zone.
- Licensed camps will not be allowed in the Zone.
- Camping will not be allowed in the Zone.

***Actions***

- Monitor user impacts.

### 5.5.6 Hawley Nature Reserve

***Policies***

- Types of recreational uses and levels of use will limited to those which minimise impacts on environmental and heritage features and values.

- Facilities in this Reserve may be developed to the level of walking tracks, vehicle tracks for management purposes, and signs.

- Track marking and upgrading will accord with prescriptions set out in Sections 4.5 and 5.4.4.

- Signs will be limited to those giving information on directions, historic features, safety of users, or protection of the Reserve.

- Rubbish bins will not be provided and visitors will be required to carry out their rubbish.

***Actions***

- Monitor user impacts.

### 5.5.7 Assessing Development Proposals

***Policies***

- Proposals to develop tourism and recreational opportunities, facilities, or services in Narawntapu National Park will be considered if they:

  - accord with the management plan;
  - base themselves on the features and values of the Park;
  - ensure the viability, diversity, and values of environmental features and processes are not damaged;
  - adopt environmentally sustainable operating practices and use environmentally “best practice” goods and technologies;
  - behave and operate in a manner compatible with protection of Aboriginal and historic heritage features and values;
  - explain the principles of minimal impact on environmental and heritage values to clients;
  - avoid impact on the legitimate enjoyment and experience by others of the Park's features and values;
  - contribute to any external costs (for example road or sewerage upgrading) resulting from the proposal; and
  - are sustainably achievable within the realistic capacity of management resources.

- Tourism and recreation development proposals will conform with and support realisation of this management plan, site plans, conservation plans, and the Park visitor strategy.

- All proposals to develop tourism and recreational opportunities in the Park will adopt environmental "best practice" methods for:

  - sewage treatment;
  - stormwater management;
  - water supply;
  - energy generation and conservation;
  - vehicle storage and maintenance;
  - machinery installation and maintenance;
  - fuel delivery and storage; and
  - storage and disposal of solid and liquid waste.

- Depending on the proposal, additional assessment guidelines and criteria may be required.

- Development will complement existing facilities and services, foster visitor appreciation and understanding of the Park’s features and values in accordance with the interpretation plan, and provide efficient, high quality service to the public.

- Any sale within the Park of souvenirs and memorabilia will be focussed on Tasmanian made merchandise directly related to the Park's features and values.

- Tourism and recreation development proposals will provide a clearly demonstrated benefit to the Tasmanian community.

- All development proposals requiring a licence or lease will submit a detailed business and financial plan showing at least a three year projection of operations, demonstrating financial viability while according with this management plan.

- Any publicly funded financial, infrastructure, managing authority services, or environmental resource subsidy of a tourism or recreation proposal will be made explicit and public.

- Tourism and recreation in the Park will directly and identifiably make a contribution to research, conservation or management of the Park.

***Actions***

- Develop and disseminate assessment guidelines and criteria for tourism and recreation proposals, including requirements and codes of sustainable environmental practices and behaviour.

- Develop programs and mechanisms for tourism and recreation development to

contribute to research, conservation and management of the Park.

- Ensure all applicable statutory requirements and approvals are met or obtained.

# 6 Involving The Community

## 6.1 Community Support

Community support for the Park and the Reserve is very important. A number of community groups and organisations make regular use of the Park, as do local residents. Some limited use is made of the Reserve by local residents.

***Objectives***

The objectives of fostering community support are to:

- develop community appreciation of and support for Park and Reserve values;
- promote a positive image of the Park and Reserve and their contribution to the community; and
- encourage community involvement in Park and Reserve management.

***Policies***

- Relevant people, communities and groups will be consulted when their interests may be affected.

- Partnerships will be developed with communities and groups that wish to be involved in the management of the Park or Reserve in accordance with this management plan.

- Volunteers will be encouraged when suitable, planned and programmed works and adequate supervision are available.

***Actions***

- Develop mechanisms and opportunities for consulting with people interested in management of the Park or Reserve.

- Encourage community involvement through the Wildcare structure.

## 6.2 Working with Neighbours

The Park is fringed by marine waters, private land, both residential and rural, and State forest. The Reserve is fringed by private land, both rural residential and rural.

***Objectives***

The objectives of working with neighbours are to:

- take account of concerns of neighbours in managing the Park and Reserve;
- encourage conservation and sound land management practices on lands adjoining the Park and Reserve;
- encourage conservation and sound management of marine waters adjoining the Park; and
- enlist cooperation of neighbours in conserving Park and Reserve values.

***Policies***

- Neighbouring land owners and land and marine managers will be consulted when their interests may be affected.

- Management agreements may be developed with neighbours.

- Land and marine management practices which require off-reserve or cross tenure implementation to protect natural and cultural values will be developed cooperatively with neighbours.

***Actions***

- Regularly liaise and develop good working relations with local government, adjacent land owners and land and marine managers on management issues and projects of common interest.

# 7 Other Issues

## 7.1 Boundaries

The marine environment around Narawntapu National Park is a complementary and interdependent part of the terrestrial environment of the Park. However, it is not included in the Park. The North East Arm tidal flats south the centre of the Arm are not within the Park but are contiguous with, and an equally important wading bird habitat as the tidal flats that are within the Park.

***Objectives***

- The objectives of managing boundaries are to:
  - improve conservation of natural and cultural values; and
  - provide effective ecological and administrative boundaries.

***Actions***

- If the opportunity arises, incorporate within the Park any areas, including marine areas, which will improve protection of important natural or heritage values, protect the integrity of the Park, or assist in more effective management.

- If the opportunity arises, incorporate within the Park any areas, including marine areas, which will provide opportunities for or improve presentation of the Park and provision of visitor services and facilities.

- If the opportunity arises, incorporate within the Reserve any areas which will improve protection of important natural or heritage values, protect the integrity of the Reserve, or assist in more effective management.

## 7.2 Leases, Licences and Authorities

***Objectives***

- The objectives of leases, licences and authorities are to:
  - provide a range of tourism and recreational opportunities;
  - provide efficient high quality facilities and services to the public;
  - manage and control uses and activities not undertaken by the managing authority;
  - contribute to recovery of costs arising from leased, licensed or authorised uses; and
  - ensure Park and Reserve values are protected.

***Policies***

- All leases, licences and authorities will be consistent with this management plan.

- Subject to the *National Parks and Wildlife Act 1970* and this management plan, leases and licences to provide services within the Park or Reserve may be issued for tourism, recreation, or education purposes.

- Authorities to conduct infrequent, organised events or activities within the Park, of not more than one week duration, may be issued by the Director. Where Section 25B of the *National Parks and Wildlife Act 1970* applies, a business licence will be required.

- Leases, licences and authorities may be issued for any Zone in the Park, or for the Reserve, provided that they conform with the objectives and prescriptions for that Zone or the Reserve.

- Subject to the findings of ongoing research, licences for apiary sites may be issued or renewed where existing road access exists, the sites are screened from visitor view, and the licence is consistent with this management plan.

- Consistent with Section 4.5 of this plan, a site plan may be required before lease, licence or authority proposals are considered.

- Compliance with the terms and conditions of leases, licences and authorities will be monitored and reviewed prior to any renewal.

- Private memorials or commemorative plaques will not be authorised in the Park or Reserve.

- Public memorials or commemorative plaques may be authorised if they commemorate events or people of the area that are of regional, state, national or international significance.

- Plaques acknowledging Park or Reserve infrastructure or services provided by bequests or commercial sponsorship may be attached to the infrastructure and include a company name and logo but no product advertising will be allowed on such plaques.

## 7.3 Statutory Powers

- In consultation with the Director, the Surveyor General is authorised to exercise all statutory powers under the *Survey Co-ordination Act 1944* in relation to establishment of new or maintenance of existing permanent survey marks located in the Park or the Reserve provided that:
  - establishment of new permanent survey mark and associated beacons will be subject to the specific written approval of the Director;
  - establishment, maintenance, removal and access for surveying and maintenance purposes will accord with this management plan, including the access requirements of Zones.

## 7.4 Research and Monitoring

Research and monitoring assists understanding and conservation of the values of the Park and Reserve and contributes to effective management.

