

Kent Group National Park (Terrestrial Portion)



Management Plan 2005



Parks and Wildlife Service Tasmania

DEPARTMENT of TOURISM, PARKS, HERITAGE
and the ARTS

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National Park
(Terrestrial Portion)

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PARKS *and* WILDLIFE
SERVICE TASMANIA

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This management plan for the terrestrial portion of the Kent Group National Park has been prepared in accordance with the requirements of Part 3 of the *National Parks and Reserves Management Act 2002*.

Unless otherwise specified, this plan adopts the interpretation of terms given in the *National Parks and Reserves Management Act 2002*. The term 'Minister' when used in the plan means the Minister administering this Act. The terms 'reserve', 'park', 'national park' and 'Kent Group National Park' when used in the plan, unless the context clearly refers also to marine areas, refer to the terrestrial portions only of the larger park. As of 22 December 2004 the Kent Group National Park now includes a significant marine portion which is not covered under this plan.

In accordance with Section 30(1) of the *National Parks and Reserves Management Act 2002*, the managing authority for the reserve, in this case the Director of National Parks and Wildlife, shall carry out his or her duties in relation to the reserve for the purpose of giving effect to, and in accordance with the provisions of, this management plan. The position of Director is held by the Secretary of the Department of Tourism, Parks, Heritage and the Arts.

A draft of this plan was released for public comment in accordance with statutory requirements from 16 August 2003 to 30 September 2003. Twenty three representations were received. This plan is a modified version of that draft, having been varied to take account of public representations, the views of the National Parks and Wildlife Advisory Council and the advice to the Minister provided by the Resource Planning and Development Commission report of October 2004.

The plan will be reviewed ten years after approval by the Governor.

The appendices do not form part of the statutory plan, but are provided as additional information to assist in management.

Acknowledgments

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

Approval

This management plan was approved by His Excellency the Governor-in-Council on 23 March 2005 and took effect on 18 May 2005, being seven days after publication of that approval in the *Government Gazette*. Those provisions that authorise the exercise of other statutory powers (Section 4.1) are of no effect until their inclusion is approved by both Houses of Parliament.

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Cover photographs: Erith and Dover Islands from Deal Island. Photos by Steve Cronin.

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Summary

Kent Group National Park is Tasmania's newest national park. Named after the captain of the first fleet vessel *Supply*, the Kent Group is an archipelago of five main islands and associated off-shore rocks with a total area of 2,374 hectares. It is isolated from mainland Tasmania on the northern side of Bass Strait and access is by boat or helicopter. While Deal and Erith, the two largest islands of the group, are quite easy for the mariner to land on, the other islands are much more difficult to land on and have been little visited.

Park Values

The Deal Island Lightstation, an historic heritage site of outstanding significance, is one of the most important lightstations in Australia and is on the Register of the National Estate as well as the Tasmanian Heritage Register.

Several sites relating to Aboriginal occupation are known and are of particular significance in assisting develop an understanding of the settlement of Tasmania by Aboriginal people.

The islands of the park have major nature conservation significance in providing breeding habitat for seals and seabirds. Two small islets, North East and South West islands, support large colonies of breeding seabirds including penguins, shearwater, fairy prion, Pacific gull, common diving petrel and sooty oystercatcher. Judgment Rocks, an islet of the park, supports the largest Australian fur seal breeding colony in Tasmania.

Five sites of geoconservation significance have been recorded.

The islands have important natural and cultural landscape values, along with the aesthetic values associated with remoteness and isolation.

The park flora has biogeographic significance, being transitional between mainland and Tasmania floras. Of all the larger Bass Strait Islands, Dover Island may well be the least disturbed by human influences. Its heath communities are unique and only reserved in this location. Within the broader park there are 14 individual species listed under the *Threatened Species Protection Act 1995*.

The primary recreation value of the park is as an off-shore destination for Victorian pleasure-boat owners. Other visitors include the 'Erith Mob', sea kayakers and commercial fishers. Visitor numbers are less than 1000 per annum.

Threats to Park Values

Given the isolation of the park, the critical management issue is how to provide adequate protection to values, particularly the lightstation on Deal Island. A management presence is considered the prime requisite. The cost to the Crown of providing a ranger presence, or alternatively supporting a volunteer presence, is considerable.

Other major management issues include wildfires, weeds, introduced pests including cats and rabbits, and vulnerability to increased disturbance of important breeding habitat for seals and seabirds on the more isolated islets of the park.

Vision

A future visitor to Kent Group National Park finds an intact and well-presented lightstation on Deal Island, healthy natural biodiversity free of exotic species (both flora and fauna), and viable populations of all indigenous species. The park continues to provide a safe breeding haven for key species such as the Australian fur seal and many seabird species.

Relatively small numbers of visitors enjoy the park for its special natural and cultural landscapes. Visitor facilities are relatively few, unobtrusive and basic in character.

Management Proposals

The plan provides a clear basis for the management of the values of the park.

Prior to this management plan being prepared, Deal Island has been the subject of two separate 'expression of interest' processes to locate a tourism operator interested in establishing on the island. It has been considered that, if successful, a partnership arrangement between the Crown and an operator could provide long-term benefits to both parties. Many potential benefits could accrue to the Crown, most importantly a permanent management presence on Deal Island. Commercial benefit could accrue to the tourism operator. The current 'expressions of interest' process has been put on hold while this plan is developed. A major purpose of this plan then is the establishment of ground rules for the development of such a partnership in the park.

The major plan initiative aimed at long-term conservation of the heritage values of the lightstation is the establishment of a commercial basis for future permanent occupation of Deal Island. Pivotal here is the provision of defined development rights both within the lightstation residential precinct and outside it. Development rights within the lightstation residential precinct are designed to assist the maintenance of this residential function. Development rights outside the lightstation residential precinct are limited to the Visitor Services Zone on Erith Island and the Conservation 2 Zone (with special use overlay) on Deal Island. Development rights associated with the Conservation Zone 2 (with special use overlay) will lapse if an 'in principle' agreement is not in place within one year of the plan being finalised.

To protect the important natural and cultural landscapes of the park a zoning system is proposed to guide future development into less sensitive areas.

An important initiative of the plan is further protection of vulnerable seabird breeding habitat on the three small islets in the park.

There are key outcomes with respect to erosion, weed management, exotic animal management and monitoring.

Section 1 Overview

1.1 Location and Access

Kent Group National Park is located approximately midway between the northern extremity of Flinders Island and the southern tip of Wilsons Promontory in eastern Bass Strait (see Map 1). While physically much nearer to Victoria than the main island of Tasmania, the park is part of Tasmania, the State boundary being an artefact of colonial history. The archipelago (see Map 2) consists of three main islands Deal, Erith and Dover two small islands North East and South West and a series of off-shore rocks including Judgment Rocks.

The archipelago can be accessed by sea or air, but getting there can be relatively difficult. Small fixed-wing aircraft have in the past landed on Deal Island, however the grass landing strip, considered to be unsafe, has been closed. Passage by small boat to the archipelago is also subject to hazards, as the following description indicates:

the prevalence of strong winds, the uncertainty of either the set or the force of currents, the number of small rocks, islets and shoals... combine to render Bass' Strait under any circumstances an anxious passage for a seaman to enter

Sir John Franklin, Governor of Van Diemens Land, 1841

Murray Pass with its associated bays offers relatively safe anchorage for small to medium-sized vessels. This area, protected from ocean swells and with sand or shingle beaches, provides the mariner easy landing access to Deal and Erith islands. By contrast, Dover, North East and South West islands and Judgment Rocks are much more difficult to land on. These islands are largely surrounded by steep rocky shorelines or precipitous cliffs and/or their leeward sides provide little protection from ocean swells.

The nearest Tasmanian settlement is Palana on northern Flinders Island, located 55 kilometres away. Whitemark, 95 kilometres away, is the nearest major town. The national park is also located approximately midway between Melbourne and Launceston.

The archipelago is within the Flinders Island municipal boundaries.

1.2 Climate

The park experiences a mild maritime climate, with an absence of extremes. The average daily maximum temperature is 12°C in mid-winter and 20°C in mid-summer, and the average daily minimum is 8°C in mid-winter and 14°C in mid-summer. Summer temperatures almost never exceed 30°C while winter frosts almost never occur either. Relative humidity is consistently quite high throughout the year.

Map 1 (see separate pdf file)

Map 2 (see separate pdf file)

Average rainfall is about 720 mm per year. This rain is well scattered through the year but more falls in winter, with an average of about 80 mm in July declining to about 35 mm in February.

The island group is windy. Winds predominate from the north and north-west although summer easterlies are also common. Winds in excess of 30 km/h are common throughout the year, but with increased frequency in mid-winter, while calms are rare.

1.3 Regional Context

The existence of relatively safe anchorages in the Kent Group has meant the islands have historically been important as a haven for shipping during Bass Strait storm events.

The island group continues to be an important safe haven for commercial fishers, and both a haven and destination for recreational mariners. The group is located within a corridor of other islands stretching across Bass Strait, each within easy eyesight from the next. This relationship reinforces the group's importance to recreational mariners.

The waters in and around the group have in the past supported some commercial fishing activities, including by Victorian-based holders of Tasmanian fishing licences. Fish taken include shark, wrasse and other scalefish, rock lobster and abalone.

Kent Group Marine Protected Area

The waters around the group have unique conservation significance for Tasmania, being located at the southernmost extent of the Twofold Shelf bioregion, which extends up the southern Australian coast into New South Wales. It is the only location representing this bioregion in Tasmanian waters. Additionally the waters around the group have a wide diversity of habitats. Dive surveys reveal these waters to have the highest fish diversity for any one location in Tasmania. On 3 February 2004, the Minister for Environment and Planning announced the creation of the Kent Group Marine Protected Area (MPA) following the recommendations of the Resource Planning and Development Commission. The Kent Group MPA covers an area of approximately 29,000 hectares and includes a Sanctuary Zone (or no take zone) and a Habitat Protection Zone (or restricted take zone). The Kent Group MPA has yet to be formally proclaimed as a national park under the *Nature Conservation Act 2002*.

The Tasmanian Natural Resource Management Framework

The Kent Group National Park is part of the northern natural resource management region, as established under the *Natural Resource Management Act 2002*. The main task of the Northern Natural Resource Management Regional Committee is to develop and implement a regional strategy, to be accredited by the State and the Commonwealth.

The regional committee includes representation from the Parks and Wildlife Service, and national parks are to be taken into account when identifying the region's natural values and its NRM priorities. The regional committee's role in setting priorities and recommending funding merits it being informed of all significant management proposals for the national park. The *Natural Resource Management Act 2002* does not, however, affect the statutory processes for establishing and managing the park.

1.4 Reservation History

1915 Ownership of Deal Island is formally transferred to the Commonwealth government.

1971 With the concurrence of the Commonwealth Deal Island is proclaimed a 'District' under the *Animals and Birds Protection Act 1928*.

1971 Under the transitory provisions of the *National Parks and Wildlife Act 1970*, the island becomes a conservation area.

1978 Deal Island is placed on the Register of the National Estate on account of its natural history values.

1978 Judgment Rocks is proclaimed as a nature reserve, due to its significance as an Australian fur seal breeding colony.

1998 Ownership of Deal Island returns to the Tasmanian Government, paving the way for proclamation of the national park.

2001 The Kent Group National Park is officially proclaimed.

The proclamation details indicate the national park has a total area of 2,374 hectares and extends to low water mark.

The Deal Island Lightstation, including the ruins and associated buildings, are on the Tasmanian Heritage Register. The waters around the group are also listed on the Register of the National Estate.

Values, Purposes, Objectives and Day-to-day Management

A national park is a category of reserve under the Tasmanian reserve system. Each reserve category has values, purposes and objectives defined in legislation as follows.

Values

Under the *Nature Conservation Act 2002* a national park is a large natural area of land containing a representative or outstanding sample of major natural regions, features or scenery.

Purposes

The purposes of reservation of national parks, as set out in the *Nature Conservation Act 2002* are for 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. This purpose is confirmed by this management plan.

Objectives

The management objectives of a national park are set out in the *National Parks and Reserves Act 2002*. All of the objectives for national parks set out in the Act apply to the Kent Group National Park.

Because of the complex interrelationship of factors to be considered in managing the national 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 management plan. The sections of the management plan that primarily deal with each management objective in the Act are shown in brackets.

The management objectives are:

- to conserve natural biological diversity (see Sections 2.4 and 2.5);
- to conserve geological diversity (see Section 2.1);
- to preserve the quality of water and protect catchments (see Section 2.3);
- to conserve sites or areas of cultural significance (see Section 2.6 and 2.7);
- to encourage education based on the purpose of reservation and the natural or cultural values of the national park, or both (see Section 5.6)
- to encourage research, particularly that which furthers the purpose of reservation (see Section 6.3);
- 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 (see Section 3);
- to encourage and provide for tourism, recreational use and enjoyment consistent with the conservation of the national park's natural and cultural values (see Section 5);
- 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 (see Section 2.6);
- to preserve the natural, primitive and remote character of wilderness areas (see Section 2.2).

Specific Park Objectives

To maintain park values, and to achieve the vision, specific objectives are set out below. These elaborate upon and give emphasis to the statutory management objectives in the light of the particular features, circumstances, issues and values that prevail in the park, as identified in this management plan.

- To sustain the naturalness and lack of recent human disturbance of the island landscapes, preserving the sense of a simple, lonely and isolated lightstation settlement focussed on the task of maritime safety.

Day-to-day Management

This plan is intended to provide a broad strategic framework and direction for operational management, identify key actions and then to outline practices and processes to deal with day-to-day circumstances. In this respect the *Reserve Management Code of Practice 2003* (PWS 2003) is a critical management tool. The document establishes appropriate management practices and standards for reserved lands.

- Use the Reserve Management Code of Practice 2003 to establish appropriate day-to-day management practices and standards.”

Section 2 Park Conservation

2.1 Geodiversity

Geodiversity refers to the natural range of bedrock, landform and soil features, assemblages, systems and processes. Geodiversity includes evidence for the history of the earth including past life, ecosystems, and environments, as well as a range of processes (biological, hydrological and atmospheric) currently acting on rocks, landforms and soils. These features may be vulnerable to disturbance and could have conservation values requiring protection and management.

In broad terms the geology of most Bass Strait islands can be characterised as a Palaeozoic basement consisting of folded quartzites and argillites (the Mathinna Beds) intruded by granites, and then overlain by a superficial layer of unconsolidated Cainozoic sediments. The granitic intrusions are exposed as peaks, rising above the now largely drowned Bassian Plain. This plain has, through successive iceages, been cyclically drowned and revealed. The last iceage revealing the plain and land bridge connection to mainland Australia occurred about 18,000 years ago. The post ice-age sea level rise stabilised at current levels about 6,000 years ago.

The Park typifies the region's geological history, being composed of a granite intrusion, overlain by younger sediments. The granite, part of a large batholith extending from Wilsons Promontory to northeast Tasmania, is typically coarse grained, but includes fine grained zones and xenoliths (AHPI 1989). Changes in texture and major north-east to north-west and east to west jointing directions in the granite give rise to the 'octopus' shape of Deal Island (AHPI 1989).

