



FISHERIES FACT SHEET

COMMON BLOWFISH



Common blowfish
Torquigener pleurogramma

Nuisance or necessary?

The common blowfish, or 'blowie', is abundant in estuaries and coastal waters throughout south-west Western Australia. It is often regarded as a nuisance because it gobbles bait, making it hard for fishers to catch other species of fish.

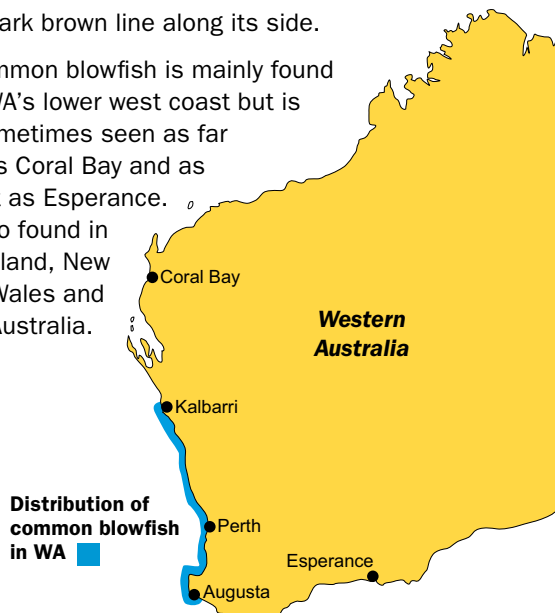
However, while the blowfish will never win a popularity contest, it has an important role in marine ecosystems. The blowie is native to WA and keeps our waterways clean by eating up waste scrap, bait and berley.

Size and distribution

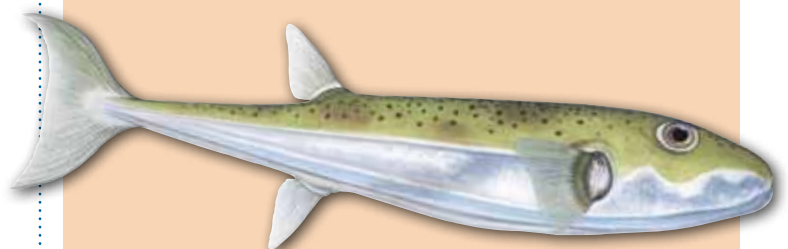
The common blowfish – also called the banded toadfish and weeping toado – can grow up to 22 centimetres long. It has dark vertical 'tear' lines down its cheeks and a dark brown line along its side.

The common blowfish is mainly found along WA's lower west coast but is also sometimes seen as far north as Coral Bay and as far east as Esperance.

It is also found in Queensland, New South Wales and South Australia.



A relative of the common blowfish, called the northwest blowfish, inhabits northern Australian waters and is occasionally seen off WA's lower west coast, as far south as Cape Naturaliste near Dunsborough. The northwest blowfish – also called the silver pufferfish – grows up to 88 centimetres long, and has a silvery stripe down its body and a greenish-coloured back with dark spots. It is an aggressive species that can inflict serious bites.



Northwest blowfish
Lagocephalus scleratus

Toxic family

The common blowfish, and its cousin the northwest blowfish, belong to the family Tetraodontidae, which includes well over 100 species of toadfish and pufferfish, of which more than 25 are found in WA. Members of the Tetraodontidae family typically have torpedo-shaped bodies, soft skin instead of scales (sometimes imbedded with small spines) and fused teeth that form a beak.

Another characteristic of this family is a highly lethal toxin, called tetrodotoxin, present in the fishes' skin, flesh and internal organs.

In Japan, fish from this family are known as 'fugu' and are considered a delicacy. Young chefs spend years learning how to prepare fugu. However, each year, a few people still die from eating poorly-prepared fugu dishes. In Australia, pets have died from eating blowfish washed up on beaches or left behind by fishers.



