

Retrofitting historical data in population studies: southern giant petrels in the Australian Antarctic Territory

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Table S1a. *Macronectes giganteus*. Valid counts from Giganteus Island, Mawson. nd: no data

Date	No. of birds (excl. chicks)	No. of nests	No. of eggs	Comments	Source
10 Aug 1956	8 yearlings	24 nest sites		Pre-breeding count; not clear whether nests were occupied or not	Mawson station log 1959 (Ingham 1959, P. McGregor unpubl.)
19 Nov 1958	40 adults, 3 juveniles	16 occupied	16	1 egg lost to skua; 28 non-incubators	Mawson biology logs 1959 (Ingham 1959, A. Bolza & H. Fisher unpubl.)
29 Nov 1959	23 adults, 1 juvenile	23 occupied, 22 unoccupied	18	1 egg broken	Mawson biology logs 1959 (G. M. Budd unpubl.)
23 Nov 1962	49 adults	12 occupied	13	1 egg broken with embryo	Mawson biology log 1962
27 Oct 1965	(16 pairs)	4 occupied		No birds on nests banded but "about 6 of other birds had bands"	Mawson station log 1965
Early Oct 1967	11 adults, 3 juveniles	nd		No eggs seen, no obvious pairs	J. Erskin pers comm. to P. Shaughnessy
Late Oct 1967	(>20 adults)	4 occupied, 9 unoccupied	4	Many birds flew away when approached; 9 of 13 nests abandoned, upon approach 4 birds on eggs	Telex from Mawson station to P. Shaughnessy
30 Dec 1971	5 adults	2 occupied, 4 unoccupied		2 chicks: 1 alive with parent, 1 dead. About 30 yards away 2nd site with another 5 nests and 4 birds displaying; none of these birds on nest	Mawson biology log 1971/72 (K. Kerry & E. Jones unpubl.)
3 Sep 1972	4 adults, 1 juvenile	nd		No eggs seen	Mawson biology log 1971/72 (E. Jones unpubl.)
19 Sep 1972	7 adults	nd		No eggs seen	Mawson biology log 1971/72 (E. Jones unpubl.)
2 Oct 1972	1 adult	nd		No eggs seen	Mawson biology log 1971/72 (E. Jones unpubl.)
30 Oct 1977	5 adults	2 occupied	1–2	1 egg definite, 1 egg possible	Mawson Biology report 1977
5 Nov 1978	9 adults	3 nest sites	1	1 egg seen	Mawson station log book 1978 (I. Reid unpubl.)
9 Nov 1978	8 adults	4 occupied		No eggs seen	Mawson station log book 1978 (I. Reid unpubl.)
31 Oct 1981	5 adults	4 nest sites	1?	1 egg possible (bird sitting as if on egg)	Field notes (R. Kennedy)
24 Nov 1992	4 adults	2 occupied, 2 unoccupied	nd	Single bird on sea-ice nearby; presence of eggs unknown	
Nov 1999	3 adults	3 occupied		No eggs seen	Field notes (K. Kerry unpubl.)
27 Nov 2007	6 adults	3 occupied	nd	2 pairs, 2 single birds	Field notes (R. Pike & D. Wilson unpubl.)

Table S1b. *Macronectes giganteus*. Non-systematic, incomplete and unverified counts from Giganteus Island, Mawson

Date	Comments	Source
1966	13? Count unit unclear, date unknown	In Beeton et al. (2006), original data not found
1967	2? Count unit unclear, date unknown	In Beeton et al. (2006), original data not found
1968	4? Count unit unclear, date unknown	In Beeton et al. (2006), original data not found
1969	2? Count unit unclear, date unknown	In Beeton et al. (2006), original data not found
1970	1? Count unit unclear, date unknown	In Beeton et al. (2006), original data not found
Nov 1972	Reported as 2 nests; unclear how many birds were present	Station leader report, Woehler et al. (2003)
1973	2? Count unit unclear, date unknown	In Beeton et al. (2006), original data not found
1973/74	4? Count unit unclear, date unknown	Reported in Woehler et al. (2003), Antarctic Treaty (2005), original data not found
1974	3? Count unit unclear, date unknown	In Beeton et al. (2006), original data not found
1982/83	2? Count unit unclear, date unknown	Reported in Woehler et al. (2003), Antarctic Treaty (2005), original data not found
21 Nov 1984	Rookery Islands visited, no data	Station leader report 1984 (B. Turnbull unpubl.)
1988	Reported as 21 nests; unclear how many birds present, date unknown	Woehler & Johnstone (1991)

Table S2a. *Macronectes giganteus*. Valid counts from Hawker Island, Davis. nd: no data