During an early Quaternary ice-age low sea levels exposed the continental shelf and wind-blown sands deposited in the group, typically along the west/windward side of islands. The calcareous dunes have subsequently been subject to consolidation and secondary cementation, forming aeolianite. These limestone and limesand deposits now veneer the group's granite bedrock.

The group is high compared to many others, rising to 305 metres above sea level at its highest point on Deal Island. Map 3 presents the topography and drainage of the main islands of the group. The altitudinal variation in so small an area results in many steep slopes.

Soils

The variability of soils in the group is often dramatic. Soils deriving from the aeolianite are highly alkaline (pH up to 9.5) while those deriving from the group's coarse granities are acidic (pH as low as 4.5).

Conservation Significance

Sites of conservation significance are listed on the Tasmanian Geoconservation Database. Five sites in the Kent Group are listed (see Table 1).

Map 3 (see separate pdf file)

Table 1 - Tasmanian Geoconservation Database Listed Sites – Kent Group National Park

Feature	Significance	Sensitivity
High level aeolian limestone found on Deal Island	Outstanding at the local level	Sensitive to higher intensity but shallow generalised disturbance on site
Raised sea cave, the ‘Great Cave’ on Erith Island	Representative and outstanding at the local level	Sensitive to major removal of geo-material, or large scale excavation or construction
Lithologically-controlled geomorphology on Judgment Rocks	Representative and outstanding at the local level	Sensitive to major removal of geo-material, or large scale excavation or construction
Cobble tombolo, the ‘Swashway’ between Dover and Erith islands	Outstanding at the local level	Sensitive to deliberate linear or generalised shallow excavation
Subfossil bone deposits in cross-bedded aeolian sands, the ‘Valley of Dry Bones’, Winter Cove, Deal Island	Outstanding at the local level	Sensitive to damage by scientific or hobby collecting or sampling, or by deliberate vandalism or theft

Management Issues

The five sites of geoconservation significance have varying degrees of sensitivity to damage (see Table 1).

Deal Island’s light sandy soils, steep slopes and extensive land clearance for grazing of (see Section 2.4) have resulted in some localised but severe gully erosion issues.

Aims

The aims of geoconservation in the park are to:

- preserve and maintain sites of geoconservation significance and geodiversity; and
- maintain the natural rates and magnitudes of change in earth processes.

Prescriptions

- 2.1.1 Investigate the significant cave on Erith Island as a matter of priority, as well as one on South West Island.
- 2.1.2 Encourage research to further refine knowledge of the geoconservation values of the park.
- 2.1.3 Ensure management and developments do not affect the integrity of sites of geoconservation significance or have an impact on earth surface processes.

- 2.1.4 Consider ways of stabilising/rehabilitating sites of severe gully erosion
- 2.1.5 Land rehabilitation and stabilisation with potentially damaging impacts will only be carried out after a geological and geomorphological assessment is undertaken.
- 2.1.6 Potential impacts on geodiversity and earth processes will be assessed when planning any development or action.
- 2.1.7 A written authority will be required to collect any earth materials.

2.2 Natural and Cultural Landscape Values

Notions of wilderness, landscape and cultural landscape values are cultural constructs, with different meaning for different people. For most Australians, however, the Kent Group National Park clearly possesses both natural and cultural landscape values.

The comprehensive regional assessment (CRA) conducted as part of the Regional Forest Agreement determined wilderness quality across most of the state using four 'wilderness quality indicators' as follows:

- remoteness from settlement;
- remoteness from established access routes;
- apparent naturalness;
- biophysical naturalness.

While the CRA failed to consider the wilderness values of the group, it is clear that the group would score moderately high. As Mullett and Murray-Smith (1967) write:

[these islands]... despite some rather rude remarks passed about them by early explorers, are perhaps the grandest in natural scenery of all the 126 islands and islets which sprinkle Bass Strait.

Deal Island... rises to nearly one thousand feet, with spectacular granite cliffs and a number of delightful secluded coves.

The Deal Island Lightstation also forms an important cultural landscape. The cultural landscape is given considerable power by its setting, scale and consistency of form and colour. The light tower is a strong focal point in a landscape otherwise dominated by nature. Sited at an elevation of 305 metres atop Lighthouse Hill, the highest point of the island, the tower's built form is juxtaposed by the encircling massive coastal cliffs and the ocean itself. But from many vantage-points the tower is also visually connected to the spare residential and wharf precincts located several kilometres away and below. This connection is reinforced by the relatively open character of the vegetation around the residential precinct, and by the strong uniformity given to all the built elements by being painted white. To this extent the whole of the island becomes a cultural and symbolic landscape.

With Australia's emerging nation-status came recognition of the urgent and profound need to secure maritime connections. This required both considerable capital for infrastructure, and men and their families prepared to live in the loneliest and most isolated of locations. As indicated in the conservation plan (see Section 2.7):

[the]... sparsely developed context of the island is critical to the appreciation of the lightstation and must be preserved ...

Nelsen et al 1992

The cultural landscape of Deal Island is revealed in at least three distinct layers. Prior to white contact the island vegetation was thickly wooded, probably much like the present day vegetation on Dover Island. Areas of thickly wooded land remain on Deal Island, providing a strong link to pre-contact landscapes. Overlying this, much of the original 1846 era lightstation survives. For instance views past the commandants cottage to the light tower must be very similar to views of that era. The view-field is largely uninterrupted by more contemporary development, while open grass paddocks sweep across the saddle on which the residential precinct is built, likely much as it was when originally cleared to support the lightkeeper's stock. Since then successive layers of development have been added to the lightstation (see Section 2.7), particularly in the 1930s and again in the late 1960s, and both of these building periods are easily read in the landscape.

Management Issues

Inappropriate development on the island group clearly has the ability to jeopardise natural and cultural landscape values.

Aims

The aims of natural and cultural landscape conservation in the park are to:

- sustain naturalness and a lack of recent human disturbance;
- preserve a sense of a simple, lonely and isolated settlement focussed on the task of maritime safety.

Prescriptions

- 2.2.1 Retain the essential character of the present landscapes. Cultural and natural landscape values will be protected through appropriate zoning and development controls (see Sections 2.7, 4.3 and 6.1).

2.3 Water Quality

The protection of the quality of Tasmania's terrestrial water resources is important to securing the state's future. To ensure adequate levels of protection, the *State Policy on Water Quality Management 1997* now requires that protected environmental values (PEVs) and water quality objectives are set for all surface water bodies around the state. PEVs have been set for the Kent Group National Park (DPIWE 2002).

Aims

The aims of water quality management are to:

- maintain or enhance aquatic ecosystems; and
- maintain or enhance recreational water quality.

Prescriptions

- 2.3.1 Surface waters in the park will be managed to protect water quality. As a minimum, water quality will conform with the PEVs established for the park.
- 2.3.2 Liaise with other relevant agencies and lease/licence holders to ensure integrated management of the catchments of the park.

2.4 Flora

Systematic cataloguing of the flora of the Kent Group commenced with the 1803 visit by the eminent Scottish botanist Robert Brown. Existing type specimens for some species were collected during this visit. Since then botanical investigation has been, according to Harris & Davis (1995), only "...sporadic and opportunistic". The vascular flora of the three larger islands of the group has been reasonably well described, however systematic studies of the smaller islands have never been undertaken. Best known is Erith Island, due to the work of both the 'Erith Mob' (see Section 2.7) and, more recently, the Australian Bush Heritage Fund. The Erith Mob's botanical contribution is extensive, particularly that made by Dr Beth Gott.

The vegetation of the park is considered broadly typical of the islands of eastern Bass Strait. The major community types are dominated by *Poa* tussock grasses, drooping she-oak *Allocasuarina verticillata*, Smithton peppermint *Eucalyptus nitida*, boobialla *Myoporum insulare*, and tea tree including coastal tea tree *Leptospermum laevigatum*. According to Harris & Davis (1995) the dominant influences on vegetation patterning are salt spray, fire, human activity and soil fertility (limestone versus granite).

The variable impact of human factors is strikingly apparent in the larger islands of the park. Dover Island is the least affected by fire and human activity and, of all the larger Bass Strait Islands, may well be the most free of anthropogenic influences. It is largely covered with low forest, closed scrub and heath and is almost totally free of weed species. Deal Island falls midway in the scale, having a long history of settlement and associated grazing and burning but, in more recent years, at a relatively low level. While there are large areas of open *Poa* grassland, much of the island is well covered in scrub and woodland. Exotic species are common throughout the areas converted to pasture, in the *Poa* grassland, and around tracks, buildings and beaches. Erith Island exhibits the most human influence. Until 1996 the island was the subject of a commercial grazing lease and underwent frequent associated burning. The island is largely covered by open *Poa* grassland and a high number of invasive exotic species.

Dover and Erith Islands

The vegetation of Dover and Erith islands has been broadly characterised by Kirkpatrick (1995) as comprising ten communities occupying seven broad vegetation types including:

- low forest dominated by *Allocasuarina verticillata*;
- three types of closed scrub; one dominated by *Melaleuca ericifolia*, another by *Leptospermum laevigatum* and another with a more variable pattern of dominance;
- a shrubland/open scrub dominated by *Myoporum insulare*;
- heath, both open and closed and with a highly variable pattern of dominance;
- coastal complex, including rocky shore and fore-dune vegetation with a highly variable pattern of dominance;
- two tussock grassland types, one dominated by *Poa poiformis* and the other by *Austrostipa stipoides*; and
- a wetland community, dominated by *Juncus* species.

There are 234 plant species recorded on Erith Island (ABHF 2001), including 72 exotic species. Kirkpatrick (1995) recorded 64 plant species on Dover Island including 6 exotic species. Whinray (2003) has recorded 135 species on Dover Island.

Deal Island

The vegetation of Deal Island has been broadly characterised by Harris & Davis (1995) as comprising 13 communities occupying eight broad vegetation types including:

- 47.5% covered by *Eucalyptus nitida* formations including low open forest and two types of tall open shrubland;
- 24.6% covered by *Allocasuarina verticillata* formations including low closed forest, low open forest and low open woodland;
- 20% covered by two tussock grassland types, one dominated by *Poa poiformis* and the other by *Austrostipa stipoides*;
- less than 1% covered by a beach dune complex with a variable pattern of dominance;
- 0.4% covered by a closed scrub of *Leptospermum scoparium* and *Melaleuca ericifolia*;
- 0.3% covered by a sedgeland, dominated by *Lepidosperma gladiatum*;
- 0.1% covered by a closed scrub dominated by *Myoporum insulare*;
- much of the rest (about 6%) comprising a cliff complex with variable pattern of dominance.

Harris & Davis recorded 176 plant species, including 44 exotics and only two endemic Tasmanian species.

South West Island

The vegetation of the island has been characterised by Whinray (2003). *Poa poiformis* is the dominant vegetation of the island, with *Austrostipa stipoides* the minor dominant of the more level crest. The annual *Senecio* species has a highly variable occurrence year to year. *Disphyma crassifolium* is the major species of the cliffs and steeps of the island.

North East Island

The vegetation of the island has been characterised by Whinray (2003). *Poa poiformis* is the dominant while the annual *Senecio capillifolius* has a highly variable occurrence year to year.

Conservation Significance

The national park has biogeographic significance. The native flora of the Bass Strait islands is uniquely transitional between mainland and Tasmania floras, and contains many geographic outliers – species which are either at the northern or southern end of their range. As a result there are many species not normally found in association.

The heath community found on the higher parts of Dover Island is considered by Kirkpatrick (1995) to have considerable conservation significance, being unique and only reserved in this location.

There are individual species of state conservation significance in the park. Table 2 presents those plants recorded in the park which are scheduled under the *Threatened Species Protection Act 1995*. No species in the park are known to be scheduled under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth legislation).

Table 2: Plants Recorded in the Park which are Scheduled Under the Tasmanian Threatened Species Protection Act 1995

Key to significance (Sign): e endangered
v vulnerable
r rare

Amalgamated from a variety of sources including Whinray 2003, GTSpot 2004, ABHF 2001, Harris & Davis 1995 and Kirkpatrick 1995.

Common name	Name	Sign	Island where Found				
			Deal	Erith	Dover	NE	SW
tiny arrow-grass	<i>Triglochin minutissimum</i>	r	x	x	x		
slender cotula	<i>Cotula vulgaris</i>						
	<i>var. australasica</i>	r	x	x			
common cudweed	<i>Euchiton involucratus</i>	r	x	x	x		
rubble peppercre	<i>Lepidium hyssopifolium</i>	e		x			
lance beard heath	<i>Leucopogon lanceolatus</i>	r		x	x		
coast pomaderris	<i>Pomaderris paniculosa</i>						
	<i>subsp paralia</i>	r	x	x	x		
coast twin-leaf	<i>Zygophyllum billardierei</i>	r	x	x			
shade pellitory	<i>Parietaria debilis</i>	r	x	x	x		
shade peppergrass	<i>Lepidium</i>						
	<i>pseudotasmanicum</i>	r	x	x			
coast pomaderris	<i>Pomaderris oraria</i>	r					
broom wheel fruit	<i>Gyrostemon thesioides</i>	r	x				
scarce centrolepis	<i>Centrolepis pulvinata</i>	r	x		x		
banded greenhood	<i>Pterostylis sanguinea</i>	r		x	x		x
orange-tipped							
caladenia	<i>Petalochilus aurantiacus</i>	e	x				
many-flowered							
starwort	<i>Stellaria multiflora</i>	r	x	x	x		x
island purple grass	<i>Poa poiformis</i> var. <i>ramifer</i>	r					x
lichen	<i>Xanthoparmelia</i>						
	<i>microphyllizans</i>	r	x				

Many species found in the group, while not scheduled, have only limited distribution in the state, including *Apium insulare*, *Beyeria leschenaultii* and *Apalochlamys spectabilis*. *Ixiolaena supina* is a plant of the park with particular significance, being found only in eastern Bass Strait.

In 1978 Deal Island was placed on the Register of the National Estate for its natural history values.

Management Issues

The flora of South West and North East islands are virtually unknown and are likely to yield important biogeographic knowledge. The flora of South West Island is of particular interest due to the sizeable area of the island which is substantially isolated as a high plateau receiving adequate water to support vegetation.

Flora groups on the main islands of the Group that are still little studied include fungi, mosses and liverworts. Better knowledge of island fungi is a priority because of their role in biotic processes.

This remote set of islands provides many opportunities for monitoring changes in vegetation under particular conditions. Currently the only monitoring that is important is regular checking of shorelines for new weed infestations and the maintenance of the monitoring plots established by the Australian Bush Heritage Fund on Erith Island.

The development of an appropriate fire regime is important to the ecology of the area. Fire management is separately considered in Section 3.1.

Weed management is critical to successful flora management and is separately considered in Section 3.3.

