

MEGA Bat Wrap-Up 2017-2019

Project aims:

- Increase knowledge of the distribution and habitat needs of our microbats (the small insect eating bats)
- Update the conservation status of our microbat species
- Support the community to be actively engaged in bat conservation
- Assist other regions to use this citizen science project model across the Murray-Darling Basin and beyond

The MEGA Murray-Darling Microbat Project is supported by funding from the Australian Government Inspiring Australia – Science Engagement Program. This project is a collaboration between the South Australian Museum, South Australian Murray-Darling Basin Natural Resources Management Board, Mid Murray Landcare SA and University of South Australia.



An Australian Government Initiative



South
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Museum



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How did we do it?



1. Little is known about microbats and what we can do to help.



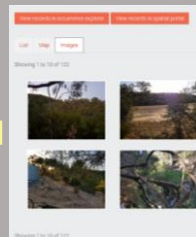
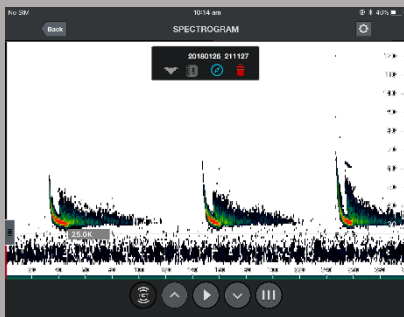
2. Expert citizen science team plus new recording technology make this project possible.



3. We put the call out through Landcare networks and the media



4. Many community members survey bats with Anabat recorders and provide site information and photos.



5. Bat species are identified from their call sonogram images and scientists discover links between species and different habitats.



6. We know which bats are around us plus how to protect them and their habitat.

Happy bats and happy people!

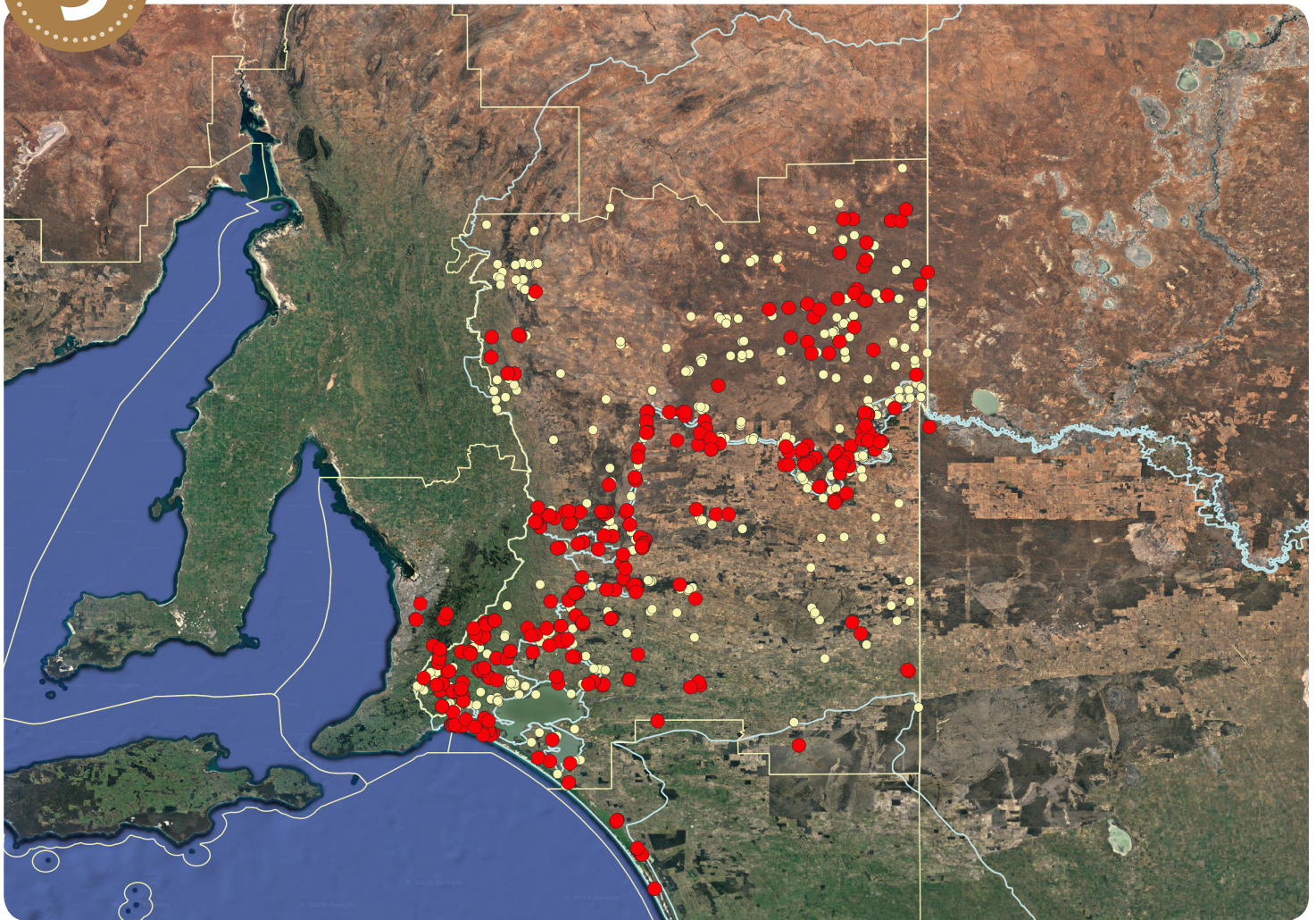
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What was the community contribution?

