

SHORT NOTE

Establishment and growth of an Australasian gannet colony at Waimaru, Pelorus Sound, and a new colony at Arapawa Island, Queen Charlotte Sound.

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Prior to 1970, no colonies of Australasian gannet (*Morus serrator*) occurred within the Marlborough Sounds or elsewhere around northern South Island (Wodzicki *et al* 1984). Gannets were reported roosting on Forsyth Island (40° 57'S, 174° 04'E) in the Pelorus Sound in 1969, and in 1970 breeding was first attempted there (Wodzicki *et al* 1984). In 1971/72 four nests were reported and two chicks were reared, but the site was abandoned the following year. The colony shifted to the nearby mainland (West Entry Point, 40° 57'S, 174° 00'E), but breeding attempts there between 1972/3 and 1975/76 failed and this site was also abandoned (Wodzicki *et al* 1984). Fourteen birds were reported roosting and displaying at Te Puraka Point (41° 04'S, 174° 01'E), near to the current colony site in November 1974 (Wodzicki *et al* 1984).

Gannets were first observed at Waimaru (41° 05'S, 174° 01'E) in the 1974/75 season, but breeding was not confirmed until the subsequent season when five nests were observed (Wodzicki *et al* 1984). It is now a well-established colony situated at the tip of an un-named peninsula forming the western coast of Waimaru Bay, within Clova Bay of the Pelorus Sound. A primary colony occurs on a small rocky islet, approximately 40 m x 10 m in size and c.5m above sea level, and separated from the mainland only at high tides. A sub-colony has established on a southwest-facing slope of the peninsula itself, 25m above sea level and 160m to the NW of the rock colony.

We have collated a variety of counts and comments pertaining to periodic visits made to the Waimaru colony site since its establishment and up to 2002. These data include our own observations as well as records in the Department of Lands and Survey/Department of Conservation Marlborough Sounds bird-mapping scheme (1985-1990) (records held by Department of Conservation, Nelson) and unpublished Lands and Survey ranger reports. Table 1 lists counts of adult birds, nests and chicks at the colony during this period and indicate the Waimaru colony to have increased from 5 to 185 nests over 27 years, an average annual increase of c.14%.

Wodzicki *et al* (1984) assert that any gannet colony growing by more than 3% per annum is experiencing immigration. The only evidence to confirm immigration at Waimaru is of a bird, banded at White Island, seen nesting during the early 1980s (P. Gaze, pers comm). While the growth of the Waimaru colony has been rapid, it is still less than the average c.70% annual increase noted in the early establishment phase (between 1983-87) for the nearest gannet colony at Farewell Spit (Hawkins, 1988).

Space for nesting is restricted on the rocky islet, and this has limited colony expansion to approximately 100 nests. Nests on the rock's lower level are at high risk from wave action, and some have been seen to be destroyed (D. Harvey, pers. comm).

Several attempts to establish nests on a steep slope of the adjacent mainland were made between 1984 and 1997, without apparent success. This site ('first mainland site', Table 1) comprised dense shrub and fern vegetation. An alternative site, approximately 160m from the rock islet ('second mainland site', Table 1) was first observed in use in 1998, and has been successfully used in subsequent seasons. This is a moderate south-west facing slope, above a 25m cliff-face. This sub-colony has established on a small grassy area at the cliff edge and is encroaching upon low vegetation of shrubs, flax and fern. With the original colony physically constrained, this mainland sub-colony has expanded rapidly, e.g. from 35 to 56 nests (60%) between the 2000/01 and 2001/02 seasons.

This site now constitutes the fourth mainland colony of Australasian gannets in New Zealand. While there is potential for expansion and the topography appears suitable, new nest sites may be difficult to establish because of the surrounding shrub vegetation. Guano from existing nests may kill adjacent vegetation but rapid colony expansion will depend on the physical clearance of some of this vegetation.

Table 1 Summarised counts and observations of the Waimaru Bay gannetry, Pelorus Sound, 1975-2002.

