

SHORT NOTE

Number and distribution of blue penguin (*Eudyptula minor*) nests in the Mount Maunganui area, Bay of Plenty

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Regular surveys of native wildlife are crucial to monitoring the health of populations on New Zealand's main islands. Blue penguins (or korora) (*Eudyptula minor*) are vulnerable to predation and human disturbance as they are ground nesters and occupy habitats frequently used by humans.

This note reports the results of the first complete count of blue penguin nests in the Mount Maunganui area. Mount Maunganui is one of New Zealand's most popular holiday areas from October to February when blue penguin are breeding. Moturiki Island recreational reserve (also known as 'Leisure Island') (Fig. 1) is a rocky outcrop off the main beach of Mount Maunganui. Its rocky shores and 'scrubby' vegetation provide good nesting sites for penguins. The rocky shoreline of the Mauao historic reserve (Fig. 2) also provides an excellent nesting habitat for blue penguins, however the lower slopes are steep and frequently covered in grazed land. Both reserves have particularly high levels of human activity within their boundaries. Human disturbance and development near or around penguin colonies can decrease penguin numbers due to an increase in predation, desertion, and trampling of nests (Boersma 1990; Williams 1995).

I surveyed active nests between 15 October and 23 December 1998. A systematic and detailed search was made from the shoreline upwards to cover the entire area of both sites. The search consisted of upward and downward transects, about 20 m in length (nests above 20 m were not surveyed) and taken at a slow and even pace. The breeding burrows were located mainly by following worn paths, noting guano stains, and through the investigation of all dirt burrows and rocky crevices. The distinctive smell of penguin breeding burrows was also an important clue for locating nests. On Mauao, this method was employed from 20 m above water level to the shoreline. On Moturiki, the weaving method encompassed the entire island reserve.

Blue penguins nest in a variety of habitats in both reserves. The habitats included rocky crevices, small sea caves, dirt burrows and scrubland. On Mauao, nesting habitat also extended to 'rabbit-styled' burrows (long slim burrows, thought to be originally constructed by rabbits) in the bush and grasslands of the lower slopes.

Moturiki Island Recreational Reserve. On the north-western side of the island, the burrows extended from the rocky shoreline, through vegetation, to the top ridge path of the reserve (Fig. 1). The 33 burrows located (Table 1) were closely distributed, with tape measurements showing nests were approximately 2-11 m apart. On the north-eastern side of the reserve, the distance between the