- 300 people attended bat information nights across the region to learn about their local microbat species.
- 220 people filled out a social survey that showed a general interest in bats and a willingness to change property management practices to aid in bat conservation.
- 160 members of the community borrowed Anabat Swift recorders through local Landcare Project Officers and set them up in their backyards or elsewhere on their properties to record over 800 overnight surveys.
- Participants also provided habitat information and photos of their sites through BioCollect.
- Team members and trained volunteers identified the species present from the sonograms in the recordings using a new rapid ID technique.
- Resulting in over 3000 microbat species records of 11 species (3 of these call types probably represent more than one species).

3

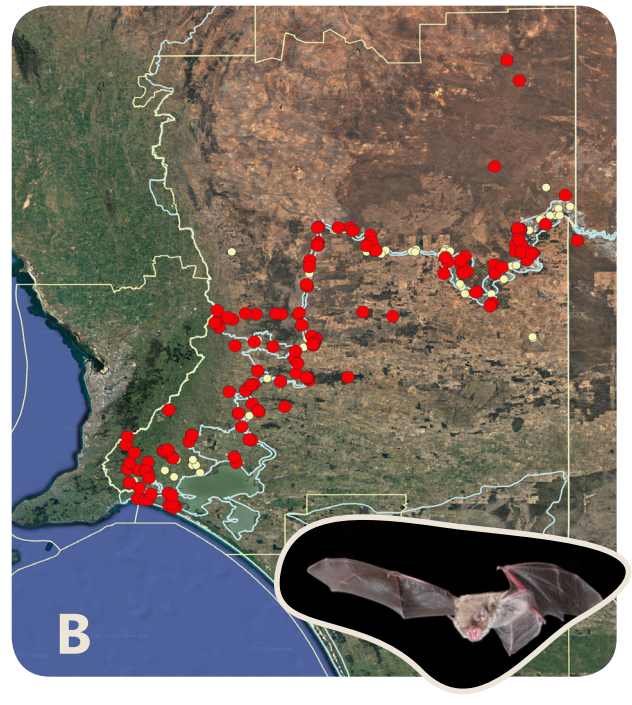
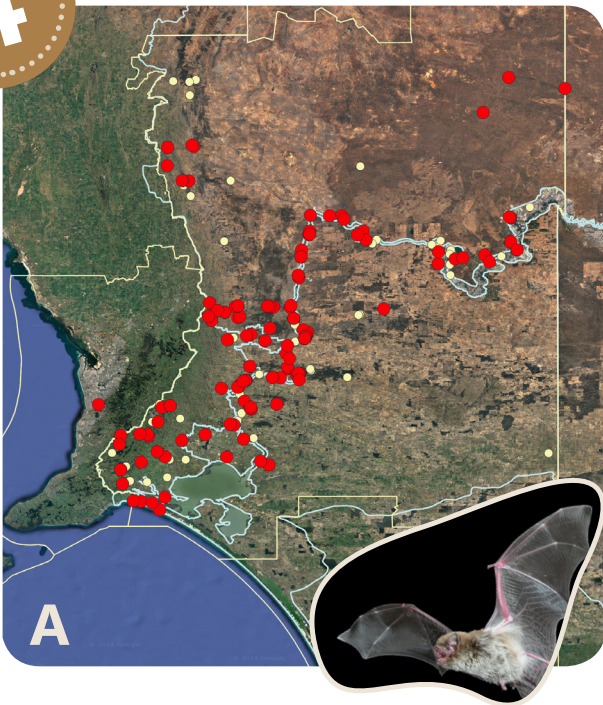
What did we find?



