

Fish movement, recruitment and assemblage structure at the Murray Barrages 2006–2012



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Migratory fish community

Diadromous



Estuarine/marine



Freshwater



Barrages and Fishways

The Coorong, Lower Lakes & Barrages

MAP LEGEND

- Salt water environments (ocean and estuary)
- Fresh water (watercourses and lakes)
- National parks and reserves
- Aboriginal lands (Ngarrindji)
- Barrages
- Watercourses
- Townships

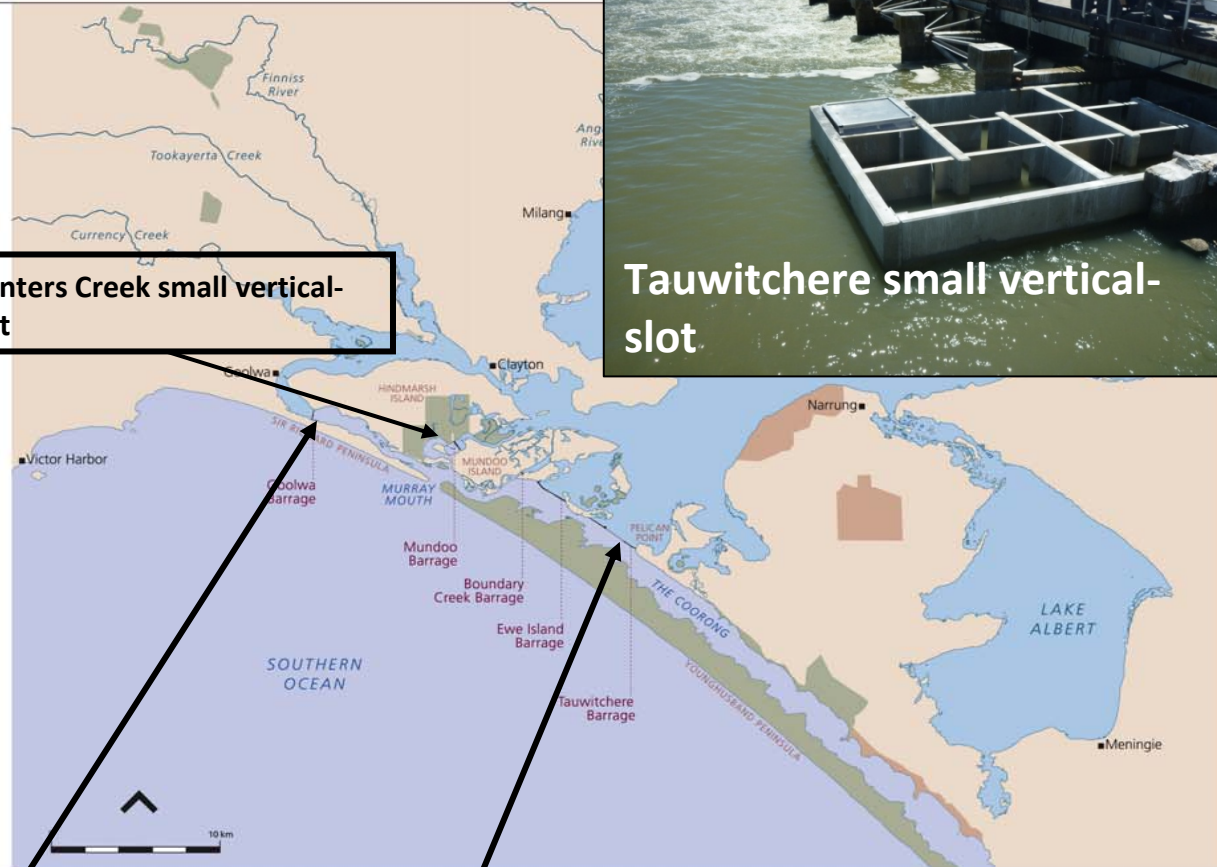
Map provided courtesy of the Murray-Darling Basin Commission.
Designed by Ecocreative.com.au (based on data provided by DEH-SA staff).

