Australian bass

Australian bass are predatory fish that use estuaries and freshwater during their lifecycle. Because bass are found throughout the length of a river at different times they are potentially affected by a range of human-induced changes throughout a catchment. To find out more, read on…

Australian bass (*Macquaria novemaculeata*) are found in south-eastern coastal rivers from the Mary River in southern Queensland to Gippsland Lakes in Victoria.

Figure 1: Distribution of Australian bass (www.environment.gov.au)[1]

Bass Habitat Fact File

Bass are found in eastern draining rivers and their upper estuaries.

Bass spend most of their juvenile and adult life in freshwater. Adults migrate into estuaries to spawn.

Adults use both still and flowing water, particularly pools with submerged snags, undercut banks and overhanging vegetation.

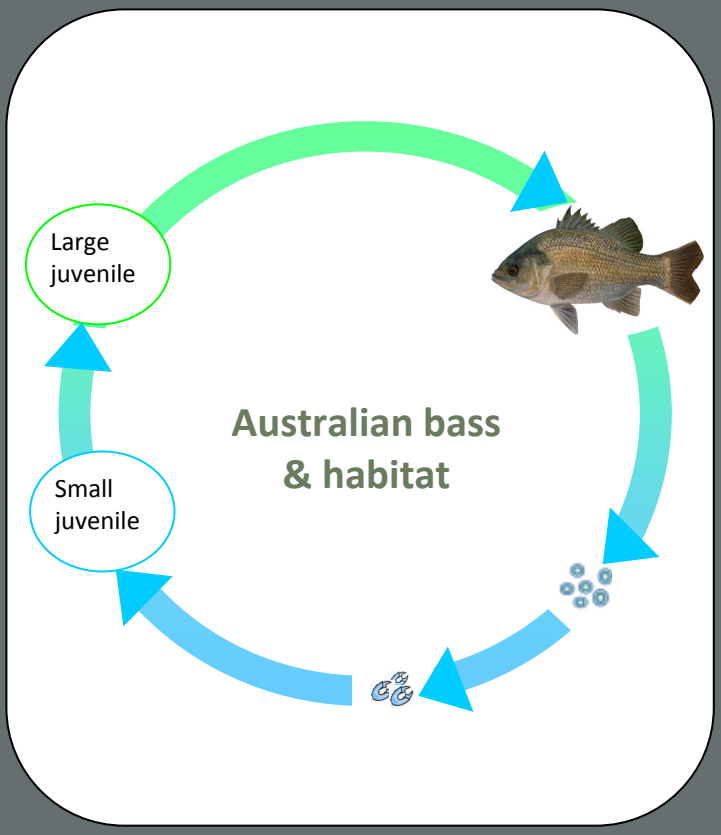
Over 40% of the bass diet in summer can come from insects falling from overhanging vegetation.

Artificial barriers, such as weirs, interfere with spawning and juvenile migration.

Complex habitat features and free passage to and from estuaries means bass can spawn and juveniles can grow to maturity.

Adults feed on terrestrial insects from riparian vegetation in summer and on aquatic insects and shrimps in aquatic vegetation.[5]

Adults are found throughout river systems, males in upper estuarine to lowland habitats, females in lagoons or mainstream pools with boulder and gravel beds[2]



Aquatic plant beds in lower reaches of freshwater provide juveniles with shelter and food (zooplankton)[2], [4] prior to and during migration upstream (January – May).

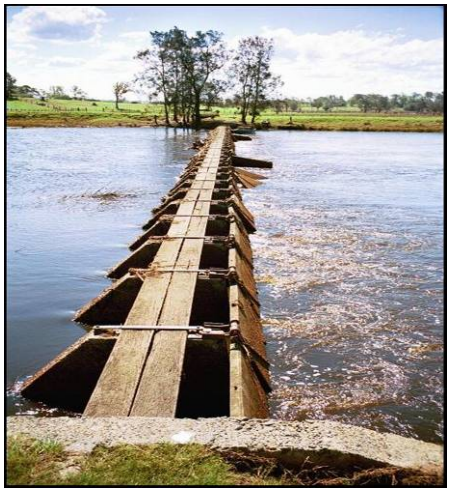
Mature adults migrate from freshwater to estuaries to spawn in winter. Migration triggered by autumn floods or increased in stream flow.[2]

Aquatic plant beds, reefs and sand bars in the upper estuary are preferred spawning habitats [2]

Aquatic plant beds in brackish and tidal freshwater provide shelter and food for larvae [2]

Threats to bass habitat

Australian bass rely on both freshwater and estuarine habitats. In the past, freshwater catchments and estuaries have been changed to suit people living along waterways. Those changes threaten bass survival by reducing fish access to the different habitats it needs to survive and breed.



Floodgates affect water flow, water quality and the cues bass use to start spawning migrations.

Weir restrict adult bass passage downstream to spawning grounds and juvenile migration back up the river.

The main threats are altered water flows, artificial barriers (weirs, floodgates, dams and causeways), loss of aquatic and riparian vegetation as well as removal of in-stream snags. Most of these threats continue to be issues for bass throughout its range.

Threats to habitat	Impact on Australian bass
Water flow regulation	× Cues for adult spawning migration downstream and juvenile dispersal upstream lost [3] × Reduces habitat required for spawning, to support larval, juvenile and adult growth and predator evasion
Artificial barriers – Construction of dams, weirs, causeways and road crossings	× Spawning not triggered because lack of variation in water flow × Adult unable to remigrate upstream after spawning × Juveniles unable to migrate upstream × Corralling of adults and juveniles below the barrier increases susceptibility to predation and fishing
Habitat destruction – Damage or removal of riparian and aquatic vegetation – Removal of snags – Unmanaged cattle access – Sedimentation	× Reduces shelter available for larvae and juveniles × Reduces spawning habitat for mature bass × Eliminates or reduces the availability of terrestrial food sources in summer during the prime growth period × Less protection from predation and strong currents during flooding × Reduced effectiveness of 'prey ambush'
Pollution and Run off – Acidification – Erosion and increased turbidity	× Less then optimal conditions for growth and survival of larvae, juveniles and adults × Reduced visibility for predation
Introduced species – Plants – Fish	× Introduced plants can outcompete native species, reducing available shelter and food × Alien fish spread exotic diseases and parasites

What you can do

- ✓ Get your hands dirty with replanting vegetation alongside creeks and rivers
- ✓ Help a farmer fence off a creek to prevent bank erosion caused by stock
- ✓ Join a 'carp muster' day
- ✓ Don't release redfin back into the waterway.
- ✓ Visit www.fishhabitatnetwork.com.au and find out what other fishers are doing to improve their local fish habitats
- ✓ Join the Fish Habitat Network (fish.habitat@industry.nsw.gov.au)

References

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4 Froese, R. and Pauly, D. Editors. 2010. Fishbase. World Wide Web electronic publication. www.fishbase.org, version (05/2010)

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