***Objectives***

- The objectives of research and monitoring in the Park or Reserve are to:
  - Improve the inventory and understanding of environmental and heritage features and processes;
  - Use the Park or Reserve, or parts of them, as scientific reference areas;
  - Improve knowledge and understanding of visitor behaviour;
  - Assess impacts, including long term cumulative changes associated with development or use of the Park or Reserve;
  - Achieve the management objectives for the Park or Reserve; and
  - Assist, assess and improve management of the Park or Reserve.

***Policies***

- All research and monitoring proposed in this management plan will depend on availability of funding and other necessary resources.
- Research and monitoring programs will accord with this management plan and policies and procedures approved by the managing authority.
- All research or monitoring which may have an impact on the Park or Reserve will require written approval of detailed study proposals and methods before work begins.
- Researchers will submit to the managing authority not less than three copies of all work produced during the period of the research. The managing authority will determine requirements for the form of submission, its timing, confidentiality, and any other matters.
- Authorities for the collection of research material within the Park or Reserve will not be issued where the managing authority determines that it is possible and appropriate to collect the material outside them.
- Only research that does not have long term adverse effects on the environmental, heritage, or aesthetic values of the Park or Reserve will be authorised.
- The approval of the Tasmanian Aboriginal community will be obtained for any research involving Aboriginal heritage.
- Research will be encouraged which improves the inventory and understanding of, or assists management of:
  - the environmental features and processes of the Park or Reserves;
  - Aboriginal and historic heritage and archaeological features of the Park or Reserves;
  - visitors, including numbers, characteristics, behaviour, needs and expectations.
- Use and development practices will be monitored for their effects on Park or Reserve values, and where necessary, modified.
- The efficacy of management practices in the Park and Reserve and the effects of management actions on Park and Reserve values will be monitored and evaluated, and where necessary, modified. As a minimum, base evaluation on the performance indicators set out in Appendix 4.
- Relevant, additional monitoring and evaluation procedures developed during the period of the plan may be applied when

evaluating management of the Park and Reserve.

- Any cumulative changes in Park or Reserve values will be documented at regular intervals.

## 7.5 Administration

Administratively, the Park and Reserve are part of the Central North District of the Parks and Wildlife Service, managed by a District Manager. Rangers are directly responsible for day to day management of the Park and Reserve. Work also is done by contractors and temporary staff and some accommodation is available for them and visiting staff.

The Park office is located at Springlawn. A workshop is located nearby.

***Objectives***

- The objectives of administration of the Park and Reserve are to:

  - coordinate and integrate management and implementation of the management plan;
  - ensure management responsibilities are efficiently and effectively carried out;
  - ensure public safety and prompt response in emergencies; and
  - enforce the management plan and relevant Acts and Regulations.

### 7.5.1 Implementation

***Policies***

- The prescriptions of this plan will be subject to the provision of funding and other resources sufficient to meet them, and may be prioritised by the Director of National Parks and Wildlife at the Director's discretion according to resource availability.

- To coordinate effective implementation of this management plan, a rolling implementation program of at least three years duration, and linked to service agreements and other relevant operational plans, will be developed.

- The implementation program will identify:

  - all development and other works planned,
  - scientific studies required,
  - those responsible for each stage of implementation,
  - the anticipated costs,
  - the staff requirements, and
  - ongoing maintenance and monitoring requirements.

- The implementation program will conform with the management plan and other plans such as site plans, conservation plans, and the interpretation plan.

***Actions***

- Train staff to understand and implement the management plan.

- Review the implementation of the management plan annually and revise the implementation program if necessary. Base any revision on analysis of past progress and incorporate newly identified requirements. Add a further year's program at each annual review.

- Annually evaluate the outcomes of management against the objectives of the management plan.

- Take into account any findings and recommendations from research, monitoring and evaluation of the condition and management of the Park and Reserves.

### 7.5.2 Search and Rescue, First-Aid

Tasmania Police and the State Emergency Service have primary responsibility for all search and rescue within the Park and Reserve.

***Policies***

- Resources within the Park will be maintained at a level sufficient to provide a reasonable response to emergency situations.

***Actions***

- Cooperate with Tasmania Police and State Emergency Services in search and rescue operations.

- Maintain an reasonable store of first-aid supplies.

- Educate and encourage visitors to adopt safe practices and provide them with sufficient information about potential hazards to enable them to make responsible decisions.

- Establish a risk management system that provides for regular identification, inspection, reporting and amelioration of existing and potential risks to public and staff safety.

### 7.5.3 Enforcement

***Policies***

- Within the Park and Reserve, authorised staff of the Parks and Wildlife Service, and Tasmania Police, will be responsible for enforcing the provisions of the *National Parks and Wildlife Act* 1970, the *Aboriginal Relics Act* 1975, *Whales Protection Act* 1988, *Threatened Species Protection Act* 1995, the *National Parks and Reserved Land Regulations* 1999, the *Wildlife Regulations* 1999, the *Aboriginal Relics Regulations* 1978, and any other Acts for which staff may be authorised.

- The Director of National Parks and Wildlife has delegated powers to enforce provisions of the Commonwealth of Australia *Historic Shipwrecks Act* 1976.

- Staff may be authorised to enforce provisions of the *Marine and Safety Authority Act* 1997 and associated by-laws.

- Other law enforcement will be the responsibility of Tasmania Police.

# Glossary

**Biodiversity (biological diversity)** means the variety of life forms: the different plants, animals and micro-organisms, the genes they contain, and the ecosystems they form. It is usually considered at four levels: genetic diversity, species diversity, ecosystem diversity and community diversity.

**Conservation** means all the processes and actions of looking after a place so as to retain its significance, always including protection, maintenance and monitoring.

**Earth processes** means the interactions, changes and evolutionary development of geodiversity over time.

**Fire break** means any natural or constructed discontinuity in a fuel bed used to segregate, stop, and control the spread of a wildfire, or to provide a fireline from which to suppress a fire.

**Fire trail** means a formed track which provides access for fire fighting vehicles and is built to specific standards.

**Geoconservation** means the conservation of geodiversity.

**Geodiversity** means the range or diversity of geological (bedrock), geomorphological (landform) and soil features, assemblages, systems and processes which exist naturally.

**Indigenous species** means a species that occurs at a place within its historically known natural range and that forms part of the natural biodiversity of a place.

**Introduced species** means a translocated or alien species occurring at a place outside its historically known natural range as a result of intentional or accidental dispersal by human activities.

**Licensed camp** means a camping accommodation area licensed by the managing authority for exclusive use as part of a licensed visitor facility and/or service where any structures, equipment caches and the like associated with the operation, irrespective of the materials used in the structures:

(a) are left on a site or sites for more than 14 days at a time; and
(b) are temporary on a site or sites, being completely removed for long enough for some recovery of the site/s to take place, and in all cases for a total of at least 12 consecutive weeks of any calendar year.

If any structures, equipment caches and the like associated with the operation of any licensed facility and/or service providing accommodation are not removed from a site or sites in accordance with (b) above, they will be considered buildings for accommodation purposes and will accord with the provision of this management plan for such buildings.

**Local provenance** means indigenous plant species growing in, or within five kilometres of the boundaries of, Narawntapu National Park or Hawley Nature Reserve (as the case may be) or seeds or other propagation material collected from such plants.

**Natural integrity** means the degree to which a natural system retains its condition and natural rate of change in terms of size, biodiversity, geodiversity and habitat.

**Natural landscape** means large, relatively undisturbed area with topographic and catchment integrity where natural processes continue largely unmodified by human intervention.

**Natural quiet** means the natural ambient sound conditions, or the sounds of nature, and includes the sounds made by water, weather, and indigenous plants and animals.

**Protection** means taking care of a place by maintenance and by managing impacts to ensure that significance is retained.

**Threatened species** means a species listed in the Schedules of the *Threatened Species Protection Act 1995*.

Note: Refer to The Burra Charter (Australia ICOMOS Inc, 1999) and The Conservation Plan (Kerr, 1996) for definitions of historic heritage and cultural landscape terms.

# References

AUSTRALIA ICOMOS INC, 1999; **The Burra Charter (The Australia ICOMOS Charter for Places of Cultural Significance)**; Australia ICOMOS Inc, Sydney.

