



# Healthy Rivers, Healthy Communities



**Objectives:** Provide opportunities for waterbirds native fauna including Murray cod and various frog species to feed and breed. Support the germination, growth of floodplain vegetation.

**Volume released to date:** 253 GL of Commonwealth Environmental Water as part of a total of 384 GL environmental water delivered to date (incl. The Living Murray, Barmah-Millewa Environmental Water Allowance, Victorian Environmental Water and River Murray Increased Flows)

## Adapting to conditions

Following our last update in November, rainfall events have seen higher flows continue down the River Murray throughout much of summer. Conditions like these haven't been seen for five years with flows helping to connect the Murray to its wetlands and floodplains and water flowing down from the north providing what is now a unique opportunity for fish to disperse throughout the Basin.

Natural flows have replenished many wetlands and floodplains throughout the Murray valley, but not all wetlands have received a drink. Environmental water managers have focussed on delivering water in between periods of higher natural flows to extend the duration of inundation. Water for the Environment has also boosted natural flows (where allowable under current rules) or been delivered via infrastructure to get water to wetlands that would have otherwise missed out. For many of the wetlands that did not receive a drink, changes to operational rules and/or higher natural flows are required to get water to these sites.

Despite these limitations to delivery, wonderful results are being seen along the length of the Murray. Vegetation, waterbirds and native fish are all benefiting from the amount of water flowing through the system. Long may it continue!

## Early outcomes

<b>Waterbirds</b>	Large numbers of waterbirds (eg. egrets, bitterns) seen nesting in Barmah-Millewa
<b>Vegetation</b>	Wetland vegetation including Moira grass thriving in wetlands along the Murray
<b>Native fish</b>	Eggs and larvae of silver and golden perch found in the Murray
<b>Floodplain sites</b>	6 internationally significant and 33 wetlands along the length of the Murray received a drink
<b>Habitat</b>	Flowing water habitat for lower Murray
<b>End of system</b>	Approx. 3800 GL released to the Coorong

## Lower Lakes and Coorong

Flows into the Coorong have raised water levels, allowing aquatic plants such as *Ruppia tuberosa* to thrive. Many native birds such as black swans feed on these aquatic plants, and as a result residents in the Lower Lakes and Coorong are reporting a bumper black swan breeding season. Black swan (Kungari) are culturally important for the Ngarrindjeri people, and these results show how well Ruwe (Country) can respond with some additional water.



Black swans and cygnets at Hunters Creek, Lake Alexandrina. (Photo: Luke Vial, DEW)

### Barmah-Millewa Bird Bonanza!

In Barmah Forest dozens of Great and Intermediate egrets have joined approximately 1600 Rufous Night-herons to nest together in a small patch of tall trees. With many trees supporting 20 or more nests each you would be forgiven for mistaking it for a group of high-rise apartment blocks! This is an extremely special event with Barmah Forest being the last remaining area in Victoria where the white egret species breed.



*Intermediate Egret nesting in Tonis Bend in the Barmah-Millewa forest (Photo: Keith Ward TLM Barmah Project Manager)*

Australasian bitterns (also known as bunyip birds) are breeding in Millewa Forest. Monitoring over the past five years suggests that Barmah-Millewa Forest supports up to 20 per cent of Australia's bittern population, again demonstrating how significant breeding events like these are.

Water for the Environment is helping to keep the wetlands buzzing with food for the developing chicks. The forest is alive with the sound of chattering birds as their coloured eggs hatch and the shells drop to the ground.

### Fish exit strategy from Barmah-Millewa Forest

In our [last update](#) we told of the variety of native fish species that are spawning in Barmah-Millewa Forest. Monitoring over the past three years has shown that

adult Murray cod and trout cod move into the creek systems of the forest when flows are high. These fish can become stranded when river regulators are closed at the end of high flows.

The NSW Government and the Victorian Government's Arthur Rylah Institute are trialling new approaches to encourage these fish to leave the forest and return to the river as water levels fall.

Murray cod and trout cod have been electronically tagged to track their movements as water levels drop in forest creeks. Data received will help to inform future flow strategies for Murray River forests and creeks with the aim of building regional native fish populations.

### Fish coming down the golden highway

From August to December, natural flows combined with water for the environment transformed the Lower Murray from a series of slow-flowing weir pools into a fast-flowing river providing a crucial opportunity for native fish eggs and their larvae to drift freely through the lower Murray system. Small Golden perch were caught for the first time in several years – which means they are successfully breeding. Some of these juvenile fish even went through the barrages to the Coorong and then had to quickly turn back!

Additionally, the Menindee Lakes filled in 2021 following high flows in the Baawan Baaka (Barwon-Darling) River system. During spring, [Water for the Environment was delivered together with an operational 'spill' from the lakes](#), which saw the Great Darling Anabranch receive its first drink in almost 5 years.

Coordination of these releases has aimed to create the perfect conditions for fish to breed in the Baaka (Lower Darling) and the enhanced connectivity

provided by these flows opens a 'golden highway' for native fish such as golden perch to migrate from the northern parts of the Basin right down into the Murray. Fisheries staff have already seen evidence of native fish spawning and have detected perch moving downstream in both the Baaka and the Anabranch.

## Fish attractant flows in the Goulburn

Plenty of fish have been coming into the Murray – and now they are looking for new homes! This season scientists have recorded eggs and larvae of golden perch all the way from Torrumbarry Weir through to below Lock 1, with silver perch eggs and larvae also common in the river upstream of Euston. Plans are underway for an Autumn fish attractant flow to attract silver and golden perch into the Goulburn and Campaspe rivers. The aim is to promote natural recruitment of these important species, supporting fish stocks in these rivers while also benefiting native vegetation on river banks.



*Silver perch about to be released by scientists upstream of Torrumbarry weir as part of monitoring the Goulburn autumn fish attractant flow. Once widespread and abundant throughout the Basin, these fish have now disappeared from much of their native range. (Photo: David Dawson, Arthur Rylah Institute)*

Monitoring of native fish movement in response to these flows has started. Scientists will be tagging and tracking fish before, during and after the flow ceases, helping water managers to improve the design of future flows.

## How can I keep track of this flow?

More about this flow:

<https://www.environment.gov.au/water/cewo/catchment/murray-wetland-flow-2021>

More about the river:

- [Real-time River Murray flow](#) information.
- [River Murray Weekly Report](#) – river operations, inflows, river gauge heights, rainfall and salinity
- [Whose water is in the river](#) – monthly update of water for the environment and other water users.

## Working in partnership

The Murray Wetland Flow is being managed in partnership with the NSW, Victoria, and South Australia governments and the Murray-Darling Basin Authority.

The Murray Wetland Flow is co-ordinated with flows from other major rivers including the Goulburn, Murrumbidgee and Baaka (Lower Darling).

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