

# Declaration of critical habitat for the Gould's Petrel

*(Pterodroma leucoptera leucoptera)*



(Pursuant to s.44 and 47 of the *Threatened Species Conservation Act 1995*)

**November 2006**

Department of  
Environment and  
Conservation (NSW)

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Cover photo: adult Gould's Petrel (*Pterodroma leucoptera leucoptera*) on forest floor  
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## **Declaration of critical habitat for Gould's Petrel** *(Pterodroma leucoptera leucoptera)*

### **Foreword**

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The conservation of threatened species, populations and ecological communities is crucial for the maintenance of this State's unique biodiversity. In NSW, the *Threatened Species Conservation Act 1995* (TSC Act) provides the framework to conserve and recover threatened species, populations and ecological communities.

The TSC Act includes provision for the identification and declaration by the Minister for the Environment of habitat that is critical to the survival of endangered species, populations and ecological communities (that is, those species, populations and ecological communities listed in Schedule 1 of the Act). The TSC Act includes specific requirements concerning the habitat eligible to be declared to be critical habitat, the process for identification of critical habitat, and the matters to which the Minister must have regard when considering a recommendation for critical habitat. This report satisfies these provisions.

Cabbage Tree Island, and to a lesser extent, Boondelbah Island, off the coast of Port Stephens are the only breeding sites in the world of Australia's rarest seabird, the Gould's Petrel. On 30 January 1998, the NSW Scientific Committee made a final determination to list the species as an Endangered Species on Schedule 1 of the TSC Act. In the 2004/05 breeding season there were about 2500 individuals comprising about 1000 breeding pairs.

This report describes our current understanding of the endangered Gould's Petrel, documents the critical significance of Cabbage Tree Island for the survival of the species, and includes an assessment of the social and economic consequences of the declaration of critical habitat.

This critical habitat declaration will make a significant contribution to the conservation and recovery of Gould's Petrel and its habitat.



**Lisa Corbyn**  
**Director General**



**Bob Debus MP**  
**Minister for the Environment**



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## 1.0 Introduction

The Gould's Petrel (*Pterodroma leucoptera leucoptera*) is Australia's rarest endemic seabird. The species has one significant breeding locality at Cabbage Tree Island, off the coast at Port Stephens, NSW.

On Cabbage Tree Island, the species is thought to have suffered substantial declines over the last 30 years due to the combined effects of predation by avian predators, entanglement in the sticky fruits of the Bird-lime Tree (*Pisonia umbellifera*) and degradation of habitat through rabbit grazing.

This report describes our current understanding of Gould's Petrel, documents the critical significance of Cabbage Tree Island for the survival of the species, and includes an assessment of the social and economic consequences of the declaration of Cabbage Tree Island as critical habitat for Gould's Petrel under Part 3 of the *Threatened Species Conservation Act 1995* (TSC Act). The recommendation for critical habitat was prepared in accordance with sections 39 and 40 of the TSC Act and has been publicly notified and exhibited in accordance with section 41 of the TSC Act.

Identification and declaration of Cabbage Tree Island as critical habitat for the Gould's Petrel is identified as a recovery action in the Gould's Petrel Recovery Plan (DEC 2006). The declaration of critical habitat will contribute significantly to the conservation and recovery of Gould's Petrel and its habitat. It will also assist with the implementation of the TSC Act's critical habitat provisions across a range of endangered species and land tenures by increasing community awareness of these provisions.

Declaration of Cabbage Tree Island as critical habitat for Gould's Petrel will provide for the ongoing recovery of Gould's Petrels and allows for targeted regulation of activities that continue to threaten its conservation as well as added protection to the island's other natural heritage values.

## 2.0 Summary of the main statutory implications of critical habitat declaration

Habitat eligible to be declared critical habitat is the whole or any part or parts of the area or areas of land comprising the habitat of an endangered species, population or ecological community that is critical to the survival of the endangered species, population or ecological community (s37(1) TSC Act).

The declaration of critical habitat serves primarily as a trigger which ensures a rigorous assessment of development proposals and the mandatory involvement of DEC in the planning and decision making processes. This is achieved by such statutory requirements as:

- The mapping of the declared area on the relevant Local Environmental Plan (LEP) and Regional Environmental Plan (REP) (s.26 of the *Environmental Planning and Assessment Act 1979* (EP&A Act)).
- The maintenance of a register of all declarations (s.55(1) of the TSC Act).
- The requirement that a person must not, by an act or an omission, do anything that causes damage to any critical habitat (s.118C of the *National Parks and Wildlife Act 1974* (NPW Act)). However, it is a defence to a prosecution for an offence against this section of the NPW Act if the accused proves that the act constituting the offence was:
  - (a) authorised to be done, and was done in accordance with, a licence granted under the NPW Act or under Part 6 of the TSC Act, or
  - (b) essential for the carrying out of development in accordance with a development consent within the meaning of the EP&A Act, or
  - (c) essential for the carrying out of an activity, whether by a determining authority or pursuant to an approval of a determining authority within the meaning of Part 5 of the EP&A Act if the determining authority has complied with the Part, or