Aims

The aims of flora conservation in the park are to:

- conserve and maintain natural diversity and natural ecosystems;
- conserve and protect threatened flora species;
- conserve and protect plant communities of high conservation value; and
- minimise harmful impacts on park vegetation.

Prescriptions

- 2.4.1 Implement the management requirements established in listing statements for all *Threatened Species Protection Act 1995* scheduled species.
- 2.4.2 Encourage research to further define the distribution and requirements of flora species and communities, particularly on the small islands of the group.
- 2.4.3 Continue the flora monitoring program established on Erith Island.
- 2.4.4 Minimise non-natural disturbance of vegetation to protect flora values and limit the risk of introducing pests, weeds or pathogens.

- 2.4.5 Only local provenance species will be used in rehabilitation works unless special approval is given.
- 2.4.6 All seed collecting requires a written authority.

2.5 Fauna

Prior to European contact the fauna of the islands of Bass Strait was prolific and included teeming seabird colonies and an abundance of seals and wallabies. During the last 200 years most of the larger islands have been lived upon and/or subject to exploitation, affecting the local fauna.

Mammals

The devastating effect of early exploitation of Bass Strait seal populations (see Section 2.7) has been widely recognised. During this exploitation phase, in the early part of the 19th century, a small sealer's settlement established at Garden Cove on Deal Island (see Section 2.7). The Strait once supported large breeding populations of southern elephant seal *Mirounga leonina*, Australian sea lion *Neophoca cinerea*, Australian fur seal *Arctocephalus pusillus doriferus* and New Zealand fur seal *A. forsteri*. Today, despite occasional sightings of other species, only the Australian fur seal now breeds in Bass Strait. Within the park the species is represented as a relatively small population breeding on Judgment Rocks. A population-monitoring program has been in place for over ten years. Counts in recent years have estimated that 2500 pups are born each year, making it Tasmania's biggest breeding colony. Access to the rocks is difficult due to the relative isolation and the constant wave-wash in this open, exposed location. Nevertheless, demand for seal viewing tours is increasing and boats occasionally visit for the purpose. Boats may visit Judgment Rocks either from Flinders Island via the Kent Group or from Wilsons Promontory, Victoria.

Bennetts wallaby *Macropus rufogriseus* is common on Deal Island. Whinray (1971) has suggested it was introduced to the island although several reports do not concur with this. For example Robinson in 1831 recorded both Bennetts and rufous wallaby *Thylogale billardieri* on Deal Island and Bennetts wallaby on Erith Island. If Robinson's sightings were accurate the island group may have in fact undergone two mammal extinctions, rufous wallaby from Deal Island and Bennetts wallaby from Erith Island.

The southern brown bandicoot *Isodon obesulus*, the white-footed dunnart *Sminthopsis leucopus*, and the brush-tailed possum *Trichosurus vulpecula* have been recorded in the group. There are also several species of bats.

Several exotic mammal species are also found (see Section 3.4).

Birds

A total of 58 species of bird have been recorded from Deal Island (AHPI 1989).

The little tern *Sterna albifrons sinensis*, a migratory shorebird, has been recorded in the group but not verified (GTSpot 2004).

The little penguin *Eudyptula minor* is found breeding throughout the group including Erith (ABHF 2001), South West (Jones et al 1970), North East (Brothers et al 2001), Dover and Deal islands.

The short-tailed shearwater or muttonbird *Puffinus tenuirostris* is found breeding in the national park on South West, Erith and North East islands (Brothers et al 2001). North East Island is a particularly important breeding site with the summer population of birds estimated to be about 200,000. This remarkable migratory species breeds in colonies around Tasmania, on islands in Bass Strait and in south-east Australia. The birds migrate every year to the North Pacific Ocean and reach the Arctic Ocean north of Alaska before returning to their colonies in September.

The only sizeable population of breeding Cape Barren geese *Cereopsis novaehollandiae* in the world centres on the islands of eastern Bass Strait, particularly in the Furneaux Group. In the 1950s the species was thought to be at serious risk of extinction. In 1967 Mullett & Murray-Smith reported that Cape Barren geese were occasionally found breeding on North East Island. In 2001 Australian Bush Heritage Fund reported that small numbers were breeding on Erith Island. Frequently sighted on Deal Island and a common sight on Erith Island, it is likely on the above evidence that their population has shown a recovery in the park, as it has in their stronghold, the Furneaux Group.

South West, Judgment and North East islands are important breeding sites for a range of seabird species including the fairy prion, Pacific gull, common diving-petrel and sooty oystercatcher (Brothers et al 2001).

Reptiles

One snake and five lizard species are found in the group (GTSpot 2004). These species are all common throughout Tasmania.

The black tiger snake *Notechis ater*, recorded on Deal Island early in the 19th Century, is presumed to be extinct (Whinray 2003).

Invertebrates

Only five invertebrate species have been recorded for the group (GTSpot 2004).

Conservation Significance

Judgment Rocks is by far the biggest Australian fur seal breeding colony in Tasmania.

The islands of Bass Strait, including the Kent Group provide bird-breeding habitat of international significance, particularly for seabirds. South West and North East islands have special significance, particularly for migratory burrowing seabirds. This importance arises largely on account of their isolation and the consequent infrequent incidence of human visits to date.

One of these birds, the little tern, is listed as endangered under the *Threatened Species Protection Act 1995*.

Two international conventions apply to birds found in the park. The *Japan – Australia Migratory Bird Agreement* and the *China – Australia Migratory Bird Agreement* apply to the short-tailed shearwater, while the latter agreement also applies to the little tern and Caspian tern.

In 1978 Deal Island was placed on the Register of the National Estate for its natural history values.

Management Issues

The understanding of the occurrence and status of fauna on the islands within this group remains inadequate due to limited surveys.

While the breeding success of the seals at Judgment Rocks is influenced by many factors including the weather during the breeding season, anthropogenic factors are important. Breeding seals are easily panicked by the close or noisy approach of humans. Panicking, stampeding seals may crush pups or sweep them into the water resulting in drowning.

South West and North East islands are almost covered by burrowing bird breeding sites, consequently moving around either island is difficult without collapsing burrows and disturbing birds.

If Deal Island's Bennetts wallaby population is introduced then an assessment of the species' long-term environmental impact is advisable.

Management of introduced fauna and flora species is critical to successful fauna management. These matters are separately considered in Sections 3.3 and 3.4.

Aims

The aims for fauna conservation are to:

- gain reliable information;
- ensure maximum protection of threatened fauna species;
- maintain viable populations of indigenous fauna; and
- maintain the diversity of natural habitats of indigenous fauna.

Prescriptions

- 2.5.1 Maintain the monitoring program for Australian fur seals on Judgment Rocks.
- 2.5.2 Implement the management requirements established in listing statements for all *Threatened Species Protection Act 1995* scheduled species.
- 2.5.3 Encourage external research to determine whether Deal Island's Bennetts wallaby population is native or introduced and, if introduced, what level of long-term environmental impact is occurring.
- 2.5.4 Encourage monitoring and research to define the distribution and requirements of fauna species and communities. Priorities include:
 - native mammals, particularly the New Holland mouse; bats, reptiles, particularly grass skinks; and burrowing crayfish;
 - the freshwater ecology of the islands generally, and particularly the lake on South West Island; and
 - the numbers and distribution of the seabirds, particularly little penguins.
- 2.5.5 Undertake baseline population monitoring on Deal Island of Bennetts wallaby and rabbit using a methodology appropriate to the level of resources available and based on relevant scientific advice.

- 2.5.6 Assess the fauna species in the significant caves on the islands including one on Erith and one on South West Island.
- 2.5.7 Licenced tourism ventures operating in the park may include seal viewing at Judgment Rocks subject to conformity with specifically tailored guidelines to protect the breeding colony from human disturbance, particularly during the peak breeding period. The guidelines are to clearly articulate the reasoning behind them. Reference to these guidelines is to be included in licence conditions and is to include specification of approach distance limits and a provision prohibiting visitors landing ashore on the rocks.
- 2.5.8 On account of their special fauna values, limit access to South West Island, North East Island and Judgment Rocks (see Section 5.5).
- 2.5.9 Define the fire frequencies necessary to maintain habitat and viable populations of threatened species and any other species of conservation significance.
- 2.5.10 Educate visitors about the harmful effects of feeding wildlife.

2.6 Aboriginal Heritage

European knowledge of human history in Bass Strait islands, prior to contact, is restricted to a combination of historical records and archaeological investigation of the sites created by thousands of years of Aboriginal occupation and use. There is now evidence which shows that Aboriginal people have lived in Tasmania continuously from at least 37,000 years ago, spanning the coldest periods of human history.

Several sites relating to Aboriginal occupation are known in the park.

The Great Cave on Erith Island was excavated by Rhys Jones in 1978. Evidence was found of occupation between 7000 and 9000 years ago, leading to the conclusion that human habitation on the island group had not long survived the isolation imposed by the sea rise following the last ice age.

Conservation Significance

Through the course of the last ice age a land bridge to mainland Australia existed and is thought to have permitted colonisation of Tasmania. Aboriginal sites in Bass Strait are of particular significance in assisting develop an understanding of the patterns of Aboriginal settlement, migration and colonisation.

Management Issues

The major threat to Aboriginal values is disturbance, whether intentional or accidental.

Aims

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

- identify and record places of Aboriginal heritage;

- protect and conserve Aboriginal heritage;
- interpret Aboriginal heritage; and
- provide for special management conditions as necessary.

Prescriptions

- 2.6.1 Assess and protect Aboriginal heritage values in accordance with both the aims and prescriptions of this management plan and any agreed national or state charter or guidelines for Aboriginal places.
- 2.6.2 Aboriginal places will not be publicised unless the place has been assessed, in cooperation with the Aboriginal community, for educational or interpretative use. Where applicable, any agreed Aboriginal interpretation strategy will be implemented.
- 2.6.3 The Aboriginal community will be consulted on any undertaking or development which may impinge upon Aboriginal places.
- 2.6.4 All proposed landscape modification, development, or maintenance will be subject to the prescriptions of this management plan.
- 2.6.5 As far as possible, development will be located well away from areas of Aboriginal heritage.
- 2.6.6 Aboriginal heritage will not be deliberately disturbed for management, development or research purposes unless the Director determines there is no practicable alternative and a written authority has been issued under the *Aboriginal Relics Act 1975*.
- 2.6.7 Report all Aboriginal places discovered to the Director, in accordance with the *Aboriginal Relics Act 1975*.
- 2.6.8 Monitor Aboriginal places for, and protect from, damage.

2.7 Historic Heritage

The post-contact history of the area is briefly summarised below. The major themes of this history are colonial discovery, sealing, shipping and shipwrecks, lightstations, grazing and, most recently, conservation.

1798 First recorded sighting of the Kent Group by Mathew Flinders, on board the schooner *Francis* (Nash 1997). Flinders is en route to Preservation Island to undertake further salvage of the *Sydney Cove* shipwreck. He names the group after the captain of the First Fleet vessel *Supply*. Following the voyage Flinders reports the abundance of seals in Bass Strait, with almost immediate consequences.

Flinders and George Bass, aboard the tiny sloop *Norfolk*, again revisit the Kent Group on their epic circumnavigation of Van Diemens Land, proving the existence of Bass Strait (Nash 1997).

Accompanying the *Norfolk* south to Preservation Island is C. Bishop aboard the *Nautilus* (Nash 1997). Bishop engages in the first commercial sealing venture in Furneaux waters. It proves highly successful and heralds a stampede for commercial exploitation of Bass Strait seals, one of the struggling colony's first major industries and export earners.

1801 Lieutenant John Murray surveys the passage separating Deal Island from Dover and Erith islands (Nelsen et al 1992). The passage now bears his name.

1800–1806 Over 100,000 seal skins are obtained in the area (Ryan 1996). Seal populations are rapidly depleted and by about 1810 the large-scale, company-based exploitation of seals has ceased.

1803 Eminent British botanist Robert Brown lands on Deal Island, making extensive collections (Harris & Davis 1995).

Early 1800s Independent sealers establish in small groups scattered through the islands of Bass Strait (Ryan 1996). This includes a small, probably semi-permanent settlement established at Garden Cove on Deal Island, visited by George Augustus Robinson in 1831.

With the opening of Bass Strait as the major shipping route to Sydney Cove the Strait takes an increasing toll of shipwrecks (Nelsen et al 1992). Pressure mounts to provide for the safety of mariners through an adequate system of lightstations.

1831 Plomley (in Fletcher 2003) records that Bob Gambell, sealer, shot and killed Mur-rer-ning-he, sister of Trugernanna, on Kent's Group of Islands.

1841 Sir John Franklin lobbies the governor of New South Wales to cooperate in the construction of the lightstation system (Nelsen et al 1992). Consideration is given to a range of possible sites including the Kent Group.

1846 Following agreement being struck on a cost-sharing basis for construction, work begins on construction of the Deal Island light (Nelsen et al 1992). It is probably based on a design by prominent colonial architect John Lee Archer. Placed on the highest point of the island, Lighthouse Hill, atop a 22-metre high column, the light is 305 metres above sea level. It becomes, and remains, the highest maritime navigation light in Australia, perhaps the world. The light became operational in 1848, the original light source being 21 oil-burning lamps. The lightstation was operated by a superintendent and at first two, then three, assistant convict keepers. The superintendent and his family live in a cottage on a saddle above East Cove, while his assistants are provided quarters in close vicinity to the light tower. The connection between the two precincts is a track of some three kilometres length and very steep before cresting Lighthouse Hill. The little community is supported by resupply every six months or so, landing at East Cove. Some level of self-sufficiency is maintained through the keeping of livestock and gardens.

1875 and 1885 The assistants living quarters on Lighthouse Hill are upgraded (Nelsen et al 1992). Housing includes the original stone cottage, a weatherboard cottage, and a weatherboard duplex.

1886 The Admiralty expedition of the HMS *Myrmidon* visits and charts the Kent Group, burying seaman George Phillipot on Erith Island (Murray-Smith 2003).

1891 The light tower is substantially shortened to accommodate a new light system (Nelsen et al 1992). A horse-drawn whim is built to transport stores

from the beach to the saddle above East Cove, and another on the steepest part of the climb up Lighthouse Hill.

The schooner rigged steamship *Bulli* strikes a rock while entering Murray Pass and sinks in West Cove off Erith Island (Broxam & Nash 1998).

1915 Deal Island is formally transferred to the Commonwealth government (Harris & Davis 1995).

1919 Fire destroys all the assistants' quarters except the weatherboard cottage (Nelsen et al 1992).

1921 A further technological upgrade of the light results in its automation and conversion to acetylene gas power (Nelsen et al 1992). The lightkeeping staff is reduced to two men.

The steamship *Karitane*, caught in heavy fog, strikes the base of Deal Island's tall cliffs (Broxam & Nash 1998). The ship beaches on Squally Cove, a total loss.