Caught blowfish should be returned to the water immediately, rather than being left where dogs may eat them.
Photo: Gilbert Stokman



Pufferfish are the second most poisonous vertebrate in the world, the first being the golden poison frog.

Oceans and estuaries

Common blowfish are a marine species – found in the ocean and in the saline water of estuaries. In the Swan Estuary in Perth, blowfish are most abundant near the estuary mouth at Fremantle, moderately abundant in the middle of the estuary and rare in the upper estuary. They usually prefer shallow water up to four metres deep but, in times of very high abundance, can be found at greater depths.

The reason why many blowfish live in estuaries is that there is more food for them to eat in the estuary than in the ocean and less chance of being eaten by bigger fish. However, even the estuarine blowfish populations spend some of their lives in the ocean – see 'Life of a blowie'.



Blowfish (and pufferfish generally) get their name from their ability to inflate their abdomens with water. This defence mechanism enables blowfish to look bigger and so warns off potential predators. Blowfish also inflate their abdomens with air on removal from the water and may have difficulty deflating. It is therefore best to put them back as quickly as possible.

Serious scavengers

Blowfish are opportunistic feeders, which means they eat just about whatever is going. A study in the Swan Estuary found that young blowfish up to 13 centimetres in length mainly eat small crustaceans (for example, prawns) and marine worms known as polychaetes. Older blowfish eat bivalve molluscs, such as mussels. Of course, as any fisher knows, blowies will also form a feeding frenzy the minute berley and bait land in the water!

Some larger fish feed on blowfish, apparently without ill effect from their toxin. Blowfish have been found in the stomachs of tuna, tailor and mulloway.



A blowfish feeding on some discarded bait.
Photo: Henrique Kwong

Life of a blowie

There is much we don't yet know about the life cycle and population dynamics of blowies. Most of the research conducted on blowfish in Western Australia has occurred in the Swan Estuary.

These studies have shown that common blowfish live to at least six years old and reach sexual maturity when they are about two years old.

Mature blowfish migrate out of the Swan Estuary to spawn in shallow coastal waters along Perth's coastline between October and January, with the peak spawning period being November to December. At these times, large schools of blowies have often been observed by fishers passing out to sea through the Fremantle heads.

Males and females release their sperm and eggs into the water where fertilisation occurs and the fertilised eggs develop into larvae. Once the larvae have developed into juvenile blowfish between five and seven centimetres long – at about seven to nine months old – they enter the estuary and then stay there until they are sexually mature.

A single stock

It is thought that blowfish larvae originating from various spawning events along the coast are transported and mixed by ocean currents, leading to the creation of a single genetic stock along WA's lower west coast. This means that blowfish spawned in the ocean from Swan Estuary stock may enter the estuary as juveniles or stay in the ocean – or travel to nearby sheltered coastal waters such as Cockburn Sound at Rockingham.

Studies show blowfish grow at different rates in different locations. After one year in the Swan Estuary, blowfish are an average 8.5 to 10 centimetres in length, compared to 7.4 centimetres at Rockingham, and 6.5 centimetres at Jurien Bay and Dongara.

Blowfish bonanza?

Many people think that there are more blowfish today than there were in the past. A decline in rainfall in south-west WA since the mid-1970s (leading to larger saline areas in estuaries providing 'marine' conditions suitable for blowies) is one possible reason for an increase in blowie numbers.

However, historical records show that there were also periods of high blowfish abundance in the past. In 1973, fishing writer Ross Cusack observed that blowies had occurred in large numbers along the WA coast during the periods 1930–1935 and 1954–1955. In the late 1960s, there was a period of respite with fewer blowfish around, but by the early 1970s, the high numbers were back, he noted.

“Blowies have infested the entire WA coastline from east of Esperance, north to Shark Bay and they now thrive in every estuary. The time has come to wonder just how bad our blowfish plague can get.” (Ross Cusack, 1973)

This compares to a comment in a WA Museum document, dated 1979:

“Blowfish have been extremely abundant in the lower-middle (Swan) Estuary for many years.” (WA Museum, 1979)

The problem of high blowfish numbers is clearly not new. However, it is possible that the current period of high abundance has lasted an unusually long time.

