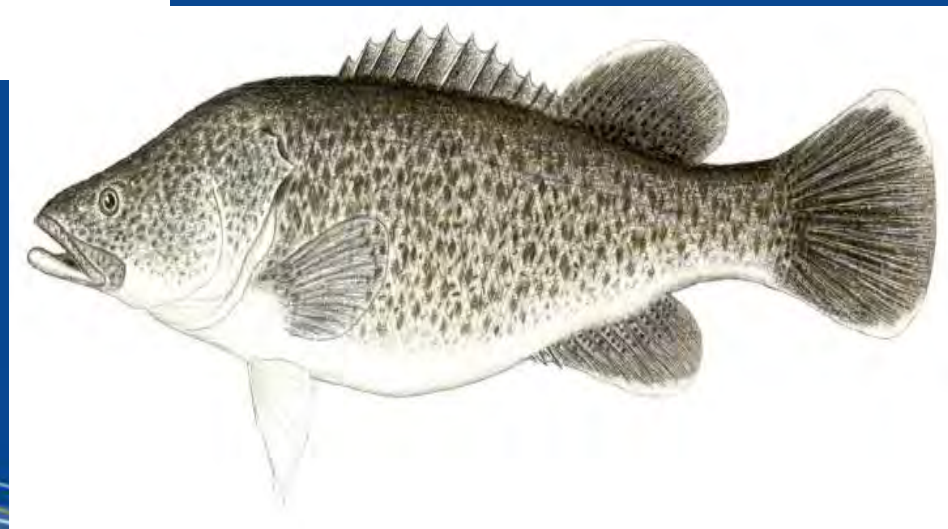
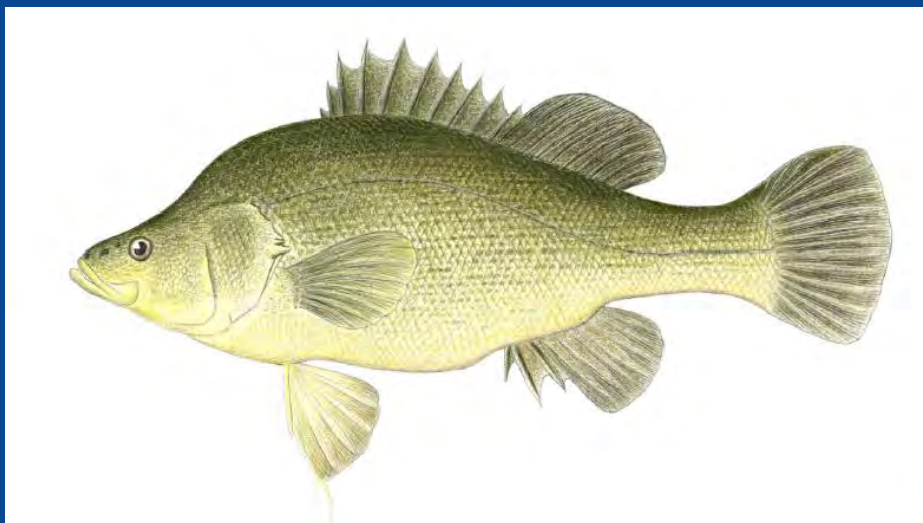
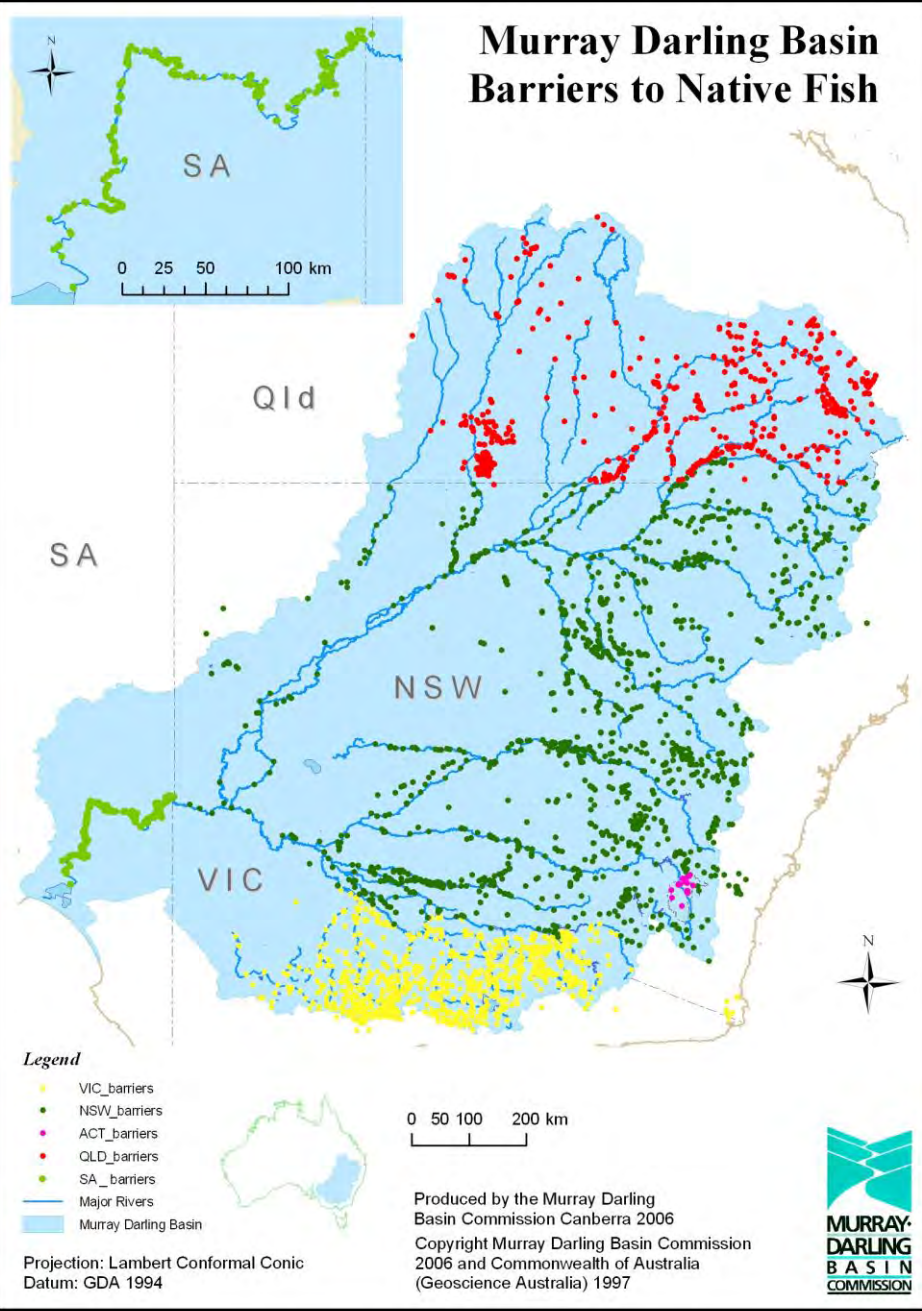


