



Mersey-Forth Water Management Review

FACT SHEET

Mersey-Forth Fish Migration Study



Upstream view of Paloona Dam with power station in the centre of the photograph (under full discharge). The red arrow shows a potential site for installation of a manual native fish trap/ladder system.

There are currently no mechanisms in place that allow native fish migrating up the Forth, Wilmot and Mersey rivers to progress beyond the Paloona, Wilmot and Parangana dam walls. As part of the Mersey-Forth Water Management Review, Hydro Tasmania investigated options to facilitate fish migration and dispersal of native fish species throughout the Mersey-Forth catchments.

An investigation into the identification of native fish accumulation points and an assessment of potential methods for facilitating fish passage was conducted at three sites in the Mersey-Forth catchments:

- Paloona Dam on the Forth River;
- Wilmot Dam on the Wilmot River; and
- Parangana Dam on the Mersey River.

Aim of Study

The aim of the study was to investigate options to facilitate fish migration and dispersal of native fish species throughout the Mersey-Forth catchments.

The objectives of the study were to:

- Assess the extent and location of accumulations of migrating fish in the Wilmot River downstream of Wilmot Dam, the Forth River downstream of Paloona Dam, and the Mersey River downstream of Parangana Dam; and
- Evaluate the potential to develop effective options to facilitate fish passage at Wilmot, Paloona and Parangana Dams, if considered appropriate.

Process

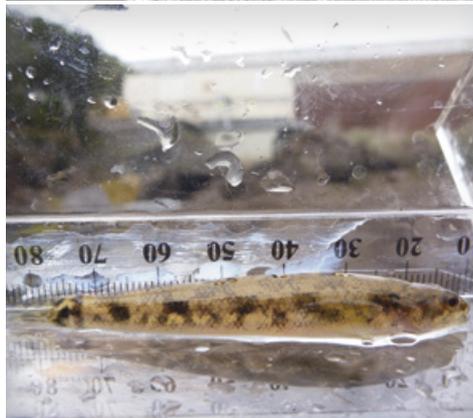
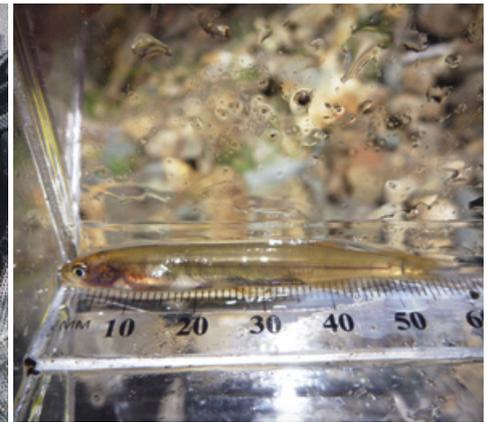
To achieve these study objectives a number of actions were undertaken:

- With assistance from Entura preliminary assessments were made of native fish accumulation points and potential methods for facilitating fish passage at Paloona Dam, Wilmot Dam and Parangana Dam. In addition an assessment of the Forth River weir downstream of Paloona Dam, which once acted as a barrier for native fish migrating upstream, was undertaken;
- Fishing trials were carried out below Paloona Dam on the Forth River and Parangana Dam on the Mersey River; and
- Key stakeholders were asked to complete a survey to provide additional information on migratory fish accumulation sites within the Mersey-Forth catchments.

Outcomes

The outcomes from the study were:

- The fish trials at Paloona and Parangana were relatively unsuccessful with regard to catches, especially those on the Mersey River below Parangana Dam. A number of factors may have influenced this including; seasonal timing, limited flows below Paloona Dam and distance upstream from the sea;
- Catches on the Mersey River were very small and limited to introduced juvenile brown trout, *Salmo trutta*. The low flow in these upper reaches, the distance from the sea and estuary, and the influence of downstream tributaries were considered to make these upper river reaches less attractive to native migratory fish;
- There are a number of conditions that currently preclude Wilmot Dam as a potential fish migration option including; distance of the site from tidal waters and the inconsistent flows immediately downstream of Wilmot Dam which would impact on the ability of some native fish species to access a fish trap/ladder system;
- A fish trap system is recommended to be the best first stage solution to capture and translocate fish at Paloona Dam. The design of the fish trap would be dependent upon the timing and size of the migration run, and the ability to develop a cost effective system to service and maintain the trap;



Fish species caught at the base of Paloona Dam. Clockwise from top left: *Geotria australis* (pouched lamprey), *Galaxias maculatus* (common galaxias), *Pseudaphritis urvillii* (sandy) and *G. brevipinnis* (climbing galaxias).

- Although the stakeholder survey resulted in only one response, it revealed important information about the timing of fish migration in the Forth River; and
- A technical report has been written detailing the study.

Commitment

From the sites assessed the most suitable location for a fish capture system is at Paloona Dam. Due to the lower than normal flows at the time of the trial, a future fish trial at Paloona Dam will be conducted. This will be held when flows are more reflective of regular power station operation during the peak migration season. This would ensure that a more representative outcome is achieved.

If the fish capture trial and translocation logistics prove feasible and beneficial the installation of a permanent ladder/trap at Paloona Dam will be considered under Hydro Tasmania's Aquatic Environment Program.

For More Information

The technical report for this study is available at

www.hydro.com.au/MFWMR-studies.

To see all the Mersey-Forth Water Management Review technical and social studies go to www.hydro.com.au/MFWMR-studies.

Find out more about the Mersey-Forth Water Management Review at www.hydro.com.au/MFWMR.

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