

Threatened Fish of the CLLMM region

The Coorong Lower Lakes and Murray Mouth (CLLMM) region supports more than 35 freshwater fish species, including several threatened small-bodied species. Two of the most affected fish species are the southern pygmy perch and Yarra pygmy perch.



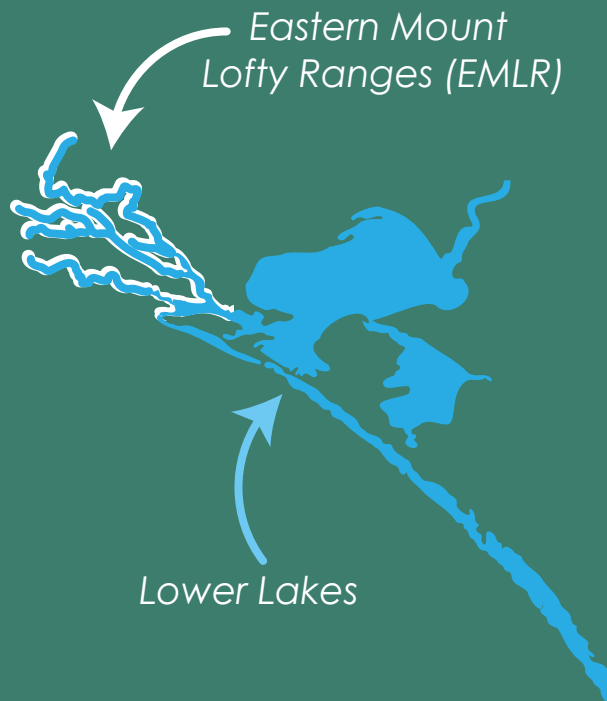
**Yarra
pygmy perch**

To help inform future management of pygmy perch populations, reintroduction ecology, and the use of water for the environment, this project used modelling, otolith aging and field experiments to investigate how life history processes and population demographics are associated with biotic and abiotic variables.



**southern
pygmy perch**

Study Populations:



Modelling

Statistical modelling was used to establish the most important regional and local drivers of population trends for both populations.



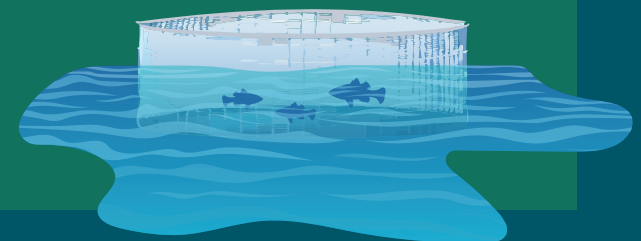
Otolith ageing

Hatching dates were calculated by counting the daily growth rings of otoliths of pygmy perch, much like counting rings of a tree.



Field experiments

Experimental enclosures were used to establish the impact of high or low aquatic vegetation on reproductive success.



Status of Threatened Fish

Lower Lakes

Abundance of pygmy perch populations in the Lower Lakes region have steadily increased from 2007 (Millennium Drought)-2025 due to reintroduction efforts, environmental water flows and water management. This population could be more resilient to future climate change.

The key regional driver of the Lower Lakes populations was the average lake level with a 6 month lag, with optimal levels of 0.8mAhD in September.

Using otolith ageing, the research team found that most pygmy perch were hatching in September.

Eastern Mount Lofty Ranges (EMLR)

Pygmy perch populations in the EMLR have declined since 2007, which is a result of decreased flows, water extraction, and habitat loss.

Decline in the EMLR population was driven by a positive Antarctic Oscillation (or Southern Annular Mode) occurrence. This is where southerly winds push more rainfall to Eastern locations in Australia, but Southern locations experience less rainfall.



Submerged aquatic plants were a key local driver for both populations, and while no juvenile pygmy perch were recaptured in field experiments, juveniles from other fish species were only found in enclosures with abundance aquatic vegetation.



Australian Government
Department of Climate Change, Energy,
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