1930s A timber-framed and fibre-cement clad house is built halfway up Lighthouse Hill, the 'Halfway House', and another above East Cove next to the original superintendent's house (Nelsen et al 1992). A communication hut and diesel generator shed is built above East Cove and a diesel generator shed next to the light tower. The navigation light is converted to electric power. The jetty at East Cove is reconstructed.

1936 The head keeper moves into the new house above East cove (Nelsen et al 1992). The weatherboard cottage on Lighthouse Hill is abandoned as a place of residence.

The Stackhouse family secures a grazing lease over Erith Island (ABHF 2001). Stock are run on the island continuously up until 1997, fire being an important management tool in maintaining pasture conditions.

1940s An RAAF aeroplane crashes on Deal Island with two lives lost (Nelsen et al 1992).

1950 A wildfire destroys the remains of the last abandoned residence on Lighthouse Hill (Nelsen et al 1992).

1958 A Bass Strait fisherman, Jack Lierich, and his wife, Gladys, build a hut at the northern end of Erith Island's West Cove and live in it for four years (ABHF 2001, Murray-Smith 2003).

early 1960s A series of summer expeditions to Erith Island is commenced by Victorian historian Stephen Murray-Smith his family and colleagues (Jones & Lampert 1978). These become annual events and continue to the present day. The Erith Mob, as they are called:

re-kindled scientific, historical, artistic and emotional interest in Erith as in the rest of the Kent Group...

late 1960s Two prefabricated houses of fibre-cement and polystyrene sandwich are erected above East Cove (Nelsen et al 1992). The head keeper moves into one, while the 'Halfway House' is abandoned as a place of residence.

1970 It is reported that about 40 cattle are being run on Erith Island.

1971 The 'Halfway House' is demolished (Nelsen et al 1992).

1973 The headkeeper's house is clad in brick (Nelsen et al 1992). At a time unrecorded the other prefabricated house is removed from the site. Also during the modern era the site above East Cove is further expanded with the construction of a tank farm, garage and workshop.

1992 The light on Deal Island, never considered entirely satisfactory on account of its height and consequent frequent obscuring by low cloud, is deactivated (LCTD 1997). Staff are withdrawn in favour of two small automatic lights on North East and South West islands. The Australian Lighthouse Trust temporarily occupies Deal Island while negotiations are conducted with the Tasmanian Government on the transfer of the island back to State control.

1994 A major fire, centred on Lighthouse Hill, burns the roof of the oil store, shatters windows in the generator shed, and burns the paint and shattered glass on the lighttower. The tower was repainted and glass repaired subsequent to the fire (Bell 2003).

1997 Australian Bush Heritage Fund purchases the lease on Erith Island and manages it for its conservation values (ABHF 2001).

1998 The Commonwealth, after experiencing some difficulty in evicting the temporary tenant, officially hands vacant possession of Deal Island to the Tasmanian Government (LCTD 1997).

Australian Bush Heritage Fund is granted an interim lease of Deal Island while management arrangements for the island are finalised (LCTD 1997).

The Physical Record

The lightstation on Deal Island (see Map 4) is the most important surviving historic asset in the Park. While it can be considered a 'site' it is more correctly a landscape, being a sprawling assemblage including buildings, ruins, graves, quarries, jetties, rubbish dumps, gardens, pasturage, fences, landing strips and dams. Much remains of the original 1846–48 construction era including the light tower and associated oil-store building, and the superintendent's residence and associated storerooms and privy. Around this core a complex layering of progressive 'improvements' has been added through to the modern era. Many of the accretions survive intact.

Stephen Murray-Smith, in association with the wives of the lightkeepers, developed a museum in the superintendents cottage in the 1970s. This museum presents an important chronicle of the island's history, both through interpretive materials and the exhibition of artefacts.

Apart from the lightstation, little evidence of the other historical themes survives. No definitive physical evidence of the sealer camp is known of, although no systematic survey of the area has been undertaken. The hut on Erith Island survives and has some historical value. Some of the shipwrecks are represented by fragments of vessels or cargo, while on Erith the grave-site of the seaman George Phillipot is remembered with a simple wooden cross. Also on Erith evidence of the grazing era survives including a dam, fences and cattle yards (Brothers et al 2001). Fragments of the wartime plane crash survive on Deal Island.

Community groups, particularly the Tasmanian Conservation Trust, have in the last several years played an especially important role in securing grant funds to undertake heritage conservation works in the park. This has included replacing the roof of the superintendents cottage and addressing internal water damage problems in that building.

Map 4 (see separate pdf file)

Conservation Significance

In 1978 Deal Island was placed on the Register of the National Estate. In 1982 the light tower, oil store, superintendents cottage with its associated stores and privy, and the lower whim were nominated (successfully) for inclusion on the register (Whinray 2003). Deal Island is listed on the Tasmanian Heritage Register principally for the heritage values of the lightstation.

In the early 1990s, in preparation for the light's deactivation, the Australian Maritime Safety Authority commissioned a conservation plan for the lightstation. Authored by Nelsen et al (1992) the plan established the significance of the station as well as detailing policy and prescriptions for maintaining the site. As part of the Heads of Agreement (DPIWE 1998) signed by the State and Commonwealth at hand-over, the State has committed to taking 'into consideration' the recommendations of this plan until such time as an approved management plan is developed.

The historical significance of the site was established by Nelsen as follows:

...the Deal Island lightstation, completed in 1848 and lighting the eastern entrance to Bass Strait, is highly significant as the first Australian light built in a remote offshore location. The agreement between the governments of New South Wales and Van Diemens Land to share the costs of building and maintaining the light was an important and unprecedented milestone in the path to federation.

The lighthouse building, former oil store, superintendent's residence, store rooms and privy (1846-48) are critically significant as they form the oldest group of substantially intact lighthouse buildings in Australia.

Nelsen considered the original superintendents cottage to be of outstanding significance, saying:

...[it] is the oldest lightkeeper's residence in Australia and a substantially intact example of late Georgian domestic architecture.

Management Issues

The isolation of the national park raises the critical management issue of how to provide adequate protection to the Deal Island lightstation. Given the nature, value and portability of much of the heritage material, a management presence is the prime requisite. This requirement for residential occupation of the site on a continuous basis was firmly established by Nelsen and again in the Heads of Agreement signed with the Commonwealth Government (DPIWE 1998). However, the provision of a traditional management presence (i.e. a ranger) is expensive. Alternative approaches to this management issue are discussed and guidelines established in Section 6.1.

Also of major importance is the provision of adequate, appropriate maintenance. Generally the lightstation site is in good condition. At hand-over the superintendents cottage required a considerable amount of catch-up maintenance which has largely been carried out. While further work is desirable, the building is currently secure, as are all the other major buildings. Within the next few years the light tower will require painting – a major and expensive task. At present the major need is for routine cyclic maintenance.

The fires of 1919 and 1950 illustrate the vulnerability of the lightstation's heritage assets to wildfire. On hot summer days, fires fanned by strong winds can move up the steep slopes of the island with astonishing rapidity.

The Deal Island Lightstation is a powerful cultural and symbolic landscape (see Section 2.2). This landscape is vulnerable to damage through inappropriate development.

Aims

The aims of historic heritage management are to:

- conserve the Deal Island Lightstation, protecting and conserving its conservation significance, with controlled adaption to encourage tenancy and viability;
- identify and record other historic heritage sites in the reserve;
- protect and conserve all remaining significant heritage fabric and features;
- consult the community on management changes;
- maintain the integrity and authenticity of structural and other historic remains and movable heritage; and
- present and interpret historic heritage.

Lightstation Prescriptions

- 2.7.1 Recognise that the Deal Island Lightstation includes all of Deal Island, and also depends upon the context provided by the other major islands of the group.
- 2.7.2 Where practicable maintain a human presence on Deal Island on a continuous basis (see Section 6.1).
- 2.7.3 Prepare a strategic asset management plan for the Deal Island Lightstation. Until such a plan is developed the existing conservation plan (Nelson et al 1992) is to be used as a general guide.
- 2.7.4 Adhere to the Burra Charter (Marquis-Kyle & Walker 1992), its associated guidelines and the commentary on the charter in Kerr (2000) in all conservation and management works on the Deal Island Lightstation.
- 2.7.5 Undertake catch-up and cyclic maintenance works necessary to maintain the essential integrity of the lightstation heritage assets.
- 2.7.6 Negotiate any partnership agreement for management of heritage assets carefully and document where responsibility for all maintenance lies. Ensure that, if direct responsibility for some matters continues to rest with the state, the physical needs for landing, staff accommodation, materials and tools storage and the like are catered for.
- 2.7.7 Ensure fire management on Deal island provides appropriate levels of protection to historic assets (see Section 3.1).

- 2.7.8 Preserve the existing sparsely developed character of the lightstation, allowing only controlled adaption and development that is in harmony with the existing character.
- 2.7.9 Recognise two distinct precincts within the total lightstation as follows:
- the light tower precinct atop Lighthouse Hill, which includes the tower itself, the associated buildings, ruins, pathways and surrounding natural vegetation; and
 - the lightstation residential precinct above East Cove including the houses, tank farms, fencing, sheds, outbuildings and wharf area.
- 2.7.10 Permit no further development of the light tower precinct, with the exception of minor works required for the protection, maintenance or interpretation of heritage or other values. Existing ruins are to be maintained as ruins.
- 2.7.11 While the character of the lightstation residential precinct and the character of the broader cultural landscape of which it is part are to be carefully preserved, further development may be permitted. The precinct should remain the principal focus of residential activities on the island (see Section 6.1).
- 2.7.12 The original superintendents cottage and associated outbuildings, including the stone latrine, are the buildings of greatest heritage significance in the residential precinct. These are to be left in relative isolation and any new building work must carefully preserve the context and views. Residential reuse may be considered for parts of these buildings but some level of public access must remain.
- 2.7.13 Recognition is given to the evolving role of the Friends of the Kent Group National Park group in providing advice and management expertise with respect to continuing adaptive reuse of the superintendents cottage as a museum presenting artefacts and interpretive material about the lightstation. Through additional site works the museum and the space around it may be more clearly expressed as a public space with clear public access.
- 2.7.14 Any new development within the residential precinct must continue the pattern, placement, scale, character and general colourings of existing buildings.
- 2.7.15 Structures, buildings, tanks, fences and plantings in the residential precinct that were placed/constructed during the working life of the station are likely to be of historic interest in their ability to display the evolution of function. The removal of any layers requires clear justification. Any planned removals/changes should only be done in compliance with prescription 2.7.4.

General Prescriptions

- 2.7.16 Encourage research likely to further reveal the distribution, significance and management requirements of historic cultural heritage.
- 2.7.17 Conservation and management of significant historic heritage will adhere to the Burra Charter (Marquis-Kyle & Walker 1992) and its associated guidelines.
- 2.7.18 A conservation policy statement or conservation plan, including specific assessment of significance will be prepared before any decisions are made about major works, use, removal or interpretation of individual elements within a heritage precinct or site.
- 2.7.19 Accurate, detailed working documentation, appropriate to the scale and significance of the works, will be prepared prior to any conservation works and to record any conservation works 'as built'.
- 2.7.20 Identifiable community groups that may have a stake in management changes will, as far as practicable, be consulted on major cultural heritage-driven undertakings or developments.
- 2.7.21 Laboratory conservation and curation will be sought for any items removed for protection, security or scientific purposes.
- 2.7.22 Future developments and uses in any heritage site will benefit its conservation as an historic place or, at least, not detract from this.

Section 3 Park Protection

3.1 Fire Management

All the vegetation on the three main islands is fire-adapted. Some of the vegetation is fire-dependent. Prior to European contact fire events were limited to occasional lightning strikes, a frequency obviously sufficient for the fire-dependent native vegetation. According to Whinray (1971) more frequent burning of the islands began during the sealing period and was continued by the lightkeepers. Fire was used to promote pasture growth for stock.

Major wildfires occurred on Deal Island in 1919, 1950, 1972, 1986 and 1994. The 1919, 1950 and 1994 fires were responsible for the destruction of historic heritage (see Section 2.7).

Management Issues

Given the isolation of the island group, the steepness of much of the terrain and the combustibility of much of the vegetation, mounting a successful suppression response to wildfire is problematic. Management responses that focus on prevention and protection of key assets are likely to be more strategic. The critical fire management issue is the development of a regime that offers appropriate levels of protection to historic assets (see Section 2.7).

An appropriate fire regime is important to the ecology of these islands. However, only the large areas of open *Poa* tussock grassland are particularly dependent on frequent fire events for their survival. Other species can survive on infrequent natural fire events.

Many weed species proliferate after fire and this needs to be carefully factored into the development of a fire management strategy. Conversely it is believed that, if Erith Island is allowed to continue to naturally regenerate, many exotic herbs and grasses will be suppressed.

Aims

The aims of fire management are to:

- protect visitors and staff;
- protect historic and other assets; and
- maintain or improve nature conservation values.

Prescriptions

- 3.1.1 Remove any remaining fuels and associated combustible materials stored in the vicinity of the light tower.
- 3.1.2 Ensure all buildings are made as spark-proof as is reasonably possible.
- 3.1.3 Remove combustible materials such as woodpiles from around the perimeter of buildings.

- 3.1.4 Consider some strategic down-slope fire-break clearance around the buildings atop Lighthouse Hill.
- 3.1.5 Maintain, as a fire break, the open *Poa* grassland around the houses of the residential precinct.
- 3.1.6 As far as practicable manage for the prevention of wildfires.
- 3.1.7 Include, where necessary, pre- and post-fire weeding programs in all controlled burn plans.
- 3.1.8 As general policy the ecological fire frequency within the park is to be a natural one, based on the incidence of lightning strike ignitions.
- 3.1.9 If localised fire dependent species or communities of high conservation significance require more frequent burning, then limited ecological management burning using natural boundaries may be undertaken.
- 3.1.10 From 1 October to 31 March the lighting of fires is restricted to the fireplaces designated by the management authority. During this period all other areas of the park are strictly 'fuel stove only' areas.
- 3.1.11 Advise visitors of fire management policies and fire safety procedures.

3.2 Rehabilitation

In recent times significant erosion events have been associated with very heavy rains. This includes the development of active, rapidly moving gullies in areas of grassland, and associated with island tracks, particularly the track from the residential precinct to the light-tower precinct (as described in Section 2.7.9) on Deal Island.

Aims

The objective of soil conservation and erosion control is to prevent erosion and rehabilitate badly damaged areas.

Prescriptions

- 3.2.1 Rehabilitate, revegetate or otherwise stabilise badly disturbed or eroding areas.
- 3.2.2 Land rehabilitation and stabilisation will be carried out on the basis of a prior geomorphological assessment.

3.3 Weeds and Diseases

The priority action for flora conservation is weed management (see Section 2.4). Weed species likely to have environmental consequences include sea spurge *Euphorbia paralias*, mullien *Verbascum thapsus*, ragwort *Senecio jacobea*, horehound *Marrubium vulgare*, arum lily *Zantedeschia aethiopica*, scotch thistle *Cirsium vulgare*, and kikuyu *Pennisetum clandestinum*.

