



Protecting South Australia's Fish, Sharks & Rays

The Western Blue Groper (*Achoerodus gouldii*)

FACT SHEET #8

The western blue groper (WBG) is one of the more prominent and spectacular of South Australia's diverse reef fish. A favourite with eco-tourism operators and recreational divers this large and long-lived fish can be seen in their large reef territories and at times will placidly swim up to divers and fishing boats.

HABITAT AND BIOLOGY

WBG are distributed around southern Australia, from Port Phillip Bay in Victoria, through South Australia, to the Houtman Abrolhos in Western Australia. In SA, the species is known from most parts of the State, but is uncommon east of Investigator Strait and the River Murray mouth and in upper gulf waters.

Adult gropers are often resident on vegetated rocky reefs while younger juveniles, <10 cm total length, are rarely seen. These small juveniles are believed to settle in sheltered seaweed habitat on shallow rocky seafloor. Shallow and sheltered rocky areas, especially lagoons behind high energy coasts, seem to be consistently the most important requirement for juveniles.

The WBG is the largest carnivorous fish resident on rocky reefs in southern Australia, reaching a size of approximately 1.7 m.

WBG appear to live in small social groups that comprise one male, one or two females, and several sub-adults, which is similar to some other wrasses. If a male is no longer present within a group, the dominant female, usually more green in colour, will change colour and sex.

The reproductive season is spring to autumn, and larvae may drift in the sea for several weeks before settling among shallow inshore reefs. All WBG start life as green females and some of the larger fish change to the distinctive large blue males. At this stage male fish may already be over 25 years old and the largest males are certainly over 50 years of age. Females are around 15 years old before they are ready to reproduce.

Considering the longevity and diet of WBG, it may be a 'keystone' species in temperate reef ecosystems. This means that WBG, like other wrasses, are thought to play a key role in coastal ecosystems by controlling the abundance of other animals such as crabs (which predate on small abalone), and sea-urchins (which consume reef plants).

CURRENT CONSERVATION STATUS

The WBG is not protected under Commonwealth legislation. In SA, fishing for WBG is prohibited in Spencer Gulf, Gulf St Vincent, Investigator Strait and Backstairs Passage, under the SA Fisheries Management Act (2007). It is important to note that the species does not occur in the upper and most of the central parts of either gulf due to lack of suitable habitat and oceanographic conditions, and therefore, it is only protected in a small part of its range.



The Western Blue Groper (adult male)

Photo: (c) Viki Billings

Western blue groper are the largest bony reef fish in South Australia, measuring up to 1.7 m as an adult.

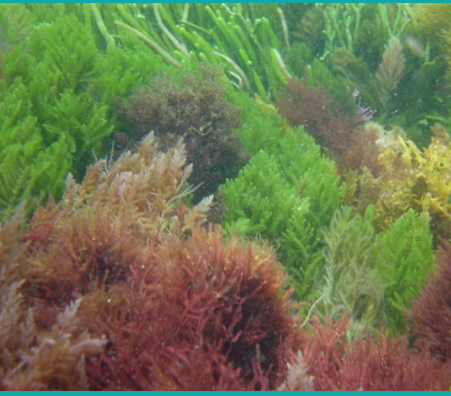


A juvenile (female) Western Blue Groper.

Photo: (c) Marine Life Society of SA

Healthy South Australian rocky reefs support one of the most diverse macroalgal communities in the world, the Western Blue Grouper may be critical to maintaining this diversity

Photo: (c) James Brook



The slow-moving, inquisitive nature, and large size, of this amiable fish make it vulnerable to over-fishing.

THREATS AND RESPONSES

WBG are long-lived, slow-growing, late-maturing, site-associated, near-shore reef fish, which makes them vulnerable to localised impacts. Numbers and densities of adult fish are already low, and due to the age and size at sex change and the inquisitive nature of this species, over-fishing of large males is a particular concern. It is thought that spear fishers have had a serious impact on the abundance of this species.

All forms of fishing threaten western blue groper. The smaller, green females, which many fishers may not recognise as being groper, are reportedly taken recreationally and used as bait. The use of WBG as crayfish pot bait could be prohibited by regulation under the Fisheries Management Act (2007).

Degradation of reef habitat due to impacts such as excess nutrient and sediment pollution need to be addressed as part of the overall protection of this and other reef fish.

There is currently a size limit for recreational fishing of this species. However, increased education and awareness to encourage compliance with limits and fishing bans would assist the conservation of this species. In particular, the issue of misidentification of juveniles and females by anglers needs to be addressed.

A number of 'hotspots' for both adult and juvenile WBG have been identified. The inclusion of these and a range of reef habitats in Sanctuary Zones, as part of the establishment of SAs Representative System of Marine Protected Areas will help protect WBG and other reef fish.

There is a clear need for the extension of the current protection for this fish. This could include listing as endangered under the EPBC Act (1999) and the National Parks and Wildlife Act (1972), as well as extension of current protection under the Fisheries Management Act (2007) to cover all State waters.

WBG are currently one of the 'in peril' species targeted by the Reef Watch 'Feral or in Peril' program. This program is one example of how the community can be involved in by monitoring and reporting western blue groper sightings. See www.reefwatch.asn.au

While the exact impacts of climate change on the marine environment are uncertain, there is little doubt that it will negatively affect reef habitats through increases in water temperature, sea level rise and changes in storm activity.

Despite some excellent recent research there remains a lack of information on WBG including abundance, ecology, sex ratio and reproduction. The lack of knowledge about non-commercial marine fish means that it is extremely difficult to identify and implement appropriate management actions. Increased research and monitoring for this and other non-commercial species is needed.

For more information: www.ccsa.asn.au/fsr

ACKNOWLEDGEMENT

Information used in this fact sheet was compiled from:

Baker, J.L. (2007 in prep.) Status of Marine Species at Risk in South Australia: Technical Report – Bony and Cartilaginous Fish.