- (d) authorised to be done by or under the *Rural Fires Act 1997* or the *State Emergency and Rescue Management Act 1989* and was reasonably necessary in order to avoid a threat to life or property; or
  - (e) carried out under an approved Property Management Plan or as a routine agricultural activity.
- Section 92 of the TSC Act makes it mandatory for all applications for a licence to undertake an action on land that is critical habitat, to be accompanied by a Species Impact Statement (SIS) prepared in accordance with the TSC Act.
  - A planning authority (eg. local council) must have regard to the register of critical habitat when exercising any of its functions under the EP&A Act (s5B(1) of the EP&A Act).
  - A development proposed on land which is critical habitat may not be considered an exempt development (s.76 of the EP&A Act). Accordingly, all developments occurring on land that is Critical Habitat either require a Section 91 licence under the TSC Act or must go through the development consent process under the EP&A Act.
  - A development may not be considered a complying development if it occurs on land that is critical habitat (s.76A(5) of the EP&A Act). This means that developments proposed on land that is critical habitat may not be approved by an accredited certifier, but must be approved by the consent authority.
  - Any application for a development on land that is, or is a part of, critical habitat must be accompanied by a SIS prepared in accordance with the TSC Act (s.78A(8) of the EP&A Act). In such circumstances, development consent must not be granted without the concurrence of the Director-General of National Parks and Wildlife\* (DG) (s79B(3) of the EP&A Act). Where a Minister is the consent authority, the Minister administering the TSC Act must be consulted.
  - When conducting an assessment under part 5A of the EP&A Act, consent authorities are required to consider whether the activity or development will affect critical habitat. Consequently, activities and developments need not be carried out on land that is critical habitat in order to trigger a SIS if they may have an indirect impact.
  - A determining authority must not carry out an activity, or grant an approval in relation to an activity that is in respect of land that is, or is a part of, critical habitat unless a SIS, or an Environmental Impact Statement that includes a SIS, has been prepared in accordance with the TSC Act. Section 112C of that Act ensures that in such circumstances a determining authority (with the exception of where the authority is a Minister) will not carry out, or grant an approval to carry out, an activity without the concurrence of the DG. Where a Minister is the determining authority he or she must only consult with the Minister administering the TSC Act.
  - The Director-General of Planning must consult with the DG before preparing a draft State Environmental Planning Policy, or an Environmental Study or a draft REP, if, in the opinion of the DG, critical habitat will or may be affected by the draft policy, environmental study or draft plan (s.34A(1) of the EP&A Act).
- \* The National Parks and Wildlife Service has now been incorporated into the Department of Environment and Conservation. The DG of the NPWS no longer exists. This role is replaced by the DG of the Department of Environment and Conservation.
- Councils must also consult with the DG before preparing an Environmental Study, or a draft LEP, if, in the opinion of the council, critical habitat will or may be affected by the Environmental Study or draft plan (s.34A(2) of the EP&A Act).
  - The *Native Vegetation Conservation Act 1997* (NVC Act) does not operate on land which is declared critical habitat (s.9(k)). However, the initiator of a Regional Vegetation Management Plan must consult with the DG regarding critical habitat before preparing the plan (s.26(1) NVC Act).



It is important to note that the declaration of critical habitat does not necessarily prohibit activities in declared areas. The TSC Act does, however, authorise the making of regulations that may prohibit or regulate certain actions on declared critical habitat. At this stage, the DEC has not determined the circumstances in which regulations for the Gould's Petrel might be considered appropriate.

In addition to the above statutory implications, declaration of critical habitat can make a significant contribution to raising community awareness of the status of an endangered species and the significance of a particular area or areas for the species' survival.

### **3.0 Process for identification and declaration of critical habitat**

Part 3 of the TSC Act makes the DG responsible for identifying (where this is possible) habitat that is critical to the survival of endangered species, populations and ecological communities (Schedule 1 of the TSC Act). The process to be followed in identifying and declaring critical habitat is summarised below:

1. The DG must consult with the NSW Scientific Committee before preparing a recommendation concerning the identification of critical habitat (s. 39 TSC Act).
2. After considering the Scientific Committee's advice, the DG must prepare a recommendation for identification of critical habitat (s. 40 TSC Act).
3. The DG must provide a copy of the recommendation to the Scientific Committee, give notice of the recommendation to all affected persons, and notify the community by publishing notice of the recommendation in the Gazette, a state newspaper and a local newspaper (s. 41 TSC Act).
4. The DG must consider all written submissions received and may amend the recommendation to take account of submissions (s. 42 TSC Act).
5. The DG must then forward the final recommendation and summary of

submissions to the Minister for the Environment (s. 43 TSC Act).

6. The Minister is responsible for considering the recommendation in light of all submissions received, and must take into account the likely social and economic consequences of any declaration. The Minister must consult with other Ministers responsible for any affected public authority, and may request the DG to amend the recommendation (s. 44-46 TSC Act).
7. The Minister must then approve or refuse the recommendation or refer it back to the DG for further consideration (s. 47 TSC Act).
8. If the recommendation is approved, notification of the declaration is published in the Gazette and in a state and local newspaper and affected persons are notified (s. 48 TSC Act). A map of the critical habitat is also published in the Gazette (s. 53 TSC Act).
9. The DG must then serve a copy of the map of critical habitat on persons listed in s. 54 of the TSC Act.

