



National Environmental Science Program

Migratory shorebird populations: research for management and recovery

Project 4.17

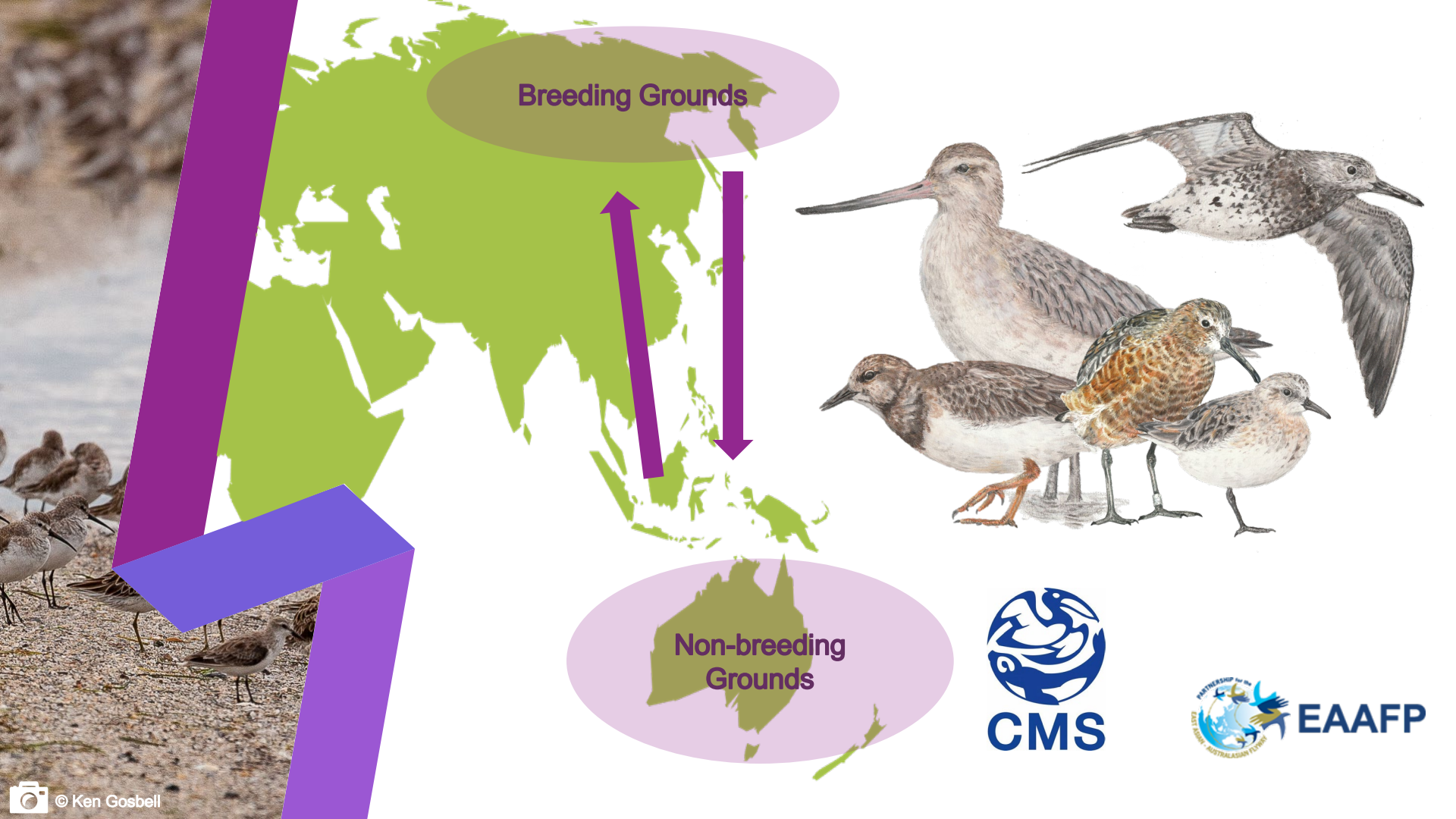
Elize Ng and Toby Ross





What is a shorebird?





