

## A REVIEW OF FISH HABITAT REHABILITATION PROJECTS IN THE MIDWEST USA.

*Principal researcher: Paul Brown*

During June 2001, Paul Brown, fisheries scientist at MAFRI Snobs Creek, undertook a two-week visit to Minnesota and Wisconsin in the midwest USA to review fish habitat rehabilitation projects. The Science Quality Unit of the Department of Natural Resources and Environment funded the trip as part of a Scientific Exchange Program.

There are many similarities between Victorian streams and those observed in the midwest USA. We have comparable patterns of land use and many of our streams are degraded by similar processes to those observed in the USA. During his trip to the USA, Paul visited and reviewed a range of different habitat rehabilitation projects – many which he believes, could be directly applicable to Victorian stream situations to rehabilitate habitat and enhance recreational fisheries.

Many of the projects observed used so-called LUNKER structures. This acronym stands for “Little Underwater Neighbourhood Keepers Encompassing Rheotactic salmonids” – basically an artificial overhanging bank, constructed from a variety of materials including rock, logs or slabs of timber. The structures are designed to provide permanent habitat for adult brown trout that require complex cover and are naturally found sheltering under large woody debris or overhanging banks. In the USA these LUNKER structures have increased the abundance of brown trout by several hundred percent in some streams. Paul feels that this method could work well for both brown trout and native fish species such as blackfish, Murray cod and trout cod in Victoria depending on where they are deployed.

Paul suggests that experimental trials of the intensive use of artificial overhanging cover structures in Victoria should be commenced as soon as possible, since results may not be apparent until five to six years after installation, as was the case in the USA.

The removal of small dams and weirs to allow for fish passage is more prevalent in the USA than in Victoria. A number of sites were visited where large weirs had been converted to rock-ramps that create a complex pattern of water flows that allow fish passage for a range of fish species and sizes. These boulder-rapids may be more aesthetically acceptable and equally as functional for fish-passage than the, now standard, concrete vertical-slot fishway that has been used in many Australian streams.

The scientific exchange program provided invaluable professional contacts to MAFRI that will assist with future research and management of Victoria’s fish habitat rehabilitation projects. Many of the US projects observed have already solved some of the problems in fisheries management that we are only now starting to deal with here in Victoria. MAFRI, Snobs Creek, will host an invitation-only workshop in February to raise awareness of the potential to manage river fisheries through habitat rehabilitation and to highlight the potential for the application of these US methods to Victorian situations.