With respect to the identification and declaration of Cabbage Tree Island as critical habitat for Gould's Petrel, the following actions have been undertaken in accordance with the above process:

- The then NPWS prepared a draft recommendation report for critical habitat declaration for Gould's Petrel on Cabbage Tree Island in September 2000 (NPWS 2000). The draft recovery plan and recommendation report were forwarded to the Scientific Committee for comment, whilst the draft recovery plan was on public exhibition (step 1 above).
- The draft recovery plan and recommendation report were placed on public exhibition from 28 October - 4 December 2000, with notice of the recommendation published in the Sydney Morning Herald on 28 October 2000 and Port Stephens Examiner on 25 October 2000. Copies of the

recommendation report were available for inspection at the NPWS Information Centre 102 George St, The Rocks, 2000, NPWS Hunter Region Teramby Rd, Nelsons Bay, Port Stephens Shire Council Library and NPWS Head Office Hurstville and the NPWS internet web site (steps 2 & 3 above).

- No public submissions nor comments from the Scientific Committee were received during or following public exhibition. No amendment of the recommendation was necessary (step 4 above).
- A final recommendation report and recovery plan was forwarded to the Minister for consideration and approval in January 2006 (step 5 above).
- The recommendation was considered by the Minister and approved in May, 2006 (steps 6 and 7 above).

Following the declaration, notification of the declaration was published in the Gazette on 10<sup>th</sup> November, 2006 and in a state and local newspaper (Sydney Morning Herald and the Port Stephens Examiner) and affected persons notified in accordance with s. 48 of the TSC Act. A map of the critical habitat was also published in the Gazette and a copy of the map served on persons listed in s. 54 of the TSC Act.

#### **4.0 Subject species of declaration**

##### **4.1 Species**

Gould's Petrel (*Pterodroma leucoptera leucoptera*).

##### **4.2 Status**

Gould's Petrel was listed as endangered under the TSC Act in January 1998 (NSW Scientific Committee 1998). It is also recognised as

endangered nationally through listing on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* as endangered under that Act.

##### **4.3 Species description**

Gould's Petrel (*Pterodroma leucoptera leucoptera*) is a member of the gadfly group of petrels. All members of the group are pelagic, soar erratically on narrow wings, and feed on surface fish, small squid and krill. Gould's Petrel is one of three subspecies of *P. leucoptera* that are currently recognised. The subspecies are all morphologically quite similar and as far as is known have similar general breeding habit. The two non-Australian subspecies *L.l. brevipes* and *L.l. caledonensis* occur in Fiji and New Caledonia respectively. Additional records of these subspecies may result in a broadening of our understanding of their distribution base but neither has been studied, consequently current taxonomic and conservation status for these is uncertain. However, like Gould's Petrel, both the other races are known to be rare and, from current understanding, have restricted breeding sites Marchant and Higgins, 1990; Cabot et al. 1998; Stattersfield and Capper 2000).

Gould's Petrel (Figure 1) has a body length of 30 cm, a wingspan of 75 cm and weight of approximately 180 g. The upper surface of the long narrow wings has a distinctive 'M' pattern. This, together with a darker head, distinguishes it from other Australian *Pterodroma* of similar size. The underside of the body and wings are white with a dark edge to the wing that terminates in a diagonal bar from the carpal inwards. Both sexes are identical and immature birds fledge in adult plumage.



**Figure 1:** Gould's Petrel - adult.

Photo N. Carlile, DEC

#### 4.4 Distribution

Gould's Petrel breeds on Cabbage Tree Island (32° 42' S; 152° 14' E), 1.4 km offshore from Port Stephens, NSW (Figure 2). This 30 ha island was thought to be the sole breeding locality for this species, but a few nesting birds were discovered on nearby Boondelbah Island in 1995 (Priddel and Carlile 1996) and a translocation program there is currently underway (see Recovery Plan).

