

Embargo Thursday 3 April 2003

Worth of Water: Environment, Society and Sustainability

Session 1 9:10am Beasties in the Water



Presentation: ***The Fish are Dam Weiry***

Improving Fish Passage in Tasmanian Rivers.

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The Science Forums

- *key words/terms*: Freshwater fish, whitebait, barriers, ecology, fish passage
- *applications*: ecological management, endangered species

Tasmania has a limited diversity of freshwater fish fauna. Of the 25 species present 11 migrate between fresh and salt water at some stage in their life cycle. Some of these species make up the large whitebait runs commonly seen in the lower reaches of rivers each spring. Over the years barriers placed across river systems have inhibited the free movement of fish, preventing access to their normal home range.

Structures that impinge on the free movement of fish include dams, weirs, culverts, fords, drop structures, and rock controls. These barriers are quite common throughout Tasmania and are affecting the fish by preventing the completion of life cycles for those that need to migrate up or downstream which may lead to local extinction of species; fragmentation of river fish populations into small, isolated populations which are then more susceptible to local extinction; prevention of access to favourable habitat upstream of barriers; and a decrease in biodiversity and abundance.

The visual impact of barriers are also of concern with large schools of fish frequently seen congregating below artificial barriers in a fruitless attempt to move upstream. These schools are then subject to high mortality levels from predation from bigger fish and birds or strandings.

In early 2001 the Tasmanian Inland Fisheries Service was allocated Natural Heritage Trust (NHT) funds to undertake a program of removal of redundant weirs throughout the state.

The project initially set out to remove or modify 10 weirs around Tasmania with a view to improving fish passage within a given system. Works conducted on each weir were specific to the requirements set for that weir. This included modifications designed to maintain the structural integrity of a weir for stream flow measurements but still allow free passage of fish, to complete removal of the entire structure. During the project 7 weirs were removed, two modified and three had fish passes constructed on them.

During and after the removal of each weir fisheries officers viewed fish movement through the sites. These observations highlight the problems that exist as a result of fish barriers. If fish can be seen waiting below weirs and then attempting to move up through a rehabilitated site imagine the changes to fish population assemblages upstream if fish were allowed to pass freely all year. It is hoped that this work will lead to an improved quality of fish populations in the rivers that have had weirs removed or modified.

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Profile

Mark Nelson has been working for the Tasmanian Inland Fisheries Service for the past 2 years. He has worked for 15 years in freshwater research and management in Tasmania including projects on the impact of forestry on freshwater systems, the impact of introduced fish species on local indigenous fish species and management of endangered endemic fish species. Mark is currently completing the weir removal program and assessing the distribution of a rare native fish species.

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