

Waterbirds in the heart of the Murray Mallee

JOHN ECKERT

Abstract

*A series of brief surveys was conducted over the period December 2001 to December 2007 to gain information on the number and status of waterbirds likely to reach the parts of the Murray Mallee only accessible by a lengthy flight over dry country. Comments are also made on the Red-backed Kingfisher, *Todiramphus pyrrhopygius*, the Sacred Kingfisher, *T. sanctus*, the Australian Reed-Warbler, *Acrocephalus australis*, and the Little Grassbird, *Megalurus gramineus*. Including the above, 45 species are shown to visit the study area and 13 to have bred there. This indicates a greater presence of waterbirds in the heart of the Mallee than was previously reported.*

INTRODUCTION

Although the Murray Mallee might be regarded as a well known entity, its precise definition is not always clear and can be prone to misinterpretation. In defining biogeographical areas of South Australia, Laut et al. (1977) placed the western boundary of the Murray Mallee along the eastern foothills of the Mt. Lofty Ranges and included the extensive mallee vegetation north of the River Murray. This definition is similar to that followed in the Bird Reports in this journal (e.g. Jenkin, Pomeroy and Richards 1964). With this interpretation the River Murray flows through much of the area and waterbirds, i.e. those birds dependent on open water and associated wetlands, are recorded in abundance from riverland localities. The Locality Index of the first 20 volumes of this journal gives numerous references under 'Murray Mallee' to sites not only from the riverland, but also from

Goolwa, the Lower Lakes and Coorong. Though many regard the Murray Mallee more narrowly as east and south of the River Murray, south to the "Ninety-mile Desert" (upper southeast), an area originally covered in mallee scrub but now largely cleared. An example of the anomalies that can result from this uncertainty is the statement in Parker, Eckert and Ragless (1985): "no records (of the Black Swan, *Cygnus atratus*) from the Murray Mallee, the interior of Eyre Peninsula etc" even though the publication acknowledged the presence of large numbers frequenting the River Murray districts. Parker (pers. comm. to author) was perturbed by the absence of records of ducks from the more-narrowly defined Murray Mallee area and, despite protests that most species of ducks visited the area in wet seasons when extensive surface water was available, preferred to draw attention to the lack of published records in the hope of encouraging observers to produce substantiated sightings. This has not occurred.

The poor documentation of mallee waterbirds is confirmed in the report of Harris (2001) which noted no record of the Pacific Black Duck, *Anas superciliosa*, in the previous 25 years even though it is a breeding resident. Most observers are apparently loath to put forward records of well-known species from what they would consider to be a well-known area. This paper seeks to redress some of those errors of omission and shows that the area is visited more often by waterbirds than records suggest.

METHODS

The River Murray is a major flyway enabling waterbirds to move easily through otherwise unfavourable country. In recent years evaporation basins placed within reasonable distance of the river at Noora, Stockyard Plains and Murray Bridge have attracted numerous waterbirds, which are probably easily visible to birds flying along the river at an altitude of a few hundred metres. These wetlands have therefore been disregarded as too obviously influenced by the river and effort is made to focus on waterbirds that might reach the heartland of the Mallee viz. Pinnaroo, Lameroo and Karoonda. The area chosen for study is bounded in the east by the State border, in the west by longitude 139°50', and north and south by latitudes 34°45' and 35°40', thereby encompassing Karoonda, Billiatt Conservation Park and that part of Ngarkat Conservation Park north of Box Flat respectively. This is considered to be remote from river influence and should indicate the species most likely to venture some distance across dry country.

Following the discovery of a good variety of waterbirds at Lameroo on 14 December 2001, surveys were conducted of all birds seen at sewage ponds at Lameroo (30), Pinnaroo (28) and Karoonda (17) over the six years to 11 December 2007. During this time all seasons were covered and both dry and moderately wet years were experienced.

