

Freshwater fishes of Marne Saunders



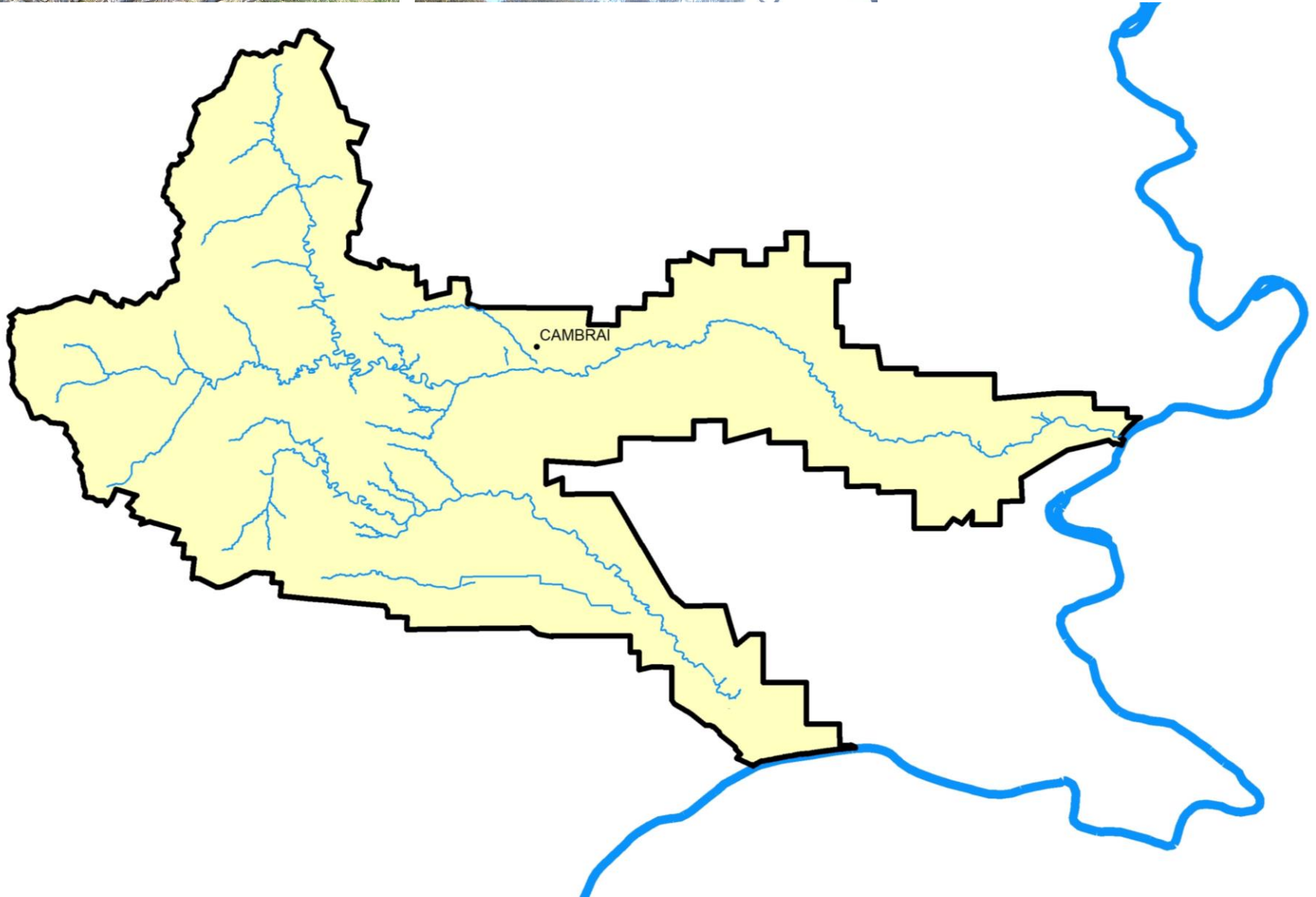
Nick Whiterod

AQUASAVE - NatureGlenelgTrust

Fish and flow

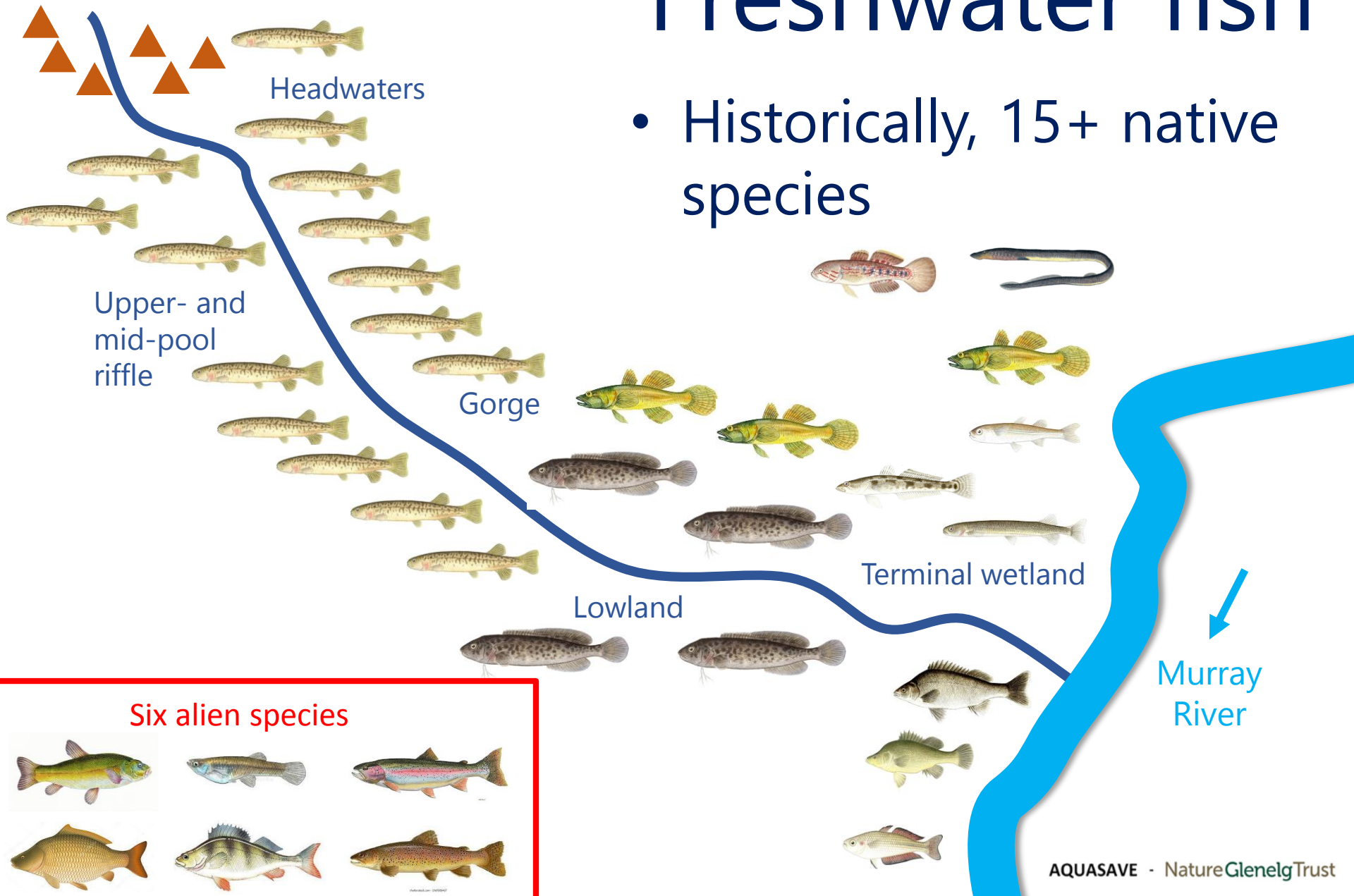
- Flow is critical for freshwater fish
 - *Rely on water for survival (flow regime)*
 - *Some have specific requirements for flow & connectivity*
 - *They response to prevailing conditions & environmental change*
- Changes (past, current & future) in Marne Saunders flows will regulate fish communities

