

CLLMM diadromous fish recruitment



Biodiversity | Inland waters

South Australia's environmental trend and condition report cards 2023



Trend
Getting better



Condition
Fair

★★★ Reliability
☆☆ Good

STATE

Trend

Recruitment of diadromous fish in the Coorong, Lower Lakes and Murray Mouth (CLLMM) is getting better, with variability between years.

Diadromous fish are those that move between freshwater, estuarine and marine environments to complete their life cycles. The trend for diadromous fish was assessed using recruitment index values for congolli and common galaxias over the period from 2006–07 to 2021–22. This index is based on the rate of fish less than a year old, known as young-of-the-year, moving upstream from the Murray estuary to the Lower Lakes.

Despite declines in recruitment since 2014–15, recruitment of diadromous fish between 2006 and 2022 is getting better. This is in response to flows from the River Murray increasing since the Millennium Drought. During the Millennium Drought, a lack of flow caused the closure of the barrages and fishways, meaning that fish could not migrate to the necessary habitats for spawning and recruitment.

Condition

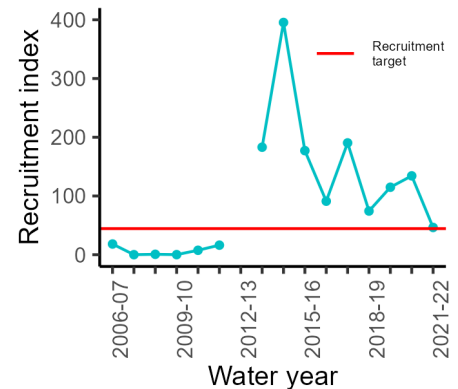
The condition of diadromous fish in the CLLMM is rated as fair based on recruitment index values for congolli and common galaxias.

The condition of congolli (top figure) and common galaxias (bottom figure) is assessed using the recruitment index values from 2021–22.

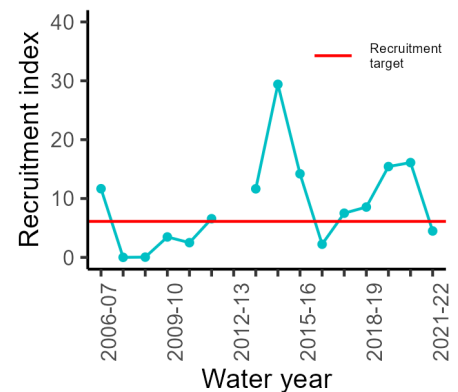
High flow conditions experienced in 2021–22 was expected to be beneficial to the recruitment of congolli and common galaxias. However, a lower condition rating than expected was found in 2021–22. Although reasons for this lower condition rating are unknown, one potential explanation is that young-of-the-year may have gone undetected as they bypassed fishways and passed through barrage gates when water levels were similar between the Murray estuary and Lower Lakes.

Recruitment of diadromous fish is getting better, due to improved connectivity.

Congolli



Common galaxias



Why are diadromous fish important?

Diadromous fish are important indicators of connectivity between multiple aquatic environments over very large spatial scales. Recruitment of diadromous fish reflects the level of connectivity between the freshwater environments of the River Murray, the estuarine environments of the Coorong and Murray Mouth, and the Southern Ocean. The Coorong is the only estuarine habitat in the Murray–Darling Basin, and is therefore the only access point for diadromous fish species in the Basin.

What are the drivers?

The primary factor that influences diadromous fish movement and recruitment is the connection between freshwater, estuarine and marine environments. Connectivity is especially important through winter and early spring when adults migrate downstream to estuarine and marine habitats to spawn, and through spring and summer when juveniles migrate upstream to freshwater habitats to mature. Water resource development throughout the Murray–Darling Basin has heavily reduced the flows that reach the estuary, reducing the connectivity between these environments.

What is being done?

Maintaining connectivity between the River Murray and key freshwater, estuarine and marine environments within the Coorong, Lower Lakes, Murray estuary and Southern Ocean is critical for managing diadromous fish movement and recruitment. Delivery of water for the environment under the Basin Plan contributes to flow that ensures barrages and fishways remain open. Dredging of the Murray Mouth is also critical in maintaining connectivity to the marine environment, particularly in the absence of sufficient freshwater inflows.

For further information see: [technical information](#)



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