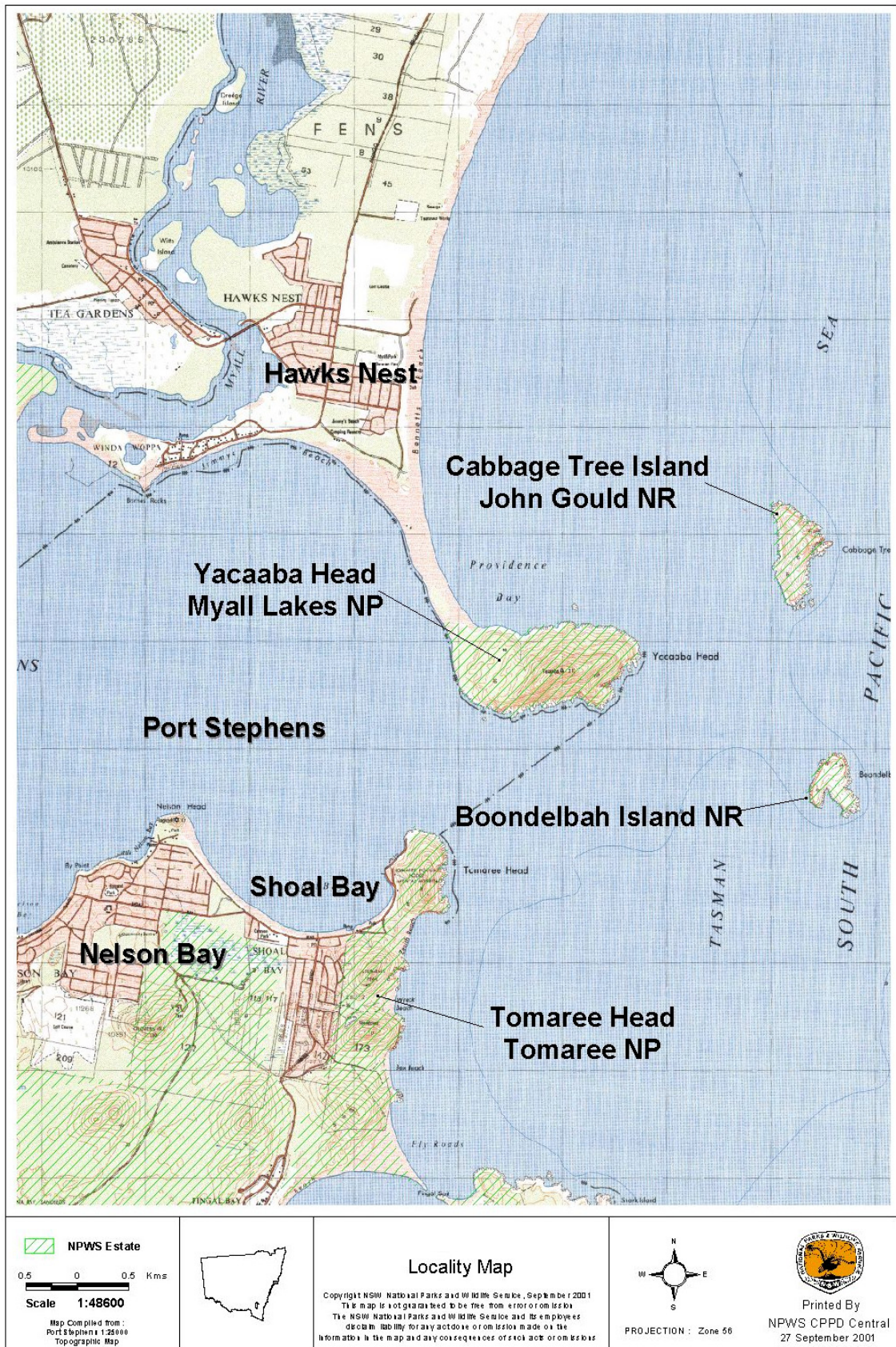
The non-breeding range and feeding areas of Gould's Petrel is unknown, but it appears that the species forages predominantly within the Tasman Sea. Beach washed specimens and sightings at sea extend as far north as the Queensland border and as far west as Eyre on the Western Australian south coast (Marchant and Higgins 1990).

#### 4.5 Habitat

Cabbage Tree Island measures approximately 1.0 km by 480 m and rises abruptly to an elevation of 123 m (Priddel and Carlile 1997). The principal nesting habitat of Gould's Petrel is located within two gullies on the western side of the island (Fullagar 1976). These gullies have an approximate total area of 2 ha and are characterised by steeply sloping rock scree and Petrel nests predominantly in natural rock crevices among the rock scree, but nesting

also occurs in hollow fallen palm trunks, under mats of fallen palm fronds and in cavities among the buttresses of fig trees. They breed colonially and the nests are clumped and often less than 1 m apart (D'Ombrain 1943).

Although the core breeding habitat for Gould's Petrel is contained within 2 ha on Cabbage Tree Island, additional nests have been located in areas fringing the gullies or in small rock scree around the periphery of the island (Priddel and Carlile 1997). These nests account for approximately 20% of the total nests (Priddel and Carlile 1997).



**Figure 2** Locality map, Port Stephens, NSW.



**Figure 3:** Gully with Cabbage Tree Palms, Cabbage Tree Island, NSW.

Photo N. Carlile, DEC

#### 4.6 Life history

Gould's Petrels begin to arrive on Cabbage Tree Island to breed from mid to late September. The birds arrive and depart the island under the cover of darkness. Egg laying takes place over a six week period commencing in early November. Gould's Petrels lay a single egg and, if lost, the egg is not replaced. Incubation takes 49 days to complete and usually involves incubation shifts by each parent in turns of around 16 - 17 days duration. The chick is brooded for one or two days only. Both parents then share the responsibility of feeding the chick. The young remain in the nest for about 13 weeks, during which time they can achieve weights of around one and a half times that of their parents. Fledglings depart the island from late March to early May. It is believed that young birds remain at sea for several years. The earliest record of first breeding is at 3 years of age although data is extremely limited (N. Carlile pers. comm., September 2003). Longevity can exceed 28 years (D. Priddel unpublished). Gould's Petrels are monogamous and pair bonds appear to be longstanding.

