Life in the Waterways

The hidden cryptic world beneath the muddy waterways of the Diamantina–Warburton rivers is home to a wide range of aquatic fauna. When these desert rivers flood, the rivers, creeks, waterholes, and floodplains become connected. This provides a way for aquatic species to expand their breeding grounds and find new feeding areas increasing their populations as they move into new territory.

Fyke nets are used to catch fish for research purposes throughout the Lake Eyre Basin.

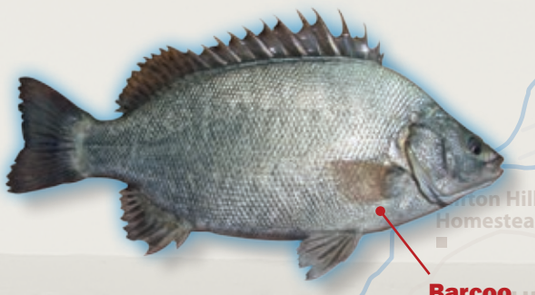
The suspension of fine silt particles in the water causes the characteristic muddiness or turbidity of the Diamantina and Warburton rivers. This clears as the waterholes become more salty. Salt ions aggregate collecting suspended particles, binding them together and making them heavier so they sink and settle at the bottom of waterholes and riverbeds.

Yabbie
(Cherax destructor)
– a popular crustacean with everyone!

What fish live here?

Of the 12 species of fish found here 11 are native and one is exotic. The three most abundant species are Lake Eyre Hardyhead, Bony Herring and Lake Eyre Golden Perch. The least abundant species are Desert Glassfish, Desert Rainbowfish and Barred Grunter.

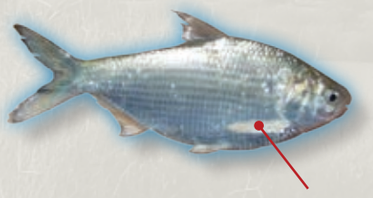
Barred Grunter



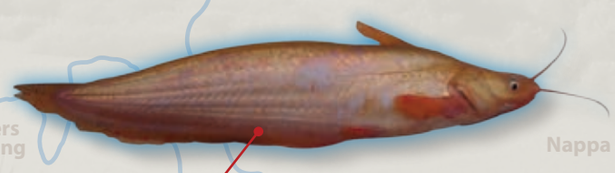
Barcoo Grunter

You may be surprised and delighted if you see a 'periscope'! A 'viewfinder' floating above the water belonging to the Cooper Creek Turtle (*Emydura macquarii emmotti*). It's just surfacing to take a breath. Emmott's Turtle, as it's also known, is restricted to the Cooper Creek and Diamantina systems where it lives in the larger, deeper, more permanent waterholes that last throughout long dry periods.

Desert Goby



Bony Herring



Silver Tandan

Spangled Grunter

Desert Rainbowfish

Hyrtls Tandan

Saltwater Fish

The Lake Eyre Hardyhead *(Craterocephalus eyresii)* is one of the great adaptors of desert river fish. Tolerating salt water concentrations up to three times the salinity of seawater, they alone survive when the hypersaline waterholes of the lower reaches of the Warburton and Kallakoopah creeks dry out.

Although their numbers fall during fresh water flows they manage to maintain breeding numbers for the dry periods when waterholes return to being the salty habitats they enjoy.

The Lake Eyre Golden Perch (*Macquaria* species) also known as the yellowbelly. This is the apex predator – the top of the fish food chain in most of the desert river systems. They spawn regularly on the first flood of the season and can grow to 600mm. In boom times their numbers in waterholes and lakes such as Lake Hope increase rapidly. It is an excellent eating fish and Aboriginal people made nets of natural fibre to catch them throughout the Lake Eyre Basin.

Gambusia – Unwelcome Intruders

Gambusia (*Gambusia holbrooki*) are also known as Mosquito Fish. Increasing numbers of Gambusia in parts of the system is a growing threat. They were introduced to control mosquitoes but have spread rapidly throughout the river systems and now out-compete native fish and frogs. They are olive tan or grey with silver (blueish grey) sides and bellies. Growing up to 60mm they thrive in artesian springs and bore drains.

Welch's Grunter

Threats to fish species

Variable flows – Complex flow regimes are important to maintain the diverse range of aquatic fauna in this system. It is essential that the current flow regime is maintained and not affected by upstream and cross-border water development.

Big deep holes matter

The deep channels and waterholes in the Diamantina section of the river system are vital refuges for sustaining and preserving aquatic life in a world of intermittent water flows. They are the last water refuges sustaining freshwater aquatic life during drought. When floods re-fill the channels, floodplains and wetlands, the surviving fish migrate through the system and breed, providing renewed sustenance for incoming birds.

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South Australian Arid Lands Natural Resources Management Board
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Photos courtesy of S.Bond, B.Enders, DEWNR and SARDI.