

# Poster Presentation

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## River rehabilitation via redundant weir removal

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(on behalf of the Project Partners)

### History

The construction of dams and weirs in river channels has many detrimental effects on both the aquatic and terrestrial environment. WWF Australia, the Environmental Trust New South Wales (NSW) and NSW Department of Primary Industries (DPI) – Fisheries are working in partnership to initiate three case studies in redundant weir removal within NSW. As part of a Statewide project, NSW DPI – Fisheries is identifying in-stream structures including weirs and crossings which are obstructing the movement of native fish for the purposes of spawning and habitat selection.

In 1997, the NSW Government established a State Weir Policy, which aims to halt and where possible, reduce and remediate the environmental impacts of weirs. In a first step to implementing this policy, an initial NSW weir review was undertaken. This review identified all existing licensed structures on NSW streams, examined their impacts and developed a strategy to enhance environmental outcomes through better management or modification of each of the in-stream structures. In 2000, WWF (World Wide Fund for Nature) hosted the 'Way Forward on Weirs' conference and commissioned a consultant to identify alternative water supply options for a number of NSW towns with redundant weirs. On 24 May 2002, the NSW Minister for Fisheries listed a Key Threatening Process in Schedule 6 of the *Fisheries Management Act 1994*. The Key Threatening Process was 'The installation and operation of in-stream structures and other mechanisms that alter natural flow regimes of rivers and streams'.

The removal of in-stream barriers results in the reclamation of valuable habitat for aquatic fauna and the reinstatement of normal fish migratory processes. Many native fish species have a migratory component within their life-cycles, whether for the purpose of reproduction or for habitat expansion. Migration also acts to increase

the genetic diversity of fish populations and improve the genetic health of native fish stocks.

There have been significant efforts on a broader scale to increase awareness on the issue of weir removal. Catchment groups in the United States have been removing weirs for years, but until recent efforts in NSW, there have been few examples within Australia. A recent study commissioned by WWF in two inland northern NSW districts revealed little concern or understanding of measures to rehabilitate river health. Given that community understanding and support for the removal of redundant weirs is low in Australia, this project intends to increase awareness by undertaking small case studies in environmental rehabilitation through weir removal. The removal of the Branch River Crossing is part of a larger weir removal project being undertaken by WWF Australia, the Environmental Trust of NSW and NSW DPI – Fisheries.

### Objectives

The project aims to aid in the rehabilitation of river reaches through case studies in weir removal, by facilitating the removal of three redundant fish barriers in NSW that are detrimentally impacting on aquatic species. The project objectives are as follows:

- Develop a framework to facilitate the removal of weirs within Australia.
- Facilitate the removal of three redundant weirs in NSW and use these as case study examples in weir removal.
- Increase public awareness of the effects of dams and weirs.
- Generate public support for dam and weir modification and removal programs as a mechanism towards river rehabilitation.
- Support other states to develop a weir program similar to that in NSW.



## *Project work to date*

The Branch River Crossing is the first of three weirs to be removed as part of this project. The Branch River Crossing is located near Port Stephens in the Karuah River Catchment, NSW. Pre-removal surveys were conducted to establish baseline information on water quality, fish species, fish habitat, terrestrial habitat and riparian vegetation. Fish sampling was undertaken above and below the crossing. Post-removal surveys are being conducted above and below the removed crossing at the same points used for the pre-removal surveys. The Department of Infrastructure, Planning and Natural Resources (DIPNR) also carried out a study and provided comments on the likely biophysical impacts of the proposed weir removal. Extensive stakeholder consultation was conducted and the significant support from local landholders and stakeholders contributed to the project's success.

In order to promote and gain support for redundant weir removal the project has produced a weir removal brochure and case study on the Branch River Crossing removal. A demonstration video of this weir removal process is currently being produced, to allow for the promotion of weir removal more broadly throughout Australia.

## *The future*

Within the next 12 months this project will see the removal of two more redundant weirs in NSW. WWF Australia, Environmental Trust of NSW and NSW DPI – Fisheries has proved that a partnership approach to barrier removal can be extremely successful. The weir removal framework will provide an invaluable mechanism to assist in the development of similar projects on a much larger scale. If you know of a redundant weir or road crossing in NSW that could possibly be removed, contact NSW DPI – Fisheries on (02) 6765 4591. Help is needed in identifying thousands of unlicensed structures in NSW. If you would like to know more about this project contact Rebecca Richardson (07) 3839 2677.