Date	No. of birds (excl. chicks)	No. of nests	No. of eggs	Comments	Source
18 Jan 1972	83 adults	31 occupied	30	30 nests with chicks, 1 just hatched, 1 nest with addled egg	Davis station records 1972, Johnstone et al. (1973)
10 Jan 1973	~90–95 adults	nd	26	25 nests with chicks, 1 nest with egg	Johnstone et al. (1973)
28 Mar 1973	16 adults	nd	25	7 parents feeding, 9 adults displayed in group	Johnstone et al. (1973)
7 Apr 1974	10 adults	nd	31	Chicks almost fledged, running about vigorously	Davis biology log 1973 (R. Williams unpubl.)
17 Nov 1974	60 adults	20 occupied		60 birds counted, 20 nests positively identified, no eggs seen	Davis biology log 1973 (R. Williams unpubl.)
24 Sep 1975	34 birds	nd		Courtship had started	Davis biology log 1975 (R. Barker)
2 Oct 1975	36 birds	nd		Most seemed paired	Davis biology log 1975 (R. Barker unpubl.)
8 Oct 1975	26 birds	nd		No eggs	Davis biology log 1975 (R. Barker unpubl.)
19 Oct 1975	34 birds	nd		No eggs	Davis biology log 1975 (R. Barker unpubl.)
30 Oct 1975	~50	nd		Definitely 3 eggs, possibly more	Davis biology log 1975 (R. Barker unpubl.)
8 Nov 1975	64 adults	27 occupied		27 birds inferred to be incubating, stayed on nest when approached; nests not closely inspected	Davis biology log 1975 (R. Barker unpubl.)
3 Dec 1975	21 adults	21 occupied		21 birds sitting on eggs	Davis biology log 1975 (R. Barker unpubl.)
12 Dec 1975	nd	nd		No eggs hatched	Davis biology log 1975/76 (D. Burns, A. Le Grip unpubl.)

Table S2a (continued)

Date	No. of birds (excl. chicks)	No. of nests	No. of eggs	Comments	Source
15 Dec 1975	nd	nd		No eggs hatched	Davis biology log 1975/76 (E. Szworak, D. Burns unpubl.)
21 Dec 1975	~50 birds	nd		No eggs hatched	Davis biology log 1975/76 (R. Barker unpubl.)
6 Jan 1976	nd	nd	15	5 eggs still there, adults present but not counted	Davis biology log 1975/76 (R. Barker unpubl.)
29 Jan 1976	nd	nd	16	All 16 chicks banded	Davis biology log 1975/76 (R. Barker unpubl.)
4 Nov 1976	53 adults, 1 juvenile	~25 nests		3 nests had eggs	Davis biology log (I. Watt, P. Horton, B. Saunders unpubl.)
22 Mar 1977	nd	nd	29	Chicks fully grown	Davis biology log 1977
12 Feb 1978	1 adult	nd	15	15 chicks banded	Davis biology log 1978 (M. Burch unpubl.)
27 Mar 1979	nd	nd	19	19 chicks banded, 1 dead chick seen	Davis biology log 1978 (M. Burch unpubl.)
11 Apr 1980	nd	nd	19	19 chicks banded, adults seen but not counted	Davis biology log 1980 (P. Horne, T. Halden-Brown unpubl.)
20 Feb 1983	nd	nd	14	14 chicks banded	Davis biology log 1983 (R. Puddicombe unpubl.)
22 Feb 1984	nd	nd	10	10 chicks banded, ~35 nests present	Davis biology log 1984 (K. Green unpubl.)
1 Feb 1985	nd	~35 nest sites	17	17 chicks banded	Davis biology log 1985 (K. Green unpubl.)
12 Feb 1986	nd	nd	15	15 chicks banded	Vertebrate ecologist report 1986 (N. Gales unpubl.)
2 Dec 1999	nd	25 occupied		Birds were observed for several hours	Station leader report 2000 (K. Rollings & G. Miller unpubl.)
14 Jan 2007	nd	nd	21, 20, 18, 19	4 independent counts	Vertebrate ecologist report 2007 (J. van den Hoff unpubl.)
4 Mar 2007	nd	nd	18	2 recently deceased chicks found	Vertebrate ecologist report 2007 (J. Horsburgh unpubl.)