#### 4.7 Extent of decline

Historical information pertaining to size of the population is scant and imprecise. When first described by John Gould in 1844, the information relayed to him was that the species

was "breeding in great numbers", but no estimation of population size was given. The first assessment of abundance was made in 1970 when the population ashore on Cabbage Tree Island was estimated at about 2000 individuals (Fullagar 1976). Work undertaken in 1992 and 1993, estimated population size at between 1150 and 1500 birds and indicated that the subspecies had declined by 26 - 42% during the past few decades (Priddel et al. 1995). Experimental management actions undertaken between 1993 and 2003 has resulted in the total breeding population increasing from an annual average of 220 in the late 1980s (Priddel and Carlile 1997) to more than 1000 pairs in 2004/5 (N. Carlile pers. comm.).

#### 4.8 Summary of major threats

##### Rabbit grazing

The introduction of rabbits to Cabbage Tree Island severely degraded the nesting habitat of the Gould's Petrel, removing the understorey, and increasing the risk from avian predators. Rabbit grazing also prevents regeneration of the rainforest canopy and allows invasion by exotic plant species.

Rabbit grazing no longer poses a threat to Gould's Petrel habitat following the successful completion of a rabbit eradication program by the then NPWS.

## Entanglement with *Pisonia*

Together with predation by avian predators, entanglement in the sticky fruits of the Bird-lime Tree (*Pisonia umbellifera*) has been identified as a major cause of adult and nestling mortality. Unmanaged, the rate of mortality of adult Petrels is high and exceeds recruitment. Loss of understorey vegetation due to rabbit grazing is identified as a cause of increased mortality of Petrels because more of the *Pisonia*'s sticky fruits reach the ground.

Regeneration of ground cover and the lower shrub layer as a result of the rabbit eradication program may eventually render the removal of *Pisonia* unnecessary as the sticky fruits of the *Pisonia* plant may be caught by the understorey vegetation and no longer pose a serious risk to Petrels when individuals are on the ground.

## Predation by avian predators

Predation by avian predators is a natural component of the species' ecology. However, predation has been intensified by the effects of rabbit grazing and currently poses a serious threat to the species. Grazing degrades the nesting habitat and exposes the Petrels to an increased risk of predation. Known predators are the Australian Raven (*Corvus coronoides*) and the Pied Currawong (*Strepera graculina*). Other probable predators include transient visitors such as goshawks and owls.

Australian Ravens and Pied Currawongs are resident on the island and are widespread and common in Australia and culling to keep population numbers artificially low is considered appropriate. Other predatory birds such as goshawks and owls are less common.

## Disturbance by jet aircraft

The Commonwealth Department of Defence operates an airforce base at Williamtown, Port Stephens. It has been observed that noise generated by jet aircraft distresses birds and makes them more vulnerable to predation. This occurs as a result of the birds emitting a stress call in response to the sudden noise generated by low level fly overs. These calls have the potential to reveal the nest position to predatory birds (Priddel unpublished). The Department of Defence has recognised

Cabbage Tree and Boondelbah Islands as a noise sensitive area since 1994 and a no fly-zone, with a ceiling of 2000 feet within 2 nautical miles of the islands, is in place.

## Potential threats

Cabbage Tree Island and Boondelbah Island are within 2 km of the mainland and are situated close to an area of high recreational use. The possibility of the deliberate or accidental introduction of mammalian predators such as rats, foxes and cats to the island is a major potential threat to the Gould's Petrel. Given that Gould's Petrels nest on the ground, fire is also considered a major potential threat as it would likely destroy understorey and other important elements of the key gully habitat vegetation. There is also a risk of direct disturbance by human visitors to breeding habitat at key times together with an increased risk of fire and the introduction of predatory or other exotic animals as a result of visitors.

## 5.0 Subject area of declaration

### 5.1 Location and description

Cabbage Tree Island (32° 42' S; 152° 14' E) is situated 1.4 km offshore from Port Stephens, NSW just north of Newcastle (Figure 2). Cabbage Tree Island is approximately 30 ha in area and was declared a Nature Reserve under the NPW Act in 1954.

It is a steeply sloping, wedge-shaped island aligned north-south approximately 1000 m by 490 m, covering 30 ha. Steep cliffs of granitic toscanite rise along the eastern side to 123 m above sea level and are highly fractured along vertical bedding planes. Several basaltic dykes dissect the island with two forming pronounced gullies draining moderately steeply to the western shore. These gullies on the western side of the island form the principal nesting habitat of Gould's Petrel.

Three rocky islets occur off the southern end, and another to the north. Cathedral Rock, a pronounced pinnacle on the north-eastern side, is connected to the island by a boulder field and rock scree. A subterranean dyke on the eastern side of the island has collapsed to form a giant sea cave 40 m deep that is accessible with the use of caving ladders. Clay-based soils are skeletal over much of the island,

although deep humic loam soils occur between the two main gullies.