Since beginning the survey no season has been wet enough to provide large, long-lasting ephemeral pools that support frogs, shield shrimps and other aquatic life (pers. obs.), but the existence of sewage ponds at the three major centres has ensured that some wetland habitat has been available throughout.

Reports provided by other observers and a few previously published observations

relevant to the purpose of the study are incorporated. The previously unreported occurrence of two kingfisher species in the study area is also included.

Description of sites

Lameroo has the largest sewage system with two main ponds, each about 1 ha in extent with two long narrow shallower ponds between. The eastern main pond takes sewage and the westernmost takes stormwater. The latter occasionally overflows into a 2 ha pond to the north thereby providing a shallow muddy area. There are virtually no reeds at Lameroo. The town's previous sewage ponds have been remodelled since the 1980s as an ornamental stormwater basin termed Lake Roberts, which seems to have little attraction for waterbirds, at least during the daytime visits of this survey.

The main sewage area at Pinnaroo has two ponds, each less than 1 ha in extent. The western pond receives the sewage and overflows into the eastern, the latter fluctuating considerably and becoming dry at times. The western pond has a reed fringe along half its banks and the eastern has a sizeable reed-bed over almost a quarter of its western end. Seepage from these ponds has formed an additional reed-bed and some small pools along the south side. At the northern edge of the town the North Ponds comprise three small ponds together totalling less than 1 ha in area. Sewage gravitates through the system and so the most northern of the three is often shallow or dry but the others are mostly deep. There are no reeds but ephemeral vegetation overhangs the steep sides. At the end of the main street the Railway Dam which receives storm water only is less than 0.5 ha in area but is quite deep and is surrounded by reeds that are especially extensive at the intake area.

The sewage ponds at Karoonda are relatively small, about 1 ha in area. The eastern end has

an extensive reed fringe. There is virtually no shallow water but, while there would be a shallow pond to the west if the system overflowed, this has not occurred during the survey period.

RESULTS

A total of 39 species were observed during the surveys and a further six are included on the basis of observations at other localities. Ten species were recorded on virtually every survey and thirteen have been recorded breeding at some stage.

Musk Duck, *Biziura lobata*: a single bird at Pinnaroo Sewage on 5 May 2005 is the only record.

Freckled Duck, *Stictonetta naevosa*: four were at Lameroo on 21 February 2006, two on 11 December 2007 and single birds on 14 December 2001, 18 February 2003, 5 May 2005, 12 December 2006 and 28 September 2007. Three at Pinnaroo Sewage on 10 December 2003 was the only other occurrence.

Black Swan, *Cygnus atratus*: always present at Lameroo except for September–October 2002. Numbers varied from one to five adults but usually three to four were present. A nest with five eggs was seen on 6 September 2004 as well as an abandoned nest with one egg nearby. On 11 December 2007 there was one nest with five eggs being closely attended and another with one fresh egg nearby. Two well-grown cygnets were seen on 21 February 2006, seven small cygnets on 20 September 2006 and two well-grown cygnets on 28 September 2007. It is suspected that fox predation limits recruitment for so far no fully-feathered juvenile has been seen even though downy young have sometimes reached nearly adult size. Not seen at other sites.

Australian Shelduck, *Tadorna tadornoides*: present at Lameroo on all but ten surveys,

usually in numbers less than ten, with a maximum of 20 on 10 December 2003. Young have been seen on five occasions in three different years. Seen only four times at Pinnaroo Sewage with a maximum of three on 1 November 2006. Singles at Pinnaroo North Ponds on two separate occasions is the only other survey venue recorded, but G.E. Warneke (pers. comm.) has twice seen a pair at a dam in the Peebinga area.

Australian Wood Duck, *Chenonetta jubata*: at Lameroo it was recorded on half of the surveys. Flocks were often of 20 or above with a maximum of 98 on 6 April 2006. Young were present on 10 December 2003. At Pinnaroo Sewage it was seen eight times, maximum 40 on 1 March 2004, while at Pinnaroo North Ponds a pair were present on 1 November 2006. At Karoonda a single bird on 28 January 2002 was the sole record.

