

## Summary of Fairy Tern breeding in the Coorong in 2013-14

In all 347 Fairy Terns were counted during the annual census in the Coorong in January 2014. As in recent years Fairy Terns were largely present across the northern half of the South Lagoon and southern half of the North Lagoon. In 2014 there were no Fairy Terns in the Murray estuary, consistent with the previous 2 years (Table 1).

Of the 347 birds counted in January 2014, 13 individuals were in non-breeding plumage and were likely to be birds that had hatched in the previous year. If these birds were young of the previous year then the estimated survival of young hatched in 2012-13 is around 7-8% which is similar to the previous year (see below).

Over the summer of 2013-4, five colonies of Fairy Terns were detected. Of these three were small and consisted of fewer than 40 birds. All three failed to hatch chicks. Two other large colonies, however, succeeded in hatching chicks (Table 2). The islands on which these two larger colonies existed have been used in previous years. They were Goat Island near the Needles and an unnamed island 1 km ESE of Fat Cattle Island.

In all, 112 breeding adults were captured or resighted in 2013-4, of which 57 were birds that had not been caught before and 55 were recaptures or re-sightings of birds banded in previous years. A further 140 pulli were banded at these colonies as well (Table 3).

Table 4 provides a summary of the numbers of chicks (or pulli) banded each year in the Coorong and the numbers of these that have been detected subsequently breeding in the Coorong. Of the 305 chicks banded during 1998-2002, 24 or 7.8% were later detected as breeding adults. Similarly for 2006-2011, 20 of 217 chicks that were banded were detected 2 or more years later breeding in the Coorong, a rate of 9.2%. These figures are likely to be minimums as it may take a series of years to recapture birds at nests. Interestingly, if the nine non-breeding birds that were detected in the Coorong in January 2013 were all birds that had hatched in the previous year (as they were likely to be) then that represents around 7% of the chicks banded in the 2011-2 breeding season being present in the Coorong one year later. Applying the same calculations and assumptions for the January 2014 data gave an estimated survival over the first year for young hatched during the 2012-13 breeding season of 7.7% (13/168).

Of the 55 recaptured or re-sighted adult birds, 14 were originally banded as pulli on islands in the Coorong and so their ages are known. The ages of these birds ranged from 2 – 15 years, with 4 birds at 15 years, 1 at 14 years, 3 at 8 years, 2 at 5 years, 3 at 3 years and 1 at 2 years (Table 4). This is consistent with findings in previous years with Fairy Terns only being detected breeding when at least 2 years of age.

The other 41 recaptures or re-sightings were of birds first banded as adults. Only minimum ages can be determined for these birds. Five of these birds were at least 8 years old. The others, however, had been first caught 1-4 years earlier. One of these birds was banded elsewhere and the details are not known.

**Table 1.** Annual statistics on the numbers and distribution of Fairy Terns in January in the Coorong from 2000-2014. The table shows the total count, the area of occupation (# of 1 km sections (cells) in which the bird was detected during the annual waterbird census of the Coorong) and the extent of occurrence along the Coorong (i.e. distance in km between the southernmost and northernmost presence of the species in each year).

YEAR	Number of Cells Occupied	Percentage of Cells Occupied	Number of Birds Recorded	Extent of Occurrence in km (cell extent)
2000	49	14%	632	84 (S38-N46)
2001	92	26%	687	99 (S43-N56)
2002	59	17%	349	101 (S42-N59)
2003	45	13%	174	98 (S38-N60)
2004	35	10%	175	85 (S28-N57)
2005	34	10%	326	92 (S36-N56)
2006	31	9%	283	92 (S36-N56)
2007	45	13%	279	89 (S35-N54)
2008	49	14%	439	99 (S37-N62)
2009	43	12%	301	92 (S36-N56)
2010	33	9%	326	92 (S36-N56)
2011	11	3%	164	94 (S36-N58)
2012	24	7%	351	58 (S30-N28)
2013	34	10%	283	54 (S38-N16)
2014	20	6%	347	46 (S26-N20)

**Table 2.** The approximate locations and numbers of free-flying birds, nests, eggs and chicks at each Fairy Tern colony detected in the Coorong in December 2013-January 2014. Colony locations are indicated by SNNL where S stands for the lagoon and NN is the distance in kilometres from the junction of the two lagoons. The L signifies a letter. This letter was either a C, E or W and indicates if the island was on the eastern (E) or western (W) side of the lagoon, or in the centre of the lagoon (C). Note that runners are chicks that have left the nest scrape but are not yet able to fly. Total chicks consist of chicks in nests plus runners. For Fairy Tern colonies in the Coorong chicks typically left nest-scrapes within 2 days of hatching. The literature (e.g. Higgins & Davies 1996) suggests that the chicks are often a few days older than this before leaving scrapes.

Island	Date	# free flying birds			# nests		total nests	Total runners	total eggs	total chicks
		adult	1 <sup>st</sup> year	juv	eggs	chick				
S24C	3 Dec	32	0	0	14	0	14	0	14	0
	9 Jan	0	0	0	0	0	0	0	0	0
S21C	10 Jan	37	6	0	4	0	0	0	5	0
	25 Jan	0	7	0	0	0	0	0	0	0
S20E	10 Jan	65*	6	0	36	0	0	0	62	0
	17 Jan	nc	nc	nc	nc	nc	nc	10	nc	nc
	25 Jan	45	3	0	nc	nc	nc	9	nc	9
S19W	10 Jan	5	0	0	2	0	2	0	5	0
	25 Jan	0	0	0	0	0	0	0	0	0
N05/06W	12 Jan	167	0	0	39	80	119	0	86	113
	16 Jan	nc	0	nc	nc	nc	nc	124	nc	124

\*1 pair of Little Terns (*Sternula albifrons*) had a nest with 1 egg (included in counts)

\*\* only a small proportion of these adults were still breeding.

**Table 3.** Captures of Fairy Terns (Little Terns) in the Coorong region over the last six years

Season	# adults banded	# adults recaptured or resighted	# pulli banded
2009	53	13	65
2010	63	23	68
2011	22 (1)	9	27
2012	98*	42	134
2013	36 (2)**	38	168 (2)
2014	53 (1)***	55	140
<b>Total</b>	<b>345 (4)</b>	<b>180</b>	<b>604 (2)</b>

\* includes four Fairy Terns banded outside the Coorong

\*\* includes one Little Tern banded outside the Coorong

\*\*\*includes one Fairy Tern banded outside the Coorong

**Table 4.** Detected recruitment of Fairy Terns banded as pulli in the Coorong and subsequently detected breeding in the Coorong two or more years later

Year	# pullus banded	# recaptured breeding	# recapture breeding Dec 2013-Jan 2014
1985	13	1	
1997	83	4	
1999	84	9	4
2000	128	11	1
2002	10		
2006	48	8	3
2007	9		
2009	65	9	2
2010	68		
2011	27	3	3
2012	134	1	1
2013	168		
2014	140		