Department of Sustainability and Environment

# Tahbilk lagoon

# Freshwater catfish project

## The Tahbilk Lagoon

The wetlands and lagoon at Tahbilk support a rich biodiversity and an impressive suite of natural values. Threatened species such as the Murray-Darling Rainbowfish (*Melanotaenia fluviatilis*), Murray Short-necked turtle (*Emydura macquarii*), Small Scurf Pea (*Cullen parvum*), Watershield (*Brasenia schreberi*), and a lengthy list of threatened bird species are found at the site.

Several organisations and local stakeholders are working together to support these natural values and a small team is specifically studying the Freshwater Catfish *Tandanus tandanus* at Tahbilk. Freshwater Catfish (listed under the Victorian Flora & Fauna Guarantee Act 1988 and recognised as endangered in Victoria) are a particularly important natural value associated with the lagoon.

The Department of Sustainability and Environment's research branch – the Arthur Rylah Institute for Environmental Research (ARI) - is working with the Goulburn Broken Catchment Management Authority, the Tahbilk Winery, Goulburn-Murray Water and local landholders to develop and implement management recommendations for the site.

## Freshwater catfish (Tandanus tandanus)

Freshwater Catfish are generally widespread throughout the Murray-Darling Basin, but usually found in lower elevation, slower flowing rivers. The species has declined in Victoria, particularly since the late 1970s/early 1980s, and is now rare in many areas where it was once abundant. Freshwater Catfish are likely to have declined because of the many changes in their habitat, including sedimentation of substrates, changes in water levels during spawning and nesting, and changes in water quality. Introduced Carp (*Cyprinus carpio*) and Redfin (*Perca fluviatilis*) are also believed to have played a role in the decline of Catfish.

One of the interesting features of Catfish is their breeding behaviour. Male Catfish collect pebbles, stones or small sticks and construct a circular nest, up to 2m in diameter. Female Catfish lay eggs amongst the nest material, the males fertilise these eggs. The male then actively maintains the nest by chasing away potential predators and using his tail to maintain a clean, sediment-free, oxygen-rich environment for the eggs.



Freshwater Catfish. Photo: Murray-Darling Basin Authority



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At Tahbilk, ARI has conducted surveys to gain more information on the fish population. It is clear that the lagoon represents an important site for the species, and the range of size classes present indicates successful recruitment. Researchers are continuing to study the Tahbilk Catfish, and working with other stakeholders to support the population.

### Tracking Tahbilk's Tandanus

Researchers are also interested in how the Freshwater Catfish move around the lagoon, what habitats they occupy, and their movements to and from the Goulburn River. The ARI team has tagged several Tahbilk Catfish with radio transmitters and camped by the lagoon to track the movements of these fish through day and night.

Working in roughly six hour shifts over 72 hours in late December 2009, the research team logged the positions of 11 previously tagged Catfish every two hours. At that time of year, it was expected that male fish would tend to move little, as they could be maintaining nests. Female fish might be expected to move around more, potentially moving into more open areas to feed around dusk.

During the tracking, Catfish were observed to make regular movements, particularly during the night, with several returning to favoured 'day places' and then alternatively to favoured 'night places'. Almost exclusively, the fish remained under the cover of aquatic plants forming wide fringes on the lagoon, and frequently around snags. Fish very rarely moved into the open centre of the waterway, reinforcing the need to maintain good levels of cover in the lagoon for this species. Detailed analysis of the fish movements is now underway.

Tracking the Catfish is providing information to support decision-making to implement fish passage and a range of habitat improvement works at the site.



Tracking Catfish implanted with radio transmitters.



Surveying fish in Tahbilk lagoon.

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