

## BIRDS RECORDED AT LAKE TORRENS DURING ITS 1989 FLOODING

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### INTRODUCTION

Lake Torrens is a large, normally dry, salt lake lying to the west side of the Flinders Ranges in the north of South Australia (Figure 1). Its catchment is the western face of the Flinders Ranges in the east and the low, rounded hills east of Andamooka and Roxby Downs in the west. When this area received extraordinary rainfall in March 1989 the temporary streams draining this area filled with floodwater which quickly emptied into Lake Torrens. During the 24 hours to 09.00 on 14 March 1989, Motpena Station *ca.* 22 km SW of Parachilna recorded 273 mm, accepted by the Bureau of Meteorology as the state record. Average rainfall for Parachilna for March is 15 mm and the annual average is 204 mm. While some parts of the lake have held small amounts of floodwater on a number of occasions in the past, it is thought that this flood episode filled the lake to a level not achieved for about 100 years (Ian May, pers. comm.). This incredible natural phenomenon was a significant stimulus for many species of birds to breed on or near the lake. The most notable was the Banded Stilt *Cladorhynchus leucocephalus* (article on its breeding in prep.).

The bird life of the Lake Torrens region is poorly known. The paucity of observations is probably attributable to a lack of visits by bird-watchers, which is in turn due to the unpredictable nature of flooding of the lake McGilp (1949), visited the northern tip of the lake but made no mention of water nor of the local avifauna. Badman and May (1983), discuss wader distribution in northern South Australia, however, their records are from the area north of the lake. The observations of birds of Lake Torrens detailed below were made while the authors were resident upon two small island groups (see Fig. 1) from 9 May to 22 May and 27 May to 13 June 1989, studying the breeding biology of the Banded Stilt. These islands formed two distinct groups separated by approximately 100 km of water. The southern group were

formed around a now extinct mound-spring whose out-flow area had hardened to a sheet of stone. Windblown sand has deposited on parts of this sheet and has been colonised by sparse low samphire vegetation.

The northern group were comprised of a heavy red clay capped with gibbers and vegetated with a moderate cover of mixed salt-bush species. The largest island in this group, Andamooka Island, was dissected by temporary creeks which supported Myall trees. Sandy areas supported shrubs of *Acacia* sp. and *Eremophila* sp.

### ANNOTATED LIST

#### EMU *Dromaius novaehollandiae*

Several birds encountered foraging on Andamooka Island. Two nests located on 29 May and 13 June containing 11 and 8 eggs respectively. Both were constructed of fibrous vegetative matter placed directly on the gibbers and protected by low chenopods. Ian May (pers. comm.) observed, from the air, several birds thigh-deep in water some distance from the lake's edge.

#### HOARY-HEADED GREBE

##### *Poliiocephalus poliocephalus*

Infrequent observations of birds in several locations. Two birds noticed diving in approximately 50 cm deep water 300 m offshore from Stilt Island, five birds swimming in the channel separating Andamooka Island from the mainland and a group of 12 birds noted swimming in the main lake near North Colony Island.

#### AUSTRALIAN PELICAN

##### *Pelecanus conspicillatus*

Ten birds were noticed roosting near Gull Island on 14 May. Birds noted late in evening and had departed by following morning. One bird seen in same area one week later.

