

Great Torpedo, *Tetronarce nobiliana*

Report Card assessment	Sustainable		
IUCN Red List Australian Assessment	Least Concern	IUCN Red List Global Assessment	Least Concern
Global Assessors	Finucci, B., Derrick, D., Dossa, J. & Williams, A.B.		
Australian Assessors	Kyne, P.M., Heupel, M.R., White, W.T., Simpfendorfer, C.A. (Shark Action Plan) & Rigby, C.L.		
Report Card Remarks	Wide range, infrequently caught, stable catches, limited effort in parts of its range, and significant refuge at depth and in marine parks.		

Summary

The Great Torpedo is a large electric ray that is widespread in the Eastern Atlantic and Indo-Pacific in tropical to temperate waters. It occurs all around Australia on the continental shelf and slope except in the most northern waters. It is an infrequent incidental catch of mostly trawl fisheries in Australia and is released, though post-release mortality is unknown. It is caught in the Commonwealth Southern and Eastern Scalefish Fishery (SESSF) where catches were stable between 2001–2006. It is likely also caught in a range of state and Territory fisheries. The pelagic and semi-pelagic habitat of adults may reduce its capture rates. Many part of its range have limited fishing effort and it has refuge at depth in most of the SESSF where fishing deeper than 700 m has been prohibited, and also in the marine parks network. Therefore, the Great Torpedo is assessed as Least Concern (IUCN) (Kyne et al. 2021) and Sustainable (SAFS).



Distribution

The Great Torpedo occurs in tropical and temperate waters of Australia and New Zealand, and in the Eastern Atlantic from Denmark to South Africa (Last et al. 2016, Finucci et al. 2021). In Australia, it has a wide range from the Swain Reefs (Queensland) south and around Australia to the Bonaparte Archipelago (Western Australia) (Last and Stevens 2009).

Stock structure and status

There is currently no information on population size or structure for the species. Catches in the Southern and Eastern Scalefish Fishery were stable between 2000–2006 (Walker and Gason 2007).

Fisheries

The Great Torpedo is an infrequent incidental catch of trawl, longline, and gillnet fisheries and is generally released (Finucci et al. 2021). In Australia, it is caught in the Commonwealth Southern and Eastern Scalefish Fishery (SESSF) with an estimated annual catch of 72 tonnes between 2000–2006; over that period there were fluctuations in catch-per-unit effort but no overall trend (Walker and Gason 2007). All catch is released as it has no commercial value, though post-release mortality is unknown (Walker and Gason 2007, Kyne et al. 2021). It is also likely caught in state and territory fisheries though catch data is limited; it is assessed as at intermediate-low risk in the Queensland East Coast Trawl Fishery and is reported from the New South Wales Ocean Trawl Fishery and the Spencer Gulf Prawn Fishery (DPI 2004, Dixon et al. 2005, Jacobsen et al. 2019). Many parts of its range have limited fishing effort and it has refuge at depth in southern waters where fishing deeper than 700 m was prohibited in most SESSF waters in 2007. It also has refuge in the marine parks network (Parks Australia 2023). The species vulnerability to fishing and climate change in southern waters was assessed as medium and low, respectively (Walker et al. 2021).

Habitat and biology

The Great Torpedo is benthopelagic on the continental shelf and slope at depths of 0–925 m; juveniles are mostly demersal while adults are pelagic or semi-pelagic and make pelagic migrations (Last et al. 2016, Ebert et al. 2021). Maximum size is 180 cm total length (TL) but it may only reach 107 cm TL in Australian waters; males mature at approximately 60 cm TL and females at 62 cm TL (Last and Stevens 2009, Last et al. 2016). Litter size is 8–60 pups (Francis et al. 2018).

Longevity and maximum size	Longevity: unknown Max size: 180 cm TL
Age and/or size at maturity (50%)	Males: ~60 cm TL Females: 62 cm TL

CAAB Code: 37 028003

Link to IUCN Page: <https://www.iucnredlist.org/species/116861529/116861706>

Link to page at Shark References: <https://shark-references.com/species/view/Tetronarce-nobiliana>

References

- Department of Primary Industries (DPI) 2004. Ocean Trawl Fishery. Environmental Impact Statement. Public Consultation Document. NSW Department of Primary Industries.
- Dixon, C.D., Svane, I. and Ward, T.M. 2005 Monitoring and assessment of by-catch and by-product species of the Spencer Gulf Prawn Fishery. Report to PIRSA. SARDI Aquatic Sciences. Publication No. RD 04/249. SARDI Research Report Series No. 102.
- Ebert, D.A., Dando, M. and Fowler, S.F. 2021. *Sharks of the World. A complete guide*. Princeton University Press, New Jersey.
- Finucci, B., Derrick, D., Dossa, J. and Williams, A.B. 2021. *Tetronarce nobiliana*. *The IUCN Red List of Threatened Species 2021*: e.T116861529A116861706
- Francis, M.P., Ó Maolagáin, C. and Lyon, W.S. 2018. *Growth and reproduction of carpet shark, common electric ray and blind electric ray*. New Zealand Aquatic Environment and Biodiversity Report No. 195. 36 p.
- Jacobsen, I., Zeller, B., Dunning, M., Garland, A., Courtney, T. and Jebreen, E. 2018. *An ecological risk assessment of the southern Queensland east coast otter trawl fishery and river and inshore beam trawl fishery*. Department of Agriculture and Fisheries, Brisbane, Queensland.
- Kyne, P.M., Heupel, M.R., White, W.T. and Simpfendorfer, C.A. 2021. *The Action Plan for Australian Sharks and Rays 2021*. National Environmental Science Program, Marine Biodiversity Hub, Hobart.
- Last, P.R. and Stevens, J.D. 2009. *Sharks and Rays of Australia*. Second Edition. CSIRO Publishing, Collingwood, Australia.
- Last, P., White, W., Carvalho, M.R. de, Séret, B., Stehmann, M. and Naylor, G.J.P. 2016. *Rays of the World*. CSIRO Publishing, Clayton, Victoria, Australia.
- Parks Australia 2023. Australian Marine Parks. <https://parksaustralia.gov.au/marine/parks/>.
- Walker, T. I., and Gason, A. S. 2007. *Shark and other chondrichthyan byproduct and bycatch estimation in the Southern and Eastern Scalefish and Shark Fishery*. Final report to Fisheries Research and Development Corporation Project No. 2001/007. Primary Industries Research Victoria: Queenscliff, Victoria, Australia.

Walker, T.I., Day, R.W., Awruch, C.A., Bell, J.D., Braccini, J.M., Dapp, D.R., Finotto, L., Frick, L.H., Garcés-García, K.C., Guida, L., Huveneers, C., Martins, C.L., Rochowski, B.E.A., Tovar-Ávila, J., Trinnie, F.I. and Reina, R.D. 2021. Ecological vulnerability of the chondrichthyan fauna of southern Australia to the stressors of climate change, fishing and other anthropogenic hazards. *Fish and Fisheries* 22(5), 1105–1135.