Table S2b. *Macronectes giganteus*. Non-systematic, incomplete and unverified counts from Hawker Island, Davis. ABBBS: Australian Bird & Bat Banding Scheme; nd: no data

Date	No. of birds (excl. chicks)	No. of nests	Comments	Source
8 Dec 1963	~100 adults	40–50 nests	Only some nests with eggs but not counted; 100 birds observed in area. Both publications took higher number of nest estimate	Davis biology log 1963 (D. Lugg unpubl.), Shaughnessy (1971), Johnstone et al. (1973)
20 Dec 1970	100	~150	Johnstone reports 150 occupied nests/birds of which ~60% were estimated to be with eggs. 100 birds observed in area	Davis biology log 1970, Johnstone et al. (1973)
27 Dec 1970	nd	100 occupied	~70 with chicks, 30 nests with neither chick nor egg	Davis biology log 1970, Johnstone et al. (1973)
4 Nov 1972	nd	~50 occupied	~half with eggs, reported as 25 eggs	Johnstone et al. (1973)
8 Apr 1973	3 fledglings		15–20 chicks estimated	Davis biology log 1973 (D. Rounsevell unpubl.)
7 Nov 1977	nd	nd	~25 eggs reported, difficult to see whether birds sit on eggs or snow	Davis biology log 1977 (R. Hand unpubl.)
28 Nov 1977	nd	22 occupied	Logbook says "seems to be 22 nests". One egg in snow	Davis biology log 1977 (R. Hand unpubl.)
10 Feb 1982	nd	nd	12 chicks banded, unclear whether all chicks present were banded	ABBBS, original data not found
27 Jan 1987	nd	nd	18 chicks banded, unclear whether all chicks present were banded	ABBBS, original data not found
9 Feb 1988	nd		21? Count unit unclear, R. Garrick (biologist) cannot recall details	Original data not found, 21 nests in Woehler & Johnstone (1991)

Table S3a. *Macronectes giganteus*. Valid counts from the Nelly Island, Casey. Note that Wilkes Station preceded Casey. ABBBS: Australia Bird & Bat Banding Scheme; nd: no data

Date	No. of birds (excl. chicks)	No. of nests	No. of eggs	Comments	Source
12 Feb 1960	nd	nd	46	Reported as 47 chicks by M. N. Orton (unpubl.), in 1961	Wilkes biology report 1960 (R. Penny unpubl.), Sladen et al. (1968)
21 Mar 1961	nd	nd	34	Letter to W. Sladen on 24 Oct 1962 says 36 chicks banded. ABBBS records 34 fledglings; field notes state 28 + 6 chicks banded	Wilkes biology report 1961 (M. N. Orton unpubl.)
7 Mar 1968	nd	nd	72	Total for all 4 colonies at Nelly Island	MV 'Nella Dan' bird log 1967-68 (A. Gilchrist unpubl.)
20 Jan 1978	nd	nd	52	49 of 52 chicks seen were banded	Casey biology report 1972 (M. D. Murray unpubl.), ABBBS
25 Jan 1978	nd	nd	49	On 27 Jan, four 1-yr+ also banded; A. Cowan quotes 48 chicks	Cowan (1979), ABBBS
18 Jan 1983	nd	nd	43		Woehler et al. (1990)
28/29 Nov 1983	nd	63 occupied		Occupied nests with eggs, plus 6 nests without but recently occupied	Woehler et al. (1990)
23 Dec 1989	nd	73 occupied		Occupied nests only	Woehler et al. (1990)
18 Feb 1996	nd	nd	11		Creuwels et al. (2005)
23 Dec 1997	nd	96 occupied		Occupied nests only	Creuwels et al. (2005)
26 Dec 1998	nd	95 occupied		Occupied nests only	Creuwels et al. (2005)
14 Mar 1999	nd	nd	66		Creuwels et al. (2005)
26 Dec 2001	nd	93 occupied	nd	Occupied nests only	Creuwels et al. (2005)

Table S3b. *Macronectes giganteus*. Non-systematic, incomplete and unverified counts from Nelly Island, Casey. Note the Wilkes Station preceded Casey. nd: no data

Date	No. of birds (excl. chicks)	No. of nests	No. of eggs	Comments	Source
21–22 Jan 1956	nd	250 occupied & unoccupied	nd	Estimated number, chicks seen but not counted; 4 colonies noted	MV Kista Dan voyage report 1956 (P. Law unpubl., J. Bunt pers. comm.)
27 Jan 1959	nd	nd	25	Not all chicks banded	Wilkes biology report 1959/60 (R. Penny unpubl.)
3 Feb 1959	nd	nd	76	Unclear where chicks were banded (Nelly, Dewart or both)	Sladen et al. (1968)
1960	nd	nd	9	Unknown whether all chicks present were banded	1961 field notes (R. Penny unpubl.)
21 Jan 1964	nd	~20 nests	nd	On north-east ridge, more in lower area but not counted	Wilkes station biology report (L. G. Murray unpubl.)
31 Jan 1974	nd	nd	27	Many chicks advanced, ran away, could not be caught	Casey biology report 1974 (A. Jones unpubl.)
13 & 17 Feb 1977	75 flying birds	nd	>26 10	Cowan (1979) stated 27 chicks banded; ABBBS notes 36 'nestlings'	Cowan (1979), ABBBS
30 Jan 1979	nd	nd	35	Woehler et al. (1990), Creuwels et al. (2005) report 37 chicks based on ABBBS; unclear whether all chicks banded	K. de Jong's data not found, Murray & Luders (1990)
18 Jan 1980	nd	nd	43	1 yearling also banded (ABBBS), unclear whether all chicks were banded	ABBBS, original data not found
18 Jan 1983	nd	nd	42	Unclear whether all chicks present were banded	ABBBS, original data not found
26 Jan 1984	nd	nd	49	Unclear whether all chicks present were banded	ABBBS, original data not found
3 Mar 1985	nd	nd	64	Two 1-yr+ birds also banded	ABBBS, original data not found
14 Feb 1986	nd	nd	59	Unclear whether all chicks present were banded	ABBBS, original data not found