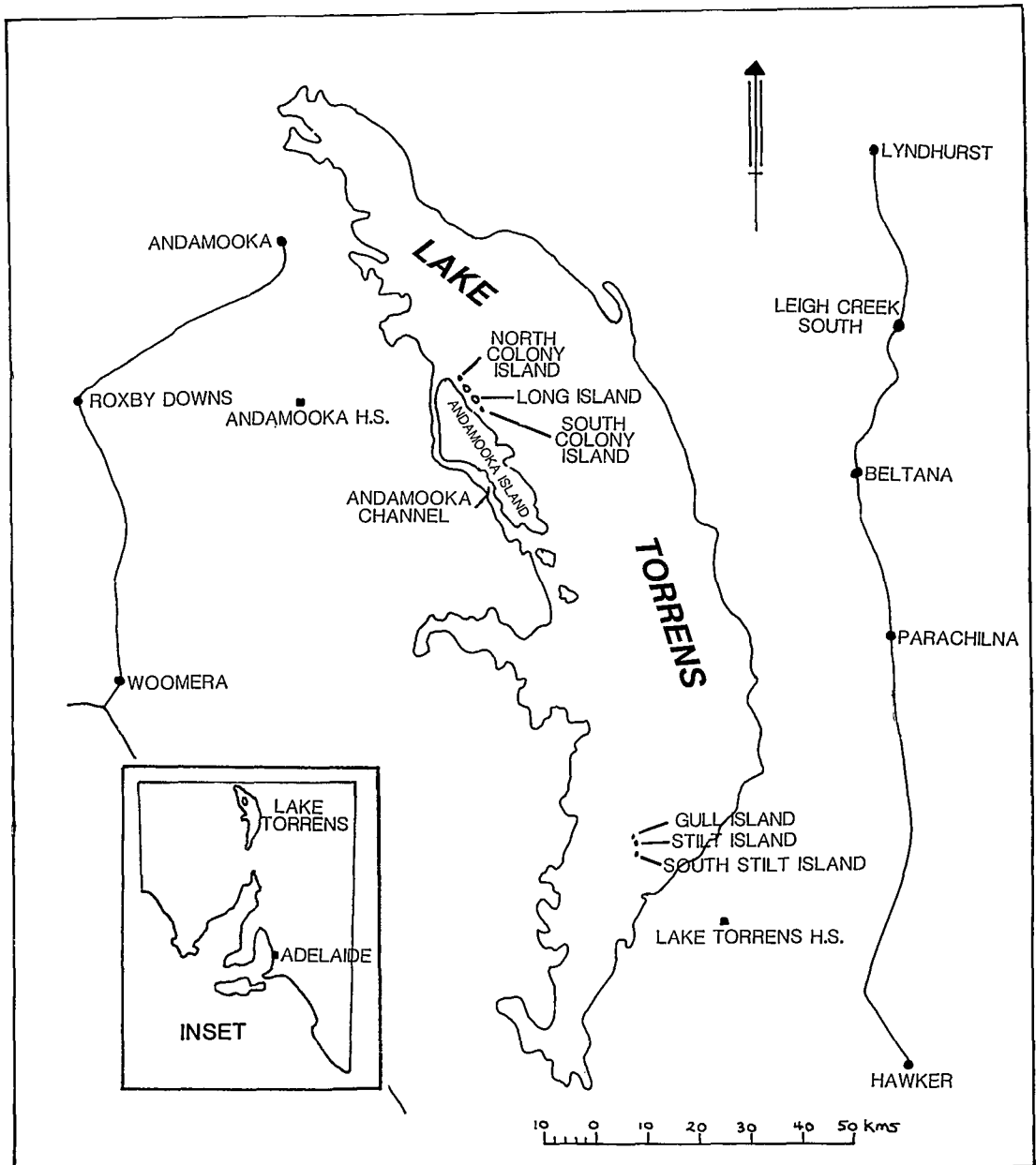


Figure 1: Location of Survey Sites in Lake Torrens.

**WHITE-FACED HERON***Ardea novaehollandiae*

A group of three birds were noticed over a period of several days around Stilt Island. A flock of nine birds circled Stilt Island on 17 May before settling for the evening. Neither of these groups were observed feeding.

**BLACK SWAN** *Cygnus atratus*

Two or three birds seen most days on or near Gull Island. A nest with five eggs on Gull Island on 12 May amongst dense colony of nesting Silver gulls. Nest of samphire twigs and down located directly on the sandy ground. Still sitting on 22 May. Several birds also seen flying along the channel between Andamooka Island and shore.

**GREY TEAL** *Anas gibberifrons*

A group of 5+ birds were heard calling overhead on Stilt Island during the night of 14 May. A pair of adults with eight downy chicks were observed on 29 May at the edge of Andamooka Island.

**PINK-EARED DUCK***Malacorhynchus membranaceus*

Two (and sometimes three) birds seen continuously on or near Gull Island where on 12 May they had a down-filled, and down-covered nest with two eggs. The nest was amongst a dense colony of nesting Silver gulls and located under samphire bushes. It was revisited on 21 May by which date it had been abandoned and the eggs missing.

On Andamooka Island up to 10 birds were seen or heard calling on most days along the channel separating the island from the mainland.

**MANED DUCK** *Chenonetta jubata*

Two birds were observed on 27 May resting on the protected shore of Andamooka Island with a group of Pink-eared Duck.

**BLACK KITE** *Milvus migrans*

One bird noted on 10 June soaring over the campsite on Andamooka Island. It circled a few times before moving off.

**COLLARED SPARROWHAWK***Accipiter cirrhocephalus*

One bird noticed near campsite on Andamooka Island on 7 June, being pursued by lone Little Crow. It was mostly uninterested in this harassment but occasionally it would roll in flight and present its talons to the pursuer.

