

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

CAROLINE BAY/PORT TIMARU
PENGUIN HABITATS



Report prepared for Timaru District Council
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TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

CAROLINE BAY/PORT TIMARU PENGUIN HABITATS

SITE SUMMARY:

Species: southern blue penguin/little blue penguin/korora

Location: Caroline Bay and Port Timaru

Ecological District: Makikihi

SPECIES DESCRIPTION:

The significant natural areas (SNAs) described in this report are sites at Caroline Bay and Port Timaru that are presently utilised by southern blue penguins/korora as breeding habitat. Southern blue penguin is also known as ‘little penguin’, ‘blue penguin’, ‘little blue penguin’ and ‘korora’. The terminology used in this report follows that of Robertson *et al* (2017) in which the species is named ‘southern blue penguin’ (*Eudyptula minor minor*).

Six subspecies or clines of blue penguin have been recognised, though the genetic divergence between New Zealand taxa is small. There is greater genetic divergence between New Zealand taxa and the Australian little penguin/fairy penguin (Waugh, 2016). Recent research indicates that fairy penguin (*Eudyptula novaehollandiae*) colonised the Otago and South Canterbury coast within the last 500 years and that this species is now the dominant resident there, though some hybridisation between species is known (Grosser *et al*, 2016; Robertson *et al*, 2017).

The origin and genetic composition of the penguin taxa at Caroline Bay do not materially affect its conservation status in this situation. Southern blue penguin (*Eudyptula minor minor*) is listed as ‘at risk, declining’ by Robertson *et al* (2017), although this listing is qualified as “data poor”. White-flipped penguin (*Eudyptula minor albosignata*) and northern blue penguin (*Eudyptula minor iredalei*) are also listed as ‘at risk, declining’. Australian little penguin (*Eudyptula novaehollandiae*) is listed as ‘at risk, recovering’, with the qualifier “conservation dependent” (Robertson *et al*, 2017).

HABITAT USE:

Southern blue penguins utilise areas at Caroline Bay and Port Timaru as nesting sites. Breeding occurs between July and February. During that time the penguins feed at sea as solitary individuals or in small groups and return to their nest sites at dusk. Nesting sites are burrows or natural cavities within rock piles, driftwood or thick vegetation. Egg laying is between July and December. Both sexes incubate in shifts of 1-2 days and eggs hatch in approximately five weeks. Chicks are initially brooded and guarded continuously by the parents, then later guarded only at night. Chicks fledge after 7-8 weeks (Heather and Robertson, 1996; Birds Online, 2018).

Southern blue penguins have a predictable routine and can be very vocal when they come ashore at night. This behaviour has enabled closer monitoring of penguin habitat use and made penguin-watching a popular public activity. Penguins are vulnerable to disturbance and predation while on land and especially while nesting. They are also vulnerable while moulting, during which time they spend two weeks ashore between January and March.

Monitoring of southern blue penguins and management of their nesting sites at Caroline Bay has been enthusiastically embraced by Timaru residents and agencies, under the guidance of the Timaru Penguin Group. The group’s members monitor nesting, advocate for protection of nest sites, observe and manage public use, and report bird numbers and nesting success. The group receives support from a number of individuals and agencies, including Timaru District Council, Primeport Timaru, Department of Conservation and Forest and Bird.

SIGNIFICANT AREAS:

Southern blue penguins utilise a number of sites at Caroline Bay and at the Port of Timaru. Of these areas there are four main sites where penguins nest. These sites were shown to me by a member of Timaru Penguin Group, Fraser Ross, in November 2017. Penguins or evidence of penguins (droppings, tracks) were observed at each of these sites. Approximately 160 penguins and 58 nests were recorded at these four sites during the 2017-2018 season (Ross, 2018). All four sites are wholly or partly artificial structures (constructed by people), principally rock reclamations or erosion control works. Despite their unnatural origin, these sites are significant as they provide breeding habitat for an ‘at risk, declining’ species: southern blue penguin. These four sites are listed below and described in this report.

