

RIPARIAN AND INSTREAM HABITAT RESTORATION IN UPPER MOLONG CREEK

overview of the project

The aquatic habitat of an 8km stretch of the upper Molong Creek was successfully restored through the large scale removal of willows by the NSW Council of Freshwater Anglers. The group worked closely with Orange City Council and Cabonne Shire Council to eradicate willows from the catchment, replant native riparian vegetation, and reinstate habitat features such as riffles and snags to encourage native fish back into the creek.

Prior to this project, willows had spread unchecked along the banks and bed of upper Molong Creek and the banks of Lake Canobolas into which the creek flows. The main objective of this project was to enhance water quality and fish habitat to improve the survival and growth of native fish species that are stocked in the lake by Department of Primary Industries. Reported observations by landholders and anglers suggest that the number of Redfin in the lake has now been significantly reduced, and stocked species such as Macquarie Perch, Silver Perch, Murray Cod and Golden Perch are increasing in number.



Molong Creek with removed willows stacked in piles and riparian planting

how the project was carried out

The project adopted the current best practice for willow removal. Willows were killed by stem injection or butt application, with the trunks cut close to ground level. The timber was stacked in piles for burning, or where there was risk of water being contaminated by ash the timber was left to decompose. Riparian erosion was avoided by leaving the willow root systems untouched.

Strategic follow up planting of a variety of native tubestock including casuarina, wattle, teatree and eucalypts was carried out to maintain long term stability and tree cover of the creek banks. In areas where cattle grazing was prevalent the young plants were fenced for protection.



Placing a hollow timber log for fish habitat

The aquatic habitat within the creek has been enhanced with the introduction of riffles and snags to create a diversity of habitat types within the newly cleared stream. Four large hollow hardwood logs were also placed at the entrance to the creek to form habitat for native fish species.

outcomes now and in the future

The project has successfully begun the restoration of 8km of Molong Creek, much of which was densely infested with willows and an undergrowth of blackberry. Prolonged drought and low lake levels assisted the project by providing access to wetland areas that would normally be inaccessible for heavy machinery.

Qualitative observations suggest there has been a significant improvement in water quality and the species diversity of the fish population. The fish population of the lake was formerly dominated by small Redfin, an introduced species, now Golden Perch of up to 1.5 kilograms have been reported by recreational fishers using the lake. The number of Redfin now present in the lake would appear to have reduced due to predation by Golden Perch.

The elimination of willows from the creek bed has allowed the unimpeded flow of water within Molong Creek. Landholders have observed fish spawning in the upper reaches of the creek since the willow removal, an event that has not been reported for approximately 50 years.

benefits, challenges & lessons learned

The willow stumps will require monitoring for several years to treat any regrowth that occurs. Council has agreed to provide support to the project to continue monitoring and treatment of regrowth.

The NSW Council of Freshwater Anglers has been active in encouraging other councils throughout the state to eradicate noxious willows. Substantial public exposure for this project in the form of on-site signage, newspaper stories, a school project and an exhibition has resulted in further action from Council, landholders and mining companies to map and eradicate willow infestations throughout the Orange district.