**WEDGE-TAILED EAGLE** *Aquila audax*

One bird was observed soaring overhead on 9 May at Stilt Island. At Andamooka Island from 2-20 soaring birds were noticed on a number of occasions. Birds were observed feeding on the remains of dead (cause unknown) Red Kangaroos and a disused nest was found in the crown of a Myall on a temporary creekline.

**SPOTTED HARRIER** *Circus assimilis*

One adult bird flying over Stilt Island on 18 May was being harassed by several Silver gulls.

**PEREGRINE FALCON** *Falco peregrinus*

One bird was noticed on each of five consecutive days from 9-14 May around the Stilt colony on Stilt Island. On each visit to the island it succeeded in catching an adult Stilt. While it was observed hitting a low flying Stilt (which subsequently escaped) most attacks were on walking adult Stilts leading chicks across the island.

**BROWN FALCON** *Falco berigora*

Individuals noted on both island groups. On Stilt Island it was observed taking Stilt chicks being led across the island. The Falcon would fly in low, flushing the accompanying adult Stilt(s) and then catch an unguarded chick which it took away a short distance to eat.

**AUSTRALIAN KESTREL** *Falco cenchroides*

A pair of birds noticed soaring over Andamooka Island on 29 May.

**MASKED LAPWING** *Vanellus miles*

Several birds heard calling most nights from 12-18 May at Stilt Island, however, none were seen on or near any islands.

**BANDED LAPWING** *Vanellus tricolor*

Observed on both Stilt and Andamooka Islands. From two to five birds seen on Stilt Island (and heard calling overnight) and up to four birds seen on Andamooka Island. The birds on Andamooka Island were resident in an area of lignum on a small freshwater catchment.

**RED-CAPPED PLOVER***Charadrius ruficapillus*

A very common bird on all islands. There was ca. 100 birds on Stilt Island and approximately two birds per 100 metres of shore on Andamooka Island. They were breeding over the whole duration of our visits, with all stages of the breeding cycle from eggs to well-developed running chicks and juveniles observed.

**BLACK-FRONTED PLOVER***Charadrius melanops*

One bird only observed on the shore of Andamooka Island on 7 June.

**INLAND DOTTEREL** *Peltohyas australis*

One bird observed on Long Island on 30 May.

**BLACK-WINGED STILT***Himantopus himantopus*

One bird observed on 6 June feeding and resting on the edge of North Colony Island. It spent its time separated from nearby Banded Stilts.

**BANDED STILT** *Cladorhynchus leucocephalus*

Nesting colonies totalling an estimated 100,000 birds was present on the three southern islands (Gull, Stilt and South Stilt) but only a few adult birds were left by 22 May. A smaller nesting effort was underway on the three northern islands (North Colony, Long and South Colony) by 27 May with the Long Island colony being abandoned after a few days. A full account of the breeding biology of this species will be published shortly.

**RED-NECKED AVOCET***Recurvirostra novaehollandiae*

On Stilt Island a pair of birds visited most days

to feed in shallow water close to the island but did not breed there. Breeding took place on the northern islands with approximately 50 nests being scattered amongst those of Banded Stilts on North Colony Island. They also bred on Long Island.

Nests were seen with three and four eggs from 27 May on and several groups of three or four runners or juveniles were observed feeding with their parents on mud flats or in shallow water around Andamooka Island.

**GREENSHANK** *Tringa nebularia*

Two or three birds visited Stilt Island to feed several times over a one week period. Two birds observed on 29 May feeding on the edge of the Andamooka Channel.

**RED-NECKED STINT** *Calidris ruficollis*

A flock of about 50 birds seen feeding in shallow waters on eastern side of Stilt Island over a one week period. Another group of about 50 birds were often seen in the evenings near North Colony Island flying around the island just above the water and occasionally accompanied by Curlew Sandpipers.

**CURLEW SANDPIPER** *Calidris ferruginea*

Approximately 20 birds seen on 10th and 12th May on Stilt Island, feeding in an area of shallow water on eastern side of island. A small flock of up to 10 birds often seen in evenings near North Colony Island with Red-necked Stilts.

**SILVER GULL** *Larus novaehollandiae*

Approximately five thousand birds present around the nesting Banded Stilts on the southern islands. These had a severe predatory impact on eggs, newly hatched chicks and downy running chicks, especially as the colony began to wind down.