BLAMEY, N., 1987; **Walking track management manual: A guide to the construction, restoration and maintenance of walking tracks**; Department of Lands, Parks and Wildlife, Tasmania and Australian National Parks and Wildlife Service, Australian Capital Territory.

BRAND, I., 1983; **The Brand Papers: Tasman Peninsula**; National Parks and Wildlife Service, Hobart.

BUCHANAN, A. M. (Ed), 3rd Edition 1999; **A Census of the Vascular Plants of Tasmania and Index to The Students Flora of Tasmania**; Tasmanian Herbarium Occasional Publication No 6

CHLADIL, M. A. & KIRKPATRICK, J. B., 1989; A Transect Study of the Sand Dune Vegetation at Bakers Beach, Tasmania; **Papers and Proceedings of the Royal Society of Tasmania, Vol 123**, pp 247-256.

CHRISTIDIS, L., & BOLES, W. E., 1994; **The Taxonomy and Species of Birds of Australia and its Territories, Royal Australasian Ornithologists Union Monograph 2**; RAOU, Melbourne.

COLLIER, P. A., & STUBBS, N., 1991; Port Sorell Crown Land - Plant and Bird Survey; **The Tasmanian Naturalist, No. 104, January 1991**, pp 1-8

COMMONWEALTH DEPARTMENT OF TOURISM, 1994; **National Ecotourism Strategy**; Australian Government Publishing Service, Canberra.

COMMONWEALTH OF AUSTRALIA & THE STATE OF TASMANIA, 1997: **Tasmanian Regional Forest Agreement**; Hobart, Tasmania.

FORESTRY TASMANIA, DEPARTMENT OF ENVIRONMENT AND LAND MANAGEMENT, & TASMANIA FIRE SERVICE, 1998; Inter-Agency Fire Management Protocol 1998; unpublished inter-agency agreement Hobart.

KEE, S., 1990; **Midlands Aboriginal Archaeological Site Survey**; Occasional Paper No 26; Department of Parks, Wildlife and Heritage, Hobart.

KERR, J. S., 1996; **The Conservation Plan: A Guide to the Preparation of Conservation Plans for Places of European Cultural Significance**; fourth edition, National Trust (NSW), Sydney.

PARKS AND WILDLIFE SERVICE, 1998; **Walking Track Management Strategy for the Tasmanian Wilderness World Heritage Area, Volume 1 Main Report January 1994**; Parks and Wildlife Service, Department of Environment and Land Management, Tasmania.

PARKS AND WILDLIFE SERVICE, 1998; Introduced Plants Policy; unpublished report for the Department of Environment and Land Management.

PARKS AND WILDLIFE SERVICE, in prep; Statewide Visitor Strategy; Parks and Wildlife Service, Department of Primary Industries, Water and Environment, Tasmania.

PRIMARY INDUSTRIES, WATER & ENVIRONMENT, DEPT OF, 2000; **Rice Grass Area Based Management Plan for Rubicon/Port Sorell**; Department of Primary Industries, Water and Environment, Tasmania

RESOURCE PLANNING AND DEVELOPMENT COMMISSION, 1998 a; **Inquiry into areas to be reserved under the Tasmania-Commonwealth Regional Forest Agreement Background Report Part J**; Resource Planning and Development Commission, Hobart.

RESOURCE PLANNING AND DEVELOPMENT COMMISSION, 1998 b; **Inquiry into areas to be reserved under the Tasmania-Commonwealth Regional Forest Agreement Proposed**

**Recommendations Report CAR Reserves**; Resource Planning and Development Commission, Hobart.

TASMANIAN PUBLIC LAND USE COMMISSION, 1996; **Tasmania-Commonwealth Regional Forest Agreement Environment and Heritage Report Vol II Background Report Part C**; Tasmanian Public Land Use Commission in conjunction with Commonwealth Forests Taskforce, Hobart.

TASMANIAN PUBLIC LAND USE COMMISSION, 1997; **Tasmania-Commonwealth Regional Forest Agreement National Estate Report Background Report Part H**; Tasmanian Public Land Use Commission in conjunction with Commonwealth Forests Taskforce, Hobart.

TOURISM, SPORT & RECREATION, DEPT OF, 1990; **The Implications of the Emerging Market for Tasmanian Tourism**; Department of Tourism, Sport and Recreation, Hobart.

TOURISM, SPORT & RECREATION, DEPT OF, 1994; **Ecotourism: Adding value to tourism in natural areas**; A discussion paper on nature based tourism, Department of Tourism, Sport and Recreation, Hobart.

TOURISM TASMANIA, 1997; **Tasmanian Visitor Survey, 1996-97 Results**; Tourism Tasmania, Hobart.

# Appendix 1

## Flora of Narawntapu National Park

T = Listed in the Schedules of the *Threatened Species Protection Act 1995*

Nomenclature follows Buchanan, 1999

**DICOTYLEDONAE**

| | |
|---|---|
| *Acacia dealbata* | Silver Wattle |
| *Acacia genistifolia* | Spreading or Early Wattle |
| *Acacia gunnii* | Ploughshare Wattle |
| *Acacia mearnsii* | Black Wattle |
| *Acacia melanoxylon* | Blackwood |
| *Acacia mucronata* | Variable Sallow Wattle |
| *Acacia myrtifolia* | Myrtle Wattle |
| *Acacia sophorae* | Coast Wattle, False Boobyalla |
| *Acacia stricta* | Hop Wattle |
| *Acacia suaveolens* | Sweet Wattle |
| *Acacia terminalis* | Sunshine Wattle |
| *Acacia verticillata* var. *ovoidea* | Prickly Mimosa, Echidna Wattle |
| *Acacia verticillata* | Prickly Mimosa, Echidna Wattle |
| *Acaena echinata* | Sheep's Burr |
| *Acaena novae-zelandiae* | Buzzy, Biddy-widdy |
| *Acrotriche serrulata* | Ant's Delight |
| *Allocasuarina littoralis* | Black Sheoak, Bulloak |
| *Allocasuarina monilifera* | Necklace Sheoak |
| *Allocasuarina verticillata* | Sheoak, Drooping Sheoak |
| *Almaleea subumbellata* | Wiry Bush-pea |
| *Amperea xiphoclada* | Broom Spurge |
| *Aotus ericoides* | Golden Pea, Common Aotus |
| *Apium prostratum* var. *filiforme* | Filiform Sea Celery |
| *Apium prostratum* | Sea Parsley |
| *Astroloma humifusum* | Native Cranberry |
| *Atriplex cinerea* | Grey Saltbush |
| *Australina pusilla* | Small Shade Nettle |
| *Baeckea ramosissima* | Baeckea, Rosy Heath-myrtle |
| *Banksia marginata* | Silver Banksia, Honeysuckle |
| *Bauera rubioides* | Bauera, Wiry Bauera |
| *Billardiera scandens* | Apple-berry |
| *Boronia nana* | Dwarf Boronia |
| *Boronia parviflora* | Swamp Boronia |
| *Bossiaea cinerea* | Showy Bossiaea |
| *Bossiaea cordigera* | Wiry Bossiaea |
| *Bossiaea prostrata* | Creeping Bossiaea |
| *Brachyloma ciliatum* | Ciliate Brachyloma |
| *Bursaria spinosa* | Prickly Box, Blackthorn |
| *Carpobrotus rossii* | Native Pigface |
| *Cassinia aculeata* | Dolly Bush |
| *Cassytha glabella* | Slender or Tangled Dodder-laurel |
| *Cassytha pubescens* | Hairy Dodder-laurel |
| *Centaurium spicatum* | Australian Centaury |
| *Centipeda minima* | Spreading Sneezeweed |
| *Clematis aristata* | Australian Clematis |
| *Clematis microphylla* | Small-leaf Clematis |
| *Comesperma calymega* | Spike or Blue-spike Milkwort |