Hunters Creek small vertical-slot

Tauwitchere small vertical-slot

Goolwa vertical-slot

Tauwitchere large vertical-slot, small vertical-slot and rock-ramp



Objectives

1. How does variability in freshwater discharge impact recruitment and abundance of diadromous fish?
2. How does variability in freshwater discharge influence fish assemblage structure?

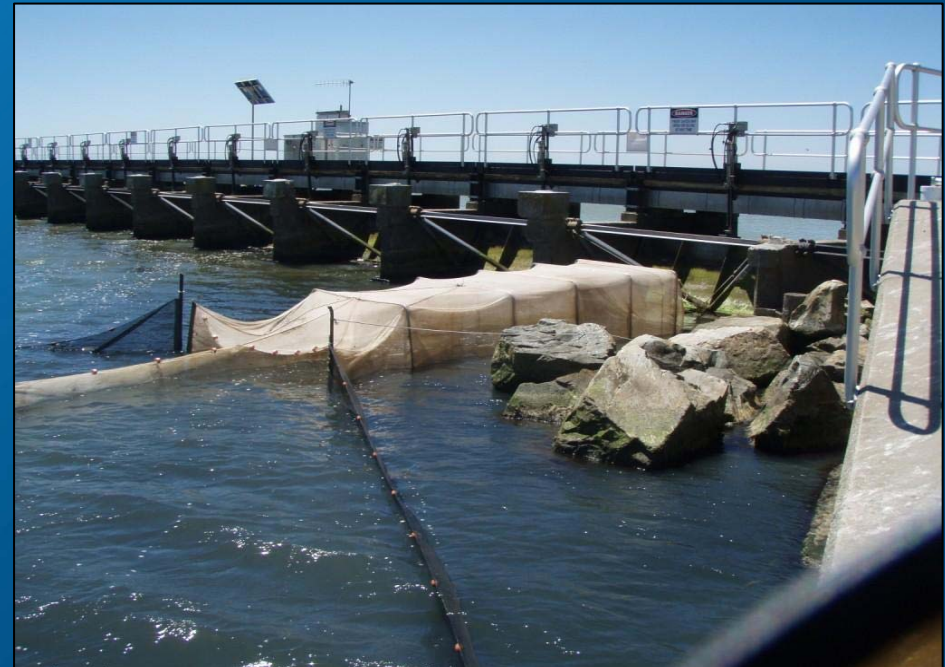


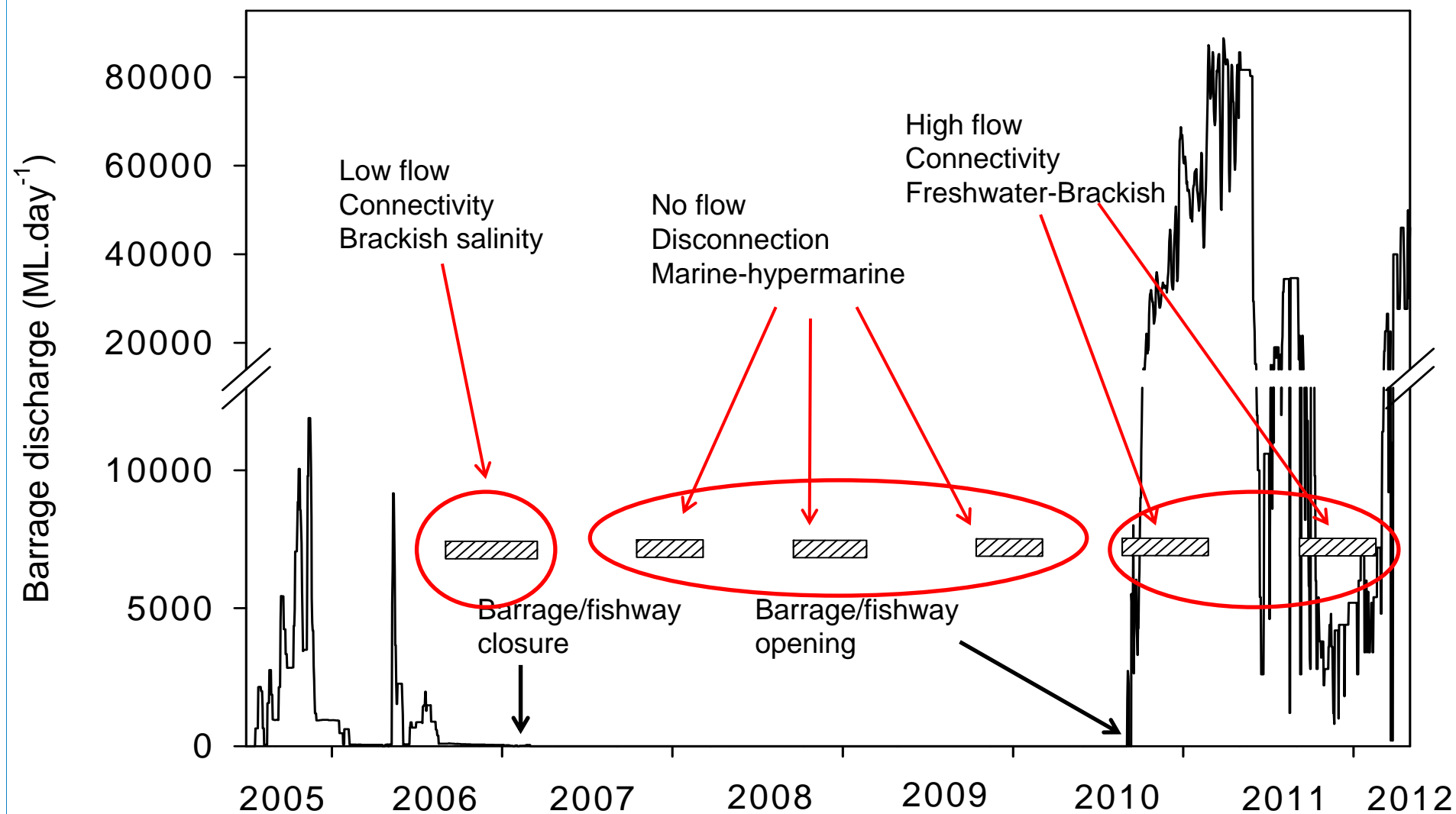
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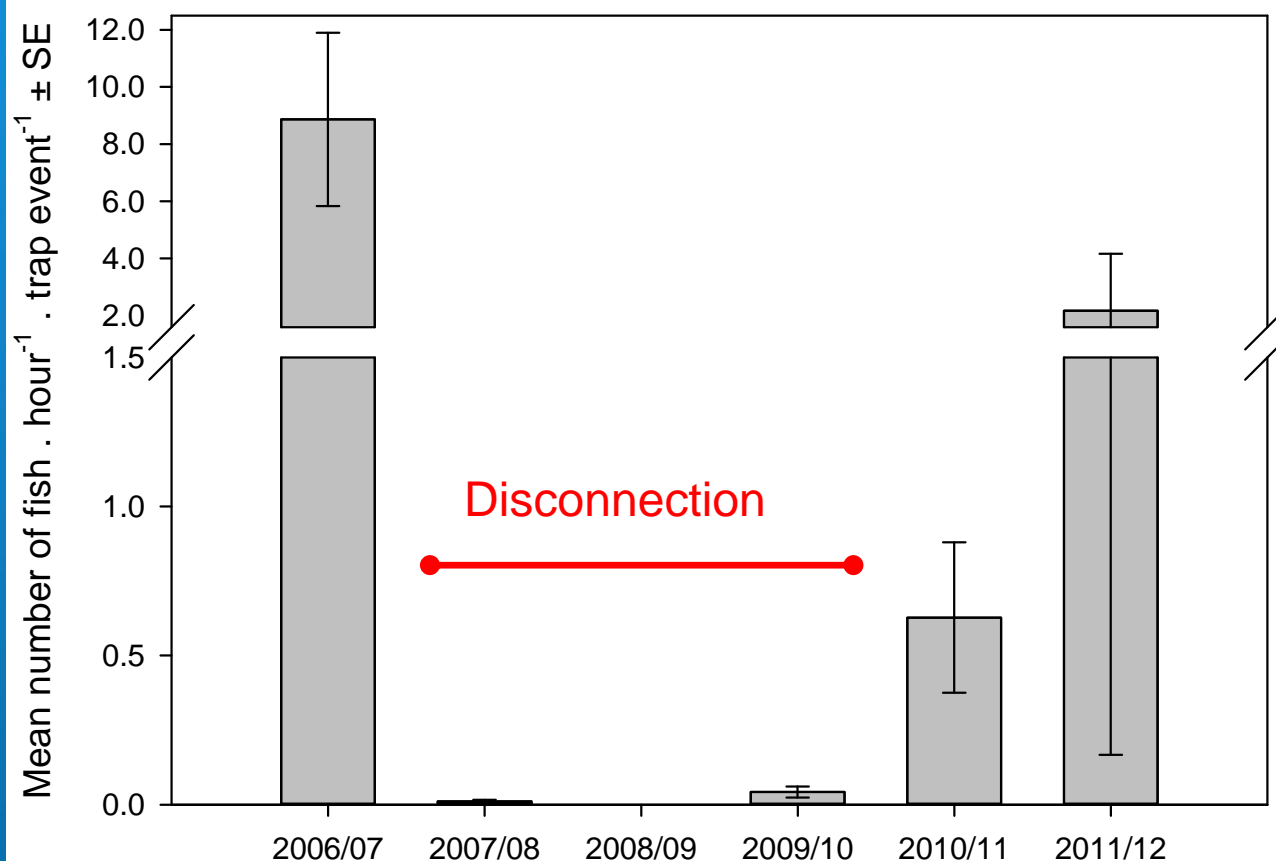
Sampling 2006–2012





