

## Gulper Shark, *Centrophorus granulosus*

Report Card assessment	Depleted		
IUCN Red List Australian Assessment	Refer to Global Assessment	IUCN Red List Global Assessment	Vulnerable
Assessors	Guallart, J., Serena, F., Mancusi, C., Casper, B.M., Burgess, G.H., Ebert, D.A., Clarke, M. & Stenberg, C.		
Report Card Remarks	Taken in fisheries on the Australian east coast where management measures implemented following large population declines, but recovery is expected to be slow		

### Summary

The Gulper Shark is a rare deepwater dogfish with a widespread global distribution. It is taken as bycatch in deepwater fisheries and population declines of 80-95% have been estimated in the northeast Atlantic. In Australia, it is may be exposed to fishing pressure on the east coast and although there is little information on the catch of the species, declines of >90% have been recorded for other *Centrophorus* species in the region. This part of its range is still continually fished and there



is no evidence that numbers have recovered on these fishing grounds. The Gulper Shark has one of the lowest reproductive potentials of all sharks with only one pup per litter and a two-year gestation period. This makes it extremely vulnerable to overexploitation and population depletion. There is the potential for increased exposure to unmanaged fishing effort as global fishing fleets move deeper. In Australia, management measures have been implemented to promote recovery of depleted deepwater sharks on the east coast. Therefore, the species is assessed as globally Vulnerable (IUCN) and in Australia, Overfished (SAFS), because although management is in place, recovery of *Centrophorus* species has not yet been shown and is expected to take decades.

### Distribution

The Gulper Shark is widely distributed in all ocean basins in temperate and tropical waters, except the eastern Pacific. In Australia, it has a disjunct distribution on the east and west coasts; in the east it is found from northeast Queensland to Woolli (New South Wales) and in Western Australia from Dirk Hartog Island to Montebello Islands (White et al. 2013). There has been taxonomic confusion in the past with this species also reported under the names *C. niaukang* and *C. acus*. These are now both known to be *C. granulosus* (White et al. 2013).

## Stock structure and status

The Gulper Shark is rare and determination of population status has been hindered by taxonomic issues that have only recently been resolved. Consequently, there is currently no information on population structure or trend for the species. However, dramatic declines of >90% in other *Centrophorus* species have been recorded where exposed to fishing pressure in the region (Graham et al. 2001). On the west coast fishing effort is low within its known range.

## Fisheries

The species is reported to be caught as bycatch of deepwater fisheries in the northeast Atlantic, the northwest Pacific and other regions. In Australia, it is likely taken in the trawl sector of the Southern and Eastern Scalefish and Shark Fishery along the east coast in the southern part of its range, although there is no catch data. Large declines in *Centrophorus* spp. were reported in that fishery at depths of 200-399 m and 400-649 m, which include the depths at which Gulper Shark occurs (Kyne and Simpfendorfer 2010). Subsequently, catch limits and spatial and depth closures were implemented to promote recovery of other overfished dogfish populations, with recovery estimated to take many decades (AFMA 2006, AFMA 2012).

## Habitat and biology

The Gulper Shark is demersal on the upper continental slopes and outer continental shelves at depths from 98 to 1700 m, mostly between 300 to 800 m (Baino et al. 2001, Compagno 1984, White et al. 2013). Maximum size is 165 cm total length (TL), with males mature at 105-118 cm TL and females at 143 cm TL (White et al. 2013). The species has only one pup per litter, a gestation period of about two years and possible resting periods between pregnancies (Guallart 1998). This makes it one of the shark species with the lowest reproductive potential.

Longevity and maximum size	Longevity: unknown Max size: 165 cm TL
Age and/or size at maturity (50%)	Males: 105-118 cm TL Females: 143 cm TL

**Link to IUCN Page:** <http://www.iucnredlist.org/>

**Link to page at Shark References:** <https://www.shark-references.com/species/view/Centrophorus-granulosus>

## References

- AFMA (2006) Response to Ministerial Direction- SSSF. Australian Fisheries Management Authority. Australian Government.
- AFMA (2012) Upper-slope dogfish management strategy. AFMA-managed Fisheries. Australian Fisheries Management Authority. Australian Government.
- Baino R., Serena F., Ragonese S., Rey J. and Rinelli P. 2001. Catch composition and abundance of Elasmobranchs based on the MEDITS program. *Rapports de la Commission Internationale pour L'Exploration Scientifique de la Mer Mediterranee* 36: 234.
- Compagno, L.J.V. 1984. *FAO species catalogue. Vol. 4. Sharks of the world. An annotated and illustrated catalogue of shark species known to date. FAO Fisheries Synopsis No. 125, Volume 4, Part 1.*
- Graham, K.J., Andrew, N.L. and Hodgson, K.E. 2001. Changes in the relative abundances of sharks and rays on Australian South East Fishery trawl grounds after twenty years of fishing. *Marine and Freshwater Research* 52: 549-561.
- Guallart, J. 1998. *Contribución al conocimiento de la biología y la taxonomía del tiburón batial Centrophorus granulosus (Bloch & Schneider, 1801) (Elasmobranchii, Squalidae) en el Mar Balear (Mediterráneo occidental).* Tesis doctoral, Universitat de
- Kyne, P.M., and Simpfendorfer, C.A. (2010) Deepwater chondrichthyans. In 'Sharks and their relatives II. Biodiversity, adaptive physiology, and conservation.'. (Eds. JC Carrier, JA Musick and MR Heithaus) pp. 37-113. (CRC Press: Boca Raton, Florida)
- White, W.T.; Ebert, D.A.; Naylor, G.J.P.; Ho, H.; Clerkin, P.; Verissimo, A. and Cotton, C. (2013) Revision of the genus *Centrophorus* (Squaliformes: Centrophoridae): Part 1- Redescription of *Centrophorus granulosus* (Bloch & Schneider), a senior synonym of *C. acus* Garman and *C. niaukang* Teng. *Zootaxa* 3752, 1, 035-072