Breeding Grounds

Non-breeding
Grounds

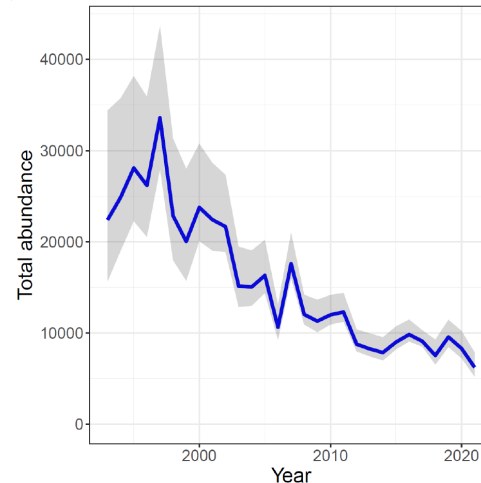




Birds in crisis

- ▶ Australia is home to ~37 species of migratory shorebirds
- ▶ Population declines in 3 decades prior to ~2015

Eastern Curlew Population Trend



© Dan Weller

From NESP Project 1.21
Australia's migratory shorebirds:
Trends and prospects



A photograph of two shorebirds, possibly sandpipers, standing on a sandy beach near some driftwood. The bird in the foreground is in sharp focus, showing its brown and white mottled plumage and long, thin beak. Another bird is visible behind it, slightly out of focus. A large, stylized purple graphic element, resembling a thick 'L' or a corner bracket, is overlaid on the image, extending from the top left towards the bottom right.

The story so far...

- ▶ Populations of some species stabilising in recent years
- ▶ Not clear what contributed to the stabilisation
 - Improved survival?
 - Successful conservation efforts?

The Deakin Team



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Postdoctoral Researcher



Prof Marcel Klaassen
Deakin Team Leader/
Co-lead Investigator



Dr Aaron Spence
Co-researcher,
IT and BirdMark



Dr Kay Critchell
Co-researcher,
Deakin Marine



Dr Sara Ryding
Postdoctoral Researcher



The UQ Team



Dr Elize Ng
Postdoctoral Researcher



Prof Richard Fuller
UQ Team Leader/
Co-lead Investigator



A/P Tatsuya Amano
Co-lead Investigator

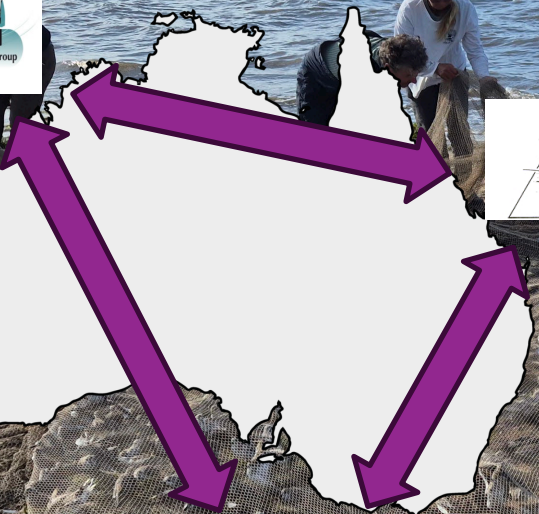
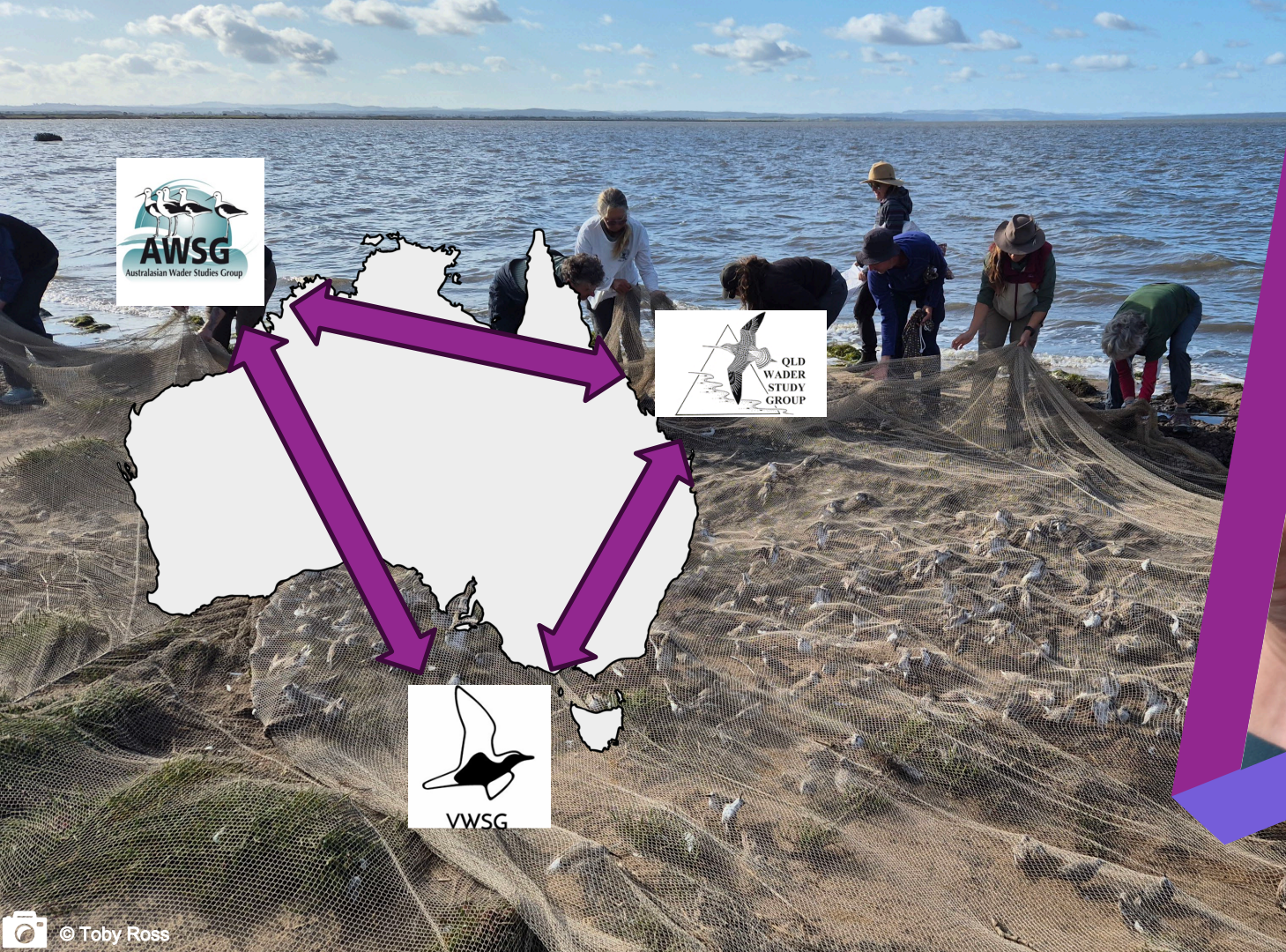







