



SA Murray-Darling Basin Community Bird Monitoring Program

Summary Report 2014-2018





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Cite as

Merigot, H., & Clarke, S., 2019, SA Murray-Darling Basin Community Bird Monitoring Program Summary Report 2014-2018, Natural Resources SA Murray-Darling Basin, Department of Environment, Water and Natural Resources, Mt Barker.





Natural Resources Management Board

This project is supported by the South Australian Murray-Darling Basin Natural Resources Management Board, through funding from the Australian Government's National Landcare Program and NRM Levies.

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SA Murray-Darling Basin Community Bird Monitoring Program

1. Overview

Many bird species are in decline across South Australia and continue to decline due to habitat loss and changing landscape type and quality. Even common species, previously considered steadfast fixtures in the landscape, are declining. Our understanding of the life histories and movements of many bird species remains minimal, due in part to the difficulty of studying such a large number of species and tracking birds across Australia's vast landscape.

SA Murray-Darling Basin (SAMDB) Community Bird Monitoring Program created an opportunity for local nature enthusiasts to get involved in bird monitoring. The program provided support to participants, on-going communication and encouragement to enter data into the SAMDB Community Monitoring Bird Data Portal (SAMDB portal) of the Atlas of Living Australia.

This report explores the data contributed by members of the community to the SAMDB portal between 2014 and 2018 to determine the contribution it has made to the region. These records compliment the two other main datasets for the region; the Biological Database of South Australia (BDBSA) which is mostly expert contributions linked with research and monitoring projects, and Birdata, the database of BirdLife Australia which has a range of contributors including experienced citizen scientists.

2. Why did we do it? - Aims and Objectives

Key objectives of this monitoring program were to:

- 1. monitor birds as indicators of biodiversity condition
- 2. engage the community in monitoring activities, and increase understanding of our native birds and trends in bird distribution and abundances across different landscapes
- 3. assess the performance of management actions undertaken by Natural Resources SAMDB for conserving bird species in the region

3. How did we do it? - Methods

- The SAMDB portal was developed on the Biological Data Recording System (BDRS) platform of the Atlas of Living Australia for community participants to contribute bird sightings.
- To inform and engage the community, the SA Community Bird Monitoring Program was advertised through the Natural Resources SAMDB newsletter (The Drift), Natural Resources SAMDB citizen science newsletter, articles in the local newspapers, flyers and Landcare networks, and later through social media.
- 50 workshops and/or field trips led by bird experts were held across the region over 4 years (Figures 1, 3, 7) to teach participants the theory and practice of bird identification and bird survey methodologies.
- Equipped with necessary skills after attending workshops and field trips, citizen scientists contributed bird sighting records to the database.
- Various survey methods were employed by contributors: area searches, opportunistic sighting, 2 hectare (ha) 20 minute (m) and 5 ha 30m sampling.
- Participants could choose their location to survey, although sites of interest to the region were suggested from time to time.



Figure 1: The very first bird workshop in Berri 2014 with Peter Waanders and Helga Kieskamp

4. What did the community contribute?

- 57 citizen scientists contributed to bird monitoring; all had taken part in workshops and/or field trips.
- 12,456 bird observations recorded into the SAMDB Portal over the period of 4 years (3,507 waterbird observations and 8,949 terrestrial bird observations).
- 6 survey days were contributed per person on average which was double that of the Birdlife Australia and BDBSA contributors (3 survey days per person) (Figure 2).
- More than 50% of participants contributed over two or more years.
- Areas that were covered exceptionally well by the SAMDB Community Bird Monitoring Program were Laratinga wetlands in Mt Barker, and the Riverland, particularly around Berri, Loxton and Renmark (Map1).
- The highest number of bird surveys occurred on local or state government or Crown lands, with two artificial wetlands in the top 10 (Figure 4). The most surveyed habitat type was the River Murray corridor (Figure 5).
- Open woodland with open understorey and the River Murray corridor were the most popular areas for conducting standard 2-ha 20 minute surveys.
- 12% of surveys were conducted in urban areas, including backyards.
- 243 species were recorded including 17 threatened species (Table 1).



Figure 2: Percentage of survey days completed by each participant in the SAMDB Community Bird Monitoring Program. Survey days = number of days data was entered for per person. Note: survey days does not include surveys completed in the same day at different sites.



Figure 3: Guided field trip to Lenger Reserve 2017 with John Gitsham



Map 1: Locations of bird sightings from the Community Bird Monitoring Program SAMDB portal in the SAMDB region. Larger circles represent more observations at those sites.



Figure 4: Ten sites with the highest number of observations from 2014-2018



Figure 5: Percentage of observations for different habitat types. 'Other' includes: coastal dunes in Coorong region; irrigated horticulture and dairy farming along River Murray; native grassland: samphire, chenopod scrublands; wheat/cropping/grazing land interspersed with mallee - south & west of River Murray; and grazing land with scattered gum trees - flanks of eastern hills.