| | | |
|---|---|---|
| *Comesperma ericinum* | Heathy Milkwort | |
| *Comesperma volubile* | Blue Love Creeper | |
| *Coprosma hirtella* | Coffee-berry | |
| *Correa alba* | White Correa, Native Fuchsia | |
| *Correa reflexa* var. *reflexa* | Common Correa | |
| *Cotula coronopifolia* | Water-buttons | |
| *Craspedia glauca* | Common Billy-buttons | |
| *Daucus glochidiatus* | Native Carrot | |
| Daviesia *ulicifolia* | Native Gorse, Gorse Bitter-pea | |
| *Dillwynia glaberrima* | Smooth Parrot Pea | |
| *Dillwynia sericea* | Showy Parrot Pea | |
| *Disphyma crassifolium* | Round-leaved Pigface | |
| *Dodonaea viscosa* | Native Hop | |
| *Drosera peltata* ssp. *auriculata* | Tall Sundew | |
| *Drosera peltata* ssp. *peltata* | Pale Sundew | |
| *Drosera pygmaea* | Dwarf Sundew | |
| *Epacris impressa* | Common Heath | |
| *Epacris lanuginosa* | Swamp Heath, Woolly-style Heath | |
| *Eucalyptus amygdalina* | Black Peppermint | |
| *Eucalyptus obliqua* | Stringybark | |
| *Eucalyptus ovata* | Swamp, Black or Marrawah Gum | |
| *Eucalyptus viminalis* ssp. *viminalis* | Manna or White Gum | |
| *Euchiton involucratus* | Cudweed | |
| *Exocarpos cupressiformis* | Native Cherry | |
| *Exocarpos strictus* | Dwarf Cherry, Pale Fruit Ballart | |
| *Gompholobium huegelii* | Bladder-pea, Pale Wedge-pea, Karella | |
| *Gonocarpus micranthus* ssp. *micranthus* | Common or Creeping Raspwort | |
| *Gonocarpus tetragynus* | Common Raspwort | |
| *Gonocarpus teucrioides* | Raspwort | |
| *Goodenia lanata* | Native Primrose | |
| *Goodenia ovata* | Parrot's Food, Hop Goodenia | |
| *Goodia lotifolia* var. *lotifolia* | Clovertree, Golden tip | |
| *Hakea teretifolia* | Dagger Hakea | |
| *Helichrysum scorpioides* | Curling Everlasting | |
| *Hemichroa pentandra* | Trailing Hemichroa | |
| *Hibbertia acicularis* | Prickly Guinea-flower | |
| *Hibbertia hirticalyx* | Guinea-flower | |
| *Hibbertia procumbens* | Spreading Guinea-flower | |
| *Hibbertia prostrata* | Prostrate Guinea-flower | |
| *Hibbertia riparia* | Erect Guinea-flower | |
| *Hibbertia sericea* | Silky Guinea-flower | |
| *Hydrocotyle callicarpa* | Pennywort | T |
| *Hymenanthera dentata* | Tree Violet | |
| *Hypericum gramineum* | Small St. Johns Wort | |
| *Indigofera australis* | Native or Hill Indigo | |
| *Lagenifera stipitata* | Blue Bottle Daisy | |
| *Lasiopetalum baueri* | Slender Velvet Bush | |
| *Leptomeria drupacea* | Current Bush | |
| *Leptospermum glaucescens* | Semi-glaucous Tea-tree | |
| *Leptospermum laevigatum* | Coast Teatree | |
| *Leptospermum lanigerum* | Woolly Tea-tree | |
| *Leptospermum scoparium* var. *scoparium* | Manuka | |
| *Leptospermum scoparium* | Manuka | |
| *Leucophyta brownii* | Cushion or Snow Bush | |
| *Leucopogon australis* | Spike Beard-heath | |
| *Leucopogon collinus* | White Beard-heath | |
| *Leucopogon ericoides* | Pink Beard-heath | |
| *Leucopogon parviflorus* | Currant Bush, Coast Beard-heath | |

| | | |
|---|---|---|
| *Leucopogon virgatus* | Common Beard-heath | |
| *Limonium australe* | Sea Lavender | |
| | | T |
| *Lobelia alata* | Angled Lobelia | |
| *Lomatia tinctoria* | Guitar Plant | |
| *Lotus australis* | Austral Trefoil | |
| *Mazus pumilio* | Swamp Mazus | |
| *Melaleuca ericifolia* | Swamp Paperbark | |
| *Melaleuca squarrosa* | Scented Paperbark | |
| *Millotia muelleri* | Common Bow-flower | T |
| *Mitrasacme pilosa* | Hairy Mitrewort | |
| *Monotoca elliptica* | Tree Broom-heath | |
| *Muehlenbeckia adpressa* | Climbing Lignum | |
| *Myoporum insulare* | Boobyalla | |
| *Myriophyllum pedunculatum* var. *pedunculatum* | Mat Water-milfoil | |
| *Myriophyllum pedunculatum* | Mat Water-milfoil | |
| *Nematolepis squamea* ssp. *squamea* | Satinwood | |
| *Neopaxia australasica* | White Purslane | |
| *Olearia viscosa* | Viscid Daisy Bush | |
| *Opercularia varia* | Variable Stinkweed | |
| *Oxylobium arborescens* | Tall Oxylobium | |
| *Ozothamnus gunnii* | Gunn's everlasting | |
| *Pelargonium australe* | Wild Geranium, Austral Storks-bill | |
| *Persoonia juniperina* | Prickly Geebung | |
| *Pimelea glauca* | Smooth Rice-flower | |
| *Pimelea humilis* | Common or Dwarf Rice-flower | |
| *Pimelea linifolia* ssp. *linifolia* | Slender Rice-flower | |
| *Pimelea nivea* | Round-leaf Rice-flower, Cotton Bush | |
| *Pittosporum bicolor* | Cheesewood, Tallow-wood | |
| *Platylobium obtusangulum* | Common Flat-pea | |
| *Platylobium triangulare* | Ivy Flat-pea | |
| *Pomaderris apetala* | Dogwood, Native Hazel | |
| *Pomaderris oraria* | Coast Pomaderris | T |
| *Poranthera microphylla* | Common Poranthera | |
| *Pultenaea daphnoides* var. *obcordata* | Native Daphne | |
| *Pultenaea dentata* | Button Pea | |
| *Pultenaea gunnii* | Golden Bush-pea | |
| *Pultenaea juniperina* | Prickly Beauty | |
| *Pultenaea pedunculata* | Matted Bush-pea | |
| *Pultenaea stricta* | Rigid Bush-pea | |
| *Pultenaea tenuifolia* | Slender Bush-pea | |
| *Ranunculus amphitrichus* | Water Buttercup | |
| *Rhagodia candolleana* ssp. *candolleana* | Coastal Saltbush | |
| *Rubus parvifolius* | Native Raspberry | |
| *Samolus repens* | Creeping Brookweed | |
| *Sarcocornia quinqueflora* ssp. *quinqueflora* | Beaded Glasswort | |
| *Sarcocornia quinqueflora* | Beaded Glasswort or Samphire | |
| *Sclerostegia arbuscula* | Shrubby Glasswort | |
| *Selliera radicans* | Swamp-weed | |
| *Sphaerolobium minus* | Globe Pea | |
| *Sprengelia incarnata* | Pink Swamp Heath | |
| *Spyridium obcordatum* | Northern Dusty Miller | T |
| *Stackhousia monogyna* | Native Mignonette, Creamy Candles | |
| *Stylidium graminifolium* | Common or Grass Trigger Plant | |
| *Stylidium perpusillum* | Small Trigger Plant | T |
| *Styphelia adscendens* | Golden Heath | |
| *Tetragonia tetragonoides* | New Zealand or Bower Spinach | |
| *Tetratheca pilosa* | Common Lilac-bells, Hairy Pink-bells | |

| | |
|---|---|
| *Veronica gracilis* | Slender Speedwell |
| *Villarsia reniformis* | Yellow or Running Marsh-flower |
| *Viola hederacea* | Ivy-leaf Violet |
| *Wahlenbergia gracilenta* | Annual Bluebell |
| *Xanthosia dissecta* | Cut-leaf Xanthosia |
| *Xanthosia pilosa* | Woolly Xanthosia |
| *Xanthosia pusilla* | Small Xanthosia |
| *Xanthosia tridentata* | Hill Xanthosia |