Pacific Black Duck, *Anas superciliosa*: Seen regularly at the two major sites, usually in numbers of 20–50 with maximums of 100 at Pinnaroo and 75 at Lameroo. In early surveys the species was often absent at the other sites but since late 2003 it has become regular at those places too. Young have been seen often at all sites except Karoonda and a nest of eight eggs was discovered at Lameroo on 2 February 2005.

Australasian Shoveler, *Anas rhynchos*: at Lameroo it was recorded on all but six surveys in fluctuating numbers, but mostly around ten with a maximum of 25 on 5 May 2005. At other sites it was rarely present and mostly only singly. It was unrecorded at Pinnaroo North Ponds. Breeding has twice been suspected from behaviour but no confirmation has been obtained.

Grey Teal, *Anas gracilis*: regular and abundant at the major sites. Average numbers are 200–400 (max. 460) at Lameroo, 100–200 (max. 800) at Pinnaroo Sewage, 50–100 (max. 130)

at Karoonda and 20–40 (max. 80) at Pinnaroo North Ponds. On the deep water of the Pinnaroo Railway Dam it is only occasionally present, usually numbering less than ten. Breeding has been noted at all sites except the latter but only about half as frequently as the Black Duck.

Chestnut Teal, *Anas castanea*: seen six times at Lameroo, five at Pinnaroo Sewage and once at Karoonda. Always singles or pairs except for four at Lameroo on 6 September 2004. Not observed breeding.

Pink-eared Duck, *Malacorhynchus membranaceus*: present on 23 surveys at Lameroo, mostly in numbers of 10–30. At Pinnaroo Sewage, eight records have been of ten or less. Karoonda has three records (max. 7) and a pair was on the Pinnaroo Railway Dam on 13 November 2004. No breeding has been recorded.

Hardhead, *Aythya australis*: almost always present at Lameroo, often in numbers of 30–50. Recorded only ten times from Pinnaroo Sewage (usually less than 10) and only rarely from each of the other sites. Breeding has not been recorded.

Australasian Grebe, *Tachybaptus novaehollandiae*: recorded fairly regularly from both Lameroo and Pinnaroo North Ponds, usually in low numbers but 20 were at Lameroo on 18 August 2005. Young have been seen on three occasions at North Ponds and nesting was seen at Lameroo on 13 November 2004 and 11 December 2007. Karoonda has 11 records, with young present on 3 April 2006 while the Pinnaroo Railway Dam, with only two records, had young present on 10 December 2003. Pinnaroo Sewage has six records but none of breeding.

Hoary-headed Grebe, *Poliiocephalus poliocephalus*: always present in fluctuating numbers at Lameroo. On over 50% of surveys

numbers were 40–100. At both Karoonda and Pinnaroo Sewage small numbers were recorded in just over half of the surveys. Pinnaroo North Ponds had five records of up to four birds while the Railway Dam's sole record of a single bird came on 17 September 2003. Several small young were present on the stormwater pond at Lameroo on 2 February 2005 and three adults were on nests there on 11 December 2007.

Little Pied Cormorant, *Microcarbo melanoleucos*: seen eight times at Lameroo, usually singly except for two on 13 November 2004 and four on 21 February 2006. Two were at North Ponds on 20 October 2005 and one at Karoonda on 1 November 2006.

Pied Cormorant, *Phalacrocorax varius*: one was found dead at Lameroo on 17 September 2003. A single bird was recorded there on four successive visits from 5 September to 13 December 2005 suggesting that it may have been the same bird living around there for over three months.

Little Black Cormorant, *Phalacrocorax sulcirostris*: one was seen at Lameroo on 13 November 2004 and another was at the Pinnaroo Railway Dam on the same day.