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www.birdmark.net







To what extent do
non-breeding
shorebirds in Australia
exhibit site fidelity?





Site fidelity

Good:

- Capitalise on prior knowledge
- Better exploit resources and avoid predation risks

Bad:

- Global change— tidal flat reclamation
- Unable to adapt?

© 2009 Cnes/Spot Image
Image © 2009 TerraMetrics
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39°35'49.63" N 125°04'02.86" E elev 0 ft

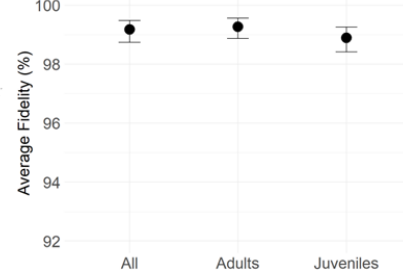
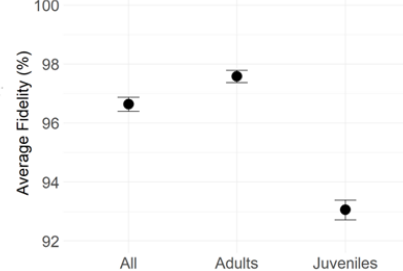
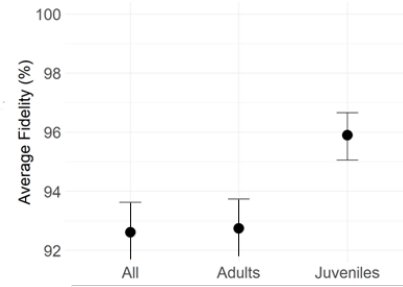
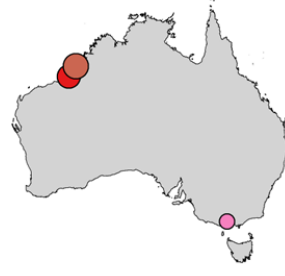
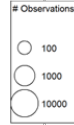
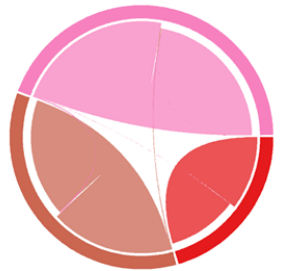
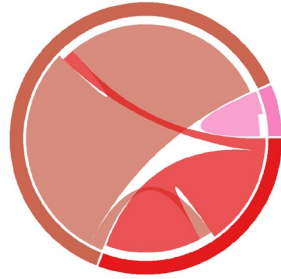
What have we done?

