Murray Hardyhead

An adult Murray hardyhead (© Mike Hammer)

Background

South Australia has an amazing array of freshwater plants and animals but record low inflows to the River Murray have meant that many of these are now under extreme threat.

The freshwater habitats that they rely on for food, shelter and breeding have been drying at an alarming rate, especially since 2006. Several freshwater native fish species have been driven to the edge of extinction in South Australia.

The Murray hardyhead story

The Murray hardyhead, a now critically endangered freshwater fish, is unique among other native freshwater fish in that it flourishes in moderately saline waters.

During 2007-2008 urgent action was needed to ensure Murray hardyhead survival and an emergency fish rescue had to be undertaken at three sites in South Australia; namely Boggy Creek, Berri Evaporation Basin and Disher's Creek.

Rescued fish are now being bred in a special captive breeding program at the Murray-Darling Freshwater Research Centre (Mildura).

The next step for recovery of these fish was to find them suitable surrogate refuge homes (sites other than their wild habitats). Work to find surrogate homes for these fish in wetlands and farm dams has been underway since 2008.

Fish bred in captivity were released into the first surrogate refuge site, a dam near Tungkillo, in May 2010. Several suitable sites have been found and more are being sought.

It is hoped that these fish will breed and some of their offspring can eventually be released back into the wild once conditions improve. Some wild sites have received critical environmental water as an important step for future recovery.

The Murray hardyhead is an important part of local and regional biodiversity and ecosystems.

How to spot a Murray hardyhead

The Murray hardyhead *(Craterocephalus fluviatilis)* is a small thin fish commonly reaching 5 cm in length. It has a silvery to golden body, with a paler silvery sheen on its belly and a silvery black stripe along its side. The two dorsal (back) fins are quite small and low, the tail fin is forked and the silvery eye is large.

Critically endangered in South Australia

The Murray hardyhead is currently listed as:

- **Vulnerable** nationally
- **Critically Endangered** in South Australia and is **Protected**.
- **Threatened** (**Critically Endangered**) in Victoria
- **Critically Endangered** in New South Wales.

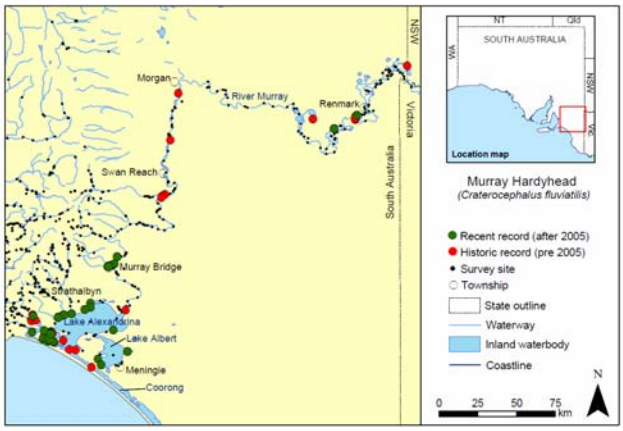
Where they live

The Murray hardyhead was once widespread and abundant in low lying wetland areas throughout the South Australian part of the Murray-Darling Basin, including the Lower Lakes and the River Murray.

Since 2006, as the drought in South Australia got worse, they have disappeared from many of their former sites or occur in much lower numbers.

Today they remain in only a few wetlands and saline basins along the Lower Murray (including Disher Creek and Riverglades) and have been lost from much of their Lower Lakes habitat.

What is its habitat like?



Murray hardyhead distribution in SA (Map sourced from 'Action Plan for South Australian Freshwater Fishes 2009.')

Murray hardyhead can survive in quite saline environments but prefer slightly brackish water (slightly saltier than the sea) to quite saline (almost half as salty as the sea). Within this range, Murray hardyhead appear to have a competitive advantage over many other less salt tolerant native freshwater fish.

It is usually found along the sheltered edges of lakes and in wetlands, often in areas with abundant submerged water plants such as milfoil, foxtail and eel grass.

Murray hardyhead tend to form schools, with young fish spread throughout a water-body while adult fish are often spotted in shallow areas, including open sand banks, and among emergent plants (such as reeds).

Breeding

This species has a short life and fish generally reach sexual maturity, spawn and then die within their first year. This means that any failure to breed successfully can lead to the sudden loss of a population from a site.

The breeding season is quite long (September-April) but peaks from late spring to early summer. Many batches of adhesive eggs are laid and scattered amongst vegetation.

What it eats

This species mainly eats very small crustaceans, some aquatic insects and small amounts of algae.

Threats

The main threat is habitat loss and deterioration due to:

- Poor water quality, such as high salinities that can interfere with breeding
- Management practices that result in water that is too fresh for this species
- Loss of sheltered edge habitat as water levels fall and fish are exposed to predators.

The introduction of redfin (which eat them) and competition with another small, aggressive introduced fish (*Gambusia* or plague minnow) also threaten Murray hardyhead survival.

How to help

- Join a local Catchment Management group and become involved in revegetation and site enhancement projects.
- Reduce water usage in the home to leave more for our water dependent wildlife.
- Leave snags (tree branches) and rocks in the water as they provide habitat for fish and macroinvertebrates.
- Don't remove or interfere with vegetation in and around water as it provides important aquatic habitat.
- If you catch an introduced fish such as redfin don't return it to the water.
- If you find an interesting fish take a photo of it and email it to research@nativefishsa.asn.au.
- Never remove native fish from the water.
- Try not to add to pollutants entering our waterways. You can do this by reducing your use of fertilisers and pesticides, washing your car on the lawn to filter out debris and by picking up dog and cat droppings.

Planning for the future

Actively managing threatened populations in the region is a priority action in *Securing the Future*: *A long-term plan for the Coorong, Lower Lakes and Murray Mouth.*

Securing the Future outlines priority actions aimed at building resilience in the environment and maintaining the ecosystem in a state from which it can recover when freshwater flows improve.

The goal is a healthy, productive and resilient wetland system that maintains its status as a wetland of international importance.

Further information

Department of Environment and Natural Resources
Coorong and Lower Lakes Recovery
(08) 8204 1910
cllmm@deh.sa.gov.au
www.environment.sa.gov.au/cllmm

Native Fish Australia (SA)
research@nativefishsa.asn.au
www.nativefish.asn.au

South Australian Murray-Darling Basin Natural Resources Management Board
www.samdbnrm.sa.gov.au

References

Action Plan for South Australian Freshwater Fishes (2009). Native Fish Australia (SA) Inc.
www.nativefishsa.asn.au

Fish monitoring for the 'Drought Action Plan for South Australian Murray-Darling Basin threatened freshwater fish populations': Summary for 2008/2009.
www.sardi.sa.gov.au