



# Lower Murray River

## Quarterly newsletter

Issue 13: July to September 2022

Welcome to issue 13 of the Lower Murray newsletter, where we provide updates on our work monitoring ecological responses to Commonwealth environmental water delivery in the Lower Murray.

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# Project updates

- As for most of the Basin, the Lower Murray had high flows at the start of the 2022-23 season. Flows at the South Australian border generally increased from 43,000 megalitres per day in early July to 75,000 ML/day by mid-October and may surpass 200,000 ML/day before the end of the year. This may enable flow-cued spawners, such as native perch, to have another good recruitment year.
- All larval fish samples from the 2021-22 season were identified. We collected 1,211 perch eggs, 85 perch hatchlings (newly hatched larvae) and a total of 362 large-bodied native species larvae. Golden perch larvae were found in the second highest number (253) since 2011. Ninety-seven were silver perch, 10 were freshwater catfish and two were Murray cod.
- Otoliths from larval and juvenile golden perch, silver perch and Murray cod have been prepared for ageing and microchemistry analysis. The results of this analysis, combined with water chemistry analysis, will enable us to identify the natal origin of larvae collected in the Lower Murray in 2021-22.
- Annual ageing of golden perch, silver perch and Murray cod has been completed. We are excited to confirm that a significant proportion of our golden perch samples were from 0+ fish, meaning 2021-22 was a good recruitment year.
- Microinvertebrate sample sorting and identification for 2021-22 have been completed.
- The Murray cod research project draft report is in internal review and will be sent to CEWO in the coming quarter.
- Data analyses and indicator reporting for the 2021-22 MER technical report are at full steam.
- Fieldwork for the current season is well under way. Water quality loggers for the stream metabolism indicator were deployed in late September.
- Our field team has also been busy collecting microinvertebrate samples and will be out every second week (starting on 24 October) for larval fish sampling.
- As a result of sustained high flows in the Lower Murray since spring 2021, the littoral vegetation monitoring could not be conducted – the sites are in deep water. With higher flows predicted, the vegetation team is proposing alternative work for 2022-23 and will be liaising with CEWO managers to design adaptive monitoring subject to flow condition in this region.



**Pre-flexion golden perch larvae.**

Photo: SARDI



**Juvenile golden perch collected in January 2022.**

Photo: SARDI

## Electrofishers on display during the Riverland Field Days

On 16 and 17 September 2022, the Lower Murray team spent time on the Department of Primary Industries and Regions (PIRSA) information stall at the Riverland Field Days to raise awareness about our fish research and the Flow-MER monitoring work in the River Murray.

The weather during this year's event wasn't ideal, but strong winds and bands of rain didn't deter the more than 11,000 people who came from as far as Western Australia and Queensland to immerse themselves in all things Riverland.

The PIRSA stall was well situated with lots of passing foot traffic. Our many visitors learned how electrofishing works and its value as a fish sampling method, as well as the benefits of water for the environment and how the Lower Murray research team, led by the South Australian Research and Development Institute (SARDI), is monitoring plant and animal responses to environmental water delivery.

One member of the public decided to stop by after seeing "alien fingers" hanging on the stall, and was interested to discover they were anodes, the negative terminal that releases electric current.

If you want to learn more about how electrofishing works and the advantages of using this method, visit the [Flow-MER electrofishing webpage](#).

To see the field team in action using 'Frank' - the electrofishing boat and star of the Field Days - visit the [Flow-MER Facebook page](#) or [view videos on Vimeo](#).

There was also a lot of interest in fishing rules and the use of carp cages on the Lower Murray locks and weirs. Fishcare volunteers helped educate river anglers, while the new Fisheries patrol vessel Storm was also on display and attracted a lot of attention.

Watching the public learning about our work was very rewarding and we plan to attend future Riverland Field Days.