Aquatic habitats

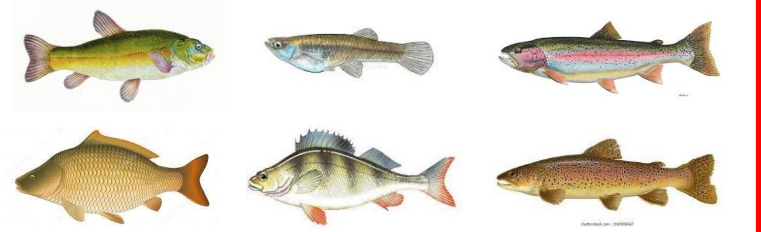


Freshwater fish

- Historically, 15+ native species



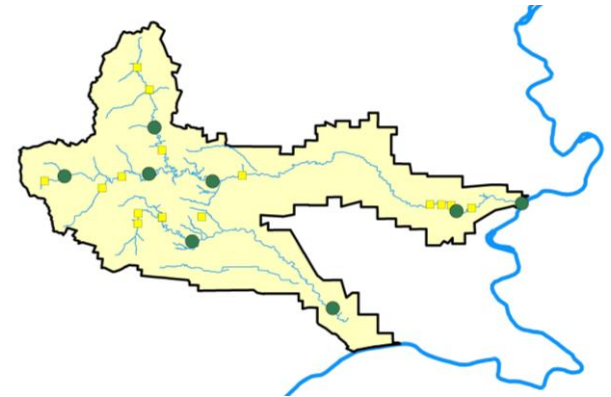
Six alien species



Understanding fish

- Field sampling

- 159 site visits across 2001 to 2021
- Baseline surveys (2003-04) & repeat condition monitoring (2007 onwards)



Fish species

- ~19,000 fish; 12 species (10 native)
- Alien eastern gambusia dominant (~65%)

Twenty year review

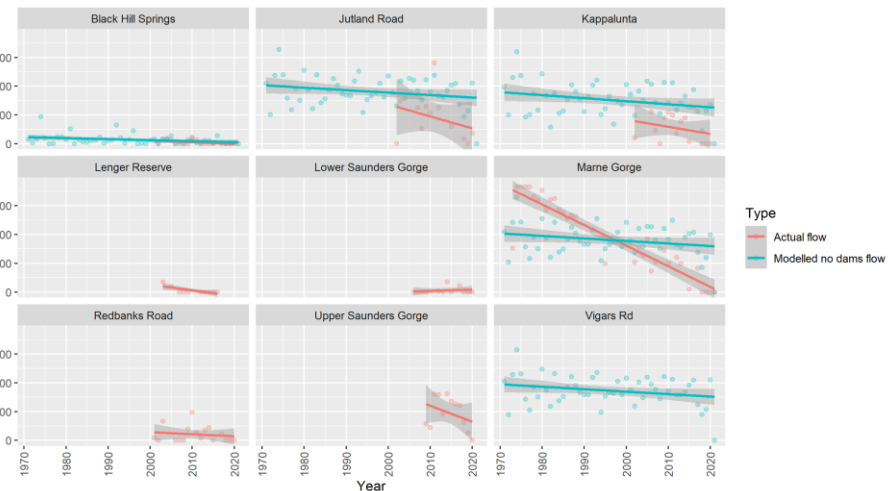
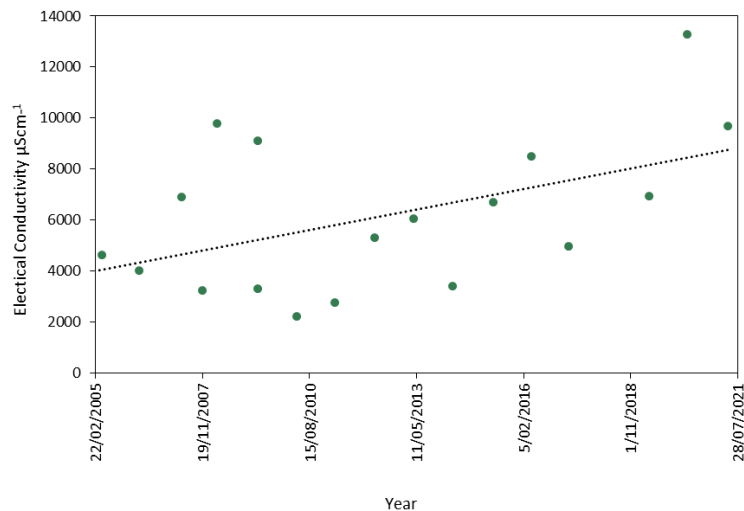
- Linking with water quality & flow