Great Cormorant, *Phalacrocorax carbo*: one was at Pinnaroo Sewage on 22 February 2002 and one at the North Ponds on 12 December 2006. Two were at Lameroo on 17 September 2003 and singles on 1 November 2006 and 22 March 2007.

Australian Pelican, *Pelecanus conspicillatus*: a Pelican was found injured by the roadside 5 km E of Lameroo in early 2001. It was taken to the Department for Environment and Heritage office, Lameroo, where it was "euthanased" because of its injuries. No part of it was preserved (D. Lawrence pers. comm.)

White-faced Heron, *Egretta novaehollandiae*: present ten times at Lameroo, usually singly but twice there were two. Seen twice at Pinnaroo North Ponds and once at the Railway Dam.

White-necked Heron, *Ardea pacifica*: one seen at Pinnaroo North Ponds on 5 August 2003 and one at Lameroo on 13 November 2004. G.E. Warneke sent a specimen of this species to the South Australian Museum from Griffin's Dam, 8 km N of Kringin on 18 July 2002, (S.A.M. B49612) and has seen another there since. A reference in Glover (1952) stating 'Odd birds seen along the road between Tailem Bend and Pinnaroo in December 1951', would indicate the species' probable presence in the area under review at that time.

Straw-necked Ibis, *Threskiornis spinicollis*: a flock of 33 were at Lameroo on 5 August 2003. There have been five more intermittent visits there since, all involving eight birds or less.

Yellow-billed Spoonbill, *Platalea flavipes*: a group of four was seen at a road construction dam 35 km S of Pinnaroo on 26 July 1969 (pers. obs.). A more recent sighting of two at a pool by a roadside 2 km N of Kumara Bore on the Paruna-Kringin road in August 2002 by G.E. Warneke indicates that they still visit the area occasionally.

Australian Spotted Crane, *Porzana fluminea*: single birds were seen at Karoonda on 28 January 2002, at Pinnaroo North Ponds on 10 December 2003 and at Lameroo on 5 May 2005. Two were seen at Pinnaroo Sewage on 12 April 2002 and one on 10 December 2003 but footprints and calls believed to be from this species on several other visits suggested a greater presence in that reed bed than indicated by the two early sightings, a view eventually vindicated by the sighting of an adult with three immature birds on 11 December 2007.

Black-tailed Native-hen, *Tribonyx ventralis*: recorded on more than half of all visits to the three major sites, mostly in modest numbers but during 2002 numbers of 100–200 were found at each site. There have been seven sightings from the Pinnaroo Railway Dam, all of six or less except for 40 on 22 January 2002. It was not seen at Pinnaroo North Ponds and breeding was never confirmed.

Eurasian Coot, *Fulica atra*: permanently present at Lameroo in fluctuating numbers, usually 20–40 with a maximum of 85 on 2 February 2005. Seen on about 50% of surveys at Pinnaroo Sewage, usually in very low numbers.

Ones and twos were occasionally seen at Karoonda and the Pinnaroo Railway Dam but Coots have not yet been sighted at the Pinnaroo North Ponds. Breeding was not observed. When in low numbers this species is furtive and will hide in the reeds for long periods and its presence may have been missed on occasions.

Marsh Sandpiper, *Tringa stagnatilis*: one bird was at Lameroo on 13 November 2004.

Common Greenshank, *Tringa nebularia*: a single bird was at Lameroo on 1 November 2006.

Common Sandpiper, *Actitis hypoleucos*: a single bird was seen at Lameroo on 22 February 2002, 27 October 2002, 10 December 2003, 1 March 2004, 13 November 2004 and 21 February 2006. Thus it was seen during five of seven migration seasons, highlighting the propensity of this species to return to a known feeding area.

Red-necked Stint, *Calidris ruficollis*: a single bird was present at Pinnaroo Sewage on 22 February 2002, two there on 5 July 2002 and one at Lameroo on 27 October 2002.