Year	Nests	Adults	Chicks	Date	Comments
1975/76	5			??/75	
		5	4	22/12/75	
1977/78		26	9 (+ 2 dead)	7/1/78	
1979/80		20	11 (+ 2 dead)	10/1/80	
1980/81	29		16 (+ 8 eggs)	21/10/80	
			22 (+ 1 egg)	24/12/80	
		17	5	26/1/81	
1981/82		29	1	3/10/81	All birds nesting
1982/83		30	6 (4 fully feathered)	10/2/83	
1983/84	20-25	40		26/7/83	Nesting just commencing
	35	80		2/10/83	Most birds incubating or brooding, some nests still being built.
	52	58	2	19/10/83	10 nests with no eggs, 10 birds still carrying nest material
	58	80	14	15/11/83	
	51	56	23	1/12/83	
		60+	17	19/1/84	
1984/85	c.45			30/6/84	Nests under construction
		70	2	11/11/84	
	35	80		13/12/84	
		6		13/12/84	First mainland site
1985/86	65	85	5 downy	21/10/85	
1987/88	100			23/10/87	Some chicks still being brooded
		80-85		20/11/87	Reef colony
		11		20/11/87	First mainland site
1988/89		100	>50	31.12.88	
			76 banded	19.2.89	
	2	2		unknown	First record of definite nests on mainland
1989/90		100		5/9/89	
		80	42	5/1/90	
			2 still to fledge	10/4/90	
			64 banded	29/12/90	
1990/91		c.130	'many'	5/1/92	
1991/92				10/1/93	
1992/93	90-100			14/10/96	All available sites filled
1996/97	c.100			14/10/96	First mainland site
		2		2/99	Second mainland site
1998/99	'many'	c.45		20/11/00	Most with eggs, some with naked or small fluffy chicks
2000/01	100			20/11/00	Second mainland site
	35			20/11/00	Second mainland site
2001/02	129	135	12 seen, plus eggs	30/10/01	Most birds sitting tight
	56	72	No chicks seen, 7 birds on eggs	30/10/01	Second mainland site

Of 140 chicks banded at Waimaru in 1988 and 1990, five have been found dead in northern South Island, and one in Australia (R. Cossee pers.comm.). One, banded at Waimaru on 12 Dec.1988, was observed breeding at the Farewell Spit gannetry in February 1996, and another banded at Waimaru in 1990 was observed nesting at the Waimaru mainland sub-colony in October 2001..

Another gannet colony has established in the Marlborough Sounds, on Arapawa Island. Gannets were first observed nesting at Onario Point (41° 09' S, 174° 18' E) within Anatholia Bay in December 1999, when 30 birds and at least two nests were reported

(Z. Battersby pers. comm to B. Cash). Gannets had been observed at this site the previous year but no nesting was confirmed (B. Cash pers. comm). The colony shifted to another headland, Papakura Point (41° 09' S, 174° 19' E), 2 km to the east where, in February 2002, 21 chicks were observed (M. Aviss, pers comm) and 85 birds and 45 nests in October 2002 (R. Schuckard, pers comm).

Gannets at the Waimaru colony have used plastic debris as nesting material, 80% of some nests being composed of it. This debris is mostly off-cuts of lashings from marine farms, several hundred of which occur in the Pelorus Sound

area. A dead adult bird entangled in rope in 2002 (K. Gerard, pers comm) was the first known instance of entanglement possibly causing death to birds, but several other instances have occurred. Four adult birds were caught on 20 November 2000 to remove rope fibre from their beaks (P. Gaze, pers comm). Entanglement appears to be a problem mainly in the initial nest-building phase, as follow-up monitoring showed the problem did not persist later into the breeding season (S. Ward, pers comm).

ACKNOWLEDGEMENTS

We thank Peter Gaze, Elspeth Wingham (nee Waghorn), Bill Cash, Dave Harvey, Rob Schuckard, Mike Avis, Kristen Gerard, Steve Ward and Rod Cossee for providing information.

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