

FISH TALES

HOBART'S UNDERWATER WORLD

In our daily lives the Derwent estuary appears as a stretch of water dividing Hobart into eastern and western shores, but under the surface is a fascinating world of fish.

About 150 different kinds of fish live in the the Derwent estuary. They come in all shapes and sizes, ranging from sharks, to the often-fished flathead, to tiny near-transparent whitebait.

Where do they live?

Fish can be divided into three types depending on where they are found.

- Pelagic fish live in the water column. In the Derwent, these typically include: eastern Australian salmon, silver trevally, barracouta, jack mackerel, silver dory, school shark, gummy shark and white-spotted dogfish.
- Demersal fish live on or near the sea-floor. In the Derwent, most bottom-dwelling fish live over soft, muddy sediments and include: sand flathead, school whiting, sea mullet, smooth toadfish, elephant fish, flounder and skates.
- Reef fish are associated with shallow rocky reefs, particularly in the lower estuary. These include: bastard trumpeter, banded morwong, Shaw's cowfish, draughtboard shark, red cod, wrasse and leatherjacket, seahorses and pipehorses.

Fun Fish Facts – did you know?



Eel (*Anguilla australis*) Photo: Inland Fisheries Service

Eels

The Derwent catchment has one of the largest eel populations in Australia. Adult eels migrate over 3000km from fresh water to the sea in order to spawn after which it is believed they die. Where they spawn is uncertain but is believed to be in the South Coral Sea off the coast of northern Queensland. That's a long swim! After the eggs hatch, the eel larvae are carried south by the East Australian Current until they reach the continental shelf. At this stage the tiny, transparent eels are known as glass eels. These return to the river their parents left to spawn. Once in estuarine waters the glass eels quickly develop into fully pigmented elvers as they adjust to fresh water, and then make their way upstream.

Sharks

More than 10 species of sharks are found in the Derwent, and the estuary is a nursery area for several commercially important species, such as gummy and school shark. School shark recruitment has declined



Black bream (*Acanthopagrus butcheri*) – NSW Department of Primary Industries.



Jonah Yick from the Tasmanian Aquaculture and Fisheries Institute helps tag and release a 6-gill shark in the Derwent estuary. Photo: A. Barnett, Tasmanian Aquaculture and Fisheries Institute

in the Derwent, particularly in Ralphs Bay, where large numbers of school shark pups were recorded during the 1940s and 50s. The decline may be related to seagrass losses or possible overfishing of the adult breeding stock. Nevertheless, Ralphs Bay is still an important region for juvenile school shark, typically of one to two years in age. The Derwent is a Shark Refuge Area and the taking of sharks, skates and rays is prohibited.



Whitebait. Photo: Inland Fisheries Service

Whitebait

The wetlands of the upper Derwent estuary provide critical breeding and nursery habitat for the group of small semi-transparent fish known as whitebait – which are made up of six different fish species that migrate upstream each spring to spawn and take shelter in estuarine wetlands and mudflats. One whitebait species is the endemic *Lovettia sealii*, which is known to have a life cycle of just one year. Whitebait runs are a key driver for the annual sea-trout runs. They are preyed on by predatory fish and eels. The Derwent

once supported a important whitebait fishery, but commercial fishing was suspended after fish stocks plummeted in the 1950s, leading to the closure of the fishery in 1974. Numbers have slowly increased to sufficient levels for a limited recreational season.

Black bream

Black bream are popular with anglers for their feisty nature, and the Derwent estuary is nationally renowned for trophy-sized bream. A recent study at the Tasmanian Aquaculture and Fisheries Institute (University of Tasmania) found the majority of black bream in the Derwent are relatively old, ranging from 13 to 28 years in age, and that there have been very few breeding events in recent years. Black bream caught in the Derwent should be released, and should not be eaten due to high levels of mercury.



Spotted handfish (*Brachionichthys hirsutus*)

Spotted handfish

The endangered spotted handfish is a small, unusual fish that is slow-moving and prefers to "walk" on its fins rather than swim. Their side fins are limb-like and resemble a human hand – hence their common name. Prior to the mid 1980s, it was common throughout the lower Derwent estuary and adjoining bays, but then suffered a serious decline in distribution and abundance - thought to be related to the invasion of the northern Pacific seastar, combined with poor water quality and habitat degradation. Only a handful of populations are now found at sites in the lower Derwent estuary, but numbers appear to be stable. For further details go to www.environment.gov.au/biodiversity/threatened/publications/tas2002.html

Ready to go fishing?

The Derwent estuary offers excellent fishing and whatever the weather there is often a sheltered bay or cove where you can cast a line. The most commonly targeted species include flathead, bream, trout, Australian salmon and cod. For more information about what to catch and where see the Department of Primary Industries, Parks, Water and the Environment website www.dpipwe.tas.gov.au/inter.nsf/WebPages/ALIR-4YB6HE?open#DerwentEstuary

It is recommended to refer to the *Recreational Sea Fishing Guide* and the *Tasmanian Inland Recreational Fishing Code* before going fishing. These are available from Service Tasmania outlets and most bait and tackle shops, and can also be downloaded from www.fishing.tas.gov.au or www.ifs.tas.gov.au respectively. Fish-measuring rulers are also available from these outlets.

Safe to eat?

You can eat some types of fish from the Derwent, but within limits because of historical heavy metal contamination. The Derwent Estuary Program released an updated brochure entitled *Should I eat shellfish and fish from the Derwent?* in 2009 which included the latest health advice from Tasmania's Director of Public Health. The brochure emphasises the value of fish as a healthy food choice and provides the following advice:

- Do not eat any oysters, mussels or bream taken from the Derwent estuary between New Norfolk and the Iron Pot Light (including Ralphs Bay).
- Pregnant women and young children should limit consumption of flathead and all other Derwent-caught fish to no more than one meal per week, and avoid eating other fish in the same week.
- Other adults should limit their consumption of flathead and other Derwent-caught fish to no more than two meals per week.

The brochure can be downloaded from www.derwentestuary.org.au

The Derwent Estuary Program

The Derwent Estuary Program (DEP) is a regional partnership between the Tasmanian Government, local governments, industry and the community to restore and promote the estuary. The DEP was established in 1999 and has been nationally recognised for excellence in reducing water pollution, conserving habitats and species, monitoring river health and promoting greater use and enjoyment of the foreshore.



Derwent Estuary
Program



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FOR
OUR
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