

# Project Coorong



Welcome to the July Update for Project Coorong. In this edition we will focus on the Department for Environment and Water's management of the Lower Lakes, Coorong and Murray Mouth, particularly the management of water for the environment.

The Environmental Water and Water Delivery teams in DEW work closely with SA Water, the Murray-Darling Basin Authority and the Commonwealth Environmental Water Office to manage water levels in the weir pool from Lock 1 (Blanchetown) to the barrages (Goolwa) and to manage flow from the barrages to the Coorong.

If you would like more information on water management or have questions on anything contained in this update please contact the program team at [projectcoorong@sa.gov.au](mailto: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.*





# Water Management

## How have we managed flows in 2020-21?

There was an encouraging start to the water year with [unregulated flows](#) making their way from the River Murray to the Lower Lakes and Coorong from July to September 2020. Since then, drier conditions have been experienced and the majority of the flows that have made their way to the end of the system have been water for the environment.

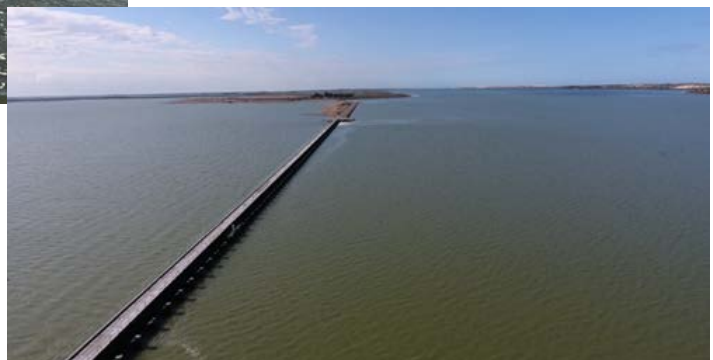
The majority of the water for the environment that SA receives is sourced from the Commonwealth Environmental Water Holder or from the MDBA's The Living Murray initiative. [Check out the benefits water for the environment has provided to the Lower River Murray.](#)

The Lower Lakes and Coorong receives return flows from upstream watering events, such as the [2020 southern spring flow](#), as well as direct trades of water for the environment. These are specifically for protecting water levels in the Lower Lakes and allowing continuous releases from the barrages during summer and autumn.



As of early June 2021, a total of 1,230 gigalitres has been released via the barrages to the Coorong during the 2020-21 water year. Nearly 60% of this freshwater flow has been released from Tauwitchere and Ewe Island barrages, which is directed to the Coorong North Lagoon. The volume released so far this year is larger than what was released annually during the last three years, but still very much below the long-term average.

As at June 2021 all 11 barrage fishways are in operation, with a small amount of attractant flow adjacent to some fishways (see photo above of Goolwa barrage, and Tauwitchere barrage, right: DEW).



As we head into winter and tides and winds increase, the Department works closely with SA Water to 'pulse' freshwater flows southwards down the Coorong when conditions are suitable. This involves opening up a large number of barrage bays on Tauwitchere barrage (and sometimes Ewe Island barrage) on an incoming tide, and when winds are blowing from a north-westerly direction. This helps reduce salinity in the hyper-marine Coorong.

Water managers will also look for opportunities to enhance the 'mixing zone' between fresh and salt water over winter, by operating Tauwitchere barrage to allow a small amount of saltwater into the lake for a short period of time when tides are high on the Coorong side. This will improve habitat and migration opportunities for estuarine fish.

Water levels in the Lower Lakes are currently around 0.69 metres Australian Height Datum (m AHD), and we aim to increase levels to 0.70 m AHD by the end of June. Return flows from environmental watering events in the Goulburn (VIC) and Murrumbidgee (NSW) Rivers will be making their way to the Lower Lakes and Coorong from June to early August 2021.

If you are interested in receiving weekly email updates on flow conditions in the South Australian River Murray and the Lower Lakes, Coorong and Murray Mouth you can subscribe to the Department's [River Murray Flow Reports](#).

## Salt Creek and Morella Basin operations

Water management infrastructure at Morella Basin and Salt Creek are operated by DEW on behalf of the South East Water Conservation and Drainage Board. Flows from Salt Creek to the Coorong South Lagoon are important, as they can provide localised salinity reductions. These flows also allow native fish to migrate from the Coorong into the fresher drainage network via the Salt Creek and Morella fishways. This can be critical to fish survival when salinities increase in the Coorong in late spring and summer.

Morella Basin water levels were drawn-down in March and April 2021 to expose mudflats for waders, coinciding with the end of the wader season. Tens of thousands of waterfowl were observed using Morella Basin in April and May 2021 following this draw-down. Small releases from Salt Creek fishway will continue to the Coorong South Lagoon over the next few months.





If you are interested in tracking water levels or salinity levels in the Lower Lakes and Coorong or South-East waterways, you can access real-time data at the Department's [Water Data SA website](#).



## Working with the Ngarrindjeri Aboriginal Corporation

The Department for Environment and Water works with the Ngarrindjeri Aboriginal Corporation on a range of projects in the Lower Lakes and Coorong that support water management.



## Yarning Circles

The Ngarrindjeri Aboriginal Corporation in partnership with staff from the Department for Environment and Water are conducting a series of *Yarning Circles* with the Ngarrindjeri community held on Ruwe (country) in the Lower Murray in 2021. The Yarning Circles project is led by Ngarrindjeri and funded through The Murray-Darling Basin Authorities - The Living Murray Program.

Yarning Circles facilitate two-way sharing of information around planning and delivery of water for the environment to benefit the plants, animals and habitats that are significant to the Ngarrindjeri community within the River Murray and Lower Lakes, Coorong and Murray Mouth.