Table 1: Number of surveys where threatened bird species were observed by citizen scientists. National listing; *Environmental Protection and Biodiversity Conservation Act 1999*, and South Australia listing; *National Parks and Wildlife Act 1972*. CR- Critically endangered, E- Endangered, V- Vulnerable, R-Rare.

Threatened species	Scientific name	National	South Australia	# Surveys
Australasian bittern	Botaurus poiciloptilus	E	V	3
Australian bustard	Ardeotis asutralis		V	1
Australian little bittern	Ixobrychus minutus		E	2
Banded stilt	Cladorhynchus leucocephalus		V	9
Bar-tailed godwit	Limosa lapponica	Sub species V	R	1
Black-eared miner	Manorina melanotis	E	E	1
Brown quail	Conturnix ypsilophora		V	13
Curlew sandpiper	Calidris ferruginea	CR	-	6
Diamond firetail	Stagonopleura guttata		V	12
Fairy tern	Sternula nereis	V	E	3
Flame robin	Petroica phoenicea		V	1
Freckled duck	Stictonetta naevosa		V	38
Lewin's rail	Lewinia pectoralis		V	2
Malleefowl	Leipoa ocellata	V	V	13
Regent parrot	Polytelis anthopeplus	Sub species V	V	75
White-bellied sea eagle	Haliaeetus leucogaster		E	6
Yellow-tailed black cockatoo	Calyptorhynchus funereus		V	46

5. What did we learn about our bird species?

- This program has provided a 2014-2018 snapshot of bird species distribution for the region
- The most commonly sighted birds included the Australian magpie (*Gymnorhina tibicen*) and crimson rosella (*Platycercus elegans*) (Table 2)
- Records of threatened species (Table 1) and rare birds such as the scarlet robin (*Petroica boodang*) and diamond firetail (*Stagonopleura guttata*) made important contributions to overall state datasets
- The data demonstrates the southern migration of rainbow bee-eaters (*Merops ornatus*); observations of this species were only made in areas surveyed from October to early March.

Common name	Scientific name	# survey observations
Australian magpie	Gymnorhina tibicen	361
Crimson rosella	Platycercus elegans	283
Willie wagtail	Rhipidura leucophrys	278
Superb fairy-wren	Malurus cyaneus	270
Australian pelican	Pelecanus conspicillatus	247
Galah	Eolophus roseicapilla	247
Pacific black duck	Anas superciliosa	241
Red wattlebird	Anthochaera carunculata	230
Grey teal	Anas gracilis	221
White-plumed honeyeater	Ptilotula penicillata	218

Table 2: Top 10 most commonly observed species

6. What did we learn about the program methods?

- The location of bird species sightings across the SAMDB were consistent with known distributions of these species and covered similar areas to those in BDBSA and Birdata.
- The workshop and field trip opportunities were appreciated by participants and had a positive effect on data contributions to the database.
- Holding field trips in locations of interest to the region encouraged more bird surveys in the area.
- The majority of citizen scientists preferred area searches where they could specify the time and area covered when surveying (Figure 6).
- Differences in the bird diversity within different habitat types was difficult to distinguish due to the range of different survey methods used.



Figure 6: Percentage of each survey type conducted by participants



Figure 7: Guided field trip to Hindmarsh Island and Goolwa 2015

7. What's next?

- This data can be used to help track the presence of rare and threatened species as well as the movements of aggressive, disturbance loving birds, such as the noisy miner (*Manorina melanocephala*) and rainbow lorikeet (*Tricholossus moluccanus*) moving into and out of areas within the region.
- The data can trigger action to protect threatened species or minimise the impact of disturbance loving birds on other species.
- Current participants have been advised to continue to contribute bird survey data through Bird Life Australia's national database Birdata. Regional extracts of this data can be obtained as needed.
- Training on how to use Birdata may be offered if needed.
- Over the next 5 years, the SAMDB Community Bird Monitoring Program will focus on specific regional needs, concentrating on priority locations undergoing management actions or specific species of interest. Local citizen scientist participants will be advised of these opportunities as they develop.
- The SAMDB portal has moved from the BDRS platform to BioCollect within the Atlas of Living Australia and will be used for community contributions to these targeted bird surveys.
- Another broad scale bird data collection exercise will hopefully occur after 5 years to look for changes in a wide range of bird species distribution over time.

8. Acknowledgements

We would like to sincerely thank all participants in this program, your contribution to bird knowledge in this region is greatly appreciated. We hope you continue to enjoy bird watching and developing your skills. We thank our experts Peter Waanders, Helga Kieskamp and John Gitsham for their contribution to the development of this program and their ability to teach and inspire others. Natural Resources SAMDB staff involved in this project include: Renata Rix, Brett Ibbotson, Simon Bryars, Sylvia Clarke, Bec Stevens, Katie Irvine, Amy Lee, and Rizwan Mahmood. Contributions were also made by staff from Nature Conservation Society of South Australia, O'Connor NRM and Goolwa to Wellington LAP.