



Protecting South Australia's Fish, Sharks & Rays

Spotted Wobbegong and Large Ornate Wobbegong (*Orectolobus maculatus* and *Orectolobus halei*)

FACT SHEET #11

The *Orectolobidae* family (carpet sharks and wobbegongs) is a small family of bottom-dwelling marine sharks, distributed throughout the tropical and temperate Indo-Pacific. Members of the family have a flattened body, a very broad and flattened head with small lobes around the head, and a large mouth right at the front of the head.

HABITAT AND BIOLOGY

Both spotted and large ornate wobbegongs are thought to be endemic to Australian waters (found nowhere else) and are found in temperate waters along southern Australia.

Generally, wobbegongs are found on rocky reefs (and coral reefs, in warmer parts of the range) or on sandy bottoms, where they are concealed in part by their colouration, and in part by lobes of skin on their heads.

The large ornate wobbegong can reach a total length of almost 3 m and a weight of over 70 kg. It is an inshore shark found in continental shelf waters.

Spotted wobbegongs can grow to a maximum total length of about 3.2 m, but the average size is around 1.5 - 1.8 m. They live in shallow coastal water and down to the mid-continental shelf.

In SA wobbegongs are often found in bays, associated with algae (seaweed) covered rocky reef areas (including lagoons, reef flats, reef faces, and reef channels), and around offshore islands. Both species have also been recorded in caves, sponge beds, on artificial reef structures (e.g. jetties), seagrass meadows, in shipwrecks, or lying over bare sand or barren boulders.

Both species feed mainly at night, and their prey includes benthic fish, smaller sharks and rays, octopuses, squid and crustaceans. The status of wobbegongs near the top of the food chain, means that their removal from the ecosystem may have impacts on species lower down the food chain.

All wobbegongs give birth to live young, producing litters of 20 or more pups every 3 years. Divers have observed spawning aggregations of wobbegongs around the southern Yorke Peninsula, an area characterised by high current flow and local scale eddies and gyres, sea surface temperature fronts, and high productivity (as indicated by relatively high abundance of zooplankton). Spotted wobbegong are thought to reach maturity after 10 years of age and large ornate wobbegong after around 5 years.

CURRENT CONSERVATION STATUS

Wobbegongs are not currently protected in South Australia. There are no size, bag, boat or catch limits set for the capture of this fish by recreational fishers.

Both species are listed as Vulnerable in NSW. The IUCN Red List 2004 and 2006 list both species as Near Threatened.

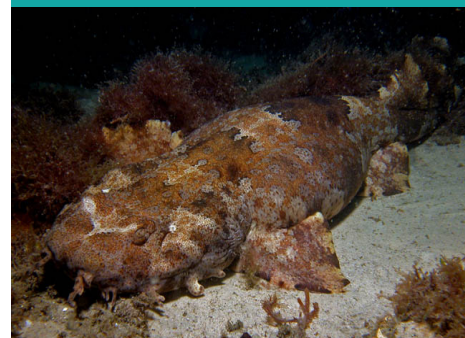


Photo:

The large ornate wobbegong

(c) www.daveharasti.com

Wobbegongs are a large, attractive, nocturnal, ambush predator.

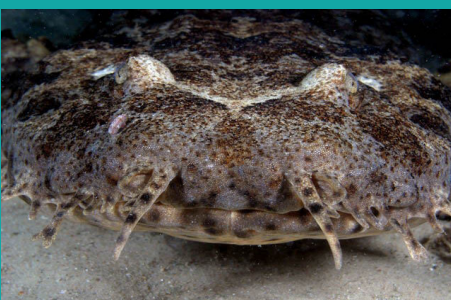
THREATS AND RESPONSES

Inshore reef is critical wobbegong habitat.

Photo: (c) Inshore fish group



Coastal and inshore rocky reef habitat and associated seaweed is critical habitat for wobbegong and other SA species of conservation concern.



Characteristics include nostrils with long, pointed or branched barbels a deep groove from the nostril to mouth and highly developed patterns on the body, including dark and light spots, dark saddles, rings, and reticulations on the back. Photo: (c) www.daveharasti.com

Wobbegongs' large size, strong site association / territoriality and sedentary nature, in usually shallow waters, make them vulnerable to overexploitation. They have a relatively slow growth rate, late age at sexual maturity, and a relatively low reproductive ability, all of which contribute to difficulties in recovering depleted populations.

Both species are caught, using numerous gear types, in a number of commercial fisheries across southern Australia (including low tonnages in SA), and associated bycatch potentially threatens populations across southern Australia. Both species are taken by recreational fishers but there are no size or bag limits. Appropriate protection measures may include prohibiting take in some areas or, at a minimum, the introduction of size and bag limits in SA. Changes in fishing methods and gear need to be investigated, e.g. the increased use of circle hooks by recreational fishers, which are likely to reduce gut hooking and hence mortality.

The bottom-dwelling nature of wobbegongs makes them vulnerable to habitat degradation via trawl damage, sedimentation, eutrophication and other pollution, dredging, and inappropriate coastal development. These impacts also affect estuaries and seagrass beds, which could negatively impact spotted wobbegongs, as these are thought to be important nursery areas for juveniles. However, inclusion of a range of benthic habitats, including wobbegong breeding areas where known, in Sanctuary Zones, as part of the establishment of SAs Representative System of Marine Protected Areas will help protect wobbegong habitat. Protection under SA and Commonwealth legislation such as the Fisheries Management Act (2007) and the EPBC Act (1999) are also options for these species.

The implementation of the Australian National Plan of Action for the Conservation and Management of Sharks will help to facilitate the conservation and sustainable management of all ray and shark species in Australia.

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

In SA there is little information on relative abundance, areas of aggregation, size/age structures, sex ratios, breeding habits and habitats, possible migrations, population genetics, and ecology. The lack of knowledge about marine fish means that it is extremely difficult to identify and implement appropriate management actions. Increased research and monitoring for this and other 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.