

DEVELOPING A PUMP **FISHWAY**

John Harris, Lee Baumgartner, Bob Keller and Guy Westbrook

**Sponsors: MDBC, NSW DPI (Fisheries), NSW DNR,
Council of Freshwater Anglers, Aust. F'water
Fishermen's Assembly**

When migrating fish like these

strike a barrier like Yanco Weir



we can build a regular fishway

(provided we've got millions of \$\$\$
and don't mind missing a few fish)



OR

OBJECTIVES FOR A PUMP FISHWAY

Cut fish-passage costs substantially

Create flexible design for varying sites and water levels

Improve range of fish sizes and species

Safely attract, entrain and transport wild fish

Bypass behavioural and physiological barriers to passage

PUMP FISHWAY DESIGN CONCEPTS

Apply current fishway knowledge, esp. fish attraction

Optimise attraction and entrainment conditions

Adopt fish-pumping techniques from aquaculture

Plan to integrate airlift pumps

Gotta begin somewhere

Preliminary backyard modelling,
scale problems.

MDBC to the rescue!



Tassal's Bruny Island airlift fish pump

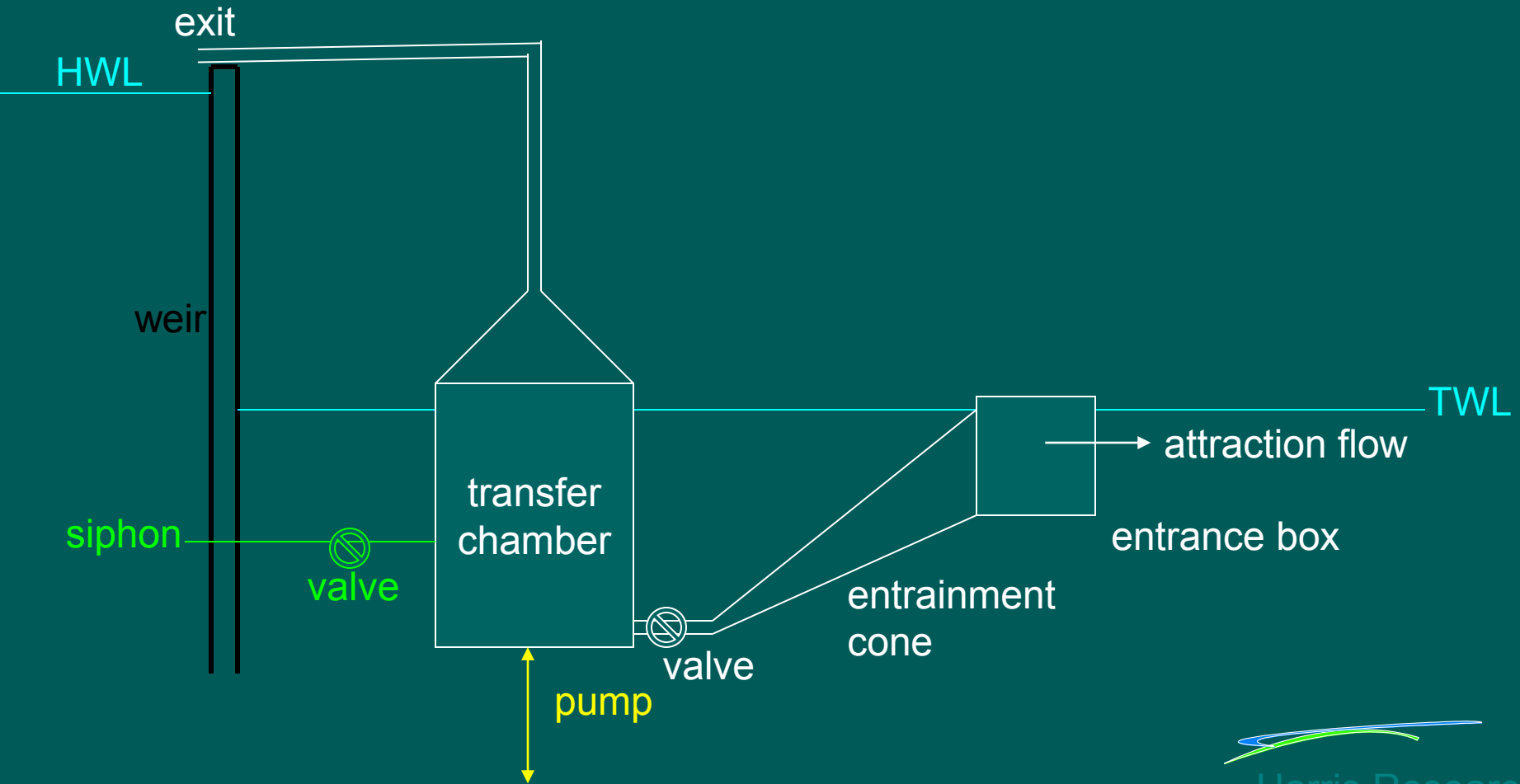


Tassal's airlift fish pump in action

10,000 2-4kg salmon
graded in 3 hours!



Prototype design layout



First field trial - Yanco Weir, October 2005

Difficult assembly,
flooding, access track blocked,
structural damage



Second trials - Yanco Weir, March 2006

Predicted fish migration did not eventuate, some transfer-rate trials, experience with hydraulics



Planned final trials - Narrandera Fisheries Centre ponds, ponds, Spring 2006

Known fish sample,
reticulated water supply,
manageable conditions,
assume rheotactic behaviour