Cape wattle *Paraserianthes lophantha* has been reported as a recent arrival on North East Island (Whinray 2003).

Whinray (2003) also reports that sea wheat-grass *Thinopyrum junceiforme* and rice millet *Piptatherium mileaceum* are major weeds on Erith Island, in need of control.

In 1991 the Erith Mob (see Section 2.7) first recorded the arrival of sea spurge on Erith Island. They and the Australian Bush Heritage Fund have since undertaken control of its presence in West Cove (Murray-Smith 2003).

Pattersons curse *Echium plantagineum* has been reported in the park (Wheatley 2003).

Phytophthora cinnamomi, a soil-based pathogen able to cause serious damage to many Tasmanian vegetation communities, is generally not considered to be a management issue in the park as little of the vegetation shows susceptibility.

Management Issues

Sea spurge is only a recent coloniser of the park but already large infestations have established, particularly on Deal Island. Weed management work to date has largely focussed on this species. Significant resources, applied over an extended period, will be required to remove populations and undertake necessary rehabilitation. Further, the mobility of the species guarantees that reinfestation is almost inevitable. The experience demonstrates the need for a well-considered approach to weed management.

Aims

The aims of weed management are to:

- prevent, wherever possible, the arrival of new weed species;
- eradicate weeds where practical; and
- control and manage weeds where eradication is not practical.

Prescriptions

3.3.1 Adopt quarantine measures to assist prevent the arrival of new species, including:

- ensuring that materials and machinery brought into the park for any works are weed free;
- ensuring that all clothing, personal gear and equipment is weed free; and
- only permitting landing of any plant materials in the park with the written approval of the management authority, and where the weed free status of any growing medium is assured.

- 3.3.2 Prepare a weed management plan for the park. In the absence of a weed management plan the prime target species are horehound, sea spurge, mullien, ragwort, arum lily and kikuyu.
- 3.3.3 Monitor shorelines for new weed infestations.
- 3.3.4 Any weed management initiative targeting sea spurge must demonstrate a 5+ year commitment to removal together with an ongoing monitoring and maintenance program.
- 3.3.5 Weed eradication, control, and containment actions and priorities will be based on clear, well documented contemporary knowledge and procedures as set out in the District Weed Plan.
- 3.3.6 Seek volunteers to assist in control and eradication where suitable planned and programmed works and effective supervision are available.
- 3.3.7 Weed management will be linked with protection of geodiversity and geoconservation values, erosion control and revegetation works.
- 3.3.8 Eradication or control of introduced plants will only be attempted where non-target species are not unduly threatened.
- 3.3.9 Monitor and, if necessary, conduct weed management on sites disturbed by events such as wildfires, on-ground management activities and recreation activities.

3.4 Introduced Fauna

Five introduced vertebrate pests are known to occur on Deal Island: feral cat *Felis catus*, European rabbit *Oryctolagus cuniculus*, black rat *Rattus rattus*, brown rat *Rattus norvegicus*, and house mouse *Mus musculus*. Three of these species, European rabbit, black rat and brown rat, are also known to occur on Erith Island.

Sheep and cattle were also introduced and grazed on Deal and Erith islands (see Section 2.7), but have all subsequently been removed.

The brush-tailed possum *Trichosurus vulpecula*, found on Deal Island, is likely to be an introduction.

According to Whinray (2003) an introduced snail, the dune snail *Theba pisana*, has the potential to destroy both rare orchids and the ephemeral Browns centrolepis. This snail has been the subject of eradication works.

Aims

The aims of management of introduced fauna 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 possible or warranted.

Prescriptions

- 3.4.1 Investigate impacts of exotic fauna species on natural values and establish baseline data to monitor population fluctuations.
- 3.4.2 Develop and implement an integrated exotic fauna management plan.
- 3.4.3 Eradicate exotic animals in the following order of priority: feral cat, European rabbit, brown rat, black rat and house mouse.
- 3.4.4 No pets or other animals are to be landed within the park. Erect a prominent sign on the jetty area at Deal Island and at West Cove on Erith Island to notify visitors of this and any other necessary quarantine restrictions.
- 3.4.5 To minimise the introduction of pest species, no firewood shall be transported between the islands.
- 3.4.6 Materials and machinery brought into the park must be cleaned, using appropriate hygiene measures, prior to landing to minimise the chance of introduction of pest species.
- 3.4.7 Eradication will only be attempted where 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.
- 3.4.8 New introductions of fauna will not be permitted without an approved comprehensive scientific assessment.

Section 4 Development Controls

4.1 Australian Maritime Safety Authority

The Australian Maritime Safety Authority constructs and maintains a system of marine aids to navigation that guide mariners in Australian waters. The Authority, while no longer having an interest in Deal Island and its lightstation which is decommissioned, operates two automatic lights on North East and South West islands. The lights and associated infrastructure, including helipads, occupy small leases, one on each of the islands. Regular helicopter landings are made to maintain the equipment.

Section 35(1) of the *National Parks and Reserves Management Act 2002* provides that no statutory powers (within the meaning of the Act) may be exercised in a national park unless authorised by a management plan. Such provision requires the approval of both Houses of Parliament. The maintenance and development of infrastructure associated with marine aids to navigation are activities that fall within this meaning.

Prescriptions

- 4.1.1 The Australian Maritime Safety Authority is permitted to exercise its statutory powers in relation to the operation and maintenance of marine aids to navigation in the Kent Group National Park subject to the following conditions:
- where work is confined to the present leaseholds on North East and South West islands it must be consistent with and undertaken in accordance with the existing lease conditions; and
 - where it is proposed to install any new marine aids to navigation or create any new structures outside of existing lease areas, the proposal must accord with procedures established in Section 4.3.

4.2 Leases, Licences, Written Authorities

At the time of creation of the national park Australian Bush Heritage Fund (ABHF) held a lease over Erith Island. The lease had originally been created for grazing purposes (see Section 2.7). ABHF ownership commenced in 1996 and the leasehold was managed, not for grazing purposes, but for conservation purposes. Under its management significant conservation outcomes were achieved. With the creation of the national park, ABHF elected to relinquish the lease, which has now been terminated. ABHF also briefly held a lease over Deal Island in 1998, but this has since lapsed.

The Australian Maritime Safety Authority currently holds leases on North East and South West islands (see Section 4.1 above).

No other parties currently hold leases or licences in the park.

If an ecotourism co-management partnership is successfully developed (see Section 6.1) associated leases would be issued. In addition members of the Erith

Mob (see Section 2.7) have made application for tenure of limited areas of Erith island on the basis of their long association with the area around West Cove.

Volunteer caretakers on Deal Island have reported that a number of commercial tour operators are bringing groups to the park (see Section 5.1) and some take trips to the seal colony on Judgment Rocks.

Management Issues

The *National Parks and Reserves Management Act 2002* requires that all commercial services offered within the park, including commercial tours, operate under lease or licence.

Commercial tours to Judgment Rocks require careful regulation to ensure disturbance to breeding seals is minimised.

Aims

The aims for managing leases are to provide for commercial possibilities for tourism, recreation and education services while protecting and conserving natural and cultural values.

Prescriptions

- 4.2.1 Subject to the *National Parks and Reserves Management Act 2002* and this management plan, including prescriptions 6.1.6 to 6.1.10, leases and licences to provide services within the park may be issued for tourism, recreation or education purposes.
- 4.2.2 Recognising the long-standing association of the Erith Mob with Erith Island, consideration will be given to establishing a form of limited tenure over the hut at West Cove under the Community Huts Partnership Program Guidelines (PWS 1998), provided the Erith Mob is a recognised legal entity. A partnership may be formalised establishing a relationship of reciprocity, whereby the Erith Mob delivers wider public benefits (maintenance of a public hut and assistance with management and research) in return for gaining considerable control over management of the asset. The relationship, if developed, is to be formalised through a contract. This relationship could be extended to cover other 'kitchen hut' sites, but the coexistence of public camping must also be accommodated.
- 4.2.3 All new leases, licences and written authorities will be consistent with the aims and prescriptions of this management plan.
- 4.2.4 Any lease agreement signed with a park co-manager (see Section 6.1) must include a requirement for regular (at least annual) formalised reviews of the co-management relationship, and specify a monitoring and evaluation regime with respect to the conduct of the operator.
- 4.2.5 Any tourism operation that includes visits to the seal colony at Judgment Rocks must be consistent with the provisions of prescription 2.5.7.
- 4.2.6 The conduct of infrequent, organised events may require the written authority of the Director, depending upon the types of activities undertaken. Such events may be authorised by the Director provided

they are not of more than one week's duration and activities are consistent with this plan. Where Section 38 of the *National Parks and Reserves Management Act 2002* applies, a business licence will be required.

- 4.2.7 Leases, licences and written authorities may be issued for any of the zones of the park (see Section 4.3) provided that they conform with the aims and prescriptions for that zone.
- 4.2.8 An environmental impact assessment may be required before lease, licence or written authority proposals are considered (see Section 4.3).
- 4.2.9 Compliance with the terms and conditions of leases and licences will be monitored and reviewed prior to any renewal.
- 4.2.10 When a lease/license becomes redundant, all associated infrastructure will be subject to removal unless it is apparent that it can be immediately put to another suitable use consistent with this management plan.

4.3 Use, Development and Zoning

From time to time new uses and/or developments in the park may be proposed. Such initiatives might range from manipulative research, construction of a track or toilet, through to constructing or renovating buildings, and installing or repairing services. Development works can also refer to commercial or state infrastructure uses.

This section outlines the processes for assessing and approving new use and development proposals that are consistent with this management plan. To assist this process the reserve has been zoned to provide guidance on the location of development.

Deal Island is listed on the Tasmanian Heritage Register (principally for the heritage values of the Lightstation) and is therefore subject to provisions of the *Historic Cultural Heritage Act 1995*. As a result all proposed works on any part of that island require the approval of the Tasmanian Heritage Council.

Aims

The aims of managing development works are to:

- ensure that decisions related to proposed developments or activities reflect the management objectives of this plan;
- ensure that sound processes exist for the assessment of potential impacts of proposed developments and activities (including scientific and management activities);
- provide for development in identified locations;
- ensure particularly sensitive areas of the park are disturbed as little as possible.

General Prescriptions

- 4.3.1 All use and development will accord with the *Flinders Planning Scheme 2000* and this management plan. Until such a time as the *Land Use Planning and Approvals Act 1993* can be amended or the Planning Scheme is amended to establish the management plan as the primary means of assessing the merit of applications for use and development, the provisions of the Planning Scheme, where it applies, will take precedence over this management plan.
- 4.3.2 The management authority will not consent to development in the park unless it is consistent with this management plan.
- 4.3.3 All ‘works’ as defined under the *Historic Cultural Heritage Act 1995* on Deal Island require the approval of the Tasmanian Heritage Council.
- 4.3.4 The Director of National Parks and Wildlife will determine what constitutes a minor or major development in accordance with the criteria established below.
- Major use and developments are those which are large in scale, or have high public interest, or have the potential for substantial impacts on the values of the park, or have significant impact on the provision of facilities or services outside the park. Examples include new buildings and wharf facilities.
 - Minor use and developments are considerably smaller in scale, have low public interest and low potential for impact on values, e.g. re-routing a section of walking track, fencing, minor refurbishment of an existing building.
- 4.3.5 Any determination on development proposals that may have potential impacts on Aboriginal cultural heritage or values will be made in cooperation with the Tasmanian Aboriginal Community.
- 4.3.6 All commercial tourism use and development proposals will be required to demonstrate economic viability while according with this management plan. Demonstration will be assessed through an independent audit of a detailed business and financial plan showing at least a three-year projection of operations.
- 4.3.7 Providers of tourism and recreational facilities or services will:
- base their operations on features and values of the park;
 - operate in a manner compatible with protection of features and values;
 - explain the principles of minimal impact on natural and cultural values to clients;
 - avoid impact on the legitimate enjoyment and experience of the park’s values by others;
 - contribute to the external costs resulting from the proposal.
- 4.3.8 All development will adopt environmental ‘best practice’ methods.
- 4.3.9 All construction machinery and materials destined for the park must be cleaned before departure, using appropriate hygiene measures.

- 4.3.10 Ensure that any lease, licence or written authority to operate in the park contains adequate provisions to cover the costs of foreseeable environmental protection or remedial measures.

Prescriptions - Minor Use and Development Pathway

- 4.3.11 Assess all proposals for minor developments, works, research or maintenance involving any ground breaking, disturbance or environmental manipulation of any kind in accordance with internal procedures approved by the Director. Undertake such works in accordance with the Reserve Management Code of Practice 2003 (PWS 2003).

Prescriptions - Major Use and Development Pathway

- 4.3.12 Cooperate with the Flinders Island Council in the consideration of all major development and resource use proposals. Such proposals will require
- preparation of an environmental impact assessment in accordance with guidelines and principles established by PWS, the Flinders Island Council and section 74 of the *Environmental Management and Pollution Control Act 1994*;
 - a site plan detailing how impacts will be managed;
 - demonstration of compliance with all other relevant statutory and State policy requirements; and
 - the approval of the Minister prior to the lodgement of a development application.
- 4.3.13 Site plans will define planning and design objectives, environmental performance standards and the extent and nature of visitor and management facilities and services.
- 4.3.14 Environmental impact assessments and site plans will be available for public comment for a period of not less than 30 days prior to approval and, subsequently, whenever modifications of a more than trivial nature are proposed.

Prescriptions – Zoning

- 4.3.15 For development purposes four zones apply to the park: the Visitor Services Zone, the Conservation 2 Zone, the Conservation 2 Zone (with special use overlay) and the Conservation 1 Zone. Table 3 establishes the aim of each zone. Map 5 shows the locations of these zones in the park.

Table 3 Development Zones (see Map 5)

ZONE /LOCATION	VALUES	GENERAL AIM
Visitor Services Zone	High use areas with visitor services and facilities provided according to level of use. Management inputs and presence are highest here.	To acknowledge existing and provide the potential for future services and facilities where visitor numbers are highest, consistent with other park objectives. To maintain, as far as possible, natural settings and cultural integrity and to minimise impacts of facilities and visitor use.
Conservation 2 Zone	Important conservation values are found in this zone, including natural, cultural landscape and heritage values and flora and fauna.	To conserve natural integrity and protect, maintain and monitor the diversity of plant and animal species and communities. To conserve natural and cultural landscapes and heritage values. To provide for limited track construction potential on Erith Island only.
Conservation 2 Zone (with special use overlay)	Important conservation values are found in this zone, including natural, cultural landscape and heritage values and flora and fauna.	To conserve natural integrity and to protect, maintain and monitor the diversity of plant and animal species and communities. To conserve natural and cultural landscapes and heritage values. The overlay provides development potential for one (as yet unspecified) small-scale accommodation facility (see Section 6.1). The impact of all development on values in the conservation zones should be carefully considered. This zone has been created on the basis of a viewshed analysis using viewpoints in the residential precinct, atop the light-tower and from viewing locations in Murray Pass. Small developments carefully placed in the zone should not be visible from these locations.