The vegetation of the island includes rainforest on the western side and a dense cover of Spiny-headed Mat-rush (*Lomandra longifolia*) over much of the remainder. Since the eradication of rabbits (*Oryctolagus cuniculus*) in 1997, areas outside the rainforest have become more extensively vegetated, particularly with grasses and herbs. Within the rainforest, regeneration has been patchier, but ferns and established seedlings are now more prevalent than they were previously. More than 150 plant species have been collected on the island including 17 species of ferns, 33 herbs and 10 grasses. A herbarium is held by the local DEC office.

Prickly pear (*Opuntia stricta*) is widespread in all areas except within the closed canopy of the rainforest. In 1976, Fullagar noted that although some attempts had been made to control or eradicate this species, it was "still quite plentiful on the exposed eastern slopes of the island". Larvae of the moth borer *Cactoblastis cactorum* have been introduced to the island on several occasions in the past, but not since 1993. Although the moth is still present on the island, periodic reintroduction may be necessary to ensure it is widely distributed and sufficiently abundant to be an effective means of control. In light of the recent removal of rabbits, targeted control of Prickly Pear may be beneficial for the re-establishment of native flora in some areas.

Bitou Bush (*Chrysanthemoides monilifera*) occurs primarily on the south-eastern end of the island but isolated patches can be found along the eastern and northern cliffs. Fullagar made no mention of this species in 1976, suggesting its establishment and spread may have been recent. Despite some efforts at control during the 1990s, Bitou Bush remains dominant in some areas and biological control or aerial spraying may be needed to contain its spread.

## 5.2 Existing conservation measures on Cabbage Tree Island

The 1954 gazettal of Cabbage Tree Island as a Nature Reserve (John Gould Nature Reserve) provides protection to the island from undesirable land uses. As yet, there is no approved Plan of Management for Cabbage

Tree Island. Conservation measures on the island have focused on the Gould's Petrel. Measures are carried out in accordance with the Gould's Petrel Recovery Plan (DEC 2006). The current management strategy of discouraging public visitation to the Island to protect its ecological integrity will continue.

No weed control plan has been prepared for the Reserve although actions to control weeds have been undertaken from time to time by DEC Area staff.

## 5.3 Area declared to be critical habitat

This declaration is for all of Cabbage Tree Island as critical habitat for Gould's Petrel. It thereby incorporates all known sites for the species on the island, that is, all areas on the island providing primary habitat and the remainder of the island which provides secondary habitat. The inclusion of the entire island in the critical habitat area also provides a buffer to afford protection to core habitat areas and allows scope for future development of additional habitat on Cabbage Tree Island through ongoing geomorphological processes. Declaration of the entire island as critical habitat will also enable simple and accurate identification of the critical habitat boundary in the field and in the Port Stephens LEP and Hunter REP.

## 6.0 Social and economic consequences of declaration of critical habitat

The TSC Act (Section 40(2)) specifies that the DG must consider the likely social and economic consequences of making a recommendation for declaration of critical habitat by the Minister for the Environment.

In addition Section 44(1)(a) specifies that the Minister must have regard to the likely social and economic consequences of a declaration of critical habitat and, further, the likely consequences for landholders of, or other persons having an interest in, or on lawful uses of, the land (s44(1)(b)). The Minister must also consider whether, consistent with the principles of ecologically sustainable development, the recommendation might be amended to avoid or lessen any adverse consequences of the making of a declaration of critical habitat.

The DG and the Minister must therefore be able to demonstrate that they have attempted to identify and consider all relevant economic and social consequences of the declaration of critical habitat. The first stage is to identify the issues, and secondly to consider the likely social and economic consequences of these issues. Finally, for those consequences determined to be significant and adverse, the DG must consider if there are ways to minimise these consequences.

To assist this process, all the legislative and administrative issues associated with the declaration of critical habitat have been identified within this document. For each issue the likely social and economic consequences have been identified as they relate to the declaration of critical habitat on Cabbage Tree Island.

Given that Cabbage Tree Island is a declared Nature Reserve under the NPW Act, the economic consequences of critical habitat declaration are minor. Costs will be incurred by the DEC to install appropriate signage etc (see Recovery Plan for details).

The social consequences of any future declaration should be positive as public understanding about the natural heritage values of the island is improved.

## **6.1 Legislative and administrative consequences of declaring critical habitat**

### **6.1.1 Local Environmental Plan, Regional Environmental Plan or State Environmental Planning Policy.**

If land declared as critical habitat is land to which a LEP, REP or State Environmental Planning Policy applies, the plan must be amended by the relevant Council, and the Department of Planning in a manner that identifies the land that is declared as critical habitat.

Port Stephens Shire Council will be required to amend their LEP. The Department of Planning will be required to amend the Hunter REP.

### **6.1.2 Developments or activities requiring consent or approval under the Environmental Planning and Assessment Act 1979.**

Developments or activities which require consent or approval under the EP&A Act which are proposed on land that is, or is part of, critical habitat, automatically require the preparation of a SIS and the concurrence of the DG or in some cases, consultation with the Minister for the Environment.