1. Flow variability and diadromous fish recruitment

Congolli



ment
Australia



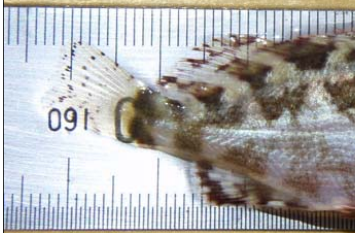
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2. Fish assemblage structure 2007/08 – 2009/10

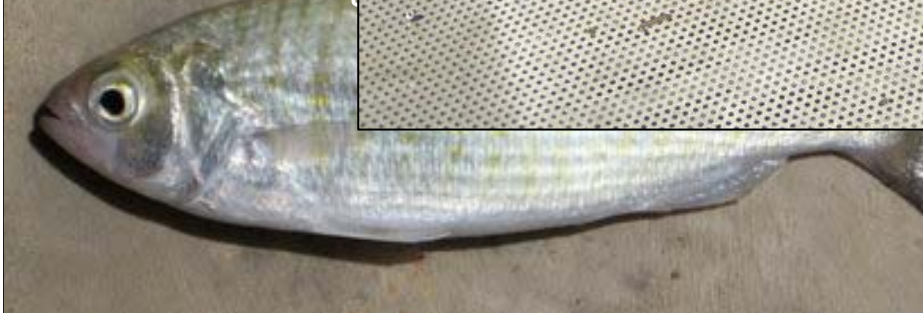
Australian salmon



Kelpfish



Australian herring



2. Fish assemblage structure: 2010–2012

Mulloway



Australian smelt



Congolli



Sandy sprat



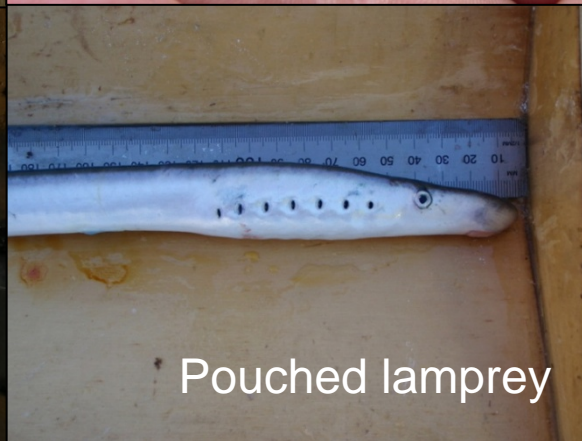
Lagoon goby



Bony herring



Pouched lamprey



Recovery?

- Difficult to define for estuarine fish
- Estuarine fish assemblages are highly variable
 - No ideal “stable state”
 - Importance of long-term datasets
- Current assemblage indicative of an estuary with freshwater influence

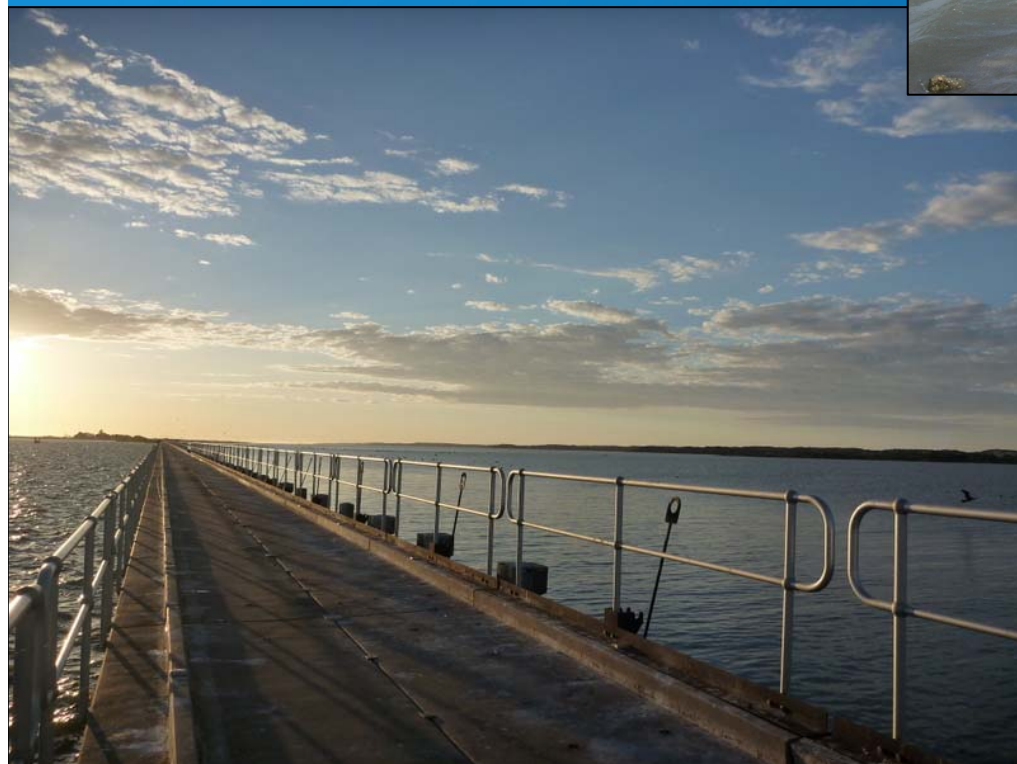


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Thank you



Chris Bice
Inland Waters & Catchment Ecology
SARDI Aquatic Sciences



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