

Endeavour Dogfish, *Centrophorus moluccensis*

Report Card assessment	Sustainable		
IUCN Red List Australian Assessment	Least Concern	IUCN Red List Global Assessment	Vulnerable
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Australian Assessors	Kyne, P.M., Heupel, M.R., White, W.T. & Simpfendorfer, C.A. (Shark Action Plan)		
Report Card Remarks	Southeast coast severely depleted but ~ 20% of range and management measures to promote recovery, relatively high catch levels on northeast coast, low fishing pressure on west coast.		

Summary

The Endeavour Dogfish is a deepwater species with taxonomic uncertainty and it may represent a species-group. The species has been reported from sporadic locations through the Indo-West Pacific. It is taken as bycatch of deepwater fisheries. The late age at maturity and very low fecundity make the Endeavour Dogfish extremely sensitive to rapid population depletion by commercial fishing. On the east coast, the species has been severely depleted



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over approximately 20% of its range. Management measures have been implemented to promote recovery of depleted deepwater sharks on the southeast coast. North of this area, recent surveys have recorded relatively high catch rates and deepwater fishing effort off northern New South Wales and Queensland is very low. The very low level of deepwater commercial fishing off Western Australia (WA), coupled with the stringent trip limits in the WA deepwater fisheries, means the western part of the range is considered healthy and stable. Therefore, the species is assessed as globally Vulnerable (IUCN) and in Australia as Least Concern (IUCN) (Kyne et al. 2021) and Sustainable (SAFS).

Distribution

The Endeavour Dogfish occurs off South Africa, and some areas of the western Pacific including Australia, the Philippines, New Caledonia, Indonesia, Philippines, Taiwan and Japan (Last and Stevens 2009). In Australia, the species has a disjunct distribution on the east and west coasts. The Eastern Australian subpopulation has been recorded from Townsville (Queensland) to Bass Strait (Victoria) and the Western Australian subpopulation from the Kimberley region to Albany (Western Australia) (Last and Stevens 2009).

Stock structure and status

There is no information on the stock structure of this species. Although it has a disjunct population on the east and west coasts there is insufficient information to conclude that these represent separate stocks. In eastern Australia, the species has been severely affected by commercial fishing in the southern 20% of its east coast range off southern New South Wales (NSW) (Andrew et al. 1997, Graham et al. 2001). The core depth of the species (300 to 600 m) coincides with the most heavily fished depths by trawlers that operate on the upper slope off New South Wales (NSW). In the period 1975–2000, off central and southern NSW the species was severely affected by trawling, reducing the relative abundance to <5% of historical levels (Graham et al. 2001, Daley et al. 2002, Wilson et al. 2009). In a 2009 targeted longline survey, only a single specimen was caught south of Sydney, consistent with its disappearance from the far south coast of NSW while significant numbers were caught off northern NSW (Williams et al. 2012). Currently, in the eastern part of its range it is considered stable (Forrest and Walters 2009) although it remains severely depleted over about 20% of its range. There is no information about the abundance of the Endeavour Dogfish in Western Australia, but with very little or no deepwater fishing in the region, it is assumed that the Western Australian subpopulation is healthy and stable.

Fisheries

Commercial fishing in the Commonwealth Trawl and Scalefish Hook Sectors of the Southern and Eastern Scalefish and Shark Fishery (SESSF) continued to affect the part of the distribution that occurs in south eastern Australia, despite a ban on trawling below 700 m implemented in 2007 (AFMA 2006). In 2010, the stock status for the three species of upper slope gulper sharks (Endeavour Dogfish, Harrison's Dogfish *C. harrissoni* and Southern Dogfish *C. zeehaani*) on southeast Australian grounds was assessed as 'overfished' and 'subject to overfishing' (Stobutzki et al. 2011). Subsequently, a plan of management was implemented with catch limits and spatial and depth closures to promote recovery of the overfished dogfish populations, with recovery estimated to take many decades (AFMA 2012). Fishing pressure is considerably lower off southern Queensland, northern NSW, and is believed to have minimal impact on the species. Deepwater commercial fishing activities in the range of Endeavour Dogfish off Western Australia are minimal and overall fishing mortality is likely to be very low.

Habitat and biology

The Endeavour Dogfish inhabits the upper continental slope at depths of 300 to 600 m, sometimes to 820 m and is also occasionally caught on the outer shelf (125 to 200 m) at night (Last and Stevens 2009, Graham and Daley 2011). Maximum size is 100 cm total length (TL), with males mature at 70 cm TL and females at 85 cm TL (Graham and Daley 2011). It has a very low fecundity of one to two pups every two (or possibly three) years, high longevity and probable late age at first maturity of >20 years.

Longevity and maximum size	Longevity: unknown Max size: 100 cm TL
Age and/or size at maturity (50%)	Males: 70 cm TL Females: likely >20 years, 85 cm TL

CAAB Code: 37 020001

Link to IUCN Page: <https://www.iucnredlist.org/species/42838/68614328>

Link to page at Shark References: <http://www.shark-references.com/species/view/Centrophorus-moluccensis>

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