It should be noted that the standard assessment processes under Part 4 & 5 of the EP&A Act (where an area is not declared as critical habitat) require a SIS and the concurrence of the DG or the Minister of the Environment if a development or activity is likely to have a significant impact on an endangered species, population, or ecological community. It should also be noted that, according to s111(4) of the TSC Act, despite anything in the TSC Act or the EP&A Act (including critical habitat) the DG may, having regard to the circumstances of a particular case, dispense with the requirements for a SIS in the particular case if the DG is satisfied that the impact of the activity concerned will be trivial or negligible.

An economic consequence, which would be borne by the proponent of a proposed development or activity (most likely to be the DEC, since the proposed critical habitat is within the Cabbage Tree Island Nature Reserve), would be the cost and time associated with the preparation and processing of a SIS for any proposed development or activity on the site (where the impact is not trivial or negligible). The Nature Reserve has been gazetted on the basis of protecting the island's significant natural heritage values and, therefore, the DEC is highly unlikely to consider undertaking any development or activity that will adversely impact on the habitat.

### **6.1.3 Consent or determining authority**

When a consent or determining authority is deciding whether a proposed development or activity is likely to have a significant effect on threatened species, populations or ecological communities or their habitats, it must consider whether critical habitat will be affected by the proposal.



The DG is the determining authority for any development or activity proposed on Cabbage Tree Island and is highly unlikely to consider undertaking any development or activity that will adversely impact on the habitat.

#### **6.1.4 Register of critical habitat**

All consent authorities must have regard to the register of critical habitat kept by the DG when exercising their functions under the EP&A Act.

An economic consequence borne by the DEC is the administration and maintenance of the register of critical habitat. This central register is maintained by the DEC Biodiversity Conservation Unit, Head Office and includes printed and electronic copies of critical habitat assessment reports, declarations, maps of critical habitat and other relevant material. A list of areas declared as critical habitat is maintained on the DEC website.

#### **6.1.5 Section 91 Licence**

A SIS must be submitted with the licence application for actions which require licensing under section 91 of the TSC Act, and which are proposed for land that is, or is part of, critical habitat.

It should be noted that the standard assessment processes under section 91 of the TSC Act (where an area is not declared as critical habitat) require a SIS if an action is likely to have a significant impact on an endangered species, population, or ecological community. It should also be noted that, according to s111(4) of the TSC Act, despite anything in the TSC Act or the EP&A Act (including critical habitat) the DG may, having regard to the circumstances of a particular case, dispense with the requirements for a SIS in the particular case if the DG is satisfied that the impact of the activity concerned will be trivial or negligible.

The DEC will undertake scientific research and management within the area identified as critical habitat, but these actions will only be undertaken if there is likely to be no adverse impacts on the critical habitat.

#### **6.1.6 Property management plans**

Where a landholder is preparing a property management plan under section 91 of the TSC

Act, the plan should identify whether the property contains land that is or is part of critical habitat.

The DEC does not intend to prepare a property management plan for this Nature Reserve. It does, however, propose to prepare a Plan of Management for the island.

#### **6.1.7 Recovery plan**

A recovery plan must identify any critical habitat declared in relation to the threatened species, population or ecological community which is the subject of the plan and state what must be done to protect that critical habitat.

The DEC is responsible for the preparation of recovery plans and has prepared a recovery plan for Gould's Petrel which was approved by the Minister in May, 2006 (DEC 2006). The draft recovery plan identified and recommended that Cabbage Tree Island be declared as critical habitat for the subspecies as a high priority action (DEC 2000). There is no additional social and economic consequence for the inclusion of this consideration as protection of the significant population and area of habitat on Cabbage Tree Island is a key strategy for the recovery of this subspecies.

#### **6.1.8 Public authorities**

Public authorities must have regard to critical habitat if the land it owns or controls contains critical habitat. The public authority must also have regard to critical habitat when exercising its functions in relation to the land.

The DEC manages Cabbage Tree Island. Current DEC management is concentrated on the Gould's Petrel and is focused on research, environmental management, weed control, avian predator control and discouraging public access. There is no additional social and economic consequence of declaring this area as critical habitat as the DEC is currently actively managing and maintaining the area identified as critical habitat. As noted above, the DEC does propose to undertake conservation management activities including *Pisonia* control in Cabbage Tree Island (DEC 2006). Such activities will be designed and undertaken in such a manner as to ensure that any adverse impacts on Gould's Petrel and its habitat are only trivial or negligible. Where proposed conservation management activities

are determined to have greater potential impacts on Gould's Petrel or its habitat, a SIS will be required.

### **6.1.9 Native Vegetation Conservation Act 1997**

According to s.26 of the NVC Act, the DG must be consulted before the preparation of a draft regional vegetation management plan in regard to critical habitat, endangered species, populations, ecological communities and their habitats.

### **6.1.10 Regulations**

Regulations may be made to prohibit or regulate the carrying out of specified actions on specified critical habitat.

The economic and social consequences of any potential regulations are unknown. No regulations for the critical habitat on Cabbage Tree Island are currently proposed.