Table S3c. *Macronectes giganteus*. Valid counts from Dewart and Charlton Islands, Casey. ABBBS: Australia Bird & Bat Banding Scheme; nd: no data

Date	No. of birds (excl. chicks)	No. of nests	No. of chicks	Comments	Source
Dewart					
24 Jan 1978	nd	nd	47	Eight 1-yr+ birds also banded	Cowan (1979), ABBBS
2 Feb 1979	nd	nd	46	K. de Jong's data not found but 2 sources give same data	Murray & Luders (1990), ABBBS
28 & 29 Nov	nd	68 occupied		Occupied nests with eggs	Woehler et al. (1990)
6 Mar 1985	nd	nd	69	One 1-yr+ bird also banded	ABBBS
23 Dec 1989	nd	106 occupied		Occupied nests only	Woehler et al. (1990)
23 Dec 1997	nd	104 occupied		Occupied nests only	Woehler et al. (1990)
26 Dec 1998	nd	103 occupied		Occupied nests only	Creuwels et al. (2005)
14 Mar 1999	nd	nd	82		Creuwels et al. (2005)
26 Dec 2001	nd	135 occupied		Occupied nests only	Creuwels et al. (2005)
Charlton					
24 Jan 1978	nd	nd	6		Cowan (1979), ABBBS
2 Feb 1979	nd	nd	5	K. de Jong's data not found but 2 sources give same data	Murray & Luders (1990), ABBBS
28 & 29 Nov 1983	nd	9 occupied		Occupied nests with eggs	Woehler et al. (1990)
23 Dec 1989	nd	14 occupied		Occupied nests only	Woehler et al. (1990)
23 Dec 1997	nd	21 occupied		Occupied nests only	Creuwels et al. (2005)
26 Dec 1998	nd	17 occupied		Occupied nests only	Creuwels et al. (2005)
14 Mar 1999	nd	nd	11		Creuwels et al. (2005)
26 Dec 2001	nd	20 occupied		Occupied nests only	Creuwels et al. (2005)

Table S3d. *Macronectes giganteus*. Non-systematic, incomplete and unverified counts from Dewart and Charlton Islands, Casey. ABBBS: Australian Bird & Bat Banding Scheme; nd: no data)

Date	No. of birds (excl. chicks)	No. of nests	No. of eggs	Comments	Source
Dewart					
Feb 1959	nd	nd	50	25 chicks banded by C. Eklund, 25 by ANARE; unclear whether all chicks were banded	1961 field notes (R. Penny unpubl.)
22 Mar 1961	nd	nd	10	Not all chicks present were banded	Wilkes biology report 1961 (M. N. Orton unpubl.)
21 Jan 1964	nd	~10 nests	nd	Nests surveyed from airplane	Wilkes biology log 1964 (L.G. Murray unpubl.)
20–21 Jan 1971	nd	nd	53	51 of 53 chicks seen in 2 colonies were banded; chicks in 4th colony (~20) not banded, no chicks in 3rd colony	Murray (1972)
29 Jan 1975	nd	nd		Murray & Luders (1990) list 26++, Woehler et al. (1990) quote 29; ABBBS: only 12 records	Murray & Luders (1990)
13 & 17 Jan 1977	~150 flying birds	nd	10 + 23	Cowan lists 43 chicks as banded; ABBBS: 33 records	Cowan (1979), ABBBS
2 Feb 1979	nd	nd	46	K. de Jong's data not found but 2 other give same information	Murray & Luders (1990), ABBBS
21 Jan 1980	nd	nd	55	Original data not found; unclear whether all chicks present were banded	ABBBS
18 Jan 1983	nd	nd	10	Original data not found; unclear whether all chicks present were banded	ABBBS
14 Feb 1986	nd	nd	50	Original data not found; unclear whether all chicks present were banded	ABBBS
Charlton					
20–21 Jan 1978/79	nd	10–20 nests	nd	Approximate count made during aerial survey	Murray (1972)
1978/79	nd	nd	nd	120? Count unit and date found, listed in AAD Data Centre	No reference
14 Feb 1986	nd	nd	9	Original data not found, unclear whether all chicks present were banded	ABBBS

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