Sharp-tailed Sandpiper, *Calidris acuminata*: seen only at Lameroo, four on 17 September 2002, five on 6 September 2004, one on 13 November 2004, one on 20 October 2005 and five on 1 November 2006.

Black-winged Stilt, *Himantopus himantopus*: seen only at Lameroo where it was present on all but two occasions, with numbers usually 2–4 but 9–11 on several visits. Breeding was not observed but agitated behaviour and calling twice suggested that nests or small young may have been present on the shallow pond to the north of the system.

Banded Stilt, *Cladorhynchus leucocephalus*: one was at Lameroo on 13 November 2004. It kept apart from the Black-winged Stilts.

Red-necked Avocet, *Recurvirostra novaehollandiae*: recorded only at Lameroo, where it was seen on eight occasions, always singly except for two present on 11 December 2007. Twice records were on successive visits or nearly so, e.g. 10 December 2003 and 1 March 2004; 2 February and 5 May 2005; 5 October and 13 December 2005. The other sighting was on 12 December 2006. C. Ribbons (pers. comm.) found a nesting colony of this species in a large ephemeral swamp 20 km S of Parilla in late November 1973 following an earlier heavy rain event.

Inland Dotterel, *Charadrius australis*: not recorded on any surveys but G.E. Warneke saw the species on three occasions in the Peebinga–Kringin area in the last decade and took a specimen from a flock of four on fallow ground 5 km W of Griffin’s Dam (Sect. 36, Hd of Peebinga) on 26 June 2002. It was recorded fairly regularly in the Manya district of Victoria (near the South Australian border north of Pinnaroo) in the 1930–40s and often bred there (C. Ribbons pers. comm.). This may correspond to the two breeding records mentioned from the Pinnaroo district by J.N.

McGilp (1933) and McGilp and Parsons (1936) for McGilp usually stayed with the Ribbons family when in the Pinnaroo area. Altered farming practices, with large reductions in the amount of summer fallow, may have made conditions less attractive for this species and account for the reduced reported presence in the area.

Black-fronted Dotterel, *Elseyaornis melanops*: present five times at Lameroo in numbers 1–4 and four times at Pinnaroo Sewage mostly in pairs. A pair was tending a small chick there on 12 December 2006.

Red-kneed Dotterel, *Erythrogonys cinctus*: seen on 50% of the Lameroo surveys. Usually in small numbers but 15 were there on 14 December 2001 and 12 on 10 December 2003. A single bird at Pinnaroo Sewage on 5 August 2003 is the only record elsewhere and no breeding has been observed.

Banded Lapwing, *Vanellus tricolor*: a flock of ten present at Lameroo on a very hot day on 10 March 2002 was the only survey record. When disturbed they left the area. The species was recorded previously from the Pinnaroo area by Cleland (1928), Bonnin (1930) and McGilp and Parsons (1936), the last authors noting a pair with chicks and commenting; “not as common as usual”. Bonnin had noted it as among the commonest birds of the locality, not a status it would be given today.

Masked Lapwing, *Vanellus miles*: usually present at Lameroo in flocks of up to 40. It was seen twice at Pinnaroo Sewage, once at Karoonda (a pair with chick on 1 November 2006, the sole breeding record) and was not seen at the Pinnaroo North Ponds. It was seen on eight surveys in the vicinity of the Pinnaroo Railway Dam where watered showgrounds nearby proved attractive at times. This species was not mentioned by the earlier writers, suggesting that watered parklands, irrigated crops and cessation of

following have allowed it to colonise the Mallee, the same factors perhaps influencing the decline of the Banded Lapwing.

Australian Pratincole, *Stiltia Isabella*: not recorded on surveys or in the published literature. However B.G. Le Bas (pers. comm.) observed two pairs that nested on a paddock near his home at Kringin during November–December 1992. He saw an adult and a juvenile near there again in late January–early February 2007.

