

Little Tern monitoring - Fingal Head Beach 2013/14 breeding season

Following is a summary of methods and results of the 2013/14 little tern (*Sternula albifrons*) monitoring program at Fingal Beach.

Methods

The survey methodology was broadly consistent with the 2009/2010 monitoring event (Sandpiper Ecological Surveys 2010) and involved a two-way walk traverse of Fingal Head Beach from the headland to the Tweed River. All birds roosting, foraging or traversing the beach, sandy fore-dune and near shore waters (within 500m of the shoreline) were identified and counted at each of seven observation points. Each point was approximately 500m apart. Surveys were undertaken during the mid-late stages of the flow or ebb tide using a pair of binoculars and a spotting scope. Care was taken to avoid double-counting birds and specific emphasis was placed on searching for little terns.

Nine surveys were undertaken between 6 November 2013 and 2 March 2014. Time between surveys ranged from 12 to 18 days with an average of 14.5 days. Surveys took between 2 and 3 hours to complete. All surveys were undertaken during fine weather, although wind speed varied from 0-5 to 29-38kph.

Results

No little terns were recorded during the monitoring period. A total of 13 species were recorded, including two threatened species listed on the NSW *Threatened Species Conservation Act 1995*, and four migratory species listed on the Federal *Environment Protection and Biodiversity Conservation Act 1999* (Table 1). Crested tern and silver gull were recorded in all zones, whilst brahminy kite, whistling kite and sooty oystercatcher were recorded in one zone only. Bar-tailed godwit and eastern curlew were recorded in the two northern zones, within 1km of the Tweed River.

Crested tern was the most abundant species with 187 individuals recorded roosting in zone 1. Bar-tailed godwit (112 individuals) and eastern curlew (59 individuals) were also abundant. Avoiding double-counts was difficult due to the mobile nature of the local bird community, particularly crested tern (*Thalasseus bergii*) and silver gull (*Chroicocephalus novaehollandiae*). As a consequence a population estimate for the study area has not been derived.

Quality of habitat

Habitat on Fingal Beach appears to have stabilised since the 2009/10 survey. The beach profile is lower and there is a broader expanse of exposed sand at high tide, particularly in the northern half of the beach. The presence of roosting flocks of eastern curlew and bar-tailed godwit is indicative of a lower profile and broader expanse of exposed sand. These species regularly roosted on the beach prior to construction of the sand bypass (D. Rohweder pers obs).

Table 1: Species recorded on Fingal Beach during the 2013/14 little tern survey. M = migratory species; V = vulnerable species.

Species Name	Common Name	No. Zones Recorded	Maximum Count
<i>Ardenna spp</i>	Shearwater ^M	6	4
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	3	3
<i>Egretta sacra</i>	Eastern Reef Egret	2	1
<i>Pandion cristatus</i>	Eastern Osprey ^V	4	2
<i>Haliastur sphenurus</i>	Whistling Kite	1	1
<i>Haliastur indus</i>	Brahminy Kite	1	1
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher ^V	1	1
<i>Limosa lapponica</i>	Bar-tailed Godwit ^M	2	112
<i>Numenius madagascariensis</i>	Eastern Curlew ^M	2	59
<i>Gelochelidon nilotica</i>	Gull-billed Tern	5	3
<i>Sterna hirundo</i>	Common Tern ^M	4	21
<i>Thalasseus bergii</i>	Crested Tern	7	187
<i>Chroicocephalus novaehollandiae</i>	Silver Gull	7	31

The substantial area of exposed sand north of the sand pumping jetty, noted in 2009/10, remains and this area, coupled with the sparsely vegetated fore dune, has some suitable breeding habitat attributes for little tern. Nonetheless, the area is highly disturbed by people and lacks the openness of most current little tern breeding sites. Use as a breeding site by little tern is unlikely. Once again, it is important to emphasise that little terns have not been recorded breeding on Fingal Beach and any attempts to create breeding habitat are unlikely to succeed (SWC & SES 2000; Sandpiper Ecological Surveys 2010).

Summary

The results of the 2013/14 little tern monitoring program at Fingal Beach are similar to surveys in 2000 and 2009/10. The beach is not used by little terns during the breeding season, although individuals may stop briefly to rest on Fingal Beach during north and south migration. The key value of Fingal Beach is as a high tide roost for migratory shorebirds. Further monitoring of little terns at Fingal Beach or construction of breeding habitat is unnecessary and would not benefit the conservation of this species.