SNA No.	SNA Name	Central map reference (NZTM)	Size (ha.)
816	Marine Parade	1461022E-5083632N	0.24
817	North-west Reclamation	1461131E-5083910N	0.16
818	Eastern Extension	1461942E-5083353N	0.07
819	Benvenue Cliffs	1460326E-5083866N	0.29



SNAs 816 to 819, indicated by yellow hatching (larger images in the SNA descriptions in this report).

The Marine Parade penguin nesting site is a narrow strip between Marine Parade and the beach/ocean at the east side of Caroline Bay. It comprises large angular boulders which form the edge of the reclamation upon which Port Timaru is located. At the southern part of the site the boulders are partly buried by sand. This area has been planted to help prevent sand blowing onto the road. The planted area is fenced, to protect the plants and to restrict access to penguin nest sites. A disused wooden jetty is present adjacent to the reclamation at the north part of the site. This jetty provides a roost site for hundreds of white-fronted terns (*Sterna striata*), an ‘at risk, declining’ species.



SNA 816 (lower) and SNA 817 (upper)

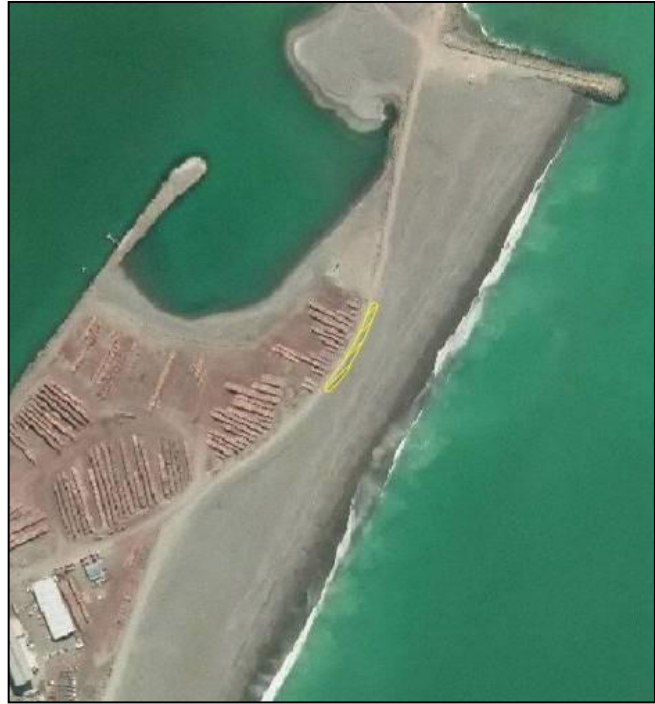


The Northwest Reclamation penguin nesting site is a narrow strip between the port and the ocean, north of the boat ramp. Yellow-eyed penguin (*Megadyptes antipodes*), a ‘threatened, nationally endangered species, and king penguin (*Aptenodytes patagonicus*), a ‘vagrant’ species, have been observed on the beach adjacent to these sites (Fraser Ross, *pers.comm.*). Both sites lie on land administered by Primeport Timaru Ltd, with a small part on land administered by Timaru District Council.

The Eastern Extension penguin nesting site is a narrow strip of angular boulders on reclaimed land at the eastern part of the port. It formerly comprised a small pile of rocks and has since been extended by the Primeport Timaru to provide more extensive nesting habitat. It lies adjacent to a log-storage yard.

Banded dotterel (*Charadrius bicinctus*), a ‘threatened, nationally vulnerable’ species was observed on adjacent sand/gravel during the site inspection.

This site lies on land administered by Primeport Timaru Ltd.

