

STUDIES OF ROOSTING COMMON STARLINGS *Sturnus vulgaris* IN SOUTH AUSTRALIA

M. WATERMAN¹, C. O. FULLER² and M. D. MURRAY^{3,4}

¹'Debmar Park', 28 Gordon Avenue, St. Agnes, South Australia 5097

²14 Warrego Crescent, Linden Park, South Australia 5065

³17 Ashmore Avenue, Pymble, New South Wales 2073

⁴Corresponding author

Received: 15 February 2007

This study commenced when Common Starlings *Sturnus vulgaris* started to roost regularly in a barn, where they could be trapped easily in large numbers in the winter months, and 95 per cent of them could be banded. This was done annually (1–5 times) in all but two years from 1969 to 1994 and also in 2000 and 2001.

Of 15583 birds banded, only 34.6 per cent were recaptured, and only about a half of them were recaptured more than once. Many were recaptured up to nine years from when banded, several up to 17 years, and one after 29 years, the sole occasion it was retrapped. The few dead recoveries showed a probable rapid and widespread spring dispersal westwards.

The population structures of the roosting birds were variable in numbers and individuals present, even when captured at weekly intervals for five weeks in one year. It appeared that other birds, probably of winter influxes, were using opportunistically the roosting site of local birds, resulting in a complex turnover.

INTRODUCTION

The northern Adelaide plains include a large area of market gardening, centred on Virginia, and an even larger area of mixed farming. These changes to the native vegetation, which commenced with early settlement in the 1880s, have favoured the introduced Common Starling *Sturnus vulgaris*. Cultivation has led to a reduction in the tree coverage as land for pastures and crops developed, and, as a consequence, suitable roosting sites are well dispersed. There were many derelict barns in the area but none provided roosting sites. A local bird bander, Tom Irish, whose property had become a centre for a quail study, noted that numerous starlings were roosting, during the colder months, in a barn that was his pigeon loft. The barn was roofed and rat numbers within were controlled. In this region, starlings roost usually in trees such as pine trees or mangroves but this barn was the sole accessible site where they could be trapped and banded in large numbers. This paper reports the changing population structure on different nights of the roosting starlings, and their dispersal from the site.

METHOD

The main banding site was at 'Buckfastleigh Downs' (34°27'S, 138°30'E), three kilometres south-west of Mallala, which lies 53 kilometres north of Adelaide, South Australia (Figs. 1 & 2). On the eastern side of the farm buildings was a gable-roofed iron shed 9.3 metres long, 6 metres wide and 3.6 metres high (Fig. 2). Normally, this housed 2000 – 4000 Rock Doves *Columba livia* for which the inside walls were lined with wooden packing cases to provide nesting boxes. Horizontal poles placed above the boxes and the roof rafters provided roosting sites, which were also used by starlings. Ladders gave access to the top boxes and the poles and rafters.

The starlings used the roost mainly on cold or wet nights. The presence of Rock Doves, starlings and composting dung, which covered the floor, were the likely reasons for an increased temperature within the barn. The study commenced on 17 June 1969, and one visit was made annually in the winter months until 1981. Visits were then made in July and August from 1982 until 1986, and from 1986 endeavours were made to

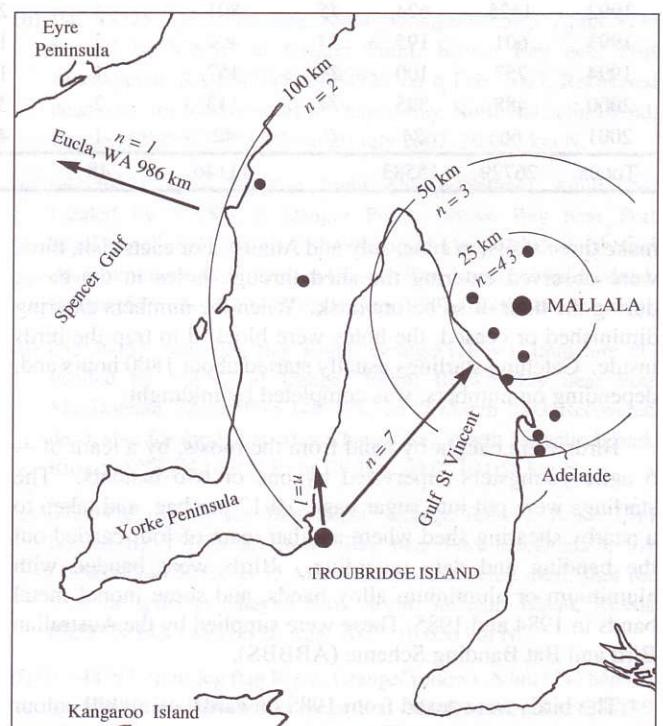


Figure 1. The localities to which Common Starlings dispersed, from roosting sites at Mallala and Troubridge Island.

