
COMMUNITY PROJECTS

Rehabilitation of Fish Habitats in the Murrumbidgee River

The Murray Darling 2001 FISHREHAB component of the Natural Heritage Trust (NHT) program provided funds to rehabilitate fish habitats in a section of the Murrumbidgee River in the ACT. The project is managed by Environment ACT. The specific objectives of the project are:

- to rehabilitate degraded fish habitats (particularly pools) in a section of the Murrumbidgee River between Tharwa and Point Hut Crossing in the ACT;
- to provide enhanced habitat for fish and invertebrate species through the provision of structural diversity in the form of snags; and
- to provide connectivity between high quality fish habitats upstream and downstream of the degraded river section.

A section of the Murrumbidgee River in the ACT between Tharwa and Point Hut Crossing has been severely impacted by habitat degradation, mainly the accumulation of sand. Habitat quality has been declining since the mid-1800s when poor land management practices and three large floods resulted in extensive erosion and accumulation of sand in the river. There is little habitat diversity remaining as the river has changed from a narrow, self scouring channel to a wide depositional system. Sand has filled the majority of holes with a consequent loss of the former pool/riffle sequence. During summer and autumn, the river in some sections near Tharwa is only 10-20cm deep, making it too shallow for native fish passage.

Sediment addition is a major threatening process to fish, particularly species which lay adhesive eggs on the substrate such as Macquarie Perch. In such situations, sediment can either smother the spawning beds rendering them unsuitable, or smother the eggs themselves. The reduction in depth and occurrence of pools has also removed potential refuges for fish from high summer water temperatures. Increased sediment loads have probably also affected benthic invertebrate communities, the primary food source of native fish species.

Most of the eucalypt trees have been removed from along the river's edge, depriving fish of shady areas and a natural source of large woody debris, needed to provide habitat diversity.

Rehabilitation of the river has two components, the construction of a series of 'deflectors' (rock groynes anchored to the riverbank) along the banks of the river downstream of Tharwa Bridge, and the creation of a habitat pool incorporating woody debris.

A series of 15 deflectors, spaced approximately 50 metres apart were to be established along the river. These will constrict the flow of the river to scour away the accumulated sand, providing deeper holes in the river for the area's endangered fish including Macquarie Perch and Trout Cod and the locally rare Murray River Crayfish.

The works will promote movement and recolonisation of fish by enabling them to move between the higher quality habitats upstream and downstream of the sand-impacted area.

A 50 by 15 metre habitat hole will be established in the project area and logs placed in the pool to increase habitat diversity. The pool is designed to recreate a major fish habitat in an area where deep pools no longer exist.

Rehabilitation works in the area first began in 1998 when Environment ACT, with funding from the Natural Heritage Trust's Fisheries Action Program, constructed two trial deflectors in the river, successfully producing one-metre deep scour holes. Recent fish surveys have recorded Trout Cod using these scour holes. Trout Cod had not previously been recorded in this section of the river.

Construction of the 15 deflectors and the habitat pool was completed in April 2001. Increased river depth, along with increased fish diversity and abundance, are expected as early as next year.

The rehabilitation works are consistent with the management strategy outlined in the Recovery Plans for the threatened Macquarie Perch, Murray River Crayfish and Trout Cod. Other fish species such as Murray Cod and Golden Perch are also expected to benefit.

The changes to the river will be monitored using depth and variability of depth as indicators of success of the deflectors. Fish surveys will be conducted annually to assess changes in fish species and abundance.

Waterwatch

Waterwatch is a community water quality monitoring program that aims to equip local communities with the skills and knowledge to become involved and active in the protection and management of their waterways and catchment.

Waterwatch is supported through a partnership of Commonwealth and Territory governments and community groups. There are three part-time Waterwatch Coordinators who are employed by three different employers in three separate work locations: Lake Tuggeranong College, ActewAGL and the Ginninderra Catchment Group.

The Waterwatch network is made up of individuals, community and school groups who undertake a variety of biological and habitat assessments as well as physical and chemical tests to build up a picture of the health of their waterways and catchments.

Waterwatch groups initiated many positive, community based conservation activities such as creek restoration, willow removal, removing litter from waterways, eradicating weeds, developing habitats, reducing the use of pesticides, fertilisers and other pollutants.

This year Waterwatch has been involved in many exciting new and ongoing catchment programs and groups including:

- The Catchment Health Indicators (CHI) project. CHI is a three year NHT pilot program that aims to develop a method that can be used by the community to measure catchment health. CHI report cards have been developed for the Ginninderra Catchment group, SWAMP (Sustainable Water Action Management Project), Friends of Tidbinbilla and Sullivans Creek Catchment Group. Data collected by community volunteers is interpreted to identify problem areas so the landowners and Landcare groups can be directed to focus on ground activities.
- SWAMP, funded by the National Heritage Trust for a three year period from May 1998 to April 2001, helped address the concerns that the community holds for the health of the streams, catchments and water management in the project area. This area included Woolshed Creek, Pialligo Brook, Reedy Creek, the Molonglo River in the ACT and Queanbeyan River below Googong Dam and Jerrabomberra Creek. Many

of the groups and individuals have continued their monitoring program under the direction of the Molonglo Waterwatch Coordinator.

