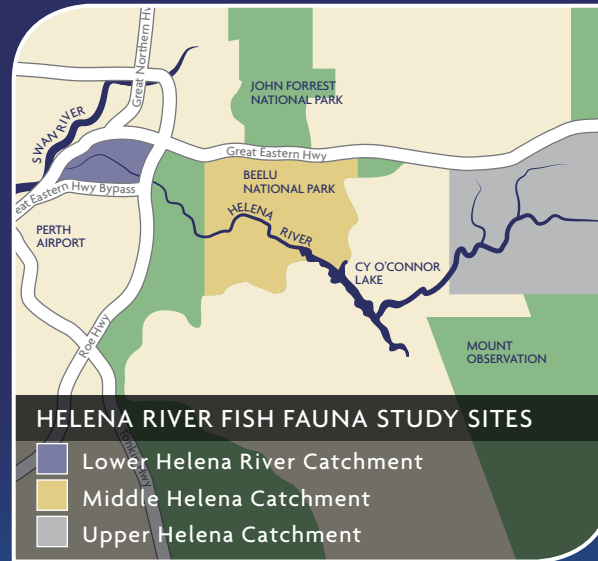


Actions to protect

THE HELENA RIVER FISH CAN BE PROTECTED THROUGH;

- ▶ 1 The release of environmental flows (water) to flush the Middle and Lower Helena River. This will improve water quality and help eliminate accumulated organic matter and nutrients while increasing water volume in the pools.
- ▶ 2 Revegetation and bringing in structures like logs, branches and rocks will provide cover and habitat for native fish. Riparian (river bank) vegetation and aquatic plants improve water quality by filtering nutrients, reducing run-off and sedimentation while providing a wind buffer for airborne pesticides and weed seeds. Protecting remnant vegetation is also important and very cost-effective.
- ▶ 3 Collection of seasonal water quality data, including pollutants such as pesticides; herbicides; heavy metals; and hydrocarbons, is necessary to assess the causes of low fish numbers.
- ▶ 4 Discouraging the release of yabbies and exotic fish in waterways.



Fish of the Helena River Catchment



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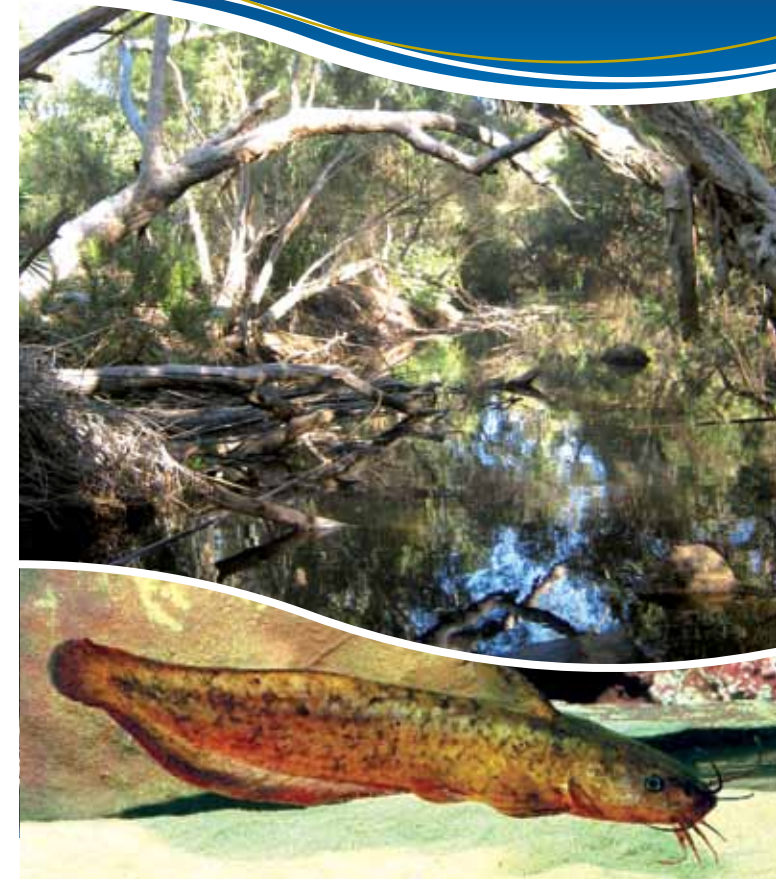
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Protecting Perth's Eastern Region 



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Fish of the Helena River Catchment



In 2010 and 2011 a survey of freshwater fish was undertaken by the Eastern Metropolitan Regional Council, Swan River Trust & University of WA in the Helena River Catchment.

The purpose was to determine the species composition and distribution of native fresh water fish in the permanent pools of the Catchment.

The survey data has provided a baseline for the ongoing monitoring of fresh water fish and has resulted in the development of a number of management actions, to increase fish habitat through the restoration and protection of the Catchment.



Freshwater fish



In this study five native species were found in the Helena River Catchment which included the Western Minnow (*Galaxias occidentalis*), the Western Pygmy Perch (*Nannoperca vittata*), Nightfish (*Bostockia porosa*), Freshwater Cobbler (*Tandanus bostocki*) and the Swan River Goby (*Pseudogobius olorum*).

Although none of these species are considered to be restricted or rare, the freshwater cobbler is locally threatened on the coastal plain due to habitat loss.

Two estuarine species have been found in the Helena River. The Swan River Goby (*Pseudogobius olorum*) can occur far upstream especially in rivers that are affected by secondary salinisation. The lower reaches of the Helena are estuarine and a number of marine species have been recorded, such as Black bream (*Acanthopagrus butcheri*) and Yelloweye mullet (*Aldrichetta forsteri*). The Western Hardyhead (*Leptatherina wallacei*) has been recorded in the Swan River, near the confluence of the Helena River, and may utilise the Helena.



Threats



The biggest threat to the Helena River fish is low dissolved oxygen (DO). Hypoxic waters (low in dissolved oxygen) were found in the Lower and Middle Helena.

Anoxia (complete lack of oxygen) can cause the death of many aquatic organisms and may also result in the release of nutrients and heavy metals from the sediments, causing further water quality problems.

Other major threats to the fish of the Helena River are:

- ▶ loss of habitat and sedimentation from clearing
- ▶ secondary salinisation
- ▶ eutrophication (excess nutrients) from urban and agricultural wastes
- ▶ competition and predation from exotic fish species (e.g. Eastern Mosquitofish (*Gambusia holbrooki*) Redfin Perch (*Perca fluviatilis*) and Goldfish (*Carassius auratus*)
- ▶ climate change and extraction of water to supply Perth and the Goldfields



Swan River Goby ▶
Pseudogobius olorum

◀ Western Hardyhead
Leptatherina wallacei

Western Pygmy Perch ▶
Nannoperca vittata

Nightfish ▶
Bostockia porosa

Freshwater Cobbler / Catfish ▶
Tandanus bostocki

◀ Western Minnow
Galaxias occidentalis

Eastern Mosquitofish ▶
Gambusia holbrooki

Redfin perch ▶
Perca fluviatilis

Goldfish ▶
Carassius auratus

Estuarine Species

Freshwater Species

Exotic Fish Species