Silver Gull, *Chroicocephalus novaehollandiae*: seen only at Lameroo and on seven occasions, mostly single birds in summer but five on 5 August 2003.

Whiskered Tern, *Chlidonias hybridus*: at Lameroo six were present on 17 September 2002, four on 5 October 2005 and singles on 20 October 2005, 1 November 2006 and 28 September 2007. A single bird at Karoonda on 23 September is the only other record.

Red-backed Kingfisher, *Todiramphus pyrrhopygius*: not recorded on any survey or in literature. However C. Ribbons (pers. comm.) has found it nesting in the study area on two occasions. A pair nested in a sand-bank 5 km SE of Pinnaroo in October 1982. Prior to that, about 1980, a pair dug a nest-hole in a bank of earth tipped in the Council yard at Pinnaroo but abandoned the site after removal of some earth by Council workers.

Sacred Kingfisher, *Todiramphus sanctus*: a kingfisher was noticed sitting on the fence above the sluice-gate of the former Lameroo sewage ponds by a party (including the author) returning from a meeting at Pinnaroo in September 1989. It was examined closely and was identified as this species by its unstreaked crown and absence of the red rump. It is otherwise unrecorded from the area.

Australian Reed-Warbler, *Acrocephalus australis*: up to six birds have been recorded each spring and summer at Pinnaroo Sewage. No nests have been seen but birds have been noted carrying food as if to feed young. The reed-beds of the Pinnaroo Railway Dam have birds calling each summer but seemingly only very few. The species was seen twice at Karoonda in the spring of 2006 and again in 2007. It was unrecorded at Pinnaroo North Ponds and Lameroo although in the late 1980s it was present in the reed fringes of the previous Lameroo sewage ponds (pers. obs.).

Little Grassbird, *Megalurus gramineus*: seen or heard on most visits to both Pinnaroo Sewage and Karoonda. It is suspected that several pairs are resident at both sites. Birds have been seen carrying food suggesting breeding there. Lameroo and Pinnaroo North Ponds each have only a single record of presumed vagrant birds. At the Pinnaroo Railway Dam there have been only seven records which is puzzling since the reed-beds there appear to be sufficient to harbour a small resident population.

DISCUSSION

The survey has shown that a substantial number of waterbirds are capable of reaching the study area on occasions. Neither the Red-capped Plover *Charadrius ruficapillus* nor the Buff-banded Rail *Gallirallus philippensis* was recorded although both were originally anticipated. Of the 45 species listed, only 12 might be regarded as vagrants on the criteria of three records or fewer. The existence of sewage ponds has doubtless been a major influence on the occurrence of waterbirds as well as enabling ten species to become virtually resident in the area. Sewage ponds provide a significant contribution to waterbird conservation in the absence of ephemeral wetlands that develop only after very high rainfall events. There are often big fluctuations in numbers from visit to visit,

suggesting that most of the birds involved are nomadic and that waterbirds might actually move fairly freely through the area. Thus while the species may always be present in the area it is probable that very few individuals actually spend the whole of their lives in the Mallee. The 13 species recorded breeding might always have done so when conditions were suitable but now find that opportunities arise more frequently. These results provide a baseline that reveals that the Mallee is visited by waterbirds more than indicated by Parker *et al.* (1985) or Horton (2000). An enthusiastic resident observer might easily add significantly to the list and also to knowledge of the extent to which waterbirds are able to occupy the area. That it has taken over 20 years to address the omissions drawn to attention in Parker *et al.* (1985) indicates that most people visiting the Mallee have focussed on the distinctive species of the mallee scrub and have had less regard for others in the belief that the presence of commonplace species would already be well documented.

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**Final version prepared by Andrew Black,
c/o South Australian Museum,
North Terrace, Adelaide, S.A. 5000.
E-mail: abblack@chariot.net.au.**