Trends over time

- Critical elements of flow declining
- Less (& deteriorated) aquatic habitats



Aquatic habitats



Upper- and mid-pool riffle



Gorge



Terminal wetland



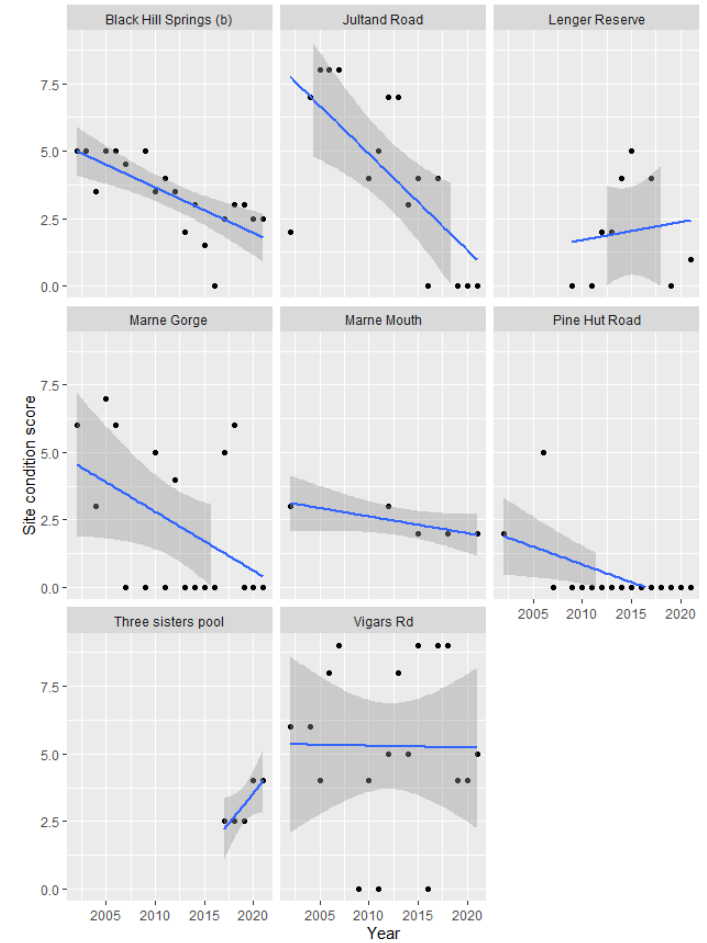
Lowland



↓
Murray River

Trends over time

- Simplification & decline of freshwater fish

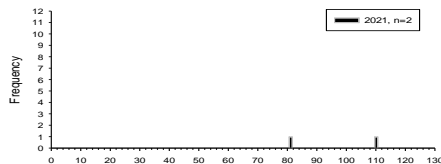
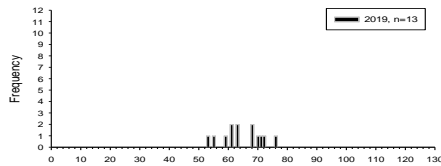
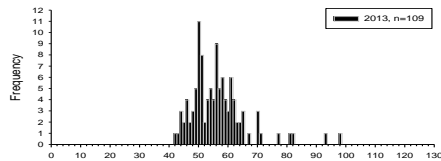