**Frank, our largest electrofishing boat, and an electrofishing backpacker (red circle) on display during the Riverland Field Days.**

Photo: SARDI



**David Short explaining the various parts of the electrofishing boat.**

Photo: SARDI



## Engagement and communications updates

- 💧 The annual Flow-MER forum occurred on 20 and 21 September 2022. For two days the Basin and seven Selected Area teams came together, with the Commonwealth Environmental Water Office (CEWO) and other water managers joining on the second day. We were able to share progress and results, collaborate within/across themes, and identify opportunities for future work. We 'travelled' from the Murray Mouth up, virtually visiting each Selected Area and being introduced to the monitoring work conducted, findings, successes, and challenges in each region. This year, community engagement and communications (E&C) found its place in discussions via break out rooms. It was very helpful to discuss learnings and issues in this space with other Selected Areas and the Basin-scale E&C coordinators.
- 💧 A video showcasing the three Indigenous Ecology in Action workshops at Calperum Station is in development, celebrating the happiness and smiles of young people learning on country. More information on the workshops can be found in [issues 8 and 12](#) of this newsletter.
- 💧 Following an invitation from Loxton Men's Probus group member Trevor Fielke, we travelled to the Riverland to discuss the CEWO Flow-MER project, the latest Murray cod research results and information on yabbies with this group. This was a great opportunity to engage with the broader community and raise awareness about the Flow-MER project and work of the Lower Murray team.
- 💧 With COVID-19 restrictions easing, opportunities to increase community engagement are emerging. We are planning another Fish and Flows Community Forum (see details below) and meeting with teachers and students in Renmark to discuss using First Nations artwork to help tell the story of the connection between people, water and the environment.

### River Journey stop 1, The Lower Murray River

Professor Qifeng Ye  
South Australian Research and  
Development Institute

Recent wetter conditions are enabling environmental water holders to build on high natural flows. The importance of water for the environment during the drought years is proving critical for maintaining end of system flows for salt export, habitat in the Coorong estuary, while benefitting riverine fish and fringing vegetation along the way.



The Lower Murray was the first stop in a virtual journey conducted as part of the annual Flow-MER forum in September.

## What's next

In the coming quarter (October to December), the Lower Murray team will be conducting fieldwork including collecting water quality data, sampling microinvertebrates and fish larvae.

Due to high flows, vegetation surveys will need to wait until water recedes and monitoring sites can be accessed.

For the 2021-22 MER annual report, the hydrological modelling data have been provided by the Murray-Darling Basin Authority, with information on daily flow and the quantity of environmental water delivered to various sites in the Lower Murray, including barrages, along with the sources of flows to the South Australian border.

Modelling for non-field-based indicators (such as 'Hydraulic Regime' and 'Matter Transport and Coorong Habitat') is under way, while data analyses, evaluation and reporting for all other indicators is in progress.

We are organising and promoting a Fish and Flows Riverland Community Forum, to be held in Renmark on 27 October.

The program includes an introduction to the CEWO Flow-MER project with a focus on the Lower Murray Selected Area, as well as information on Murray cod and golden perch populations in the Lower Murray (presented by Chris Bice and Brenton Zampatti) and in the Lower Darling (presented by Iain Ellis).

Tom Rayner will explain where, when and why fish screens are used on irrigation pumps and PIRSA's Fishcare Volunteer Coordinator Toni Crosbie will discuss community volunteering opportunities. The forum will finish with a Q&A panel session.

While in the region, we will meet with Renmark High School teachers and a team of First Nations artists, including students and school support officers (SSO), to discuss how various forms of First Nations artwork can be used as a storytelling tool.

For more information about the work we do, visit our [webpage](#) and follow us on [Facebook](#) or [Twitter](#).



A flyer promoting the Fish and Flows Riverland Community Forum.



Talented hands drawing on a freshly shaped boomerang. Daniel Giles is an artist and works as a First Nations support officer at Renmark High school.

Photo: SARDI