**MONOCOTYLEDONAE**

| | |
|---|---|
| *Acianthus caudatus* | Mayfly Orchid |
| *Acianthus pusillus* | Mosquito Orchid |
| *Austrodanthonia setacea* | Bristly or Mulga Wallaby-grass |
| *Austrostipa stipoides* | Coastal Spear-grass |
| *Baumea acuta* | Pale Twig-rush |
| *Baumea juncea* | Bare Twig-rush |
| *Burchardia umbellata* | Milkmaids, Star-of-Bethlehem |
| *Burnettia cuneata* | Lizard Orchid |
| *Caesia parviflora* | Pale Grass-lily |
| *Caladenia carnea* | Pink Fingers |
| *Caladenia caudata* | Tailed Spider Orchid |
| *Caladenia deformis* | Blue Fairies |
| *Caladenia latifolia* | Pink Fairies |
| *Centrolepis aristata* | Pointed Centrolepis |
| *Centrolepis strigosa* | |
| *Chamaescilla corymbosa* var. *corymbosa* | Blue Stars, Blue Squill |
| *Chiloglottis reflexa* | Autumn Bird Orchid |
| *Corybas diemenicus* | Stately Helmet Orchid |
| *Corybas fimbriatus* | Fringed Helmet Orchid |
| *Corybas unguiculatus* | Small Helmet Orchid |
| *Cyrtostylis reniformis* | Small Gnat Orchid |
| *Deyeuxia quadriseta* | Bent grass |
| *Dianella revoluta* | Blue Flax-lily |
| *Dianella revoluta* | Spreading or Black-anther Flax-lily |
| *Dianella tasmanica* | Blue Berry, Tasman Flax-lily |
| *Dichelachne crinita* | Plume grass |
| *Diplarrena moraea* | White Flag Iris, Butterfly Iris |
| *Dipodium roseum* | Hyacinth Orchid |
| *Distichlis distichophylla* | Australian Salt-grass |
| *Diuris orientalis* | Eastern Wallflower Orchid |
| *Diuris sulphurea* | Tiger Orchid |
| *Ehrharta distichophylla* | Hairy Rice-grass |
| *Ehrharta distichophylla* | Pointed Rice-grass |
| *Empodisma minus* | Spreading Rope-rush |
| *Eriochilus cucullatus* | Pink Autumn Orchid |
| *Eurychorda complanata* | Flat Cord-rush |
| *Gahnia filum* | Chaffy Saw-sedge, Thready Twig-rush |
| *Gahnia grandis* | Cutting Grass |
| *Gahnia radula* | Thatch Saw-sedge |
| *Glossodia major* | Wax-lip Orchid |
| *Hypolaena fastigiata* | Tassel Rope-rush |
| *Isolepis fluitans* | Floating Club-rush |
| *Isolepis nodosa* | Knobby or Knotty Club-rush |
| *Juncus bufonius* | Toad Rush |
| *Juncus kraussii* ssp. *australiensis* | Sea Rush |
| *Juncus procerus* | Great Rush |
| *Laxmannia orientalis* | Dwarf Wire-lily, Nodding Lily |

| | |
|---|---|
| *Lepidosperma concavum* | Sand or Hill Sword-sedge |
| *Lepidosperma filiforme* | Common Rapier-sedge, Thread Rapier-sedge |
| *Lepidosperma gladiatum* | Coast Sword-sedge |
| *Lepidosperma gunnii* | Little or Narrow Sword-sedge |
| *Lepidosperma laterale* | Variable or Broad Sword-sedge |
| *Lepidosperma longitudinale* | Pithy or Common Sword-sedge |
| *Leptocarpus tenax* | Slender Twine-rush |
| *Leptoceras menziesii* | Hare's Ears |
| *Lomandra longifolia* | Sagg, Long or Spiny-headed Mat-rush |
| *Luzula meridionalis* | Meridian |
| *Patersonia fragilis* | Blue Iris, Short Purple-flag Iris |
| *Patersonia occidentalis* | Long Purple-flag Iris |
| *Poa labillardierei* var. *labillardierei* | Tussock grass |
| *Poa poiformis* var. *poiformis* | Blue Tussock Grass |
| *Poa sieberiana* | Tussock grass |
| *Prasophyllum australe* | Austral Leek Orchid |
| *Prasophyllum brevilabre* | Short-lip Leek Orchid |
| *Pterostylis curta* | Blunt Greenhood |
| *Pterostylis cycnocephala* | Swan Greenhood |
| *Pterostylis decurva* | Summer Greenhood |
| *Pterostylis nutans* | Nodding Greenhood |
| *Pterostylis pedunculata* | Maroonhood |
| *Pterostylis plumosa* | Bearded Greenhood |
| *Pterostylis squamata* | Ruddy Greenhood |
| *Pyrorchis nigricans* | Fire Orchid |
| *Schoenus apogon* | Common or Fluke Bog-rush |
| *Schoenus lepidosperma* ssp. *lepidosperma* | Slender Bog-rush |
| *Schoenus nitens* | Shiny Bog-rush |
| *Spinifex sericeus* | Spinifex |
| *Spiranthes australis* | Spiral Orchid |
| *Thelymitra antennifera* | Rabbit-ears |
| *Thelymitra aristata* | Great Sun Orchid |
| *Thelymitra flexuosa* | Twisted Sun Orchid |
| *Thelymitra pauciflora* | Slender Sun Orchid |
| *Thelymitra truncata* | Truncate Sun Orchid |
| *Thelymitra* x *truncata* | Sun Orchid |
| *Thysanotus patersonii* | Twining Fringe-lily |
| *Xanthorrhoea australis* | Austral Grass-tree, Black-boy |
| *Xyris marginata* | Emarginate Yellow-eye |

**PTERIDOPHYTA**

| | |
|---|---|
| *Adiantum aethiopicum* | Common Maidenhair |
| *Asplenium flabellifolium* | Necklace Fern |
| *Azolla filiculoides* | Pacific or Red Azolla |
| *Blechnum minus* | Soft Water-fern |
| *Blechnum nudum* | Fishbone Water-fern, Black-stem |
| *Blechnum wattsii* | Hard Water-fern |
| *Calochlaena dubia* | Common Ground-fern, Rainbow Fern |
| *Cheilanthes austrotenuifolia* | Rock Fern |
| *Cheilanthes sieberi* | Narrow-rock Fern |
| *Cyathea australis* | Rough Tree-fern |
| *Dicksonia antarctica* | Tree-fern, Soft Tree-fern |
| *Gleichenia dicarpa* | Pouched Coral-fern |
| *Gleichenia microphylla* | Scrambling Coral-fern |
| *Histiopteris incisa* | Bat's Wing |
| *Huperzia varia* | Long Clubmoss |
| *Hypolepis rugosula* | Ruddy Ground-fern |

| | | |
|---|---|---|
| *Lindsaea linearis* | Screw fern | |
| *Ophioglossum lusitanicum* ssp. *coriaceum* | Austral Adder's-tongue | |
| *Phylloglossum drummondii* | Pygmy Clubmoss | T |
| *Polystichum proliferum* | Mother Shield-fern | |
| *Pteridium esculentum* | Bracken, Austral Bracken, Pteridium | |
| *Schizaea fistulosa* | Narrow Comb-fern | |
| *Selaginella uliginosa* | Swamp Selaginella | |
| *Todea barbara* | Austral King-fern | |

# Appendix 1b

## Flora of Hawley Nature Reserve (The Tasmanian Naturalist, 1991)

T = listed in the Schedules of the *Threatened Species Protection Act 1995*
I = introduced species