Table 3 continued

ZONE /LOCATION	VALUES	GENERAL AIM
Conservation 1 Zone	Critically important conservation values are found in this zone. including natural and cultural landscape values, heritage values, and flora and fauna.	To conserve natural integrity and protect, maintain and monitor the diversity of plant and animal species and communities. To conserve natural and cultural landscapes and heritage values.

- 4.3.16 The visitor services zones are intended to provide the principal focus for development, most particularly the provision of recreation and tourism infrastructure including buildings and toilets.

- 4.3.17 Development in the Conservation 2 Zone is limited to: necessary track construction on Erith Island to preserve existing walking routes, maintenance of existing assets, natural or cultural protection works, and necessary directive signs.

- 4.3.18 Development in the Conservation 2 Zone (with special use overlay) is limited to a maximum of one low-key accommodation node (on Deal Island) as proposed in Section 6.1.27 and track work as necessary for access to the node. These development rights lapse if a co-management arrangement is not reached during the current 'expression of interest' process.

- 4.3.19 No new development is permitted in the Conservation 1 Zone except for the maintenance of existing assets, natural or cultural protection works, and necessary directive signs.

- 4.3.20 Development in all zones must carefully manage visibility from the ocean and Murray Pass. Buildings are to be generally screened by landforms or vegetation and utilise non-reflective materials and natural colours.

- 4.3.21 Development in all zones should seek to harmonise with the natural and/or cultural environment and limit visual impact.

- 4.3.22 The impact of all development on values in the conservation zones should be carefully considered.

Map 5 (see separate pdf file)

Section 5 Visitor Services

5.1 Visitors to the National Park

The pattern of visitor use of the park is not well understood and is limited to observations of volunteer caretakers residing on Deal Island (see Section 6.1). Nevertheless a picture has emerged and is described below.

For a four month period from Christmas 2000 through to the end of April 2001 a total of 171 pleasure boats (yachts or launches), 12 kayaks and 4 aircraft and perhaps 3–4 fishing boats were recorded making visits to the park (Reynolds and Kitchener pers. comm). If a multiplier of 3 is used for boats and planes and 1.5 for kayaks, then it may be assumed that around 550 people visited the park during the period. Similar data collected for a three-month period from December 2001 through to the end of February 2002 (Cronin pers. comm) recorded 98 pleasure boats, 3 kayaks and 8 aircraft. This equates to over 300 visitors if the same multipliers are used. Outside of the summer period visitor numbers drop off sharply (Lambourne pers. comm). It can be safely assumed that visitor numbers are well under 1,000 per annum.

The vast majority of visitors are Victorian pleasure boaters. For instance, for the three-month period from February through to April 2001, of 130 yachts sighted, only one was of Tasmanian registry (Kitchener pers. comm). Generally boats spend most of their time at anchor in West Cove, as it is here the best protection is found. However, weather permitting, boats also anchor in East Cove, Garden Cove and Winter Cove. Most mariners, at some point in their visit, go over to East Cove to see the lightstation. Typically they walk up to the residential precinct, visit the museum, chat with any management staff present and about half continue the walk up to the light tower precinct. Walking to other locations on Deal Island is rare. Many boat visitors to East Cove also use the barbecue facilities located at the land end of the jetty. It is estimated that 10% or more of the pleasure boaters are regular repeat visitors. Anecdotal reports indicate that significant demand exists for the provision of moorings in West and East coves.

The majority of kayakers originate from the mainland, paddling north-south across Bass Strait. Typically kayakers go directly to West Cove where they may stay for two to three days before paddling around to Winter Cove, often only for a single overnight, before continuing south to Flinders Island (Kitchener pers. comm). At Winter Cove a series of camp sites have been cleared and established in the scrub behind the southern end of the cove.

Several charter boats have been seen conducting tours of the park, operating out of Victoria on trips of two to three days duration (Reynolds, Kitchener and Cronin pers. comm). The charterers appear to be fairly regular summer visitors, bringing groups of up to 15 people to the park. Their itinerary included walks to through the lightstation, visits to Judgment Rocks for seal viewing and perhaps some diving.

The Erith Mob are a special category of Victorian visitors (see Section 2.7) occupying a group of permanent camping sites and structures in West Cove every year. The focus for their activities is the hut at the northern end of the cove with a series of cleared and benched camp sites extending southwards around the cove. At least two of the benched camp sites have permanent open shelters, fireplaces and seating. The sites are joined by a system of narrow benched tracks. Occupation generally commences in mid-December and

extends through to the end of January, with perhaps 20 people in attendance at any one time. During their management of Erith Island the Australian Bush Heritage Fund installed a dehydrating toilet facility to service the area.

Until recently fishing boats were often found working the waters of the group and one or two often anchored overnight in East or West cove. In bad weather larger numbers, groups of perhaps 4–6 boats, can be found taking shelter. West Cove and Winter Cove appear to be the focus of this use. Anecdotal reports indicate Winter Cove is more often used as a storm refuge during the winter months, providing excellent protection from hard westerly blows (Kitchener pers. comm). It is possible the rough camp areas found behind the cove relate as much or more to this use as to kayaking (see above).

The pattern of visitor use very clearly concentrates on Erith and Deal Island, with Erith Island and, in particular, West Cove being the focus for most visits. East Cove and the lightstation residential precinct form a strong secondary focus. It might be safely assumed that the number of landings on the other islands and rocks of the group is almost negligible.

With the recent declaration of the island group as a national park, public interest is likely to increase along with visitor numbers.

Infrastructure

While some infrastructure exists in the park and is available for visitor use, most of it has been inherited indirectly rather than purpose-built. On Deal Island this includes the lightstation wharf and associated barbecue area, the museum, toilets and tracks, as well as the very informal camping area at Winter Cove. On Erith Island it includes the hut at West Cove and associated 'kitchen shelters', pathways and composting toilet. Information and direction signs are minimal.

Reserves Standards Framework

The Reserves Standards Framework (RSF) is a new in-house management tool designed to assist the land manager to strategically provide and maintain visitor services and infrastructure across the reserve system (PWS 2003). The RSF provides a mechanism for ensuring that context appropriate standards are established for the provision of services, such as toilets, camping areas and tracks. The framework employs an explicit assumption that the safety and comfort standards applicable to, say, facilities provided to walkers in remote wilderness areas, are different from those applicable to a busy visitor centre. Implementation of the RSF is intended to provide reliable outcomes with respect to visitor management, risk management and financial management.

Management plans identify the type of recreation setting a visitor might expect at different locations, as well as proposing future levels of service. Having identified, with community assistance, the type of experience opportunities presently offered and, where applicable, future aspirational recreation opportunities, the management authority can then apply suitable standards in the provision and maintenance of infrastructure. The site classification system employed under the RSF is outlined in Appendix 1.

Management Issues

While visitor numbers are low the significant concentration of activity around West Cove requires consideration of impacts. Unregulated expansion of shore-based camping is likely to result in vegetation damage, dune destabilisation and erosion, loss of habitat from firewood collection, and camp fire escapes. Anecdotal reports also indicate some level of social conflict between the different user groups.

The dehydration toilet installed at West Cove requires regular maintenance to continue its operation.

The provision of moorings involves significant capital and recurrent cost as well as risk management implications in this often dangerous maritime environment.

Currently visitors to Tasmanian national parks are required to pay entry fees. To date no attempt is being made to inform visitors of this obligation in the Kent Group National Park.

Aims

Generally, in keeping with the existing undeveloped, natural quality of the park (see Section 2.2), visitor services are to be minimal, consistent with the maintenance of park values.

Prescriptions

- 5.1.1 The focus of public visitor facilities is to remain at West Cove, East Cove and the lightstation residential precinct.
- 5.1.2 Where clearly documented threats to Park values have been identified, and are occurring as a result of evolving patterns of use, the Director will consider developing additional public visitor facilities, with the exception of tracks, within the Visitor Services Zone and Conservation Zone 2 (with special use overlay). The Director will need to be satisfied that the proposed facilities would remove the threats and/or restore degradation.
- 5.1.3 Track construction in the park will only be undertaken on the basis of clearly demonstrated demand, and with due consideration of maintenance regimes. New track construction must comply with the requirements of Section 4.3.
- 5.1.4 Any additional camping areas developed in line with prescription 5.1.2 above are to be part of an approved site plan that pays careful attention to social values and is prepared in consultation with all users.
- 5.1.5 Maintain or replace/improve, as necessary, the dehydration toilet at West Cove.
- 5.1.6 Ensure erosion issues associated with the existing track system on Deal and Erith Islands are addressed through appropriate management.
- 5.1.7 Visitor facilities are to be low-key and minimal. For instance, toilets should only be provided for environmental purposes, direction signs should be minimal consistent with public safety and track maintenance should be limited to addressing impact on values.
- 5.1.8 As a general policy visitors are required to take their garbage with them. Long-term visitors may burn paper and cardboard packaging materials only in an approved incinerator.

Prescriptions – RSF

5.1.9 The recreational settings for the park are set out in Table 4.

Table 4 Recreation Settings for the Park

Zone	Existing level of service (RSF)	Aspirational level of service (RSF)
Deal Island		
Visitor Services	Day Use – Comfort (mid)	Non-commercial uses: no change Restricted commercial use (see prescriptions 6.1.25 – 6.1.26): Easy Access Camping (complex)
Conservation 2 Zone (with special use overlay)	Bushcamping - Backcountry (basic – complex)	Non-commercial uses: no change Restricted commercial use (see prescriptions 4.3.18 and 6.1.27 – 6.1.28): Easy Access Camping (complex)
Conservation 1	Natural	No change
Erith Island		
Visitor Services	Easy Access Camping (basic)	Non-commercial uses: no change Restricted commercial use (see prescriptions 6.1.27 – 6.1.28): Easy Access Camping (complex)
Conservation 2 Zone	Bushcamping - Backcountry (basic – complex)	No change
Dover Island		
Conservation 1	Natural	No change
Other Islands		
Conservation 1	Natural	No change

5.1.10 Standards for facilities will conform to the appropriate RSF category (PWS 2003).

5.2 Vehicular Access

At present the only motorised vehicles found in the park belong to the management authority and are stationed on Deal Island. They consist of a quad bike and a small tractor. The principal routes used by these vehicles radiate from the lightstation residential precinct as follows:

- down to the wharf area on East Cove;
- to the light tower precinct atop Lighthouse Hill;
- to Garden Cove past the landing ground; and
- to Winter Cove.

Prescriptions

- 5.2.1 Use of any motorised vehicles within the park by visitors is generally not permitted and is restricted to holders of an authority issued by the Director.
- 5.2.2 Management vehicles will be used with restraint and confined to existing routes.

5.3 Water Access

Most visitors to the Kent Group National Park currently arrive by boat. Such visitors include pleasure boaters, fishers, sea kayaks, charter tour visitors and the Erith Mob (see Section 2.7). These visitors usually, but not always, go ashore.

The only significant maritime infrastructure, apart from the navigation lights on North East and South West islands (see Section 4.1), is the wharf on Deal Island. The wharf is part of the general infrastructure associated with the Deal Island Lightstation.

Management Issues

Boat visitors generally cannot land on Judgment Rocks (see Section 5.5). However, just approaching these islets in a boat can easily disturb breeding seals, with resulting impacts on breeding success (see Section 2.5)

The Deal Island wharf is currently in a very deteriorated condition.

Prescriptions

- 5.3.1 Boat-based visitors are strongly encouraged to comply with the seal watching guidelines (see Appendix 2).
- 5.3.2 Sea kayak visitors are strongly encouraged to follow the Minimal Impact Sea Kayaking (MISK) Code published on the management authority's website.
- 5.3.3 A risk management assessment of the current wharf structure on Deal Island is to be undertaken by the Crown. Appropriate action is to be undertaken if unacceptable risks are identified. The cost of retaining and maintenance of the wharf structure will be balanced against other possible alternatives, such as beach landings. Demolition may be considered in the absence of other practicable options.

5.4 Air Access

The general infrastructure associated with the Deal Island Lightstation includes a light plane landing area.

The landing area has been used by local charter companies and the occasional private aviator to land staff and visitors. However the Civil Aviation Authority

recently expressed the opinion that the landing area was not safe. On this basis all visits by the management authority are now made by sea.

Except for emergencies or management purposes, all aircraft, including helicopters, require a written authority to land or take off, as required by the National Parks and Reserved Land Regulations 1999.

Prescriptions

- 5.4.1 The landing area on Deal Island is closed to all visitor access by fixed wing aircraft.
- 5.4.2 Remove all infrastructure associated with the landing area.
- 5.4.3 Permits for landing helicopters on the islands of the park may be issued, although generally only for Deal and Erith islands.
- 5.4.4 The Australian Maritime Safety Authority is authorised to land helicopters on helipads within leasehold land on North East and South West islands for the purpose of maintaining automatic navigation lights.

5.5 Access Restrictions

Tasmania's reserve system has been set aside for conservation as well as use and enjoyment. As a result public access is generally strongly encouraged. However, some areas of land within the reserve system are considered for a variety of reasons to be particularly vulnerable to disturbance by the unrestricted entry of visitors. Some of the small islands and rocks of Bass Strait fall within this category, largely because of their special significance. Accordingly, it is considered appropriate in such areas to limit access rights. Section 37 of the *National Parks and Reserves Management Act 2002* provides this ability, allowing that a management plan may declare a reserve, or any part of it, a restricted area where the public has no right of general access.

Management Issues

Judgment Rocks is the largest Australian fur seal breeding colony in Tasmania (see Section 2.5). The breeding success of the seals is highly dependent upon their remaining free of harassment by humans.

Because of access difficulties (see Section 1.1) both North East Island and South West Island have, to date, had only low levels of human contact. While little scientific attention has been paid to them they are attributed with high conservation values, particularly as breeding sites for seabirds (see Section 2.5).

Prescriptions

- 5.5.1 In accordance with Section 37 of the *National Parks and Reserves Management Act 2002* Judgment Rocks, North East Island and South West Island are hereby declared restricted areas, that is, islands where visitors may not enter or remain without:
 - the written authority of the Director; or

- being accompanied by a Ranger or person authorised by the Director.

This requirement may be waived in the event of a life-threatening emergency. The Australian Maritime Safety Authority is exempt from this requirement in relation to its leased areas on North East and South West islands.

- 5.5.2 An authority to access all the islets and rock stacks comprising Judgment Rocks may be granted on the basis that the applicant is an acknowledged researcher, undertaking research approved by a peer scientific group as ethical and appropriate, and subject to the requirements of Section 6.3.
- 5.5.3 An authority to access North East Island or South West Island may be granted on the basis that the applicant:
- is an acknowledged researcher, undertaking research approved by a peer scientific group as ethical and appropriate, and subject to the requirements of Section 6.3; or
 - belongs to an organisation which has its own minimal impact code; or
 - has, in the opinion of the Director, sufficient reason for wanting to visit the island;

and with the proviso that he/she fulfils the following criteria:

- is prepared to comply with the guidelines for visiting seabird breeding islands (see Appendix 2);
- is prepared to comply with the visitor group size and time constraints which may apply;
- receives a briefing about appropriate visitor behaviour given by the Parks and Wildlife Service and based on appropriate scientific advice or is accompanied by a Parks and Wildlife Service guide.

