

PROJECT COORONG

Healthy Coorong, Healthy Basin



Healthy Coorong, Healthy Basin Update

Welcome to the December 2021 edition of the *Healthy Coorong, Healthy Basin* (HCHB) Update. In this edition we feature the government's \$10 million investment to improve waterbird habitat throughout the Ramsar-listed Coorong and Lower Lakes. We also take a closer look at the food webs and waterbirds components of the HCHB Trials and Investigations project, which is working to fill critical knowledge gaps and build the scientific evidence-base needed to improve the long-term health of the Coorong.

If you would like more information on the HCHB Program or have questions on anything contained in this update, please contact the program team at projectcoorong@sa.gov.au.

The Coorong, connected waters and surrounding lands have sustained many unique First Nations cultures and economies since time immemorial. The Healthy Coorong, Healthy Basin program acknowledges the range of First Nations rights, interests and obligations for the Coorong and connected waterways and the cultural connections that exist between Ngarrindjeri and First Nations of the South East peoples across the region and seeks to support their equitable engagement.

Aboriginal and Torres Strait Islander readers are advised that the following document may contain images and names of people who have died.



\$10 million to improve waterbird habitat in the Coorong

The Commonwealth and South Australian governments are investing \$10 million to improve the quality and availability of waterbird habitat throughout the Ramsar-listed Coorong and Lower Lakes.

Healthy Coorong, Healthy Basin's [On-Ground Works](#) project aims to improve the availability and quality of habitat for migratory and non-migratory shorebirds at priority wetlands in the Lower Lakes.

Manager *Healthy Coorong, Healthy Basin*, Angus MacGregor, said that to maintain and improve the health of this iconic site it is critical that these interventions are made to improve food availability across key wetlands.

"By working to increase the availability of shallow wading habitats, this project will provide jobs and support greater numbers of shorebirds by providing important refuge habitat for species that would otherwise use the Coorong South Lagoon," Angus said.

Small-scale wetland management infrastructure will be constructed at three priority wetland sites at Tolderol, Waltowa and Teringie, with regulators, pumps, pipes and earth works put in place to manage water levels to improve the extent, quality and duration of inundation.

Angus said the project will provide foraging habitats for seven target waterbird species, including the common greenshank, curlew sandpiper, sharp-tailed sandpiper and red-capped plover.

"Once the infrastructure is in place there will be a significant increase of shorebird habitat of similar type to the Coorong South Lagoon," Angus said.

"Upon completion, we expect this will provide more than 260 hectares of high-quality habitat with carrying capacity for more than 15,000 of the seven target species."



Waders at the Tolderol Game Reserve Wetland. (Photo courtesy of Colin Rogers)

The project is part of the SA Government's *Project Coorong* initiative, which is taking action to restore the health, vitality and visitor experience of the Coorong through environmental projects to get the Coorong back on track, as well as initiatives to boost eco-tourism.

The Regional Bird Refugia Project is widely supported by the community who agree that wetland management or restoration in the Coorong region is a priority.

Construction is expected to commence later next year following a series of community consultation, with details to be supplied in the coming months.

This project is part of the [Healthy Coorong, Healthy Basin Program](#), which is funded by the Australian and South Australian governments.

Trials and Investigations: In Focus

This month we feature updates from two more components of the HCHB [Trials and Investigations](#) (T&I) project working to fill critical knowledge gaps and build the scientific evidence-base needed to improve the long-term health of the Coorong.

Highlights from scientific investigations being undertaken by the Goyder Institute for Water Research's T&I food webs and waterbirds research teams have recently been shared through the Institute's eNews. The Institute's researchers are also working on the nutrient dynamics and aquatic plants and algae components of the T&I project (featured in our [October 2021 Project Coorong HCHB Community Update](#)) and the climate adaptation component, highlights of which will be presented in the Goyder Institute eNews in the coming months.

The Goyder Institute is the delivery partner for five of seven research components of the HCHB T&I project, providing independent research to inform future management decisions for the region.

Food webs

The T&I food webs component aims to inform the development of improved ways to provide the food resources that are required to support waterbirds and fish populations.

"A functional and resilient food web is critical to the ecological character of the Coorong" said Dr Qifeng Ye from SARDI Aquatic Sciences, Research Lead for the T&I Food Web Component. "Understanding how the food web has previously responded to changes in environmental conditions such as salinity, freshwater flows and nutrient availability and how it may respond to different conditions and management actions in the future is critically important to maintain and restore diverse habitats and abundant animal populations" she said.

The food webs component involves a collaborative team of researchers from SARDI, Flinders University and The University of Adelaide.

"To understand the complex linkages within the Coorong food web, we are identifying the key food sources for the waterbirds and fish at the top of the food web and looking at the availability and quality of the food resources in the Coorong" said Dr Ye.



HCHB Trials and Investigations food webs researchers sampling fish in the Coorong in October 2021 (Photo credit: Anthony Newbery, Flinders University)

A novel aspect of this research for the Coorong is to investigate the energy content of the key prey items.