Nomenclature follows Buchanan, 1999

**DICOTYLEDONAE**

| | | |
|---|---|---|
| *Acacia mearnsii* | Black Wattle | |
| *Acacia myrtifolia* | Myrtle Wattle | |
| *Acacia sophorae* | Coast Wattle, False Boobyalla | |
| *Acacia suaveolens* | Sweet Wattle | |
| *Acacia terminalis* | Sunshine Wattle | |
| *Acacia verticillata* var. *ovoidea* | Prickly Mimosa, Echidna Wattle | |
| *Acacia verticillata* var. *verticillata* | Prickly Mimosa, Echidna Wattle | |
| *Acaena echinata* | Sheep's Burr | |
| *Acrotriche serrulata* | Ant's Delight | |
| *Allocasuarina littoralis* | Black Sheoak, Bulloak | |
| *Allocasuarina monilifera* | Necklace Sheoak | |
| *Allocasuarina verticillata* | Sheoak, Drooping Sheoak | |
| *Amperea xiphoclada* | Broom Spurge | |
| *Anagallis arvensis* | Scarlet pimpernel | I |
| *Aotus ericoides* | Golden Pea, Common Aotus | |
| *Aphanes arvensis* | Piert | I |
| *Astroloma humifusum* | Native Cranberry | |
| *Baeckea ramosissima* | Baeckea, Rosy Heath-myrtle | |
| *Banksia marginata* | Silver Banksia, Honeysuckle | |
| *Billardiera scandens* | Apple-berry | |
| *Bossiaea cinerea* | Showy Bossiaea | |
| *Bossiaea prostrata* | Creeping Bossiaea | |
| *Brachyscome* sp. | Daisy | |
| *Bursaria spinosa* | Prickly Box, Blackthorn | |
| *Calandrinia calyptrata* | Pink Purslane | |
| *Cassytha glabella* | Slender or Tangled Dodder-laurel | |
| *Cassytha melantha* | Dodder | |
| *Cassytha pubescens* | Hairy Dodder-laurel | |
| *Centaurium erythraea* | Pink Centuary | I |
| *Comesperma volubile* | Blue Love Creeper | |
| *Crassula sieberiana* | Stonecrop | |
| *Daucus glochidiatus* | Native Carrot | |
| *Dillwynia glaberrima* | Smooth Parrot Pea | |
| *Dodonaea viscosa* ssp.*spathulata* | Native Hop | |
| *Drosera peltata* ssp. *auriculata* | Tall Sundew | |
| *Drosera peltata* ssp. *peltata* | Pale Sundew | |
| *Epacris impressa* | Common Heath | |
| *Epacris lanuginosa* | Swamp Heath, Woolly-style Heath | |
| *Eucalyptus amygdalina* | Black Peppermint | |
| *Eucalyptus ovata* | Swamp, Black or Marrawah Gum | |
| *Euchiton involucratus* | Cudweed | |
| *Exocarpos cupressiformis* | Native Cherry | |
| *Galium australe* | Bedstraw | |
| *Gompholobium huegelii* | Bladder-pea, Pale Wedge-pea, Karella | |
| *Gonocarpus micranthus* | Common or Creeping Raspwort | |
| *Gonocarpus tetragynus* | Common Raspwort | |

| | | |
|---|---|---|
| *Goodenia lanata* | Native Primrose | |
| *Helichrysum scorpioides* | Curling Everlasting | |
| *Hibbertia empetrifolia* | Tangled Guinea flower | |
| *Hibbertia procumbens* | Spreading Guinea-flower | |
| *Hibbertia sericea* | Silky Guinea-flower | |
| *Hydrocotyle callicarpa* | Small Pennywort | T |
| *Hydrocotyle foveolata* | Yellow Pennywort | |
| *Hypericum gramineum* | Small St. Johns Wort | |
| *Hypericum japonicum* | St. Johns Wort | |
| *Hypochoeris glabra* | Annual Catweed | I |
| *Kennedia prostrata* | Running Postman | |
| *Leptomeria drupacea* | Current Bush | |
| *Leptorhynchos squamatus* | Scaly Buttons | |
| *Leptospermum lanigerum* | Woolly Tea-tree | |
| *Leptospermum scoparium* | Manuka | |
| *Leucopogon australis* | Spike Beard-heath | |
| *Leucopogon collinus* | White Beard-heath | |
| *Leucopogon ericoides* | Pink Beard-heath | |
| *Leucopogon parviflorus* | Currant Bush, Coast Beard-heath | |
| *Leucopogon virgatus* | Common Beard-heath | |
| *Lomatia tinctoria* | Guitar Plant | |
| *Melaleuca ericifolia* | Swamp Paperbark | |
| *Melaleuca squarrosa* | Scented Paperbark | |
| *Monotoca glauca* | Cheeseberry | |
| *Olearia lirata* | Dusty Daisy Bush | |
| *Olearia ramulosa* | Twiggy Daisy Bush | |
| *Opercularia ovata* | Stinkweed | |
| *Opercularia varia* | Variable Stinkweed | |
| *Oxalis perennans* | Native Soursob | |
| *Pandorea pandorana* | Wonga Vine | T |
| *Pelargonium australe* | Wild Geranium, Austral Storks-bill | |
| *Persoonia juniperina* var. *juniperina* | Prickly Geebung | |
| *Phyllangium divergens* | Wiry Mitrewort | |
| *Pimelea linifolia* ssp. *linifolia* | Slender Rice-flower | |
| *Plantago hispida* | Hairy Plantain | |
| *Platylobium formosum* | Flat-pea | |
| *Pomaderris apetala* | Dogwood, Native Hazel | |
| *Pomaderris elliptica* | Dogwood | |
| *Pomaderris pilifera* | Dogwood | |
| *Poranthera microphylla* | Small Poranthera | |
| *Pultenaea daphnoides* | Native Daphne | |
| *Pultenaea stricta* | Rigid Bush-pea | |
| *Sagina apetala* | Pearlwort | I |
| *Senecio* sp. | Fireweed | |
| *Sprengelia incarnata* | Pink Swamp Heath | |
| *Spyridium obcordatum* | Northern Dusty Miller | T |
| *Stackhousia monogyna* | Native Mignonette, Creamy Candles | |
| *Stylidium graminifolium* | Common or Grass Trigger Plant | |
| *Styphelia adscendens* | Golden Heath | |
| *Tetratheca pilosa* | Common Lilac-bells, Hairy Pink-bells | |
| *Viola hederacea* | Ivy-leaf Violet | |
| *Wahlenbergia gracilenta* | Annual Bluebell | |
| *Wahlenbergia* sp. | Bluebell | |
| *Xanthosia pilosa* | Woolly Xanthosia | |

**MONOCOTYLEDONAE**

| | | |
|---|---|---|
| *Acianthus pusillus* | Mosquito Orchid | |
| *Agrostis* sp. | Bent Grass | |
| *Aira elegans* | Elegant Hair Grass | I |
| *Austrostipa* sp. | Spear-grass | |
| *Baumea acuta* | Pale Twig-rush | |
| *Caladenia carnea* | Pink Fingers | |
| *Centrolepis aristata* | Pointed Centrolepis | |
| *Centrolepis strigosa* | Centrolepis | |
| *Chamaescilla corymbosa* | Blue Stars, Blue Squill | |
| *Chiloglottis reflexa* | Autumn Bird Orchid | |
| *Corybas* sp. | Helmet Orchid | |
| *Cyrtostylis reniformis* | Small Gnat Orchid | |
| *Cyrtostylis robusta* | Large Gnat Orchid | |
| *Danthonia* sp. | Wallaby-grass | |
| *Dianella revoluta* | Blue Flax-lily | |
| *Dianella tasmanica* | Blue Berry, Tasman Flax-lily | |
| *Diuris orientalis* | Eastern Wallflower Orchid | |
| *Ehrharta distichophylla* | Hairy Rice Grass | |
| *Empodisma minus* | Spreading Rope-rush | |
| *Eurychorda complanata* | Flat Cord-rush | |
| *Gahnia grandis* | Cutting Grass | |
| *Glossodia major* | Wax-lip Orchid | |
| *Hypolaena fastigiata* | Tassel Rope-rush | |
| *Hypoxis vaginata* | Yellow Star Lily | T |
| *Juncus capitatus* | Rush | I |
| *Laxmannia orientalis* | Dwarf Wire-lily, Nodding Lily | |
| *Lepidosperma concavum* | Sand or Hill Sword-sedge | |
| *Lepidosperma elatius* | Sedge | |
| *Lepidosperma filiforme* | Common Rapier-sedge, Thread Rapier-sedge | |
| *Lepidosperma longitudinale* | Pithy or Common Sword-sedge | |
| *Lepidosperma viscidum* | Sedge | |
| *Leptocarpus tenax* | Slender Twine-rush | |
| *Lomandra longifolia* | Sagg, Long or Spiny-headed Mat-rush | |
| *Microtis* sp. | Onion Orchid | |
| *Patersonia fragilis* | Blue Iris, Short Purple-flag Iris | |
| *Poa* sp. | Blue Tussock Grass | |
| *Pterostylis* sp. | Greenhood | |
| *Schoenus lepidosperma* ssp. *lepidosperma* | Bog-rush | |
| *Thelymitra* sp. | Sun Orchid | |
| *Themeda triandra* | Kangaroo Grass | |
| *Triglochin minutissimum* | Dwarf Arrowgrass | |
| *Wurmbea uniflora* | Early Nancy | |