All applications for access by commercial tours to these islands will be subject to public comment.

5.6 Interpretation and Education

On Site: Currently the chief source of interpretation on island values is the museum located within the superintendents cottage in the lightstation residential precinct (see Section 2.7).

Off Site: The world-wide web is proving a valuable platform for providing the general public interpretation and information about remote sites such as this. Websites can provide 'virtual visits', satisfying the curiosity of many without having to impact on the islands themselves. Such experiences can be augmented by printed materials, ranging from the management authority's note-sheets to books.

Aims

Apart from the lightstation, in keeping with the undeveloped, natural quality of the park, fixed on-site interpretation is to be minimal and non-intrusive. Off-site

interpretation, particularly using the potential of web-based 'visits', is encouraged.

Prescriptions

- 5.6.1 Acknowledgment is made of the importance of the museum in the superintendents cottage in providing public education about the lightstation values. Encouragement is given to the maintenance of this use.
- 5.6.2 Use available opportunities to increase the quality of the 'virtual visit' to the Kent Group as currently presented on the PWS or any other website endorsed by the management authority.
- 5.6.3 Private memorials or commemorative plaques will not be permitted in the park.
- 5.6.4 Public memorials or commemorative plaques may be permitted in the park if they commemorate events or people of the area that are of state, national or international significance and are approved by the Director.
- 5.6.5 Plaques acknowledging infrastructure or services provided by bequests or commercial sponsorship may be attached to the infrastructure, but no advertising will be permitted.
- 5.6.6 Any interpretation of Aboriginal heritage of the park will be developed in consultation with the Aboriginal community.

Section 6 Field Operations

6.1 Management of the National Park

The Kent Group National Park presents special challenges for management, largely on account of its remote, isolated location (see Section 1.1) and the consequent high cost of traditional management. New and creative mechanisms for meeting management responsibilities on the island require consideration. Contemporary public policy strives to achieve maximum effect from the use of available resources through a variety of mechanisms including partnerships with other parties.

Co-management of protected areas by formal arrangement between government and non-government organisations, community groups, and private individuals or groups is a world-wide trend. Successful models of co-management are symbiotic, providing the co-manager gains as a result of access and perhaps sustainable use of resources, in exchange for, and often as a result of, management of values in the public interest.

In the Kent Group National Park the major co-management outcome sought by the Service is the provision of a full-time presence (see Section 2.7). It is, however, possible for a co-manager, by negotiation, to provide many other management outcomes in the public interest. Currently a successful model of co-management is being operated on Deal Island, based on a volunteer program. Other more commercial models may be available.

Volunteer Program

For the past one-and-a-half years the Parks and Wildlife Service has operated a volunteer caretaker program to maintain a residential occupation – a program that was originally established by Australian Bush Heritage Fund. The volunteers are asked to spend three-month stints on the island and are transported on and off at the management authority's expense. They are housed in the head-keepers house in the lightstation residential precinct and provided with generated power. Volunteers provide their own provisions. While volunteers primarily provide a residential presence they have also contributed a wide range of ancillary outcomes. These have focussed on conservation management and include visitor reception, visitor monitoring, weed management, fauna surveys, visitor interpretation and cyclic maintenance of heritage assets. While on Deal Island most caretakers put in long hours (Bektas 2003). It has been estimated that the dollar value of this effort is about \$1250 per week (Hamilton & Taylor 2003). To date the volunteer program has been highly successful, producing on-ground results and generating enthusiasm and commitment from many of the involved individuals and families.

A Commercial Co-manager

A commercial operator may also be able to provide solutions for the future management of the island. The most easily conceived commercial operation would be an ecotourism development. Deal Island has already been the subject of two separate 'expressions of interest' processes conducted by the Crown. The current 'expressions of interest' process has been put on hold while this plan is developed.

The Way Forward

The volunteer program, while excellent value, still represents considerable ongoing public expense. Organising the program occupies at least half the work hours of a ranger in addition to the direct operating costs of supporting the program.

A commercial operator may be able to provide a co-management partnership that represents better value for the State, providing both a revenue stream along with long-term stability of management outcomes.

The establishment of a commercial ecotourism operator is the government's favoured co-management option. This policy direction has been clearly articulated through the 'expression of interest' process. The key outcome being sought by the Crown is the maintenance of a human presence on Deal Island. Beyond that requirement this plan attempts to carefully balance the need to protect the public interest through the establishment of certain ground-rules with the desire to maintain flexibility and commercial viability. As a result many aspects of the relationship between a potential operator and the Crown are not defined in this plan. These are matters that are more rightly the subject of separate negotiations, and include:

- the delivery of ancillary co-management outcomes such as weed management, fauna surveys, visitor interpretation, and cyclic maintenance of heritage assets; and
- the continuation of aspects of the current volunteer program.

However, assuming negotiations are brought to a point of successful completion, proposed cooperative management responsibilities will need to be carefully formalised within a lease agreement. Public scrutiny of the detail of development works associated with a major commercial operation will occur through the arrangements described in Section 4.3. Appendix 3 provides guidance on which prescriptions should be the responsibility of the management authority, and which could be undertaken by the co-manager, or volunteers, along with an indication of priorities for the management actions contained in this plan.

If an 'in principle' agreement, signed between the Minister and an operator, is not in place within one year of the plan being finalised, then such a partnership will be gauged unsuccessful and the development right in relation to the additional accommodation node will lapse (refer to prescription 4.3.18).

Management Issues

It is clear that any proposed co-management use must be in line with the management purposes and objectives for the park as outlined in this plan. Without consistency, conflict is certain to arise.

International experience has demonstrated that ecotourism may not always be the benign presence anticipated. Considerable damage to values can result. In the light of such concerns Australian Bush Heritage Fund, the former lessees of Erith Island (see Section 4.2), have made it known that they would prefer any such development be excluded from that island.

To protect the broader public interest and avoid damage to park values it is essential that any ecotourism activities operate within clearly defined operational constraints with respect to such matters as:

- principal and occasional operators;
- limits to numbers;
- ownership of assets;
- modes of access to the park;
- modes of access within the park;

- accommodation;
- waste disposal;
- dangerous substance storage;
- water supply; and
- co-management responsibilities.

Aims

The aims for a co-management partnership in the park are to:

- ensure use and management of the island is environmentally sustainable and does not degrade park values;
- provide tangible gains for the State in reducing the cost and/or difficulty of conservation management and/or providing a revenue stream;
- provide tangible benefits for the co-manager;
- continue to provide for public access to most of the island.

Prescriptions

- 6.1.1 Management activities are to be undertaken in compliance with the Reserve Management Code of Practice 2003.
- 6.1.2 The prescriptions of this management plan will be subject to 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.
- 6.1.3 Prepare a five-year rolling program for the park to coordinate development, protection and conservation work.
- 6.1.4 The works program will conform with this management plan and other plans such as site plans, conservation asset management plans and fire management plans.
- 6.1.5 Consider co-management uses within the park with the primary aim of maintaining a permanent residential occupation on Deal Island.
- 6.1.6 An ecotourism co-management partnership may be established in the park, provided it is consistent with the maintenance of island values and the requirements of this plan. The principal outcome being sought by the Crown in such a partnership is a full-time management presence in the park (See Section 2.7).
- 6.1.7 As far as practicable, aspects of the current volunteer program will be incorporated into park management arrangements, including the possibility of a commercial co-management arrangement.
- 6.1.8 The management authority would prefer a co-management arrangement, giving first priority to a successful commercial-based arrangement and, if this is not feasible, then with the current volunteer program and/or an organisation(s) representing, among other things, people willing to volunteer their time to assist with managing the park.

The subsequent prescriptions of this section are to be used as the basis for establishing any ecotourism co-management partnership.

Prescriptions on Principal and Occasional Ecotourism Operators

- 6.1.9 A principal ecotourism co-management partner may be appointed to the park. This status would provide for:
- a lease providing for exclusive occupancy and limited future development rights of some portion of the lightstation residential precinct;
 - a lease or leases providing for exclusive occupancy and development rights of some small portions of land on Deal and Erith islands (see prescription 6.1.27).
- The lease or leases will not grant exclusive access to the rest of the park.
- 6.1.10 Other ecotourism operators wishing to bring groups to the park on an occasional basis may be licensed at the Director's discretion and following consultation with the principal operator.

Prescriptions on Limits to Numbers

In view of the sensitivity of the cultural landscapes on Deal Island, characterised by relative naturalness and isolation (see Section 2.2), limits on visitor numbers are proposed. While subjective, and thus flexible, these numbers recognise the small scale of these islands, and their limited ability to absorb large numbers of visitors while maintaining the values considered important.

- 6.1.11 The maximum number of people that may be offered commercial overnight accommodation by the co-manager in the park is 40. The Director may revise this figure from time to time taking into account the intent of this management plan.
- 6.1.12 No more than 60 commercial tour visitors may be present in the park at any one time. The Director may review this figure from time to time.
- 6.1.13 The Director may only revise the above commercial visitor numbers upward after seeking community comment (for a period of not less than 30 days) on a professionally prepared study into the carrying capacity of the park. The study is to address the availability of a suitable water supply, waste disposal, and the impacts on the natural, cultural and wilderness values of the park.

Prescriptions on Ownership of Assets

- 6.1.14 All fixed improvements carried out by the co-manager remain the property of the Crown.

Prescriptions on Modes of Access to the Park

- 6.1.15 The policies set out in Section 5.3 and 5.4 bind all ecotourism operators.
- 6.1.16 The co-manager is authorised to land guests and supplies by helicopter on Deal Island and Erith Island only and confined to approved defined locations and flight paths. Approvals for defined landing locations and

flight paths within the Visitor Services Zone on Deal Island will be processed through the minor use and development pathway (see prescription 4.3.11). Outside this zone, they must proceed through the major use and development pathway (see prescriptions 4.3.12 to 4.3.14).

- 6.1.17 Fly-ways and operational procedures must be designed to minimise impact on tranquillity and other values.
- 6.1.18 No boat-landing infrastructure may be granted exclusive occupancy.

Prescriptions on Modes and Limits of Access in the Park

- 6.1.19 The co-manager is authorised to use a mechanised land-based vehicle to facilitate maintenance activities, but generally only on the following routes radiating from the lightstation residential precinct:
 - down to the wharf area on East Cove;
 - to the light tower precinct atop Lighthouse Hill;
 - to Garden Cove past the former landing ground; and
 - to Winter Cove.

The Director may issue temporary authorities to use alternative routes in special circumstances.

- 6.1.20 In order to preserve the natural landscape character and tranquillity of the islands and minimise disturbance to wildlife and other users, generally the co-manager is not to use mechanised vehicles to transport guests.
- 6.1.21 The co-manager is authorised to transport guests by helicopter between islands within the park, but only to defined, but yet to be determined, locations on Deal Island and Erith Island (see prescription 6.1.27).
- 6.1.22 Access to North East and South West Islands is discouraged (see Sections 2.5 and 5.5). The Director may consider an application by the co-manager to access these islands, but such an application must proceed through the major development pathway (see Section 4.3).
- 6.1.23 All tracks, including foot tracks, if used by the co-manager will be maintained by the co-manager.
- 6.1.24 While an expansion of the foot tracks in the park is discouraged, the Director may consider an application by the co-manager to build new foot tracks subject to the requirements of Section 4.3.

Prescriptions on Accommodation

- 6.1.25 The principal focus for ecotourism accommodation in the park is to be the existing lightstation residential precinct on Deal Island.
- 6.1.26 Some further development may occur within the above precinct, subject to this plan, particularly sections 2.2, 2.7, and 4.3.

- 6.1.27 Two additional accommodation nodes may be created in the park, one located within the Conservation 2 Zone (with special use overlay) on Deal Island (see prescription 4.3.18 for important limitations to this right) and another within the Visitor Services Zone on Erith Island (see Section 4.3.16).
- 6.1.28 Additional accommodation nodes built outside of the lightstation residential precinct should be satellites to the main accommodation precinct above East Cove. They should be sited visually remote from the island's historic heritage, screened as much as possible by natural features and of a minimal size commensurate with needs.
- 6.1.29 Any application for the above satellite accommodation nodes should be accompanied by a vista analysis.
- 6.1.30 The use of island wood as an energy source will be limited to a single community area fireplace at each accommodation node, principally for the purpose of providing 'atmosphere'.
- 6.1.31 Alternative energy sources will be utilised for the provision of cooking, hot water and general heating.
- 6.1.32 The only permissible firewood sources are driftwood and/or wood made available by the management authority in defined locations. No firewood shall be transported between Deal and Erith islands.
- 6.1.33 Only the defined track system and vehicle option described in this plan may be used for the collection of firewood.

Prescriptions on Waste Disposal

- 6.1.34 Septic/waste water systems must be approved by the Flinders Island Council.
- 6.1.35 All refuse generated in the park will be disposed of at an approved Municipal waste disposal station.

Policy on Dangerous Substance Storage

- 6.1.36 Storage of liquid fuels and oils must comply with relevant Australian standards if applicable. A bund system capable of capturing all spills must be employed.
- 6.1.37 Storage capacity is to be limited to practicable small quantities.
- 6.1.38 Any installations of LPG must comply with relevant Australian standards.
- 6.1.39 The storage of agricultural and domestic chemicals, poisons, paints, solvents and the like must comply with relevant Australian standards.

Prescriptions on Water Supply

- 6.1.40 Any proposed development must be linked to a professional assessment of how the anticipated water budget will be met.

Prescriptions on Co-Management Responsibilities

- 6.1.41 All co-management outcomes accruing to the Crown in the public interest are to be explicitly described and available for community comment through the development application process.

6.2 Community Support

Aims

The aims of fostering community support are to:

- develop community appreciation of and support for park values;
- promote a positive image of the park and its benefit to the community; and
- encourage community involvement in park management.

Prescriptions

- 6.2.1 Consult relevant people, communities and groups on major issues when their interests may be affected.
- 6.2.2 Develop partnerships with communities, volunteers and groups that wish to be involved in the management of the park.
- 6.2.3 Liaise with Marine Resources, Fishcare, recreational fishers and the commercial fishing industry about Judgment Rocks to ensure, through Marine Resource legislation, that human disturbance is minimised within 500 metres due to the area's high sensitivity to disturbance.

6.3 Monitoring and Research

Aims

The aims of monitoring and research are to:

- improve the inventory and understanding of natural and cultural features and processes;
- assess rates and magnitudes of change;
- improve knowledge and understanding of visitor behaviour;
- assess and improve management; and

- monitor and evaluate all co-management arrangements.

Prescriptions

- 6.3.1 To test the success of future management, apply the performance indicators set out in Table 6. Where necessary, and at the earliest opportunity, initiate baseline surveys to allow appropriate measurement.