TABLE 1

The number of Common Starlings captured each year in a barn at Mallala, South Australia. The total number of birds trapped each year, the number of these that had been banded previously, and the number banded each year are given. Also are shown the number and dates of collections made each year, the number of birds in each collection, and the number of dead recoveries from the birds banded each year.

Year Banded	Total captured (B plus R)	Number banded (B)	% banded	Number previously banded (R)	Number of collections in year	Date of collections (number of birds in collection)	Dead recoveries
1969	388	388	100	0	1	17 July	
1970	528	404	76	124	1	13 June	
1971	961	801	83	160	2	28 Feb. (477); 28 Aug. (484)	5
1972	0				0	0	
1973	247	221	89	26	2	21 July (213); 1 Sept (8)	
1974	577	523	91	54	1	25 July	1
1975	1144	933	82	211	1	6 July	4
1976	1175	997	85	178	1	17 July	4
1977	672	500	74	172	1	16 July	3
1978	1512	1231	81	281	1	15 July	6
1979	688	367	53	321	1	14 July	
1980	763	400	52	363	1	26 July	2
1981	721	449	62	272	1	18 July	
1982	2152	1583	74	569	2	24 July (1193); 21 Aug. (959)	6
1983	1786	967	54	819	2	16 July (1096); 20 Aug. (690)	4
1984	1297	445	34	852	2	9 June (1069); 4 Aug. (228)	2
1985	1968	756	38	1212	2	22 June (1142); 21 July (826)	2
1986	2253	1164	52	1089	3	21 June (1643); 19 July (457); 23 Aug. (153)	5
1987	1016	380	37	636	2	4 July (776); 29 Aug. (240)	2
1988	653	320	49	333	1	2 July	
1989	1024	0		1024	5	4 June (3); 10 June (308); 17 June (394); 24 June (218); 1 July (101)	
1990	950	550	58	400	2	14 July (451); 8 Sept (499)	
1991	1417	886	63	531	3	1 June (680); 6 July (716); 3 Aug. (21)	1
1992	1425	624	45	801	4	20 June (680); 25 July (408); 30 July (43); 22 Aug. (294)	1
1993	601	195	33	406	2	10 July (378); 14 Aug. (223)	1
1994	257	100	39	157	1	15 July	
2000	488	375	74	113	2	30 May (339); 15 July (149)	
2001	66	24	0	42	1	4 Aug.	
Totals	26729	15583		11146	48		49

make three visits, in June, July and August. For each visit, birds were observed entering the shed through holes in the eaves during the hour or so before dusk. When the numbers entering diminished or ceased, the holes were blocked to trap the birds inside. Catching starlings usually started about 1800 hours and, depending on numbers, was completed by midnight.

Birds were caught by hand from the roosts, by a team of 4-6 agile youngsters supervised by one or two banders. The starlings were put into sugar bags, 10-12 per bag, and taken to a nearby shearing shed where another team of four carried out the banding and data recording. Birds were banded with aluminium or aluminium alloy bands, and some monel metal bands in 1984 and 1985. These were supplied by the Australian Bird and Bat Banding Scheme (ABBBS).

The birds were sexed from 1988 onwards, using bill colour (Rogers *et al.* 1986). The following procedure was that a member of the team took a bird from the bag and, after checking its status, passed it to whoever was banding males,

banding females, or reading and recording band numbers. A master chart of all the bands, that had been used previously, enabled a quick check as to when the bird had been banded. After banding or checking, the bird was released within the shearing shed where they congregated along the roof rafters. A check of the birds remaining in the barn enabled an appraisal of the percentage of the birds that were caught to be determined. Teams were catching 95-100 per cent of the birds roosting in the barn.

The number of team members available and the numbers of birds present determined the exact timing of the programme. All visits were in the cooler months, June-August, except for one in February 1971.

Starlings were also banded at Troubridge Island at the south of the Yorke Peninsula (Fig. 1), where flocks of a several thousands would arrive nightly from the mainland to roost in the boxthorns. Mist nets were used to capture birds and 330 were banded in January 1991, and 215 in December 1992. At