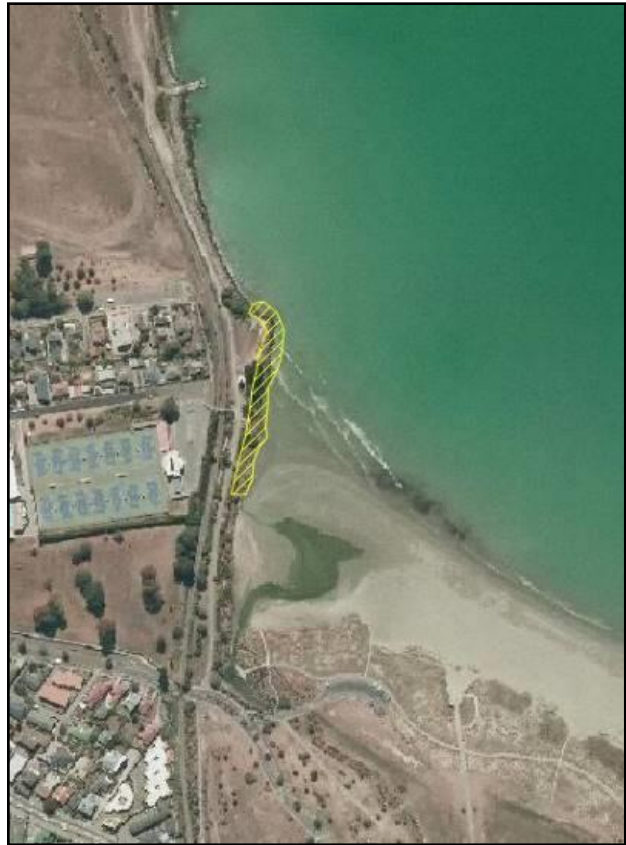


SNA 818



The Benvenue Cliffs penguin nesting site is a strip of erosion-control rocks and associated cavities along the base of the Benvenue Cliffs at the west side of Caroline Bay. Slopes above the rocks support rank exotic grasses and ngaio (*Myoporum laetum*) trees. Other notable species utilising the area (Fraser Ross, *pers.comm.*) are variable oystercatcher (*Haematopus unicolor*), an ‘at risk, recovering’ species, and red-billed gull (*Larus novaehollandiae*), an ‘at risk, declining’ species.

This site lies mostly on land administered by KiwiRail.



SNA 819



SNA 819, Benvenue Cliffs.

Significance Assessment

The ecological significance of indigenous vegetation and habitats of indigenous fauna is assessed against criteria in Appendix 3 of the Canterbury Regional Policy Statement. The four sites are assessed together here as they have similar ecological value, specifically as breeding habitat for an ‘at risk, declining’ species.

ASSESSMENT AGAINST REGIONAL POLICY STATEMENT CRITERIA:

Criteria	Significant?	Comments
Representativeness	No	Vegetation and habitats at these sites are not typical/characteristic of the natural diversity of the ecological district.
Rarity/Distinctiveness	Yes	Supports breeding populations of an ‘at risk’ bird species (southern blue penguin). Other ‘at risk’ and ‘threatened’ bird species are present and may utilise habitats at or adjacent to the sites.
Diversity and Pattern	No	Does not contain a high diversity of indigenous species or habitat types.
Ecological Context	Yes	Provides key breeding habitat for southern blue penguin on the Canterbury coast.

Condition and Management

These four SNAs are different from most other SNAs in Timaru District because they are parts of unnatural (human-constructed) landforms. These landforms have been created for land reclamation for the Timaru Port (SNAs 816, 817 and 818) or for controlling erosion (SNA 819, Benvenue Cliffs). Coincidentally these artificial landforms have provided suitable habitat for southern blue penguin; the only significant breeding habitat between Banks Peninsula and Oamaru.

The physical condition of these sites is clearly adequate for southern blue penguin breeding. However, the success of penguin breeding and general health of the bird population is affected by predation from introduced mammals and disturbance by humans. Both these threats are being addressed by the Timaru Penguin Group. In this sense, the condition of the ecological values (southern blue penguins) at these SNAs is ‘conservation dependent’

The most important management issues are predator control, human disturbance and dog control. Human disturbance is an especially important issue at SNA 816 (Marine Parade) as the site is adjacent to a popular beach and dog-walking area, and is now well publicized as a penguin-viewing area. Other management issues are sand encroachment (SNA 816, Marine Parade), disturbance from port activities, and creation of further habitat. The agencies and people responsible for or involved with these penguin habitats (Primeport Timaru, Timaru District Council, Department of Conservation and Timaru Penguin Group) are already working together to address these management issues.

References Cited:

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