

# Estuarine Species

- often found well inland

The Swan River goby and the western hardyhead are the most commonly encountered estuarine species in the rivers and lakes of south-western Australia. Their range has increased substantially due to the unnaturally elevated salinities (through large-scale land clearing) now encountered in many of the regions rivers, e.g. Moore, Swan, Blackwood, Frankland and Phillips Rivers. Other estuarine/marine species, including the big-headed goby, black bream and mullet, are also occasionally found long distances inland in the south-west.



## WESTERN HARDYHEAD

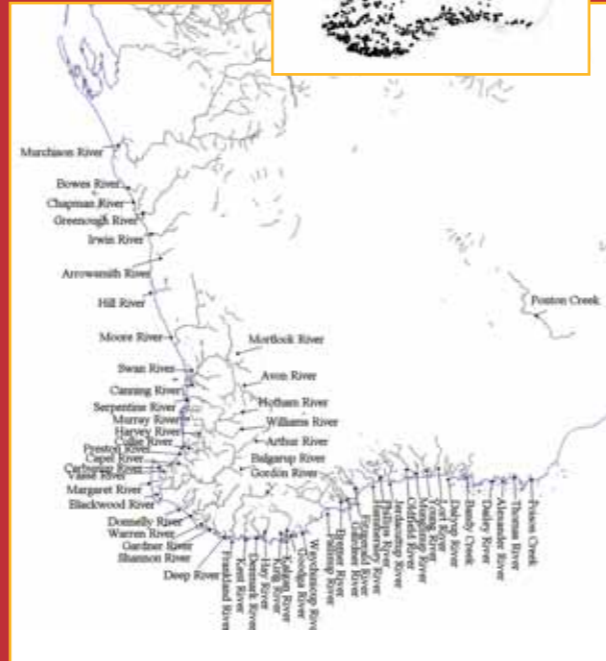
*Leptatherina wallacei* (Moore River to Thomas River)



## SWAN RIVER (BLUE-SPOT) GOBY

*Pseudogobius olorum* (Murchison River to Poison Creek)

1300 sites sampled  
Murchison River to Israelite Bay



Maps: David Morgan

Five species of freshwater fish, the black-stripe minnow, mud minnow, salamanderfish, Balston's pygmy perch and trout minnow have very restricted distributions, with the first four listed as restricted or vulnerable. The trout minnow appears to now be restricted to the Goodga River, but like the spotted minnow is also found in south-eastern Australia. While 10 of the species are classified as freshwater, two are considered estuarine (western hardyhead and Swan River goby), often being found a long way upstream in some rivers (particularly those that have become unnaturally salty through extensive land clearing).

### FURTHER READING:

Allen, G.R., Midgley, S.H. & Allen, M. (2002). Field guide to the freshwater fishes of Australia. Western Australian Museum, Perth.

Anon (2000). Introduced freshwater species in Western Australia. Be on the lookout for: yabbies, red-fin, carp, mosquito fish, tilapia, guppies and swordtails. Fish and Fish Habitat Protection Program, Fisheries Western Australia, Perth.

Morgan, D.L., Gill, H.S. & Potter, I.C. (1998). Distribution, identification and biology of freshwater fishes in south-western Australia. Records of the Western Australian Museum Supplement No. 56: 97 pp.

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# NATIVE Freshwater Fishes of south-western Australia



# Freshwater Species

The south-western region of Western Australia has a unique assemblage of freshwater fishes. While the diversity is low, with only 10 native freshwater fish species, 8 are endemic and thus, are found nowhere else. The region has the highest percentage of endemic fishes in the country. They are all well adapted to life in the variable aquatic environment of the south-west, which is characterised by a long dry summer and a cool wet winter. Two of the species, the black-stripe minnow and the salamanderfish live in ephemeral pools (i.e. ones that dry each year) and survive the dry spells by burrowing in the mud. With the exception of the freshwater cobbler, all of the species are small (generally < 150 mm), yet the nightfish and the pygmy perch are related to one of the world's largest freshwater fish species, the Murray cod. Three of the five species of galaxiids (or minnows) are endemic, while the spotted minnow and trout minnow are also found in south-eastern Australia, including Tasmania.

The loss of habitat, through land clearing (causing increased salinity) and eutrophication, as well as competition and predation from introduced fishes are the main threats to this unique fauna. The introduced redfin perch and trout are known to prey on the native fish, while mosquitofish (*Gambusia*) are aggressive and fin nippers. *Gambusia* are extremely widespread throughout the south-west but large areas east of Albany do remain free from this pest species which was historically (1930-present) introduced for mosquito control - research shows however that the native fishes consume far more terrestrial insects than this introduced pest! Indeed, the south-west freshwater fishes have a higher

reliance on terrestrial insects than fishes in other regions of Australia. Other introduced fishes in the region include goldfish, carp, one-spot livebearers and swordtails, all of which have probably been deliberately released from unwanted aquariums. Introduced fishes cause ecological imbalances in the aquatic environment in much the same way that foxes, cats and rabbits (to name a few) impact on native animals in the terrestrial environment. Once entrenched in the waterways, it is unlikely that introduced fishes can be eradicated.



## SALAMANDERFISH

*Lepidogalaxias salamandroides* (Scott River to Kent River)



## WESTERN MINNOW

*Galaxias occidentalis* (Arrowsmith River to Waychinnicup River)



## 1. COMMON JOLLYTAIL

*Galaxias maculatus* (Kent River to Thomas River)

## 2. TROUT MINNOW (SPOTTED MINNOW)

*Galaxias truttaceus* (Goodga River)



## MUD MINNOW

*Galaxiella munda* (Moore River, Margaret River to Goodga River)



## BLACK-STRIPE MINNOW

*Galaxiella nigrostriata* (Swan River, Collie River, Blackwood River to Kent River)



## BALSTON'S PYGMY PERCH

*Nannatherina balstoni* (Moore River, Margaret River to Goodga River)



## NIGHTFISH

*Bostockia porosa* (Hill River to Kalgan River)



## FRESHWATER COBBLER

*Tandanus bostocki* (Moore River to Frankland River)



## WESTERN PYGMY PERCH

*Edelia vittata* (Arrowsmith River to Goodga River)