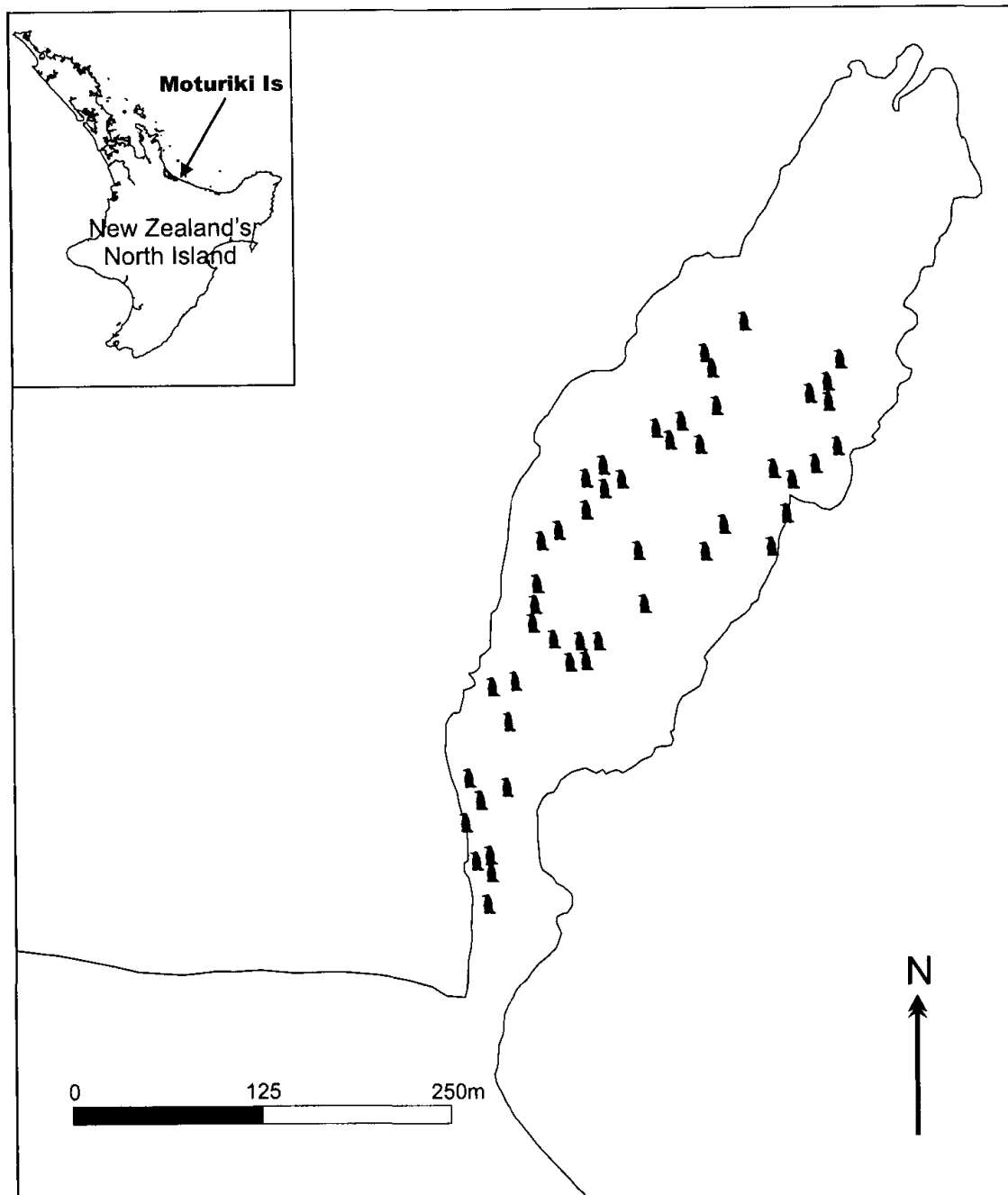


Fig. 1 The location of blue penguin nesting burrows on Moturiki Island Recreational Reserve, Eastern Bay of Plenty (source: Tauranga District Council).

Table 1 Breeding statistics for blue penguin (*Eudyptula minor*) colonies at Moturiki Island and Mauao Historic Reserve. No. of individuals is number of birds associated with breeding burrows.

	Moturiki Reserve		Mauao Reserve	
	NW side	NE side	Harbour	Ocean
No. burrows	33	15	41	8
No. individuals	66	30	82	16

burrows was more varied and the area was more sparsely populated (Table 1; Fig. 1). It is interesting that the more densely populated north-eastern side is also the most heavily used by people (i.e. surfers, fisherman, dogs, and children), because of a higher concentration of paths and the gentle slope of the rocky shoreline.

Mauao Historic Reserve. The sheltered harbour (or Pilot Bay) side of the reserve was densely populated with burrows that were closely spaced (Table 1; Fig. 2). Burrows on the ocean (north) side were less likely to contain penguins and were sporadically distributed.