Decline over time

Obscure galaxias

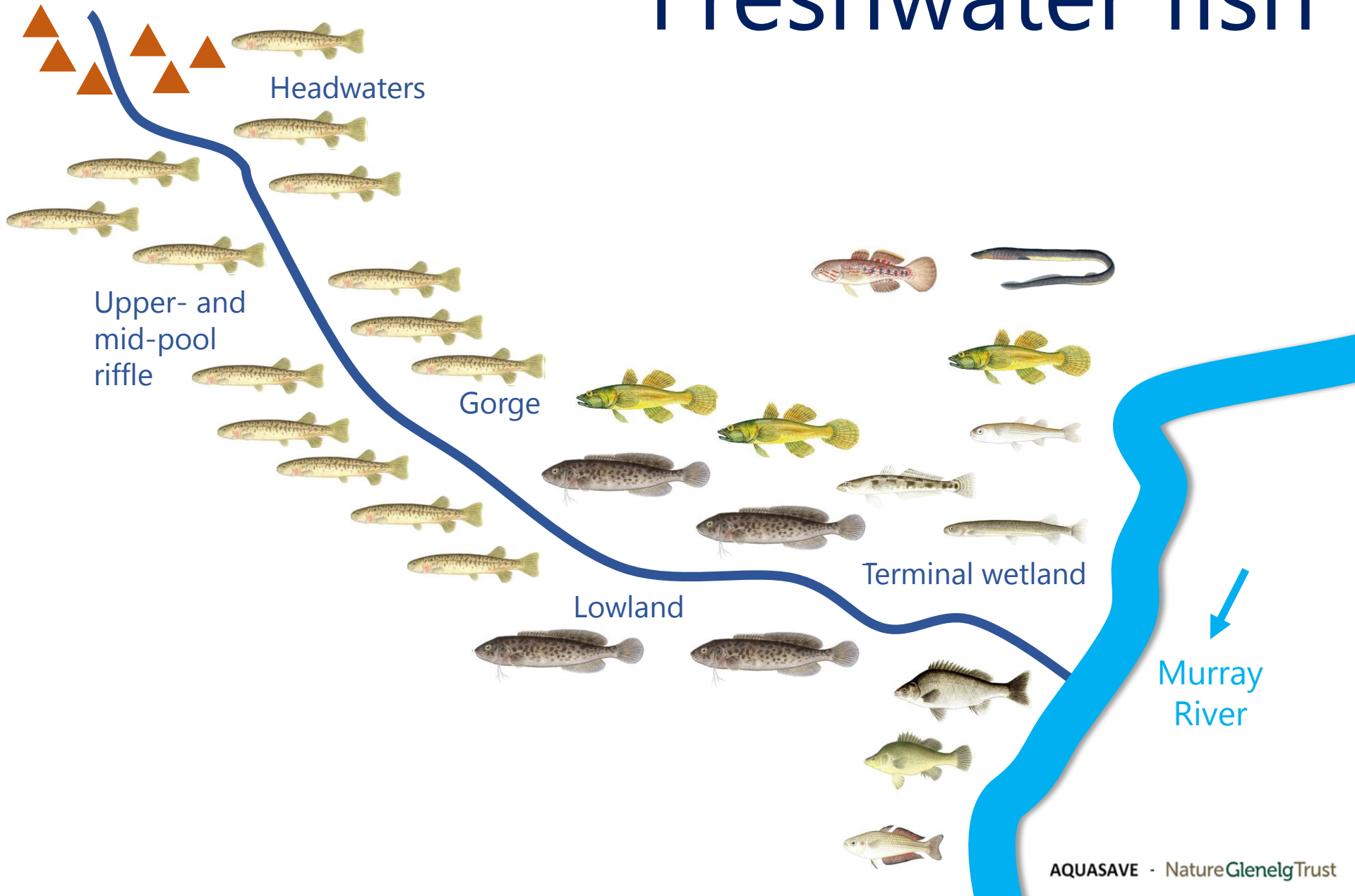


River blackfish

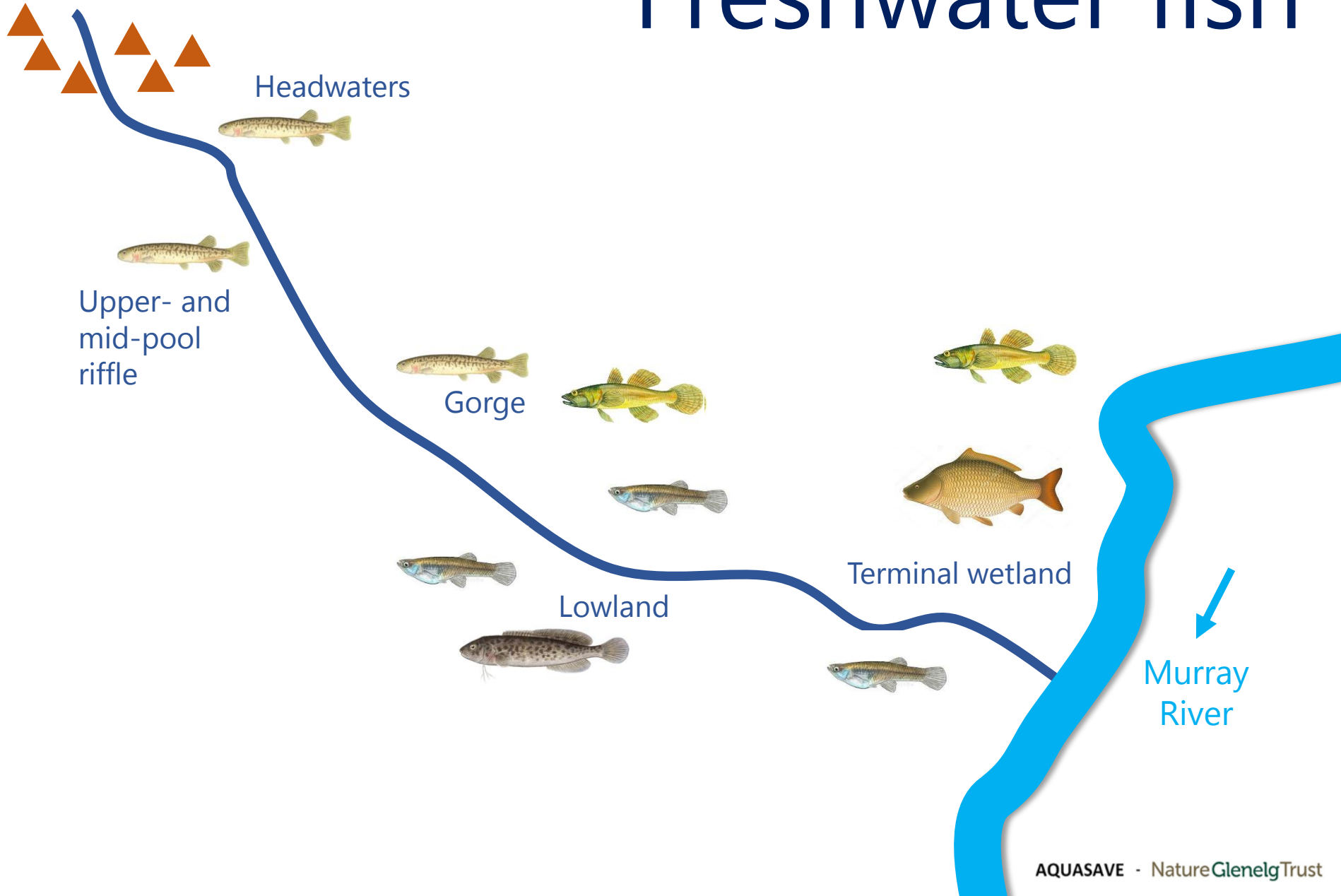


- Few individuals
- Lack of spawning (& recruitment)
- Functionally extinct?

Freshwater fish



Freshwater fish



Summary

- Aquatic habitats & freshwater fish under threat
- Management focus on remaining populations
 - *Regional and localised actions*
- Freshwater fish continue to be useful indicators



A review of the status of water resources and fish communities within the Marne Saunders Prescribed Water Resource Area

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Report to the Murraylands and Riverland Landscape Board

MURRAYLANDS LANDSCAPE
SOUTH AUSTRALIA
MURRAYLANDS AND RIVERLAND



December 2021