### **6.1.11 Restoration of critical habitat**

Section 118E of the NPW Act specifies that the Court may order the offender to restore critical habitat or habitat of endangered species, populations or ecological communities.

There is no additional economic consequence for any individual/s who are ordered to restore critical habitat, as restoration of habitat can currently be ordered where any individual/s damages the habitat of endangered species, populations, or ecological communities.

### **6.1.12 Damage to critical habitat**

Section 118C (1) of the NPW Act states that "a person must not, by an act or an omission, do anything that causes damage to any critical habitat". In respect to damaging critical habitat without a defence to a prosecution, the penalty is 2000 penalty units (\$220,000) or two years imprisonment or both.

Section 118D (1) of the NPW Act states that "a person must not, by an act or an omission, do anything that causes damage to any habitat (other than a critical habitat) of a threatened species, population or ecological community if the person knows that the land concerned is habitat of that kind". In respect to damaging habitat of a threatened species, population or

ecological community without a defence to a prosecution, the penalty is 1000 penalty units (\$110,000) or one year imprisonment or both for damage to the habitat of a threatened species.

The economic consequence of declaring critical habitat in this regard is to increase the penalty from 1000 penalty units (\$110,000) or one year imprisonment or both to 2000 penalty units (\$220,000) or two years imprisonment or both.

## **6.2 Social and economic consequences**

The DEC is the sole landholder of Cabbage Tree Island and, as such, is the authority responsible for the management of the island

Visitor access is not currently provided to Cabbage Tree Island, to protect the island's significant natural heritage values and, in particular, the Gould's Petrel. Public visitor access to the island is considered to be adverse to Gould's Petrel due to the risk of trampling of and disturbance to habitat, increased risk of fire and introduced predators, and spread of weeds (DEC 2006). The approved Recovery Plan proposes to continue the management strategy of not encouraging public access visitation (DEC 2006). Negligible adverse social impacts are anticipated as restrictions on visitation are already well established.

Community education initiatives and interpretative material are likely to be strengthened by the declaration of critical habitat on Cabbage Tree Island. The Foundation for National Parks and Wildlife raised \$21,837 in its 1998 Gould's Petrel Appeal and a further \$60,000 in 1989 for research through the estate of Winifred Scott. A community awareness pamphlet highlighting the bird's plight and encouraging community cooperation in its conservation and recovery was developed and distributed as part of the draft recovery plan. The DEC, Threatened Fauna Ecology Group and Hunter Coast Area have raised the public profile of Gould's Petrel in recent years through national, state and regional media including television, radio, newspaper and popular magazines.

Since 2000, there has been more local than national media interest in Gould's Petrel. As a result, there has been a huge interest from the local community and from local schools. For

example, in 2003 every school in the local area undertook a project about Cabbage Tree Island and an art exhibition about the island was held in October 2003 at the Tomaree Community Centre.

It is also worth noting that the Port Stephens area supports both a significant recreational and tourism industry which may benefit from this critical habitat declaration. The declaration of Cabbage Tree Island as critical habitat will enhance the status of the island and may lead to an increase in business for local dolphin cruise operators.

As a nature reserve specifically gazetted to protect the natural heritage of the island, the declaration of critical habitat over the island will continue the protection afforded to this significant area.

The proposal to identify critical habitat for Gould's Petrel on Cabbage Tree Island was included as a priority action in the publicly exhibited draft recovery plan (NPWS 2000). The recommendation for critical habitat was publicly exhibited together with the draft recovery plan between 28 October 2000 to 4 December 2000.

### 6.3 Ecologically sustainable development

The declaration of the habitat of this subspecies as critical habitat is consistent with the principles of ecologically sustainable development. Ecologically sustainable development requires the effective integration of economic and environmental considerations in decision making processes, which can be achieved through the implementation of the precautionary principle, intergenerational equity, conservation of biological diversity and ecological integrity, and improved valuation and pricing of environmental resources.

The precautionary principle specifies that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental damage.

The principle of inter-generational equity specifies that the present generation should ensure that the health, diversity and productivity of the environment is maintained

and enhanced for the benefit of future generations.

The identification and declaration of Cabbage Tree Island as critical habitat by the DEC and Minister for the Environment indicates recognition of the significance of Cabbage Tree Island for the future survival and recovery of Gould's Petrel and recognition that higher levels of protection and environmental impact assessment are required to ensure the subspecies and its habitat persists for the benefit of future generations.

## 7.0 Report preparation

This report was prepared by Tania Duratovic, Biodiversity Conservation Section, Metro Branch, DEC with assistance from Nicholas Carlile, Threatened Fauna Ecology Unit, DEC and Michael Murphy, Hunter Coast Area, DEC. The photographs used in Figure 1 and 3 and the cover photo were provided by Nicholas Carlile.

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## 9.0 Acronyms used in this document

DG	Director-General of Department of Environment and Conservation
DEC	Department of Environment and Conservation
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
IUCN	International Union for the Conservation of Nature
LEP	Local Environmental Plan
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NVC Act	<i>Native Vegetation Conservation Act 1997</i>
SIS	Species Impact Statement
TSC Act	<i>Threatened Species Conservation Act 1995</i>





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