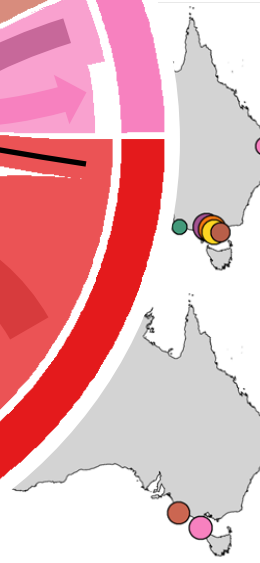
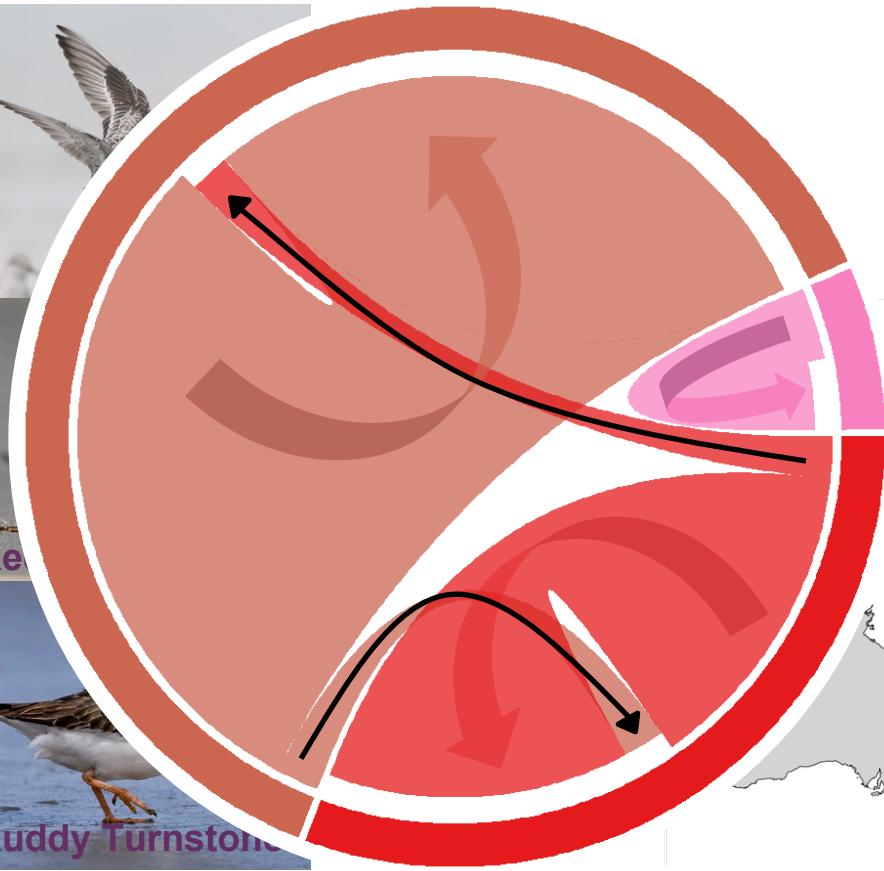
- 596,000 observations
- 80,564 individual birds
- ~50 years of data
- 12 species

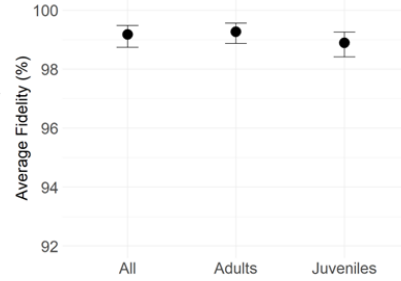
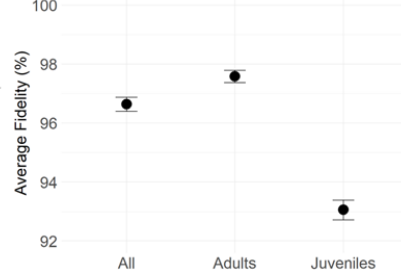
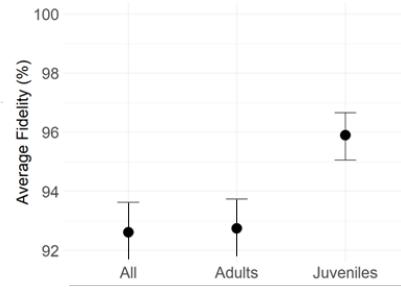
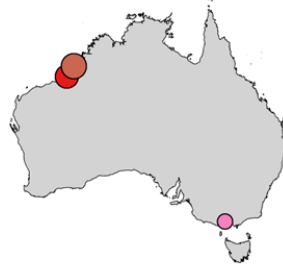
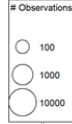
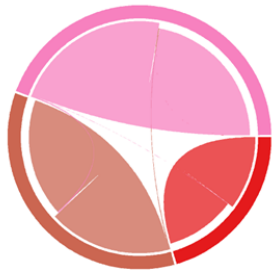
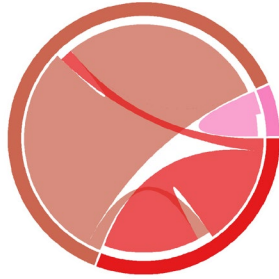