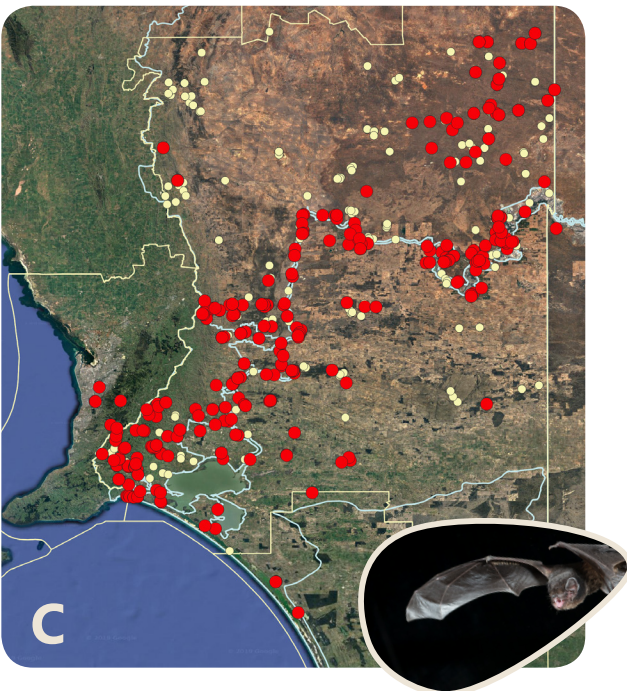
● 3000 new bat records through project ● 2693 previous bat records 1890-2018

4

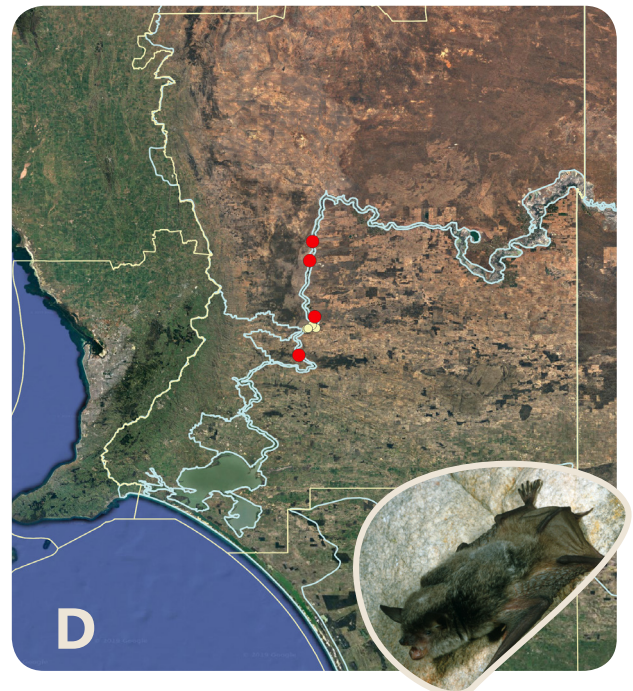
What did we learn?



The chocolate wattled bat, *Chalinolobus morio*, (map A), the little forest bat, *Vespadelus vulturnus*, (map B) and the large footed (fishing) bat, *Myotis macropus*, (map D) showed an obvious liking for large water sources and their surrounding riparian vegetation which would attract a variety of insects.



Some species like Gould's wattled bat, *Chalinolobus gouldii*, were found across the region in all habitat types (map C).



Exciting new records of the endangered large-footed (fishing) bat were found along the Murray River, recorded from a travelling houseboat (map D).

Microbats use a wide range of habitat types in this region. We found the best habitats for bats are tall forests and woodlands (av. 6 species) and the Murray River corridor (av. 5 species). These habitats offer roost sites in the big old trees and a variety of insects for food, and should be a priority for protection. Yet bats are everywhere, as even modified landscapes like urban gardens, cropping paddocks and grazing land supported an average of 4 bat species! Everyone can help bats to flourish by protecting their habitat and keeping cats inside, especially at night.

5

What now?

Project team will:

- Encourage and assist other regions around SA, Australia and the world to use this citizen science method to monitor bats and encourage conservation action
- Share the results with Department for Environment and Water for their next threatened species conservation status updates
- Share the species records with Biological Database of SA and Atlas of Living Australia, so the results are there for all to see
- Propose research questions to encourage further study of microbats
- Lend Anabat Swift recorders to others interested in doing microbat surveys
- Encourage more people to make changes and be part of microbat conservation
- Repeat this regional survey in five years to keep track of changes in bat populations.



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What can you do?

Landholders and gardeners can:

- Protect native vegetation, especially trees with hollows
- Plant more native trees and bushes
- Reduce pesticide/herbicide use
- Keep cats in at night
- Install bat boxes
- Manage watercourses and dams to provide suitable bat habitat with fringing vegetation and clean open water
- Tell your neighbours about the importance of microbats

This project would not have been possible without...

Participants – we really couldn't have done this without you, and we hope you have enjoyed being part of this project!

Project Team – Dr. Kyle Armstrong & Professor Steve Donnellan (South Australian Museum), Dr. Sylvia Clarke (Natural Resources SA Murray Darling Basin, Dept. Environment & Water), Aimee Linke (Mid Murray Landcare SA), Dr. Philip Roetman & Dr. Annette Scanlon (University of South Australia), Jacqui Wilson (Goolwa to Wellington LAP).

Landcare Officers – Berri Barmera Landcare, Coorong Tatiara LAP, Eastern Hills & Murray Plains Catchment Group, Murray Mallee LAP, Renmark Paringa LAP, Riverland West Landcare.

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Everyone else who has helped out along the way.