

## Tiger Shark, *Galeocerdo cuvier*

<b>Report Card assessment</b>	<b>Depleting (East Coast) Sustainable (West Coast)</b>		
IUCN Red List Australian Assessment	Near Threatened	IUCN Red List Global Assessment	Near Threatened
Assessors	Ferreira, L.C. & Simpfendorfer, C.		
Australian Assessors	Kyne, P.M., Heupel, M.R., White, W.T. & Simpfendorfer, C.A. (Shark Action Plan)		
Report Card Remarks	Declines in catch rates in Australian Shark Control Programs.		

### Summary

The Tiger Shark is a large, highly mobile shark species globally distributed throughout tropical and temperate waters. It is targeted and taken as bycatch by commercial, recreational, and artisanal fisheries throughout much of its distribution. It is thought to



reproduce only every three years which reduces its capacity to recover from exploitation. Declines in Tiger Shark catch rates have been recorded in the Queensland Shark Control Program and in the New South Wales Shark Meshing Program. Catch rate trends and information on population structure from shark control programs in Australia should continue to be monitored due to concerns over the effect those programs are having on the Tiger Shark population off eastern Australia. Off western Australia, catches of Tiger Sharks are low in commercial fisheries. Tracking data suggest that there are separate stocks off the east and west coasts. Therefore, the Tiger Shark is assessed as Near Threatened (IUCN) in Australia (Kyne et al. 2021), Depleting (SAFS) on the East Coast due to concerns of catches in the shark control programs, and Sustainable (SAFS) on the West Coast.

### Distribution

The Tiger Shark has a circumglobal distribution throughout tropical and temperate waters (Compagno 1984). Within Australia, it is found from Windy Harbour (Western Australia) through the Northern Territory, Queensland, and to Sydney (New South Wales) (Last and Stevens 2009). Although there is little genetic evidence for stock structure in Australia, extensive tracking data indicates that there is little or no interchange between the east and west coasts suggesting two stocks exist for management purposes (Ledee et al. 2021) and the species is assessed at this stock level.

### Stock structure and status

There is currently little information on population size, structure, or trend for Tiger Sharks. It is not captured in large numbers by most commercial fisheries compared to other pelagic sharks and the catch is rarely recorded. Within Australia, in the Queensland Shark Control Program, the catch rate increased from 1962 until the 1980s and then decreased in the 2000s to approximately 66% of its original value; the most significant declines were in the southern region of the State (Simpfendorfer et al. 2010, Holmes et al. 2012). In New South Wales (NSW), the catch rate and size of Tiger Sharks has also declined in the last two decades which raises concerns over the effect the program is having on the Tiger Shark population off NSW (Reid et al. 2011). In other parts of its Australian range there is little evidence of population decline. In the Northwest Atlantic, increases in relative abundance have been recorded from 1960–2000 by the Northeast Fisheries Science Centre and no change in abundance recorded by the Southeast Fisheries Science Centre for the same period (J. Carlson, pers. comm). The KwaZulu Natal beach protection program showed a rate of change of 3% increase per year in Tiger Shark catch between 1978–2003. The increasing rates in the Northwest Atlantic and South Africa seem consistent with the pattern observed in the first 20 years in Queensland and the interpretation of such upward trends should be made with caution. With the limited data available indicates that the significant drivers of population decline at present are the shark control programs in Australia and South Africa. Given the wide range of this species and the localities of the programs, the Tiger Shark is suspected to have undergone an overall population reduction of <30% globally.

### **Fisheries**

The Tiger Shark is targeted and taken as bycatch in a number of commercial, artisanal, and recreational fisheries throughout its distribution for its meat and fins. Within Australia, Tiger Sharks are taken incidentally in the Offshore Net and Line Fishery in northern Australia (27 t in 2012; DPFI 2012). The species is taken in the Southern and Western Demersal Gillnet and Demersal Longline Fishery in Western Australia (McAuley 2008). In northwest Australian waters, shark fishing gear has been prohibited in those fisheries since 1993 and further north, both the West Australian Northern Shark Fishery and the Joint Authority Northern Shark Fishery have not operated since 2009 (Fletcher and Santoro 2013). Prior to that varying catches of 12–81 t of Tiger Shark were taken annually from 2001–2002 to 2005–2006 from those two fisheries (Fletcher and Santoro 2008). The Australian Commonwealth Trawl Sector reported a total catch for the species of 4.7 t from 2004–2011. In the game fishery off the southeast coast of Australia, the species comprised 10% of catches from 1961–1990 with individuals ranging in mass from 21–560 kg (Pepperell 1992). Tiger Shark catches in the New South Wales Gamefish Tournament were approximately 8 t per year, comprising approximately 1–5% of the total catch and 10–30% of shark catches between 1993–2005 (Park 2007). The Tiger Shark is targeted by Shark Control Programs in Australia and South Africa (Dudley and Simpfendorfer 2006, Cliff and Dudley 2011, Holmes et al. 2012). The Queensland Shark Control Program captured a total of 4,757 individuals from 1993–2010 (Holmes et al. 2012). The New South Wales Shark Meshing Program captured approximately 30 sharks per year from 1950–2008; an approximate total of 1,740 individuals.

### **Habitat and biology**

The Tiger Shark is encountered throughout tropical and temperate waters on coral reefs, continental shelves, and offshore islands and atolls. It occurs across a range of depths, from very shallow waters to depths of 1,136m (Heithaus et al. 2002, Werry et al. 2014). Maximum size is at least 600 cm total length (TL). The maximum age is 27–33 years old (Branstetter et al. 1987, Wintner and Dudley 2000, Kneebone et al. 2008). Estimates of size and age at maturity vary greatly between regions. Although

it has large litters of 3–82 pups, it is estimated to reproduce only once every three years (Whitney and Crow 2007, B. Holmes pers. comm.).

Longevity and maximum size	Longevity: estimated 27–33 years Max size: at least 600 cm TL
Age and/or size at maturity (50%)	Both sexes: 5–13 years Males: ~250–305 cm TL Females: 274–345 cm TL

**CAAB Code:** 37 018022

**Link to IUCN Page:** <https://www.iucnredlist.org/species/39378/2913541>

**Link to page at Shark References:** <http://shark-references.com/species/view/Galeocerdo-cuvier>

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