Table 6: Key Aims and Performance Indicators

Notes in square brackets indicate the section of the plan containing details on the subject value.

Aim 1	<p>[Section 2.1 Geodiversity] Preserve and maintain sites of geoconservation significance and geodiversity.</p> <p>Performance Indicator</p> <ul style="list-style-type: none"> • Features identified as significant are intact and generally free of threatening disturbances as a result of human activity.
Aim 2	<p>[Section 2.2 Natural and Cultural Landscape Values] Preserve a sense of a simple, lonely and isolated settlement focussed on the task of maritime safety.</p> <p>Performance Indicator</p> <ul style="list-style-type: none"> • Visitors to the island can still appreciate a strong sense of the landscape occupied by former lightkeepers and their families.
Aim 3	<p>[Section 2.4 Flora] Conserve and maintain natural diversity and natural ecosystems.</p> <p>Performance Indicators</p> <ul style="list-style-type: none"> • The Erith Island flora monitoring program (see prescription 2.4.3) continues to reveal an island flora free from major threatening processes as a result of human activity. • On the other islands of the park all listed species are free from major threatening processes as a result of human activity.
Aim 4	<p>[Section 2.5 Fauna] Protect threatened fauna species and their habitat.</p> <p>Performance Indicators</p> <ul style="list-style-type: none"> • The seal monitoring program continues to reveal a thriving seal population, unharrassed by human visitors. • The significance of North East and South West islands as bird breeding refuges continues undiminished by human activity.
Aim 5	<p>[Section 2.6 Aboriginal Heritage] In cooperation with the Aboriginal community, protect and conserve Aboriginal heritage.</p> <p>Performance Indicator</p> <ul style="list-style-type: none"> • Known Aboriginal sites are free of threats arising from human activity.
Aim 6	<p>[Section 2.7 Historic Heritage] Conserve the Deal Island Lightstation, protecting and conserving its conservation significance, with controlled adaption to encourage tenancy</p>

and viability.

Performance Indicators

- The significance of the lightstation landscape and built forms is undiminished.
- The lightstation is still being used, occupied and well maintained.

Aim 7: [Section 2.7 Historic Heritage] Present and interpret historic heritage.

Performance Indicator

- Public access to important components of the lightstation continues to be preserved and presented in a meaningful way.

Aim 8 [Section 3.1 Fire Management] Protect the historic assets.

Performance Indicator

- Fire management strategies, designed to sensitively maximise protection using available resources, have been implemented

Aim 9 [Section 3.2 Rehabilitation] Prevent erosion and rehabilitate badly damaged areas.

Performance Indicators

- Heavy rains do not continue to result in major erosion.

Aim 10 [Section 3.3 Weeds and Diseases] Control or eradicate weed species.

Performance Indicators

- Horehound populations are declining steadily.
- Ragwort is eradicated.

Aim 11 [Section 3.4 Introduced Fauna] Eradicate introduced species where this is feasible and warranted by the damage being caused.

Performance Indicator

- Cat and rabbit populations are declining.

Aim 12 [Section 6.1 Management of the National Park] Ensure any co-management partnership struck with the Crown is being conducted in a way that is consistent with this plan and the broader public interest.

Performance Indicator

- The major management outcomes proposed under this plan have been assigned as the responsibility of either the operator, the management authority or volunteer groups (or some combination thereof) and substantial progress on their realisation continues to be made.

6.3.2 Monitoring and evaluation of any co-management agreement developed under this plan is to accord with the requirement of prescription 4.2.2.

6.3.3 A formal evaluation of the outcomes, in terms of conservation management and public use, of any co-management agreement (see Section 6.1) will be required as a basis for a future review of this management plan.

- 6.3.4 All research requires an appropriate permit.
- 6.3.5 The natural rates and magnitudes of change will be monitored according to the proposed monitoring protocol for the Department.
- 6.3.6 Researchers will submit to the managing authority not less than three copies of all work produced during the period of the research. Submissions must be made within six months of completing fieldwork unless another period is specifically agreed to.
- 6.3.7 Authorities for the collection of material within the park will not be issued where it is possible and appropriate to collect the material outside.
- 6.3.8 Only research that does not have significant adverse effects on the natural, cultural, or aesthetic values of the park will be permitted.
- 6.3.9 The agreement of the Tasmanian Aboriginal community will be obtained for any research involving Aboriginal heritage.

Section 7 References and Further Reading

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Appendix 1 RSF Site Classification System

Day Use – Comfort (mid, complex or visitor centre)

Day Use – Comfort visitor sites cater to visitors who stopover for up to two hours to look at features usually on the way to another destination. Such visits often incorporate a drink/meal break, a stretch of the legs or a short walk and viewing natural and/or cultural features that may be accompanied by interpretive signs. Such sites also provide the opportunity for day-long visits and are often associated with family or other social group outing. Activities may include barbeques/picnics, as well as group recreation such as ball games. These sites may also provide a base for beach activities, boating and fishing in adjacent areas. These sites provide a natural (or rural) setting that foster a sense of space and freedom. Visitors to such sites can enjoy for low risk experiences associated with high standard facilities. Hazards are managed to a neutral or moderate level depending on the characteristics of the site and the level of service provided.

Day Use – Get Away (mid or basic)

Day Use – Get away sites provide visitors with the opportunity to undertake one or more nature-based activities in a natural setting. The typical get-away visitor seeks to go beyond the security and comfort of facilities such as toilets, barbeques, picnic benches and shelters, and often undertake walks of two hours or more in duration. Such sites provide experiences in natural settings that foster a sense of space and freedom. Visitors must be prepared to encounter hazards of a moderate to severe nature depending on the site's characteristics and the level of service provided.

Easy Access Camping (basic, mid or complex)

These campsites are easily accessed and allow visitors to camp with a family group and or with friends. Varying levels of service (basic, mid or complex) are provided in these predominantly natural settings and facilities are managed to ensure they are well kept and hazards are maintained at either a neutral or moderate level. The easy access camping experience can be described as social or solitary. For social campers, the social aspect of the camping experience (eg. parties, group games and activities) is as important as the natural setting. In contrast, solitary campers favour small groups and little or no contact with other people. Campsites predominantly serve as a base-camp with activities pursued off site.

Bushcamping Backcountry (basic, mid or complex)

Bushcamper backcountry sites provide visitors with the opportunity to travel and camp in semi-remote bush areas with some facilities provided. Degrees of comfort vary depending on the level of service (basic, mid or complex) and vary from commercial hut-based experiences to those where accommodation is tent-based. The major activity is bushwalking, but may also include rafting, kayaking, fishing and hunting (where permitted). Visitors are expected to be self-reliant and, depending on the site's characteristics and the level of service provided, must be prepared to encounter hazards of a moderate to severe nature.

Bushcamping Remote (basic)

Bushcamping remote sites provide visitors with the opportunity to venture into areas with few, if any, facilities. In these locations, facilities are provided for

environmental purposes only. Access is usually on foot but may also be by boat or air and visitors are expected to be self-reliant. Visitors are expected to be self-reliant and must be capable of coping with severe hazards associated with remote areas.

Natural

In these locations, facilities are provided for environmental purposes only. Visitors are expected to be self-reliant and must be capable of coping with severe hazards associated with remote areas.

Appendix 2 Guidelines

Guidelines for visiting a seabird colony

When visiting a seabird colony the following actions will minimise your impact on the breeding birds and their habitat:

- When obtaining your permit ensure you are briefed about appropriate visitor behaviour.
- Ensure you have read the management plan and are prepared to comply with any relevant requirements.
- Leave your pets at home.
- Plan for a day trip with no overnight camping.
- If an overnight stay is unavoidable, preferably stay on your boat or set up camp as far away as possible from the bird colonies and significant cultural sites.
- Ensure that there are no feral pests such as rats and mice aboard your boat. They could destroy a seabird colony by eating or destroying the eggs and carrying ticks, fleas and other harmful parasites.
- Prior to arrival, thoroughly wash your shoes, tent pegs and other soil-contacted equipment in salty water to avoid transporting *Phytophthora cinnamomi* and potentially damaging weed seeds or fungal spores.
- Where possible, walk on the rocky shoreline to ensure that you do not trample on burrows and nests.
- Be aware of birds displaying disturbed behaviour such as flying in circles or squawking.
- Ensure that you keep well away, if they are displaying any agitated behaviour.
- Watch out for small nesting birds and their eggs and nests, particularly between October and March. Some birds, like terns, are often difficult to see, so stay alert.
- Do not light fires. Smoke can distress some birds and there is always a risk of escape, no matter how careful you are. Always carry a fuel stove.
- Avoid setting nets within 500 metres of a seabird colony and in particular along shorelines frequented by penguins. Many diving birds are killed in nets, especially during their breeding season, when they forage closer to their colony.
- Record in as much detail as possible information about dead wildlife and unusual occurrences you may witness during your visit. Report them to the Parks and Wildlife Service officers on your return.
- Take all your rubbish home with you. Seabirds can be killed by swallowing or becoming entangled in plastic debris.

Seal watching guidelines

- Approach the seal colony quietly. Seals are sensitive – fast boats, noisy engines, clattering sails and rattling anchor chains frighten them, making them flee into the water.
- During the breeding season, disturbance may cause stampedes, where pups are crushed or forced off the colony. Lower your sail or reduce speed to

under 10 knots within 200 metres and 5 knots within 100 metres of the colony.

- Approach downwind slowly and quietly – seals have an acute sense of smell and will be wary of your intrusion into their territory.
- In November and December when pups are born, boats should not pass closer than 100 metres to the seal colony.
- At all other times of year it is best to go no closer than 50 metres to a seal colony.
- Do not swim with seals, as sharks often share the same habitat.
- Disturbed seals will stampede, endangering their pups. In cases of severe disturbance, they may abandon them.
- Never discard plastic material overboard. Seals can be killed by swallowing it or, more likely, from becoming entangled in it.

Appendix 3 Responsibilities and Priorities

The prescriptions of this plan can be divided into either general policy measures or specific actions. In the case of prescribed actions, the following table provides guidance on which should be the responsibility of the management authority, the co-manager, and/or volunteers. The table also provides an indication of priorities for the management actions contained in this plan. Before undertaking many specific actions parties may require specific training and or skills assessment.

Action		Responsibility			Priority		
Plan ref	Prescription summary	operator	volunteer	PWS	high	medium	low
2.1.1	Investigate significant caves.	•	•	•		•	
2.1.4	Consider ways of stabilising/rehabilitating sites of severe gully erosion	•	•	•	•		
2.4.1	Implement flora listing statements.	•	•	•			•
2.4.2	Encourage defined flora research.	•	•	•			•
2.4.3	Continue the flora monitoring program established on Erith Island.	•	•	•	•		
2.5.1	Maintain the monitoring program for Australian fur seals on Judgment Rocks.			•	•		
2.5.2	Implement fauna listing statements.	•	•	•			•
2.5.3	Encourage research about Deal Island's Bennetts wallaby population.	•	•	•			•
2.5.4	Encourage research about fauna species and communities.	•	•	•			•
2.5.5	Undertake population monitoring of Bennett's wallaby and rabbit.	•	•	•		•	
2.5.6	Assess the cave fauna of the park.	•	•	•		•	
2.5.7 – 2.5.8	Limit access to South West Island, North East Island and Judgment Rocks.			•		•	
2.5.9	Define the fire frequencies necessary to maintain threatened species.	•	•	•		•	
2.5.10	Educate visitors about the harmful effects of feeding wildlife.	•	•	•			•
2.6.1	Assess and protect Aboriginal heritage values.	•	•	•		•	
2.6.8	Monitor Aboriginal places for, and protect from, damage.	•	•	•		•	
2.7.2	Ensure there is somebody living on Deal Island on a continuous basis.	•	•	•	•		
2.7.3	Prepare a strategic asset management plan for the Deal Island Lightstation.			•	•		
2.7.5	Undertake catch-up and cyclic maintenance works on the lightstation heritage assets.	•	•	•		•	
2.7.6	Negotiate and document a partnership agreement for management of heritage assets.			•	•		
2.7.16	Encourage research on historic cultural heritage.	•	•	•			•

Responsibilities and Priorities

Action		Responsibility			Priority		
Plan ref	Prescription summary	operator	volunteer	PWS	high	medium	low
3.1.1	Remove combustible materials in the vicinity of the light tower.	•	•	•		•	
3.1.2	Ensure all buildings are made as spark-proof as possible.	•	•	•		•	
3.1.3	Remove combustibles from around the perimeter of buildings.	•	•	•		•	
3.1.4	Consider down-slope fire-break clearance on Lighthouse Hill.	•	•	•	•		
3.1.5	Maintain a fire break around the houses of the residential precinct.	•	•	•	•		
3.1.6	Manage for the prevention of wildfires.	•	•	•	•		
3.1.9	Undertake limited ecological management burning.			•			•
3.1.11	Advise visitors of fire management policies and fire safety procedures.	•	•	•		•	
3.2.1	Rehabilitate, revegetate or stabilise disturbed or eroding areas.	•	•	•	•		
3.3.2	Prepare a weed management plan.	•	•	•	•		
3.3.3	Monitor shorelines for new weed infestations.	•	•	•	•		
3.3.6	Seek volunteers to assist in weed control.	•	•	•	•		
3.3.9	Monitor and, if necessary, conduct weed management on disturbed sites.	•	•	•	•		
3.4.1	Investigate impacts of exotic fauna on values and establish population monitoring.	•	•	•		•	
3.4.2	Develop and implement an integrated exotic fauna management plan.	•	•	•	•		
3.4.3	Prioritise eradication of the feral cat followed by rabbit control.	•	•	•		•	
3.4.4	Erect a prominent sign on the jetty area at Deal Island and at West Cove to notify visitors of quarantine restrictions.	•	•	•	•		
4.2.2	Establish a form of limited tenure over the hut at West Cove.			•		•	
4.2.9	Monitor compliance with the terms and conditions of leases and licences.			•	•		
5.1.5	Maintain replace/improve as necessary the dehydration toilet at West Cove.	•	•	•	•		
5.1.6	Address erosion issues associated with the existing track system on Deal and Erith Islands.	•	•	•			
5.3.3	Undertake a risk management assessment of the current wharf structure.	•	•	•			
5.4.2	Remove all infrastructure associated with the landing area.	•	•	•	•		
5.6.2	Increase the quality of the 'virtual visit' to the Kent Group.	•	•	•		•	
6.1.3	Prepare a five-year rolling program for the park to coordinate development, protection and conservation work.			•	•		

Responsibilities and Priorities

Action		Responsibility			Priority		
Plan ref	Prescription summary	operator	volunteer	PWS	high	medium	low
6.2.3	Liaise as relevant to ensure that human disturbance to Judgment Rocks is minimised.			•	•		
6.3.1	Apply the performance indicators set out in Table 6. Where necessary, and at the earliest opportunity, initiate baseline surveys.			•	•		
6.3.5	The natural rates and magnitudes of change will be monitored according to the proposed monitoring protocol for the Department.			•		•	