Downstream Mortality of native fish



Murray Darling Basin Barriers to Native Fish



Barrier types

Undershot



Overshot



Barrier types

Large Dams



Larval Drift

Many natives have a larval drifting phase

Larvae susceptible to damage and injury

No studies had been undertaken to quantify these effects



Adults and Juveniles

Many natives also migrate downstream as adults

Importance, duration and timing generally unknown

Need to negotiate weirs in the process



Research Question

Is downstream passage through either weir configuration likely to increase injury or mortality of fish larvae?

Experimental tests

1m high dropboard weir

Flow of 6ML/day

Configured as either
undershot or overshot

Tested our question
using larvae from the
Narrandera hatchery

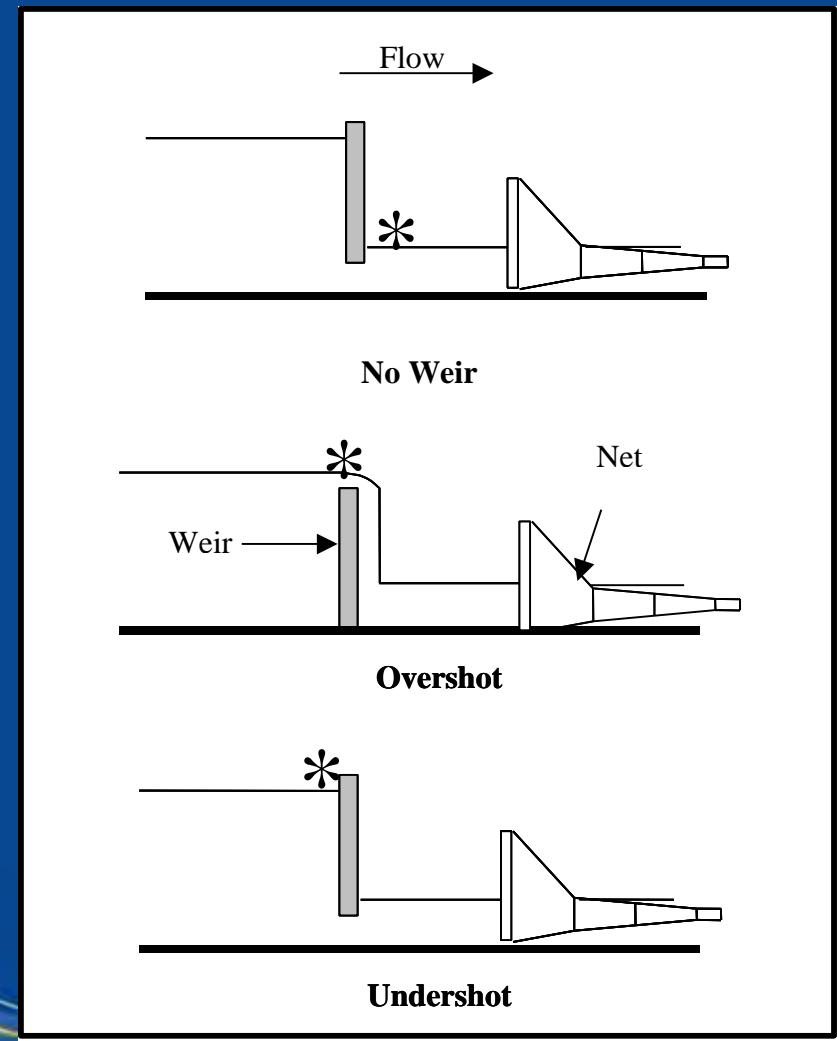


Experimental procedure

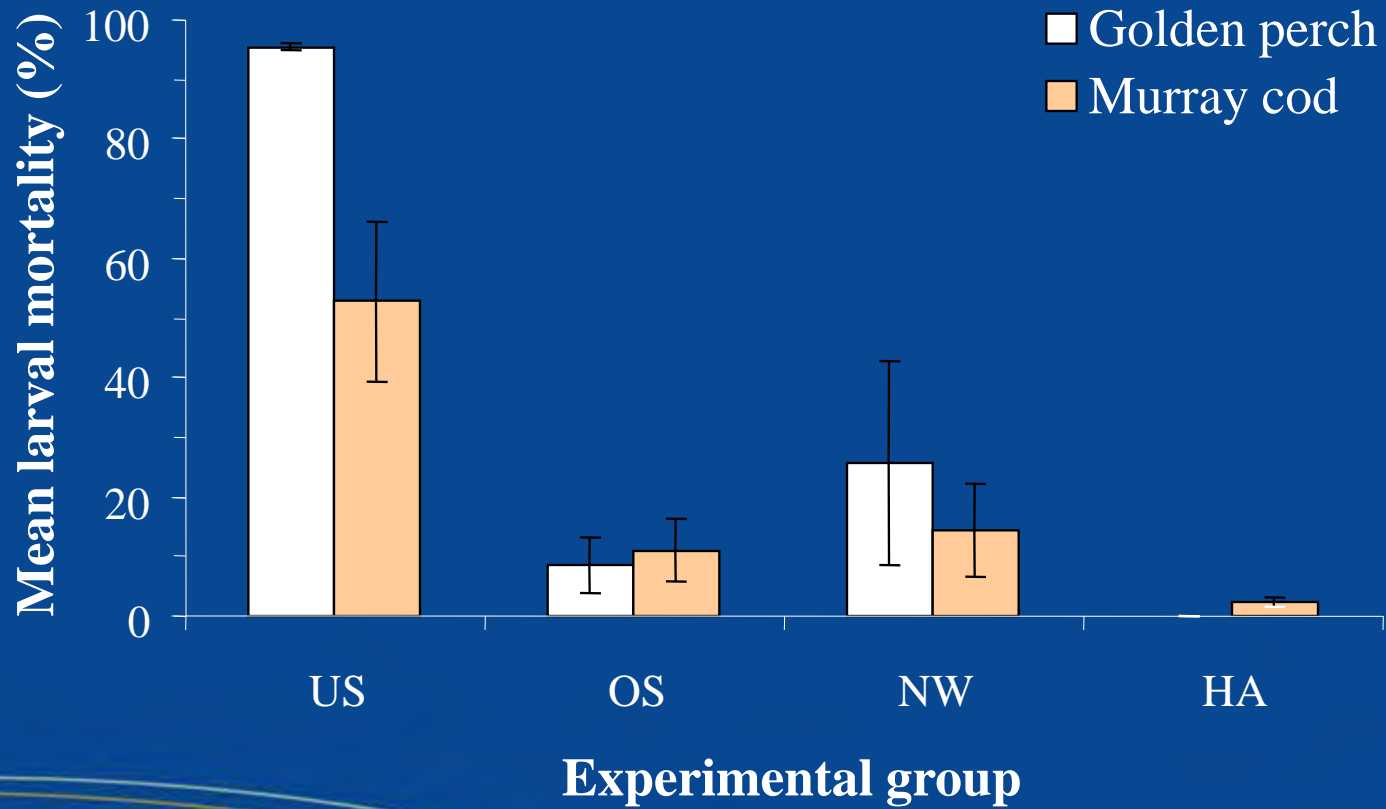
Tested three configurations

Performed 16 tests in total with 100 fish per test

Recorded the number of fish that survived or died during passage



Results



Initial implications

Undershot weirs cause significant mortality of Murray cod and golden perch

Could potentially affect other species

Management agencies should consider the construction of overshot weirs instead of undershot

Further research is required to determine the extent of impacts on other species and size classes

Further work

Further work on this issue is being funded through the NFS to determine:

Impacts on other species and size classes

Impacts at weirs of different sizes

Potential solutions



Further work

Continue undertaking further experimental work

Provide regular updates to MDBC and committees

Reconvene steering committee in April 2008 to discuss implications of results so far

Workshop potential solutions for testing in 2009

Thank You