The gulls had apparently begun nesting on Gull Island as the Stilts left it, and as the Stilt colony receded down Stilt Island, the overflow of breeding gulls began nesting on Stilt Island too. Occasionally, gull nests were among scattered Stilt nests. We estimated a total of 1200 gull nests in this island group. The most advanced nests on Gull Island contained large downy chicks (up to

four) and must have been started soon after the adults arrived at the lake. However, no chicks were flying before the Stilts left this part of the lake. The gulls then shifted their diet to brine shrimps and also began preying on the contents of the nests of later nesting Silver Gulls which contained only eggs. These late nests were all either abandoned or predated while still at the eggs only stage.

About 1000 Silver gulls were present at the Stilt nests on North Colony Island. Again they caused heavy losses, but only two nests were made and no eggs laid because the stilts ceased nesting.

#### WHISKERED TERN *Chlidonias hybrida*

A flock of up to 20 birds heading north over Stilt Island on each day from 13 to 15 May. A flock of 10 birds noticed in the vicinity of Andamooka Island on 29 and 30 May.

#### GULL-BILLED TERN *Gelochelidon nilotica*

Two or three birds seen most days while at Stilt Island and on one occasion a bird was noticed carrying nesting material but no nesting occurred here.

Eight nests were found on an exposed rocky bank on the edge of North Colony Island on 27 May. It is not known if these birds were nesting here before the Stilt colony became established. Brooding adults were under pressure from Silver Gulls but remained very tight on the nest. This colony was abandoned about one week after our arrival in the area and we are not sure if this was due to our (careful) presence in the vicinity, gull pressure or some other factor.

Adults from this colony were observed drinking and bathing at a large freshwater pool in the sand dunes on Andamooka Island approximately 3 km from the colony.

#### CASPIAN TERN *Hydroprogne caspia*

One bird on 19 May and two on 20 May overhead at Stilt Island. Two birds noticed overhead at North Colony Island on 7 June.

#### CRESTED PIGEON *Ocyphaps lophotes*

Up to 50 birds roosting in the Myalls along creeklines and amongst low shrubs on the sandy soils of Andamooka Island.

#### GALAH *Cacatua roseicapilla*

A flock of 20 on 15 May and a flock of 10 on 19 May flying over Stilt Island at dusk, heading east. On Andamooka Island two birds noticed on 5 June and 7 June.

#### COCKATIEL *Nymphicus hollandicus*

A group of four birds noticed on Andamooka Island on 6 June.

#### BUDGERIGAR *Melopsittacus undulatus*

A flock of 20 birds passed over Stilt Island in the morning of 20 May heading east.

#### BLUE-WINGED PARROT *Neophema chrysostoma*

Two birds noticed overhead on Andamooka Island on 29 May and 1 June. Approximately 60 birds seen feeding together on the ground on Long Island on 30 May.

#### ELEGANT PARROT *Neophema elegans*

A single bird passing over Stilt Island on 13 May and another on 19 May. Both birds heading south.

#### PALLID CUCKOO *Cuculus pallidus*

A single bird noted on Andamooka Island on 29 May.

#### HORSFIELD'S BRONZE-CUCKOO *Chrysococcyx basalis*

Several birds noted on Andamooka Island on 29 May.

#### SPOTTED NIGHTJAR *Caprimulgus guttatus*

Two roosting birds flushed from ground on 5 June on Andamooka Island. Roosting under a 20 cm high saltbush plant.

#### WHITE-BACKED SWALLOW *Cheramoeca leucosternum*

Several birds noticed overhead on 5 and 6 June on Andamooka Island.

WELCOME SWALLOW *Hirundo neoxena*

On Stilt Island we recorded one bird on 14 May and two birds on 17 May, and on Andamooka Island we recorded two birds every day.

Interestingly, birds at both locations quickly learnt that our work tent was an excellent collector of insects and would spend some time each morning flying in and out or hanging from the walls catching insects.

TREE MARTIN *Cecropis nigricans*

A small flock of three birds noted over Andamooka Island on 29 May.

FAIRY MARTIN *Cecropis ariel*

A group of five birds observed on Stilt Island on 12 May and a single bird recorded on 18 May. Also observed overhead at Andamooka Island on 6 June.

RICHARD'S PIPIT *Anthus novaeseelandiae*

Observed amongst the saltbush shrubs on Andamooka Island on a number of days. Also recorded on Long Island.

## BLACK-FACED CUCKOO-SHRIKE

*Coracina novaehollandiae*

A single bird observed on Andamooka Island on 6 June.

RED-CAPPED ROBIN *Petroica goodenovii*

Several birds observed over a period of a week on Stilt Island. Our observations were of a single female on one occasion, a male and female on several consecutive days, and then two females several days later.

Also noted on Andamooka Island amongst saltbush shrubs.