- Many groups and individuals active in the SWAMP program are continuing their monitoring program through Waterwatch.
- National Waterweek is a very active time of year for Waterwatch with Aquafest providing the main focus for celebrations. Aquafest is held at Lake Tuggeranong College and consists of about 20 interactive water related educational exhibits. Over 1,000 students attend Aquafest each year.
- The annual Waterwatch Snapshot event involves schools and community groups to assess their local catchment health by undertaking a macro-invertebrate identification check during autumn and spring.
- Race around the Catchment (RATC) is a national video competition that encourages Waterwatch groups to produce a three minute video about their local catchment.

Getting Involved in Waterwatch

If you are interested in improving the health of your local waterway and meeting or forming a group of like minded individuals you should begin by contacting the Waterwatch Facilitator on 6207 2246.

The Waterwatch web site is located at www.act.waterwatch.org.au and features information on Waterwatch, resources, contact details and a library of relevant publications and fact sheets.

Integrated Catchment Management

In early 2000, Environment ACT released a framework for the future management of natural resources in the ACT. The *Integrated Catchment Management (ICM) Framework for the ACT* was developed in consultation with a range of community and Government organisations. The framework recognises that integrated management of our resources is the most effective way of dealing with environmental issues. It also acknowledges the integral role played by the community in natural resource management.

Sub-catchment planning is one of the most effective tools for delivering ICM on the ground. It brings together community groups and also provides an opportunity for the community and Government to work closely together for the greater environmental good.

Two such plans have already been developed in the ACT—Ginninderra Creek Catchment Strategy and Sullivans Creek Catchment Plan. Both plans have been successful in attracting large amounts of money for environmental restoration works, whilst also coordinating cooperative community involvement in resource management.

Environment ACT is sponsoring the development of sub-catchment plans for six sub-catchments in the ACT over the next two years, with Tuggeranong-Tharwa and Weston Creek being the pilot sub-catchments. The Plans will eventually form an integrated network of sub-catchment plans across the ACT, to be implemented by resource managers.

To date the first editions of the Tuggeranong-Tharwa and Weston Creek sub-catchment plans have been developed in consultation with the community and Government.

An important part of creating 'plans' is to ensure that they are implemented and resourced. Environment ACT will assist the community in the formation of a Community Catchment Group to own and progress the final plan.

Riparian ACTion

The ACT Riparian Restoration Program 2001 is now underway in the ACT. Called 'Riparian ACTion', the project is a joint initiative of Greening Australia and Environment ACT with funds sourced from the Murray-Darling 2001 Program of the Natural Heritage Trust. Riparian ACTion seeks to target incentive funding to landholders and land managers to undertake erosion control measures and vegetation restoration within riparian zones along the Murrumbidgee River and its tributaries in the ACT.

Greening Australia field staff are assisting Environment ACT in delivering the program by providing a field officer to liaise with property owners and provide technical advice on riparian zone revegetation. The project also closely links with Greening Australia's 'Bidgee Banks' project operating in the NSW Middle and Upper Murrumbidgee River Catchments. This project is delivering similar funding to landholders to provide for actions such as off-stream watering points, fencing of riparian vegetation and rehabilitation of degraded watercourses.

Considerable efforts were undertaken in the previous reporting period to target the funds to the areas of greatest need. An ACT wide analysis of stream condition over time was completed to inform decisions about funding. This approach used historical records, such as aerial photographs, to identify any changes in drainage networks. Many streams, channels and gullies in the ACT are still undergoing natural processes of change that need to be better understood. Similarly, much gully erosion is no longer active and under natural processes of revegetation and stabilisation.

In looking at the priorities for funding a number of factors are being considered by the community/government steering group for the project. Of importance are links to other initiatives being undertaken in the ACT to address the conservation of natural values in rural areas. For instance, the ACT's Rural Conservation Fund, also supported by the Natural Heritage Trust, addresses the conservation of remnant native vegetation on rural properties. The joint delivery of these two projects by Greening Australia will achieve significant outcomes in addressing erosion and land degradation issues and nature conservation needs comprehensively across each landholding.

Riparian ACTion funding is now available to property owners to assist with fencing materials, earthworks, tubestock, direct seeding and ancillary measures. Funding is expected to be matched by applicants, either in-kind or with cash contributions. It is expected that on-ground works using this funding will commence in the autumn of 2001.

Monitoring water quality improvements following on-ground works is an important aspect of Riparian ACTion. The monitoring work will be done in collaboration with the ACT Waterwatch Program that is well established in most sub-catchments of the ACT.

For more information
John Feint
ACT NHT Coordinator
Environment ACT
Tel: 02 6207 5584
Fax: 02 6207 2244
Email: john.feint@act.gov.au