**PTERIDOPHYTA**

| | | |
|---|---|---|
| *Adiantum aethiopicum* | Common Maidenhair | |
| *Cheilanthes austrotenuifolia* | Rock Fern | |
| *Gleichenia dicarpa* | Pouched Coral-fern | |
| *Lindsaea linearis* | Screw fern | |
| *Ophioglossum lusitanicum* ssp. *coriaceum* | Austral Adder's-tongue | |
| *Phylloglossum drummondii* | Pygmy Clubmoss | T |
| *Pteridium esculentum* | Bracken, Austral Bracken, Pteridium | |
| *Selaginella uliginosa* | Swamp Selaginella | |

# Appendix 2

## Known Land Vertebrates (Excluding Birds) of Narawntapu National Park

E = endemic to Tasmania
T = Listed in the Schedules of the *Threatened Species Protection Act 1995*

| | | |
|---|---|---|
| **Terrestrial Mammals** | | |
| *Ornithorhynchus anatinus* | Platypus | |
| *Tachyglossus aculeatus setosus* | Echidna | |
| *Antechinus minimus minimus* | Swamp Antechinus | |
| *Dasyurus maculatus maculatus* | Spotted-tailed Quoll | |
| *Dasyurus viverrinus* | Eastern Quoll | |
| *Sarcophilus harrisii* | Tasmanian Devil | |
| *Sminthopsis leucopus leucopus* | White-footed Dunnart | |
| *Isoodon obesulus affinus* | Brown Bandicoot | |
| *Perameles gunnii* | Eastern Barred Bandicoot | |
| *Vombatus ursinus tasmaniensis* | Common Wombat | |
| *Pseudocheirus peregrinus viverrinus* | Ringtail Possum | |
| *Trichosurus vulpecula fuliginosus* | Brushtail Possum | |
| *Cercartetus nanus nanus* | Eastern Pygmy Possum | |
| *Bettongia gaimardi* | Bettong | E |
| *Potorous tridactylus apicalis* | Potoroo | |
| *Macropus giganteus tasmaniensis* | Forester Kangaroo | |
| *Macropus rufogriseus rufogriseus* | Bennetts Wallaby | |
| *Thylogale billardierii* | Tasmanian Pademelon | E |
| *Hydromys chrysogaster* | Water Rat | |
| *Rattus lutreolus* | Swamp Rat | |
| **Bats** | | |
| *Vespadelus spp.* | Vespadelus | |
| *Nyctophilus spp.* | Long-eared Bat | |
| *Chalinolobus spp.* | Wattled Bat | |
| **Terrestrial reptiles** | | |
| *Tympanocryptis diemensis* | Mountain Dragon | |
| *Bassiana duperryi* | Three-lined Skink | |
| *Cyclodomorphus casuarinae* | She-oak Skink | |
| *Egernia whitii* | White's Skink | |
| *Lampropholis delicata* | Delicate Grass Skink | |
| *Niveoscincus metallicus* | Metallic Skink | |
| *Niveoscincus ocellatus* | Spotted Skink | |
| *Niveoscincus pretiosus* | Tasmanian Tree Skink | |
| *Tiliqua nigrolutea* | Blotched Blue-tongue Lizard | |
| *Austrelaps superbus* | Copperhead | |
| *Drysdalia coronoides* | White-lipped Whip Snake | |
| *Notechis ater* | Tiger Snake | |
| **Amphibians** | | |
| *Crinia signifera* | Brown Froglet | |
| *Litoria ewingi* | Brown Tree Frog | |
| *Litoria raniformis* | Green and Gold Frog | T |
| *Limnodynastes dumerili* | Eastern Banjo Frog | |
| *Limnodynastes tasmaniensis* | Spotted Marsh Frog | |
| *Geocrinia laevis* | Smooth Froglet (not recorded in recent times) | |

**Exotic And Feral Species**

| | |
|---|---|
| *Mus musculus* | House Mouse |
| *Rattus rattus* | Black Rat |
| *Oryctolagus cuniculus* | Rabbit |
| *Felis catus* | Cat |

# Appendix 3

## Birds Of Narawntapu National Park

**Pinner, 1976; Cooper, 1980s;Wild, 1994; Berry, 1996; Simco 1995 & 1997; Birds Tasmania, 1998.**

T = Listed in the Schedules of the *Threatened Species Protection Act 1995*
i = introduced species

| | | |
|---|---|---|
| *Coturnix ypsilophora* | Brown Quail | |
| *Oxyura australis* | Blue-billed Duck | |
| *Biziura lobata* | Musk Duck | |
| *Cygnus atratus* | Black Swan | |
| *Cereopsis novaehollandiae* | Cape Barren Goose | |
| *Tadorna tadornoides* | Australian Shelduck | |
| *Chenonetta jubata* | Australian Wood duck | |
| *Anas superciliosa* | Pacific Black Duck | |
| *Anas rhynchotis* | Australasian Shoveler | |
| *Anas gracilis* | Grey Teal | |
| *Anas castanea* | Chestnut Teal | |
| *Tachybaptus novaehollandiae* | Australasian Grebe | |
| *Poliocephalus poliocephalus* | Hoary-headed Grebe | |
| *Podiceps cristatus* | Great Crested Grebe | T |
| *Eudyptula minor* | Little Penguin | |
| *Morus serrator* | Australasian Gannet | |
| *Phalacrocorax melanoleucos* | Little Pied Cormorant | |
| *Phalacrocorax sulcirostris* | Little Black Cormorant | |
| *Phalacrocorax carbo* | Great Cormorant | |
| *Pelecanus conspicillatus* | Australian Pelican | |
| *Egretta novaehollandiae* | White-faced Heron | |
| *Egretta garzetta* | Little Egret | |
| *Ardea pacifica* | White-necked Heron | |
| *Ardea alba* | Great Egret | |
| *Botaurus poiciloptilus* | Australasian Bittern | |
| *Haliaeetus leucogaster* | White-bellied Sea-Eagle | |
| *Circus approximans* | Swamp Harrier | |
| *Accipiter fasciatus* | Brown Goshawk | |
| *Aquila audax* | Wedge-tailed Eagle | T |
| *Falco berigora* | Brown Falcon | |
| *Falco peregrinus* | Peregrine Falcon | |
| *Falco cenchroides* | Nankeen Kestrel | |
| *Rallus pectoralis* | Lewin's Rail | |
| *Porzana tabuensis* | Spotless Crake | |
| *Gallinula tenebrosa* | Dusky Moorhen | |
| *Gallinula mortierii* | Tasmanian Native Hen | |
| *Fulica atra* | Eurasian Coot | |
| *Limosa lapponica* | Bar-tailed Godwit | |
| *Numenius madagascariensis* | Eastern Curlew | |
| *Tringa nebularia* | Common Greenshank | |
| *Calidris ruficollis* | Red-necked Stint | |
| *Calidris melanotus* | Pectoral Sandpiper | |
| *Calidris ferruginea* | Curlew Sandpiper | |
| *Haematopus longirostris* | Pied Oystercatcher | |
| *Haematopus fuliginosus* | Sooty Oystercatcher | |
| *Pluvialis fulva* | Pacific Golden Plover | |
| *Charadrius ruficapillus* | Red-capped Plover | |
| *Charadrius bicinctus* | Double-banded Plover | |
| *Elseyornis melanops* | Black-fronted Dotterel | |
| *Thinornis rubricollis* | Hooded Plover | |
| *Vanellus tricolor* | Banded Lapwing | |
| *Vanellus miles* | Masked Lapwing | |
| *Larus pacificus* | Pacific Gull | |
| *Larus novaehollandiae* | Silver Gull | |
| *Sterna caspia* | Caspian Tern | |
| *Sterna bergii* | Crested Tern | |
| *Sterna hirundo* | Common Tern | |
| *Phaps chalcoptera* | Brush Bronzewing | |
| *Calyptorhynchus funereus* | Yellow-tailed Black Cockatoo | |
| *Platycercus caledonicus* | Green Rosella | |

