

Breeding Fairy Penguins at Twofold Bay, N.S.W.

D. BARTON

Mainland breeding colonies of Fairy Penguins *Eudyptula minor* within Twofold Bay NSW are documented. Banding* of penguins was carried out at one such location during the 1977-78 breeding season.

Introduction

Twofold Bay is a natural deepwater harbour (Figure 1) on the far south coast of New South Wales, on which the township and port of Eden is situated. The Bay has a colourful history of shore whaling and maritime commerce. It encompasses an area of 50 square kilometers, at 37°04' S., 149°56' E., some 400 km (by sea) south of Sydney.

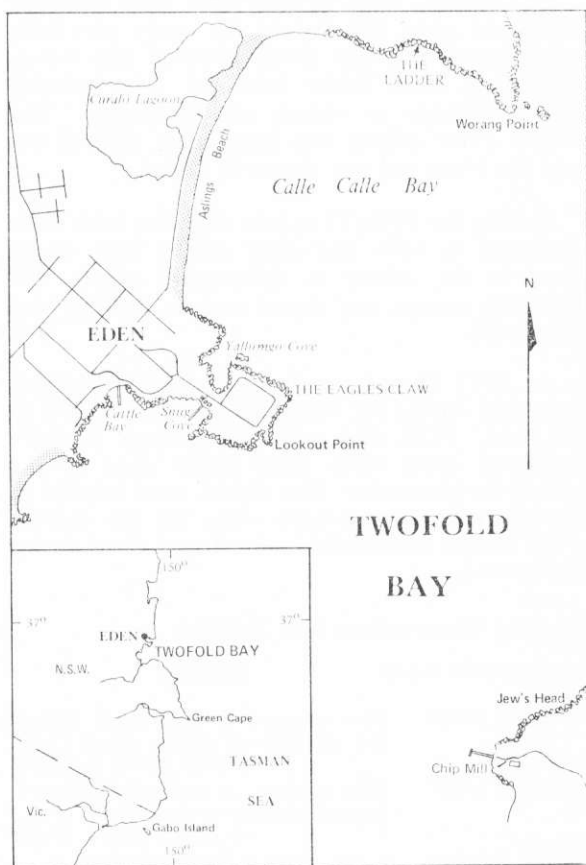
In 1974, Mrs Pauline Reilly requested details of a mainland Fairy Penguin *Eudyptula minor* breeding colony in the Eden area. My inquiries failed to reveal local knowledge of any colony; however, in 1975 a child reported seeing Fairy Penguins near The Eagles Claw. A search revealed evidence of a small colony at the base of a steep cliff in the vicinity.

Ornithological History

The lack of local knowledge of this small colony was surprising, however, further investigation and information gleaned from older fishermen and residents showed a substantial decline in the population of penguins in Twofold Bay.

Prior to 1935 colonies of Fairy Penguins were known at 'the ladder', in Snug Cove and in Yallungo Cove (see Figure 1). It would appear that there were other colonies in the Bay, the total population may have been in excess of 500 breeding pairs. The only known colony within the Bay at the present time is that at The Eagles Claw which contained five breeding pairs in the summer of 1977-78. Apart from the obvious removal of habitat in Snug Cove, which now accommodates the Eden Fishermen's Co-operative, a

slipway and associated buildings, and Yallungo Cove which contains bulk fuel facilities, the main cause of the birds decline has been predation by dogs. In the early 1940's the penguins in Snug Cove nested under then existing buildings, but 'dogs sniffed out the burrows and tore the birds to pieces' (Mr Jack Warren, pers. comm.). The



● Figure 1. Map of Twofold Bay showing locations mentioned in text.

* Bands used were provided by the Australian Bird-banding Scheme, Division of Wildlife Research, CSIRO.

demise of the birds resident at 'the ladder' was also caused primarily by dogs (Mr. Eric Fletcher, pers. comm.).

Observations

The Eagles Claw colony was first observed by me in the spring of 1975. The headland on which the colony is located comprises volcanic clays and rhyolite of the Devonian age. The birds have nested beneath boulders in soft clay, shell grit and sand, among a soft creeper plant and tussock grass. The tops of the cliff are covered thickly in tea-tree and the only protection from predation is the steep cliffs surrounding the colony. Ten nest sites have been located and there is evidence of resting depressions among the tussock grass.

In October, 1975, several birds were observed sitting on eggs, but before the study was fully commenced a severe storm occurred and waves exceeding 10 m broke into the Bay, causing severe damage to vessels and property. The Eagles Claw colony was completely washed out and the birds did not return to breed.

During the 1976-77 season only five birds were observed in nests and eight chicks were found dead in the colony on subsequent visits. No breeding success was found and no banding was attempted.

In 1977-78 nests were numbered and details recorded during six visits from 9 Nov., 1977 to 22 Feb., 1978. Ten adult birds were banded* and two adult birds were found dead at the colony in November. Five chicks were banded as healthy runners and have since left the colony. Four chicks (unbanded) were found dead during the period.

Nesting Observations and Results:

APPARENT PAIR	RESULT
190-07884 & 07885	First attempt—1 dead chick (Nov.) Sec. attempt—2 chicks raised (Jan.) chicks 07892 & 07893.
07886 & 07887	First attempt—1 dead chick (Nov.) Second attempt—1 dead chick (Feb.) —1 Chick 07894 (Feb.)
07883 & 07888	2 eggs (Nov.) no further success.
07882 & other	2 chicks (Jan.) 07890 and 07891.
07881 & 07889	1 dead chick (Nov.) 1 dead chick (Jan.).

There was evidence of chicks using more than one nest site and that birds could breed successfully after an initial failure within the one season. This concurs with observations made by the Penguin Study Group of VORG in breeding colonies in Victoria. (P. Reilly, pers. comm.).

Conclusions

The decline in population of Fairy Penguins in Twofold Bay undoubtedly resulted from expansion of human population, subsequent destruction of breeding habitat and interference by dogs. The nearest known breeding colonies of Fairy Penguins exist on Montagu Island some 100-km (by sea) north, and Gabo Island some 55 km to the south. The rugged nature of the coastline particularly between Eden and Gabo Island suggests a probability of similar small mainland breeding colonies. However, the limited breeding success emphasises the need for protection of the breeding sites from predation by man and his introduced 'pets'.

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