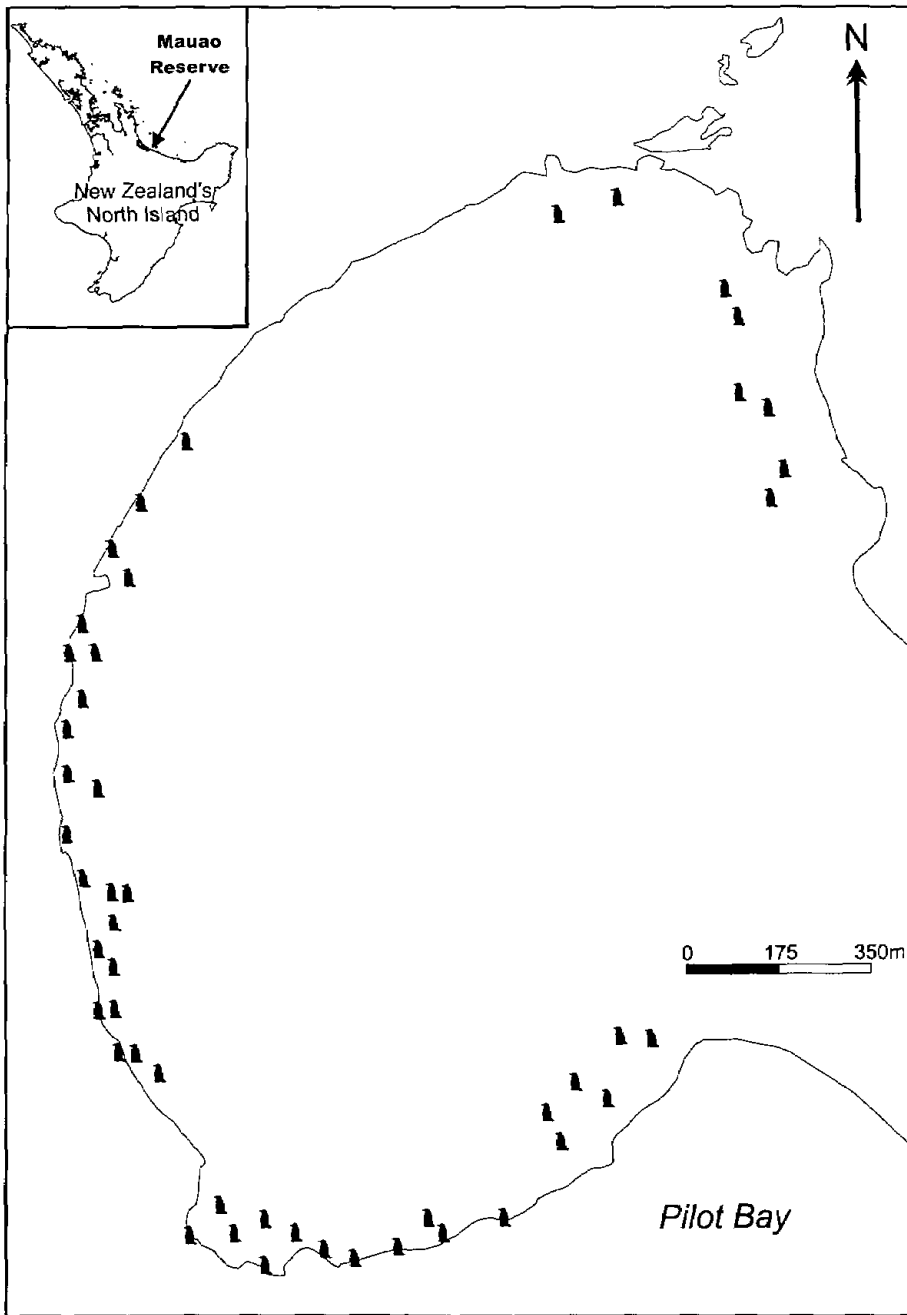


Fig. 2 The location of blue penguin nesting burrows on Mauao Historic Reserve, Eastern Bay of Plenty (source: Tauranga District Council).

The results of this survey will provide useful baseline information for future monitoring of this species on both Moturiki and Mauao reserves. Use of the same systematic method to locate breeding burrows during future monitoring should ensure that results can be compared.

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LITERATURE CITED

- Boersma, P. D. 1991. Status of wild and captive penguin populations. *TREE* 12: 381-382.
Williams, T. D. 1995. *The penguins*. Oxford, Oxford University Press.

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