

# Native Freshwater Fish

*Are you interested in the native freshwater fish of Eyre Peninsula? This fact sheet provides some helpful identification tips, explains the difference between species, highlights potential threats and suggests ways you can help protect native fish.*



## Aquatic environments of Eyre Peninsula?

Eyre Peninsula is a region which lacks extensive permanent natural bodies of surface water. Features of the landscape include: a series of freshwater to saline lakes along the west coast including Lakes Wangary, Greenly, Hamilton, and Newland; a range of sink holes, a river and seasonal creeks connecting to the sea including Tod River, North Shields Creek, and Minniribbie Creek and various estuaries.

## Fish of the region

Apart from some old historical records dating back to the early 1900's, and subsequent opportunistic records taking place since this time, there has been little formalised research on Eyre Peninsula's native fish.

The full distribution of native fish is still unknown, with the majority of records from the southern parts of the peninsula, where most of the permanent natural waters and waterways are located. However, several anecdotal reports have also been received about native fish in the western and northern parts of the region. Work is being conducted to verify these reports. As more research is conducted there is a possibility that new records of species presence and distribution will be made.

A range of introduced species have also been recorded, including redfin, perch and goldfish.

## Habitats and life cycles

The required habitat varies with the species. Some prefer open water and are active free swimming species, some live in or near vegetation, while others are bottom dwelling benthic species, associated with a complex substrate such as snags, and rocks. Spawning and life history vary greatly, with some species utilising cover such as logs and vegetation to deposit their eggs. A key aspect to survival is the availability of refuge areas that retain sufficient water when other parts of the watercourse dry up enabling the fish to survive dry conditions and to re-colonise when conditions improve. Some species are diadromous, spending part of their life-cycle in freshwater and part at sea.

These barriers result in aggregations of fish which are susceptible to impacts, including predation, and exposure to poor conditions. Furthermore the inability to cross these structures prevents migration and can result in fragmentation of populations and lost connectivity to the sea.

Natural Resources Eyre Peninsula (NREP) is working towards reducing the impacts of these types of structures through the water affecting activities program. For information on fish friendly culverts contact Natural Resources Eyre Peninsula (see contact details on last page).

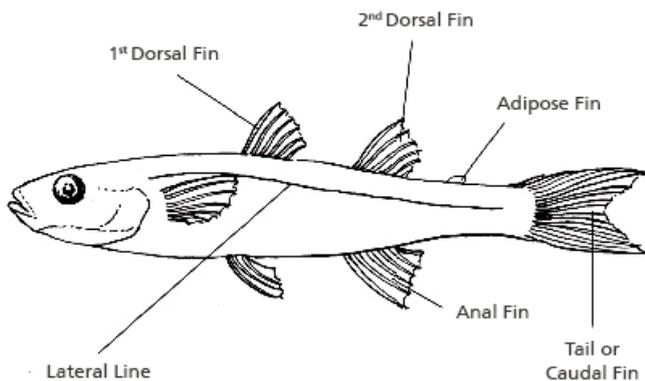
**Native fish are impacted on by altered catchment hydrology affecting the permanency and quality of pools.**



Fish are reliant on a variety of biological processes and are easily affected by the above-mentioned threats. The presence and abundance of native fish is often an indication of waterway health.

### How to identify a fish

The appearance of fish varies greatly with different habitats, sizes and life history. Use the photos and information on this fact sheet as a guide to identification, and consult the references suggested below for further information. You can also contact NREP for assistance. Importantly, make sure you record details and take photos of the key features used for fish identification summarised in the diagram below:



### What to do if you find a fish

Remember that native fish belong in their natural environment and are adapted to life under the water. Minimise the stress by handling gently, and do not expose sensitive gills to air for extended periods. When handling fish make sure your hands are wet, as touching them with dry hands can damage their skin. The best method to identify fish is to briefly observe the specimen in a suitable container, e.g. bucket or clear container such as a jar. If possible take several photos from different angles, making sure you capture details such as the alignment of dorsal and tail fins, the jaw structure, and patterns on skin, before returning the fish to the water as quickly as possible. Remember, several native species are protected, and a permit may be required if you are intentionally targeting native fish, even for research purposes.

## Native fish of Eyre Peninsula

### Smallmouthed Hardyhead (*Antherinosom mictostoma*)



- Size: total length max 8cm, common 4-5cm
- Tips for ID: Distinctive slender body with a silver stripe down the lateral side. Note that this stripe can also be bright orange during the nuptial (*spawning*) phase.
- Habitat and ecology: An estuarine species that can inhabit freshwater to saline environments. A free-swimming, schooling fish which favours environments with vegetation. Feeds on small crustaceans, insects and other small animals. Lays relatively large eggs in aquatic vegetation.
- Status and Threats: Degradation of estuarine environments and exclusion from freshwater reaches is likely to have reduced the range of this species. Can be locally common, and possibly on the increase in areas of rising salinity.
- Unique features: This fish has a wide salinity tolerance and is able to occupy both fresh and saltwater.
- Location: Has been found in permanent spring-fed waters of Lakes Hamilton and Newland, as well as brackish to saline waters of estuaries and coastal lagoons and lakes. Recent surveys on Eyre Peninsula detected this species in areas that have lost connectivity to the sea. Preliminary results indicate that these populations can be self sustaining even without this connection to the sea.