WILLIE WAGTAIL *Rhipidura leucophrys*

A single bird noticed on 13 May snapping up insects on Stilt Island.

## CINNAMON QUAIL-THRUSH

*Cinlosoma cinnamomeum*

A common bird on Andamooka Island encountered every day amongst the sparse saltbush shrubs on gibber plain. Usually about 200 m between sightings.

BROWN SONGLARK *Cinchorhamphus cruralis*

A very common bird on Andamooka Island, found right across the saltbush shrubland on gibber plain. Males extremely vocal and displaying throughout our stay.

SPI ENDID FAIRY-WREN *Malurus splendens*

One group living amongst Acacia shrubs on an area of deeper sand on Andamooka Island.

VARIEGATED FAIRY-WREN *Malurus lamberti*

Several groups found living in both the Acacia shrubland and amongst the sparse saltbush shrubs on the gibber plain.

## WHITE-WINGED FAIRY-WREN

*Malurus leucopterus*

The most common wren observed, with many groups found across Andamooka Island living in saltbush shrubland and small lignum thickets. Several groups were also resident on Long Island.

WESTERN FIELDWREN *Sericornis fuliginosus*

Found amongst the sparse saltbush shrubland on Andamooka Island. A nest with three tan-coloured eggs found on 7 June located close to the ground in a small *Sclearolena* sp. bush. Several birds were also recorded on Long Island.

## SPINY-CHEEKED HONEYEATER

*Acanthagenys rufogularis*

Found on Andamooka Island in areas of larger shrubs on sandy depressions. Feeding on nectar in *Eremophila* flowers and hawking for insects.

## SINGING HONEYEATER

*Lichenostomus virescens*

Found on Andamooka Island in similar habitat to Spiny-cheeked Honeyeater.

## WHITE-FRONTED HONEYEATER

*Phylidonyris albifrons*

Found in low numbers on Andamooka Island in the same area as above two species.

CRIMSON CHAT *Epthianura tricolor*

Several pairs observed on the sparse saltbush shrubland of Andamooka Island.

**ORANGE CHAT** *Ephthianura aurifrons*

A pair over Stilt Island on 21 May. A very common species in the open saltbush shrubland of Andamooka Island, and several groups observed on Long Island.

**WHITE-FRONTED CHAT**

*Ephthianura albifrons*

Several pairs observed on most days on Stilt Island. Also a common species on Andamooka Island throughout the saltbush shrubland.

**MISTLETOEBIRD** *Dicaeum hirundinaceum*

A single bird flying overhead at Stilt Island on 12 May.

**BLACK-FACED WOODSWALLOW**

*Artamus cinereus*

Several birds soaring overhead at Andamooka Island on 29 May.

**AUSTRALIAN MAGPIE** *Gymnorhina tibicen*

Several birds on Andamooka Island on 7 June.

**AUSTRALIAN RAVEN** *Corvus coronoides*

Heard calling on Andamooka Island on 11 June.

**LITTLE CROW** *Corvus bennetti*

Up to 20 birds on Andamooka island, feeding on the carcasses of dead Red Kangaroos out on the gibber plains. Nest containing feathered young located in Myalls along temporary creek-line. A flock of nine birds circled the Stilt colony on North Colony Island on 6 June but were driven off by Silver Gulls and Red-necked Avocets.

**DISCUSSION**

A total of 64 species was observed, with nine species recorded only on the southern group of islands, 32 species recorded only on the northern group of islands and 23 species being common to both groups. This may be due to the larger size of the northern islands, the greater diversity of vegetation they supported and their proximity to the mainland (1 km compared with 13 km).

Evidence of breeding was recorded for 11 species; Emu, Black Swan, Grey Teal, Pink-eared Duck, Red-capped Plover, Banded Stilt, Red-necked Avocet, Silver Gull, Gull-billed Tern, Little Crow and Western Fieldwren. Although no direct evidence was collected other species which may have bred in the area include Brown Songlark and the three species of Chat.

The level of breeding on or near the lake was stimulated by the amount of easily exploited food resources available for both adults and chicks. The lake contained enormous numbers of protein rich brine shrimps and gastropods, while the island's vegetation was flowering and setting seed and attracting many insects. This breeding stimulus in an inland situation has been discussed previously by Chinner (1977). He observed an influx of "casually visiting" species to central Australia and attributed this and the incidence of breeding by resident species to the prolonged period of favourable weather conditions producing ample food supplies. While Chinner's observations were made over a three year period, our observations showed that the response of avian species to this filling of Lake Torrens was almost immediate, with species such as the Banded Stilt arriving at the lake and beginning to breed within weeks of the rains.

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