Attachment 1 – Field data summary

Date	Start Time	End Time	Survey Direction	No. Little Terns	Species recorded at each observation point							Human activity
					P1	P2	P3	P4	P5	P6	P7	
6/11/2013	0844	1000	NB	0	10 crested tern (f); 1 sooty oystercatcher (t); 1 silver gull (t);	1 silver gull (f); 4 crested tern (t); 1 eastern reef egret (t)	1 crested tern (t); 1 little black cormorant (t); 1 shearwater spp (f)	7 crested tern (f)	4 crested tern (f); 1 shearwater spp (f)	4 crested tern (t)	3 osprey (r); 32 crested tern (r); 12 silver gull (r)	people walking; dogs off leash
	1010	1115	SB	0	0	2 crested tern (t)	0	2 osprey (t)	7 shearwater spp (f); 5 crested tern (t); 1 gull-billed tern (t)	3 crested tern (f); 2 shearwater spp (f)	50 crested tern (r); 16 silver gull (r&f); 2 osprey (r); 2 gull-billed tern (r)	people walking; dog on leash
20/11/2013	0800	1000	NB	0	1 crested tern; 2 little black cormorant	2 silver gull; 4 crested tern	0	2 shearwater spp; 3 crested tern	4 crested tern	3 crested tern; 2 silver gull	42 crested tern; 1 shearwater spp; 7 silver gull; 2 gull-billed tern; 9 eastern curlew	
	1000	1200	SB	0	2 crested tern; 4 shearwater spp.	1 silver gull	3 crested tern	4 shearwater spp	2 crested tern	9 eastern curlew; 2 crested tern	as above	
2/12/2013	0830	0945	NB	0	9 silver gull (r); 44 crested tern (r)	8 crested tern (t)	0	11 crested tern (t)	5 crested tern (t); 2 gull-billed tern (f)	1 common tern (r); 5 gull-billed tern (f)	11 common tern (r); 127 crested tern (r); 8 gull-billed tern (r/f); 2 osprey (t)	people moving, dogs on & off leash, boats moving, vehicles
	0945	1050	SB		187 crested tern (r); 1 eastern reef egret (r)	13 crested tern (f)	6 crested tern (t)	7 crested tern (t), 2 gull-billed tern (f)	2 gull-billed tern (f); 1 silver gull (t); 8 crested tern (t)	4 crested tern (t)	as above	
14/12/2013	0730	0835	NB	0	2 crested tern (t)	0	2 crested tern (t)	4 crested tern (t/f)	3 gull-billed tern (f); 5 crested tern (f)	0	49 eastern curlew (r); 14 crested tern (r); 112 bar-tailed godwit (r); 11 silver gull (r); 2 gull-billed tern (r/f)	people moving; people fishing; dogs on & off leash; boats moving
	0835	0940	SB	0	2 crested tern (t); 2 silver gull (2).	24 crested tern (f)	3 crested tern (f)	0	4 crested tern (t)	1 brahminy kite (t)	as above	
30/12/2013	0730	0830	NB	0	2 crested tern (f); 1 silver gull (t)	5 crested tern (t);	1 gull-billed tern (f)	8 silver gull (t); 3 crested tern (t)	3 silver gull (t); 2 crested tern (t)	21 common tern (r); 5 silver gull (t)	1 osprey (r); 31 silver gull (r/t)	people moving, people fishing, dogs off lead, boats moving
	0830	0930	SB	0	6 silver gull (r); 3 crested tern (f)	6 silver gull (r); 3 crested tern (t/f)	4 crested tern (f); 1 little black cormorant (t)	0	3 crested tern (f); 2 silver gull (t)	21 common tern (r); 1 osprey (r).	as above	

12/01/2014	0745	0845	NB	0	3 crested tern (t); 2 silver gull (t)	6 crested tern (t); 1 silver gull (t)	4 crested tern (t); 2 silver gull (r)	1 crested tern (t); 1 silver gull (t); 1 gull-billed tern (f)	0	2 crested tern (t)	4 common tern (r); 6 silver gull (r); 1 osprey (f)	people moving, people fishing, dogs off lead, boat at anchor, boats moving, loud & fast boats, jet ski.
	0845	0945	SB	0	4 crested tern (t); 2 silver gull (r); 3 little black cormorant (f)	1 silver gull (r); 1 crested tern (t); 1 little black cormorant (t)	4 silver gull (t)	0	1 silver gull (t)	1 silver gull (6)	as above	
1/02/2014	0930	1030	NB	0	6 crested tern (f); 4 silver gull (r)	11 crested tern (f); 1 silver gull (r)	8 crested tern (f/t); 1 common tern (t); 2 silver gull (t)	21 common tern (f); 7 crested tern (f); 1 silver gull (t); 2 shearwater spp (f)	4 crested tern (t); 2 gull-billed tern (f)	7 silver gull (t); 4 crested tern (t)	59 eastern curlew (r); 106 bar-tailed godwit (r); 38 crested tern (r)	people moving, people fishing, dogs off lead, boats moving.
	1030	1130	SB	0	21 silver gull (r)	6 crested tern (f); 9 silver gull (r)	3 crested tern (f)	6 common tern (f); 4 silver gull (t); 2 crested tern (f)	7 silver gull (t); 3 crested tern (f)	3 crested tern (t); 1 silver gull (t)	as above	
18/02/2014	0900	1016	NB	0	18 crested tern (f/t); 2 little black cormorant (t); 13 silver gull (f/t)			10 crested tern (t); 7 silver gull (f); 11 tern spp (t)			42 crested tern (f/t); 28 silver gull (t/f/r); 4 common tern (t/f); whistling kite 1 (r); 1 brahmyni kite (f); 3 gull-billed tern (f/r)	people moving, dogs off lead.
	1016	1120	SB	0	22 crested tern (f/t); 2 little black cormorant (r); 22 silver gull (f/r/t)			16 crested tern (f/t); 11 silver gull (f/r); 1 whistling kite (t)			13 crested tern (t); 29 silver gull (t/f/r); 1 brahmyni kite (r); 1 gull-billed tern (r).	
2/03/2014	1030	1130	NB	0	27 silver gull (r)	6 silver gull (r/t)	0	1 silver gull (t); 1 gull-billed tern (f)	5 crested tern (f); 1 osprey (t)	1 crested tern (f); 6 silver gull (r); 43 eastern curlew (r); 14 bar-tailed godwit (r); 6 common tern (r)	22 common tern (r); 72 bar-tailed godwit (r); 7 eastern curlew (r); 2 crested tern (r)	people moving, people fishing, dogs off lead, boats moving
	1130	1240	SB	0	13 silver gull (r)	6 silver gull (r)	0	2 silver gull (t)	3 silver gull (t)	2 silver gull (r)	as above	
Total Species					6	4	6	6	5	9	8	
Maximum Count					188	24	11	31	13	70	203	

Key: NB = north bound; SB = south bound; r = roosting; t = transit; f = foraging