**Congolli** (*Pseudaphritis urvillii*)

- Size: total length max 35cm, common 10-20cm.
- Tips for ID: Reasonably distinctive, highly variable in colour, and generally blotchy. Can be distinguished by the very long second dorsal and anal fins.
- Habitat and ecology: Inhabits estuaries and lower reaches of waterways, preferring sandy and muddy bottoms. Can migrate large distances inland where it utilises cover such as snags. Spawns in estuaries where juveniles are generally found. A predatory benthic species feeding on fish, worms, insect larvae and small crustaceans.
- Status: Listed as vulnerable in South Australia.
- Location: Previously documented in the Streaky Bay area. In the past was a well-known and abundant inhabitant of freshwater systems with connection to coastal areas and estuaries. Recent records are patchy, with no recent records on Eyre Peninsula.

**Western Bluespot Goby** (*Pseudogobius olorum*)

- Size: total length max 8cm, common 3-5 cm.
- Tips for ID: Look for the distinguishing blue spot on the dorsal fin (can also be dark or absent), rounded head, no lateral line and cup-like pelvic fin.
- Habitat and ecology: Benthic species prefers muddy and rocky habitat, and are typically found in lower reaches of waterways and estuaries. Also do well in wetlands and some inland creek environments. Eggs are spawned under rocks or in crevices which the male guards and fans until hatching. Diet includes small prey such as amphipods, copepods, larvae and other macroinvertebrates.

- Status and threats: Range decrease due to reduction of wetlands. Landlocked populations are under threat from water extraction and pollution.
- Unique features: Iridescent blue spot; has been shown to have high salinity tolerance.
- Location: Lake Wangary and/or connecting Minniribbie Creek, Tod River, Salt Creek.

**Climbing Galaxias** (*Galaxias brevipinnis*)

- Size: total length max 25cm, common 10-18cm.
- Tips for ID: Undercut lower jaw, dark jelly bean spot behind gill cover, uniform large spots on body, thicker tail than *G. maculatus*, large pectoral fins. Transparent juveniles can be identified by the anal fin beginning behind the origin of the dorsal fin.
- Habitat and ecology: Occur in mid to upper sections of catchments, in deeper, cool ponds that are often spring fed and have high levels of in stream rock cover with a good buffer of riparian vegetation. The lifecycle is yet to be confirmed in SA, and may be localised within some catchments. Feeds on aquatic and terrestrial invertebrates.
- Status and threats: Listed as Rare in South Australia. Climbing Galaxias are likely to be influenced by altered catchment hydrology affecting both the permanency and quality of water pools and habitat change, especially land clearance and loss of stream side vegetation.
- Unique features: Large pelvic and pectoral enable this species to wriggle in a lizard like way to climb steep rock faces and migrate upstream around barriers.
- Location: Tod River.



**Common Galaxias** (*Galaxias maculatus*)

- Size: total length max 19cm, common 6-10cm.
- Tips for ID: Has a slightly forked tail, body is greenish-grey in colour with faint dark speckles. Dorsal fin is in line with the anal fin. Juveniles are translucent.
- Habitat and ecology: A diadromous, free-swimming species (where adults are associated with the lower regions of rivers) with a marine larval stage. However recent surveys on Eyre Peninsula have revealed self sustaining populations high in catchments that do not have a marine connection. Juveniles can be found in estuaries migrating back into freshwater. Spawns on submerged vegetation and floating algal mats, generally in estuaries. An opportunistic carnivore feeding on a large variety of food such as aquatic and terrestrial insects.
- Status and threats: Found in high abundance on southern Eyre Peninsula. Its free-swimming nature leaves it vulnerable to predation. Barriers preventing marine connection may also reduce availability of suitable habitat for breeding, especially during prolonged dry periods.
- Unique features: Can form active schools, especially as juveniles.
- Location: Has been recorded in several catchments on Eyre Peninsula, notable locations include the Tod River, North Shields Creek, Lake Wangary, and Little Swamp. Work is currently being undertaken to document species range across other inland natural waters.

**Introduced fish in Eyre Peninsula**

Most exotic fish are prolific breeders and under the right conditions can quickly displace native species. The effects of different introduced species can vary in certain environments (e.g. stream versus wetlands).

**The impact of introduced species on native fish can be categorised as follows:**

- predation
- competition
- behavioural changes
- habitat modification
- spread of disease and parasites

**The species of introduced fish recorded on Eyre Peninsula include:**

- Goldfish (*Carassius auratus*)
- Redfin (*Perca fluviatilis*)
- Rainbow Trout (*Oncorhynchus mykiss*)
- Gambusia (*Gambusia holbrooki*)

**Further information**

For further information please visit our website or contact Natural Resources Eyre Peninsula. Alternatively you can go to the Freshwater Fish section of the NREP website and watch a digital story on the results of recent survey work completed. More information at [nativefish.asn.au](http://nativefish.asn.au).

**Contact us****Natural Resources Eyre Peninsula**

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Reference: Hammer, Wedderburn, van Weenan (2009) Action Plan for South Australian Fresh Water Fishes ([www.environment.sa.gov.au](http://www.environment.sa.gov.au)), Hammer, M. (2009) Data Sheet Freshwater Fishes of South Eastern South Australia [Fact Sheet] Native Fish Australia SA incorporated.

Acknowledgements: Some text: Michael Hammer

Illustration: Kathleen Munn

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