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Site Fidelity is high

- Knowledge is important to shorebirds
- Forcing birds to change may cost them
- **Next: survival analyses**

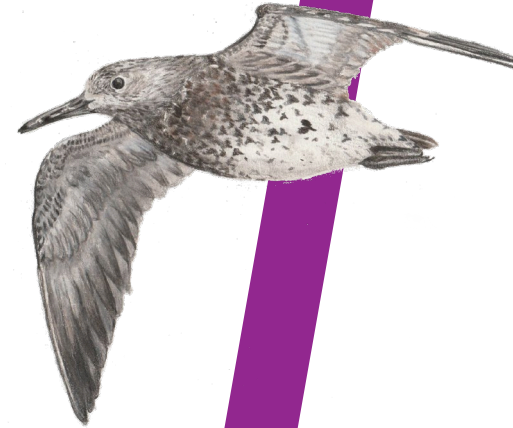
Could conservation efforts improve survivability of shorebirds?



© Simon Price
Retrieved from
<https://www.kuwaitbirds.org/birds/ruddy-turnstone>

Conservation efforts

- Refers to the protection and management of shorebird populations to ensure their long-term survival



Database of conservation efforts




454 Actions found

Actions to conserve biodiversity

We have summarised evidence from the scientific literature about the effects of actions to conserve wildlife and ecosystems.

Review the evidence from the [studies](#)

[About actions](#) [Sources of evidence](#)



Refine







- Category +
- Keywords +
- Habitat +
- Threat +
- Action type +
- Country +

Refresh results



454 Actions found

Order results by: Number of studies ▼ [Relevance](#) [Title](#)

<input type="checkbox"/>	Action	Effectiveness	Studies	Category
<input type="checkbox"/>	Provide artificial nesting sites for songbirds	 Beneficial	65	
<input type="checkbox"/>	Plant wild bird seed or cover mixture	 Beneficial	40	
<input type="checkbox"/>	Provide supplementary food for songbirds to increase reproductive success	 Likely to be beneficial	37	

Database of conservation efforts




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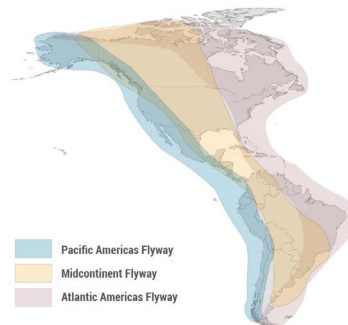
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A SHOREBIRD MANAGEMENT MANUAL



Generalized map of migratory shorebird flyways in the Americas. Original source: Boone et al., 2013.

Information sources:

- ▶ Literature review
- ▶ Survey and interview of practitioners

Share your shorebird conservation efforts

Please fill out a short survey to share your efforts 

Also accessible at: <https://tinyurl.com/shorebirdsurvey>

Alternatively reach out to Elize Ng (elize.ng@uq.edu.au) to share



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Survey QR Code



Survey link:
<https://tinyurl.com/shorebirdsurvey>

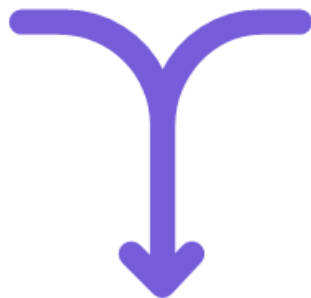


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Overview

Survival
analysis

Conservation
database



Shorebird
conservation
handbook

Fulfilling bilateral
and international
agreements



EAAFP



Survey QR Code

<https://tinyurl.com/shorebirdsurvey>

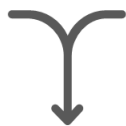




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Summary

Survival
analysis



Conservation
database

Shorebird
conservation handbook

Thank you!

Contact: Toby: t.ross@deakin.edu.au
Elize: elize.ng@uq.edu.au

Survey QR Code

<https://tinyurl.com/shorebirdsurvey>



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