Fishy Science

The Department of Fisheries believes it is important to gather information on blowfish abundance, even if blowfish are not targeted by fishers.

Since 2005, researchers have used seine nets to capture, measure and record blowfish at regular intervals in near-shore waters at sites between Esperance and Hillarys, north of Perth. The small, juvenile fish of various species caught in these nets provide an indication of what the adult abundance of species will be in coming years.

In the future, this information, along with data collected by other organisations along the metropolitan coastline and by recreational anglers through the volunteer Research Angler Program, will help show if there are any long-term trends in blowie abundance.



Department of Fisheries researchers sample using seine nets. Inset: Juvenile blowfish. Photos: Eloise Dortch



A school of adult blowfish in the sea off Fremantle. Photo: Henrique Kwong

How to avoid blowfish

Leaving blowfish on the shore or jetty is cruel and does nothing to reduce their numbers. It could also lead to the fatal poisoning of pets such as dogs.

Here are some tips to help avoid catching these so-called 'nuisance' fish:

- **Try using bigger hooks and less berley.**
- **Blowfish often gather around fishing spots, so try moving somewhere else.**
- **Blowfish appear to like real food, rather than lures. If you want to catch Australian herring, for example, try using plastic straw lures instead of bait.**
- **In order to keep blowfish numbers down around your favourite fishing spot, take your unused bait home rather than throwing it into the water, or dispose of it in a bin well away from the water.**

Not to be mistaken for...

Globe fish are related to blowfish and pufferfish. Globe fish are distinguished by their more rounded body shape, and long yellow spines on their head and body that become erect if their body inflates. They also have four dark bars down their sides and yellow markings at the base of their spine.



Globe fish at Busselton Jetty. Photo: Carina Gemignani

References

Websites:

Department of Fisheries, Western Australia
www.fish.wa.gov.au

FishBase
www.fishbase.org

Books:

Hutchins, B. & Swainston, R. 1986.
Sea Fishes of Southern Australia.

Hutchins, B. & Thompson, M. 1995.
The Marine and Estuarine Fishes of South-western Australia. A Field Guide for Anglers and Divers.

Articles and papers:

Cusack, R. 1973.
Menace Under the Water.
(in *The West Australian*)

Potter, I.C., Cheal, A.J. & Loneragan, N.R. 1988.
Protracted estuarine phase in the life cycle of the marine pufferfish *Torquigener pleurogramma*.

Smith, K.A. 2006.
Fisheries Research Report No. 156. Review of fishery resources and status of key fishery stocks in the Swan-Canning Estuary.

Glossary

Abundance

Number of fish in a stock or population

Bivalve mollusc

A class of mollusc (sea snail) that has a shell with two hinged halves, such as clams, mussels, oysters and scallops

Crustaceans

Animals with hard, jointed external skeletons, such as crabs, shrimp, lobster and prawns

Larva (plural: larvae)

The stage of a fish between hatching and becoming a juvenile

Native

Exist naturally in an area or location

Polychaete

A class of worms, usually marine

Stock

A population of fish within a certain geographical area where members of that population breed with each other

Toxin

A poison produced by the cells of plants and animals

This fact sheet is the ninth (No. 9, first revision) in a Department of Fisheries series. ISSN 1834-9382

Fish illustrations
© R.Swainston/www.anima.net.au

FURTHER INFORMATION

Visit the Department's website at
www.fish.wa.gov.au or contact:

DEPARTMENT OF FISHERIES – HEAD OFFICE

3rd Floor, The Atrium,
168 St George's Terrace, Perth 6000
Ph (08) 9482 7333 Fax (08) 9482 7389
e-mail: headoffice@fish.wa.gov.au
ABN: 55 689 794 771