| | | | |
|---|---|---|---|
| *Lathamus discolor* | Swift Parrot | | T |
| *Neophema chrysostoma* | Blue-winged Parrot | | |
| *Pezoporus wallicus* | Ground Parrot | | |
| *Cuculus pallidus* | Pallid Cuckoo | | |
| *Cacomantis flabelliformis* | Fan-tailed Cuckoo | | |
| *Chrysococcyx basalis* | Horsfields Bronze-Cuckoo | | |
| *Chrysococcyx lucidus* | Shining Bronze-Cuckoo | | |
| *Ninox novaeseelandiae* | Southern Boobook | | |
| *Tyto novaehollandiae* | Masked Owl | | |
| *Tyto alba* | Barn Owl | | |
| *Podargus strigoides* | Tawny Frogmouth | | |
| *Hirundapus caudacutus* | White-throated Needletail | | |
| *Dacelo novaeguineae* | Laughing Kookaburra | i | |
| *Malurus cyaneus* | Superb Fairy-Wren | | |
| *Pardalotus punctatus* | Spotted Pardalote | | |
| *Pardalotus striatus* | Striated Pardalote | | |
| *Sericornis humilis* | Tasmanian Scrubwren | | |
| *Calamanthus fuliginosus* | Striated Fieldwren | | |
| *Acanthiza pusilla* | Brown Thornbill | | |
| *Acanthiza ewingii* | Tasmanian Thornbill | | |
| *Acanthiza chrysorrhoa* | Yellow-rumped Thornbill | | |
| *Anthochaera paradoxa* | Yellow Wattlebird | | |
| *Anthochaera chrysoptera* | Little Wattlebird | | |
| *Lichenostomus flavicollis* | Yellow-throated Honeyeater | | |
| *Melithreptus validirostris* | Strong-billed Honeyeater | | |
| *Melithreptus affinus* | Black-headed Honeyeater | | |
| *Phylidonyros pyrrhoptera* | Crescent Honeyeater | | |
| *Phylidonyros novaehollandiae* | New Holland Honeyeater | | |
| *Phylidonyris melanops* | Tawny-crowned Honeyeater | | |
| *Acanthorhynchus tenuirostris* | Eastern Spinebill | | |
| *Epthianura albifrons* | White-fronted Chat | | |
| *Petroica multicolor* | Scarlet Robin | | |
| *Petroica phoenicea* | Flame Robin | | |
| *Melanodryas vittata* | Dusky Robin | | |
| *Pachycephala olivacea* | Olive Whistler | | |
| *Pachycephala pectoralis* | Golden Whistler | | |
| *Colluricincla harmonica* | Grey Shrike-Thrush | | |
| *Myiagra cyanoleuca* | Satin Flycatcher | | |
| *Rhipidura fuliginosa* | Grey Fantail | | |
| *Cocacina novaehollandiae* | Black-faced Cuckoo Shrike | | |
| *Artamus cyanopterus* | Dusky Wood Swallow | | |
| *Cracticus torquatus* | Grey Butcherbird | | |
| *Strepera fuliginosa* | Black Currawong | | |
| *Strepera versicolor* | Grey Currawong | | |
| *Corvus tasmanicus* | Forest Raven | | |
| *Alauda arvensis* | Skylark | i | |
| *Anthus novaeseelandiae* | Richard's Pipit | | |
| *Passer domesticus* | House Sparrow | i | |
| *Stagonopleura bella* | Beautiful Firetail | | |
| *Carduelis chloris* | European Greenfinch | i | |
| *Carduelis carduelis* | European Goldfinch | | i |
| *Hirundo neoxena* | Welcome Swallow | | |
| *Hirundo nigricans* | Tree Martin | | |
| *Megalurus gramineus* | Little Grassbird | | |
| *Zosterops lateralis* | Silvereye | | |
| *Zoothera lunulata* | Bassian Thrush | | |
| *Turdus merula* | Common Blackbird | | i |
| *Sturnus vulgaris* | Starling | i | |

Note: Bird species names follow the taxonomy of Christidis & Boles (1994)

# Appendix 3b

## Birds of Hawley Nature Reserve

**(The Tasmanian Naturalist, 1991)**

| | |
|---|---|
| *Circus approximans* | Swamp Harrier |
| *Cacomantis flabelliformis* | Fan-tailed Cuckoo |
| *Chrysococcyx lucidus* | Shining Bronze-Cuckoo |
| *Dacelo novaeguineae* | Laughing Kookaburra |
| *Malurus cyaneus* | Superb Fairy-Wren |
| *Pardalotus punctatus* | Spotted Pardalote |
| *Pardalotus striatus* | Striated Pardalote |
| *Sericornis humilis* | Tasmanian Scrubwren |
| *Calamanthus fuliginosus* | Striated Fieldwren |
| *Acanthiza pusilla* | Brown Thornbill |
| *Anthochaera paradoxa* | Yellow Wattlebird |
| *Lichenostomus flavicollis* | Yellow-throated Honeyeater |
| *Phylidonyros pyrrhoptera* | Crescent Honeyeater |
| *Phylidonyros novaehollandiae* | New Holland Honeyeater |
| *Acanthorhynchus tenuirostris* | Eastern Spinebill |
| *Colluricincla harmonica* | Grey Shrike-Thrush |
| *Rhipidura fuliginosa* | Grey Fantail |
| *Cocacina novaehollandiae* | Black-faced Cuckoo Shrike |
| *Cracticus torquatus* | Grey Butcherbird |
| *Corvus tasmanicus* | Forest Raven |
| *Stagonopleura bella* | Beautiful Firetail |
| *Hirundo neoxena* | Welcome Swallow |
| *Sturnus vulgaris* | Starling |

Note: Bird species names follow the taxonomy of Christidis & Boles (1994)

# Appendix 4

## Performance Indicators

Performance indicators provide a guide for evaluating if the management plan has been implemented, and if the management objectives of the plan have been achieved. During the life of this plan, further, more detailed research and monitoring programs, policies or procedures approved by the managing authority may be applied to evaluation of this plan and its implementation. As a minimum, the following performances indicators will be used when evaluating the plan's implementation and outcomes.

- The natural biological diversity of the indigenous flora and fauna in the Park and Reserves is at least equal to that which occurred at the commencement of the plan.
- Populations of threatened species within the Park are stable or increasing upon that which occurred at the commencement of the plan.
- The significant natural landscapes and catchments in the Park and Reserve are intact or restored.
- Water quality in the Park and Reserve has not deteriorated or has improved.
- Geological diversity and sites of geodiversity significance in the Park and Reserve are intact or restored.
- Sites and areas of Aboriginal heritage are protected, managed and, in appropriate circumstances, interpreted in cooperation with the Aboriginal community.
- Cooperative management programs with Aboriginal people are in place in areas of significance to them, consistent with this management plan.
- Sites and areas of historic heritage are protected, managed and, in appropriate circumstances, interpreted.
- An interpretation plan for the Park has been prepared, implemented and reviewed.
- Research is available which improves the knowledge of the Park and the Reserve.
- Research and monitoring results are available which assist effective management decision making on conservation and management of the Park and the Reserve and visitors to them.
- Damaged or degraded areas of the Park and the Reserve have been stabilised or rehabilitated and restored.
- Fire management programs for the Park and Reserve have been undertaken.
- Park and Reserve values and neighbouring lands have not been adversely impacted upon by fire.
- *Phytophthora* and other plant diseases have not spread into areas unaffected at the commencement of the plan.
- Introduced flora and fauna are controlled or have been eradicated.
- The recreational and tourism character of the Park and Reserve is one of quietness and relaxation in an attractive natural setting.
- Site plans for all visitor services zones have been prepared and implemented.
- Coordinated and integrated site planning has been undertaken and implemented for all developments.
- Recreation and tourism opportunities and facilities identified in the management plan or in site planning have been developed in accordance with the plans.

- Visitor impacts on Park and Reserve values are at sustainable levels for the zone or area in which they occur.
- Visits to the Park have increased since approval of the plan.
- Visitor, community, and Wildcare interest and involvement in, and comment upon, the state of the Park and the Reserve, and their management, is regular and predominantly favourable.