"Examining the energy of key food resources has never been undertaken before in the Coorong" said Dr Ye. "Yet, this is critical for understanding the interactions of the Coorong food web and beyond. For some species, such as the migratory shorebirds which inhabit the Coorong over summer but then fly to the northern hemisphere over winter, storing enough energy in their body over the summer months is vital to complete their migration" she said.

Data from the T&I project is being incorporated into an integrated Coorong food web model, which is key for predicting food web response under future management scenarios.

"This is the first time that a quantitative food web model is being developed for the region" Dr Ye said. "This is very exciting [and] will make decision making much more robust as it will be based on stronger scientific evidence" she said.

Read the [full Goyder News article about T&I food webs research](#).

Waterbirds

The T&I waterbirds component aims to inform the development of improved ways to increase the abundance and distribution of waterbird populations at local and regional scales within the Coorong.



Sharp-tailed sandpiper in the Coorong being tagged with a satellite tracker (Photo credit: Dr Rowan Mott & Dr Thomas Prowse, The University of Adelaide)

The Coorong is renowned nationally and internationally for its waterbirds. It is an important site for migratory species of the East Asian-Australasian flyway and also provides important foraging and breeding habitat and summer/drought refuge for non-migratory birds. However, for the Coorong South Lagoon, ongoing declines in the numbers of many waterbirds species have been observed. A contributing factor to these declines is thought to be a reduction in the availability in food resources, which itself is driven by fundamental modifications to hydrology and water quality.

The HCHB waterbird research, led by Associate Professor Phill Cassey at The University of Adelaide, is examining how to maintain viable populations of waterbirds in the Coorong South Lagoon. This includes developing models to understand the likely response of key waterbird species to management scenarios.

By attaching GPS tracking units to key bird species, the research team is examining how the birds move around and how long they spend in different locations.

Postdoctoral researcher Dr Thomas Prowse from The University of Adelaide said, "When we examine the quality of the habitat that they are spending time at, we can gain a greater understanding as to what is important to those bird species".

The team tagged some sharp-tailed sandpipers prior to the species' winter migration to the northern hemisphere to habitats around southeast Asia and China.

"Sharp-tailed sandpipers are small-medium sized birds that typically weigh less than 100 grams as adults. The satellite tags we are using to track them weigh less than 2 grams so that they don't affect the birds in flight" said Dr Prowse. "We hope to be able to tag some more birds to examine their summer movements within the Coorong and their movements as they depart northwards again in the autumn".

"By collating historical data on the key waterbird species, as well as using the new data we are collecting as part of the HCHB Waterbirds project, we are able to develop and produce new and updated models to provide a greater understanding of how waterbirds may respond to different management scenarios" said Associate Professor Cassey.

Read the [full Goyder News article about T&I waterbirds research](#).



Sharp-tailed sandpipers in the Coorong (Photo credit: Dr Micha Jackson, The University of Adelaide)

We'll share more updates from T&I researchers in future editions of the HCHB Community Update. You can also sign up to receive the Goyder Institute's monthly newsletter by [subscribing to their eNews](#). Thanks to the Goyder Institute for contributing to this article.

Native fish monitoring conducted at Salt Creek and Morella



Fyke net used for monitoring
(Photo credit: SARDI Aquatic Sciences)

Are native fish using the new fishways at Salt Creek and Morella Basin? Recent monitoring has confirmed that the answer is a resounding YES!

The monitoring activities conducted by SARDI Aquatic Sciences and the Ngarrindjeri Aboriginal Corporation at the new Salt Creek and Morella fishways is showing a large variety of native fish are using the new infrastructure to move between the Coorong and the South East drainage network.



Yelloweye mullet, congolli & smallmouth hardyhead
(Photo credit: SARDI Aquatic Sciences)

During the monitoring session yelloweye mullet, congolli, bluespot goby, smallmouth hardyhead, black bream and a whopping big short-finned eel were captured.

Funded by the Department for Environment and Water, the monitoring gives the Department valuable information that will help inform how flows are managed to the Southern Coorong in the future.

Coorong Partnership Communique

The fifteenth meeting of the [Coorong Partnership](#) was held on 25 November 2021 at the Coorong District Council in Taillem Bend.

The meeting was attended by the Minister for Environment and Water, Hon David Speirs MP and Adrian Pederick MP, Member for Hammond.

The [Department for Environment and Water](#) provided an update on the *Healthy Coorong, Healthy Basin's Coorong Infrastructure Investigations Project*. The long-term hydrological modelling results and further ecological assessments were summarised.

The Communique from this meeting and all other past Coorong Partnership meetings are available on the [Project Coorong Website](#).

If you have any questions on this update, or would like to request a presentation on the project to your stakeholder group, or anything else related to Project Coorong, please contact the project team at projectcoorong@sa.gov.au.

The South Australian Government's Healthy Coorong, Healthy Basin Program is jointly funded by the Australian and South Australian governments