The Ngarrindjeri community are encouraged to share stories and relay important cultural values to help shape future delivery of water for the environment to Ngarrindjeri Yarluwar (sea) and Ruwe. Participants range from Ngarrindjeri elders to younger members of the community.

Each Yarning Circle is filmed to capture the sharing of stories and to help with the transferring of cultural information amongst the Ngarrindjeri community to benefit current and future generations.

A total of six Yarning Circles are set to take place before the end of June 2021, from Murray Bridge to Meningie. We have been amazed and humbled at the stories and recollections being told of Pondi (Murray cod), yabbies, swans and other ngartjis (special totems) and how Ngarrindjeri country used to look before river regulation and what the future holds.

If you would like more information on the Yarning Circles project, please contact Rick Hartman, Yarluwar Ruwe Project Coordinator, Ngarrindjeri Aboriginal Corporation at [rick.hartman@ngarrindjeri.com.au](mailto:rick.hartman@ngarrindjeri.com.au)

## Threatened fish monitoring

In March 2021, Ngarrindjeri Aboriginal Corporation staff helped researchers from The University of Adelaide with the annual threatened fish monitoring program in Lakes Alexandrina and Albert.

The field work provides a great opportunity for young people to get out on country and to gain native fish identification skills, and to collect information that will support decision-making on water management.





# Consultation

## Joint Community Advisory Panel / Scientific Advisory Group meeting

The Coorong, Lower Lakes and Murray Mouth Community Advisory Panel and Scientific Advisory Group met in Adelaide on 8 April 2021 at a special joint meeting to discuss water management in the Lower Lakes and Coorong. These long-standing water management committees have



been providing advice to the Department and helping to manage water levels and flow since the mid 2000's.

Members of the Community Advisory Panel include representatives from the farming, commercial fishing, irrigated agriculture, environment, boating and local government sectors. Members of the Scientific Advisory Group include scientists from SARDI Aquatic Sciences, Flinders University, CSIRO, Environmental Protection Agency, The University of Adelaide and the Department for Environment and Water.

The main focus of the day was to provide input on barrage operations and lake level management for the next three-month period, and to review planning for the delivery of water for the environment to the Lower Lakes and Coorong and River Murray Channel in 2021/22.

The group also received an update on the revision of targets for the draft Coorong and Lakes Alexandrina and Albert Ramsar Management Plan, and on modelled Coorong salinity and water level outputs for the Healthy Coorong, Healthy Basin Coorong Infrastructure Investigations Project (CIIP).

Staff from the Ngarrindjeri Aboriginal Corporation, Commonwealth Environmental Water Office and Murray-Darling Basin Authority also presented on basin-scale issues and initiatives.

## Ecological Monitoring

The Living Murray Program is coordinated in SA by the Department for Environment and Water. The Living Murray funds a long-term condition and intervention monitoring program in the Coorong and Lower Lakes.

Scientists from The University of Adelaide, PIRSA (SARDI Aquatic Sciences) and Flinders University collect data on native fish, waterbirds, aquatic vegetation and invertebrates. The monitoring informs water management in the region, and helps the Department make decisions around how water levels in the Lower Lakes and flows to the Coorong are managed; while also demonstrating the benefits of water for the environment.

Here's a snapshot of what our scientists have been observing over the last few months:

- The first **Murray hardyhead** *Craterocephalus fluviatilis* (listed as endangered under the national EPBC Act) was captured in Lake Albert post-Millennium Drought by scientists from The University of Adelaide

- High abundance of young-of-year **congolli** *Pseudaphritis urvilli* and **common galaxias** *Galaxias maculatus* were monitored by SARDI Aquatic Sciences moving from the Coorong estuary to Lake Alexandrina via the barrage fishways in spring and summer. These species are diadromous, and need to move between fresh and salt water to complete their lifecycle
- There are positive signs for **southern pygmy perch** *Nannoperca australis* (listed as endangered in South Australia), particularly on Mundoo Island, with higher abundance recorded this autumn than in recent years. Higher water levels in the Lower Lakes over summer and autumn 2021 has allowed the shallow wetlands inhabited by these fish to remain inundated. This means small fish that were spawned in late winter and spring could survive and grow.



- It's getting closer to winter and lamprey migration season! Monitoring will commence at the barrage fishways in July 2021 to tag and track **pouched lamprey** *Geotria australis* and **short-headed lamprey** *Mordacia mordax* in the Murray-Darling Basin. [Retrace Larry the lamprey and his friends' migration from winter 2020](#)



- In the annual Coorong waterbird census conducted by The University of Adelaide in January 2021, four **fairy tern** *Sternula nereis nereis* breeding colonies were observed and 380 fairy terns were counted.
- A tagged fairy tern was observed at a breeding colony in the Coorong South Lagoon, and is at least 21 years old (it was tagged in December 2001 as an at-least two year old). This is the oldest known fairy tern

ever observed in the Coorong and close to the oldest reported fairy tern in Australia which was aged at almost 23 years!



- **Lugworms** have returned to the Coorong after a long absence. These strange looking invertebrates were found in the Coorong North Lagoon in spring 2020 by researchers from Flinders University and SARDI Aquatic Sciences.



Condition and intervention monitoring is funded by The Living Murray, a joint initiative funded by the New South Wales, Victorian, South Australian, Australian Capital Territory and Commonwealth Governments, coordinated by the Murray–Darling Basin Authority.

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](mailto:projectcoorong@sa.gov.au).

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



