

Pygmy Thornback Skate, *Dentiraja flindersi*

Report Card assessment	Undefined Stock		
IUCN Red List Australian Assessment	Data Deficient (Endemic to Australia)	IUCN Red List Global Assessment	Data Deficient
Global Assessors	Heard, M. & Huveneers, C.		
Australian Assessors	Kyne, P.M., Heupel, M.R., White, W.T., Simpfendorfer, C.A. (Shark Action Plan) & Rigby, C.L.		
Report Card Remarks	Poorly-known; range uncertain and information needed on levels of interactions with fisheries.		

Summary

The Pygmy Thornback Skate is a small poorly-known inshore ray endemic to temperate waters of South Australia in a restricted spatial and depth range. It is currently only known from waters adjacent to the South Australian Gulfs, though its full range is uncertain. It is rare with a likely small population size due to its low abundance and limited range. The Commonwealth Gillnet, Hook and Trap Sector and South Australian prawn trawl fisheries operate over part of its range though there is no information on catches. If it is caught, it is likely released and post-release mortality is suspected to be medium from trawl fisheries. The species vulnerability to fishing and climate change was assessed as low and medium, respectively. Given the uncertainty about its range and the lack of information on catches, it is not possible to ascertain the level of interactions with Australian fisheries nor determine if fishing is causing a population reduction. Therefore, there is currently inadequate information available to assess the status of the Pygmy Thornback Skate beyond Data Deficient (IUCN) (Kyne et al. 2021) and Undefined Stock (SAFS).



Distribution

The Pygmy Thornback Skate is endemic to temperate waters of South Australia (Last et al. 2016). It occurs in a restricted range and is only currently known from the Investigator Strait and Backstairs Passage off Kangaroo Island; it may also occur in Gulf St Vincent (Last and Stevens 2009, Heard and Huveneers 2015).

Stock structure and status

The Pygmy Thornback Skate is rare with a likely small population size based on its low abundance and limited spatial and depth range (Heard and Huveneers 2015). There is currently no information

on population trend for the species. It is genetically very similar to the Australian Thornback Skate (*Dentiraja lemprieri*) (W. White pers. comm. 2022).

Fisheries

The Pygmy Thornback Skate is a potential incidental catch of gillnet and trawl fisheries. It may be caught in the Gillnet, Hook and Trap Sector (GHATS) of the Commonwealth Southern and Eastern Scalefish and Shark Fishery (SESSF). Catch levels are unknown; however, the closely related Australian Thornback Skate is considered to have low catchability in the GHATS (Walker 2008). It is not included in the risk assessment for the GHATS but its close relative, the Australian Thornback Skate is assessed as at medium risk (Sporcic et al. 2021). It may be caught in South Australian prawn trawl fisheries, however there is no catch information. Prawn trawling effort is minimal in Investigator Strait and no prawn trawling occurs in Backstairs Passage as the habitat is unsuitable for trawls, effectively providing some refuge for the species. (Heard and Huvneers 2015). If it is caught, it is likely released as it is too small to be of commercial value; post-release mortality is suspected to be medium from trawl fisheries (Heard and Huvneers 2015). The Pygmy Thornback Skate’s vulnerability was assessed as low and medium for fishing and climate change, respectively (Walker et al. 2021).

Habitat and biology

The Pygmy Thornback Skate is demersal on the inner continental shelf at depths of 20–55 m (Last et al. 2016). Maximum size is approximately 33 cm total length (TL) and males mature at approximately 29 cm TL (Last et al. 2016). Little else is known of its biology.

Longevity and maximum size	Longevity: unknown Max size: ~33 cm TL
Age and/or size at maturity (50%)	Males: ~ 29 cm TL Females: unknown

CAAB Code: 37 031038

Link to IUCN Page: <https://www.iucnredlist.org/species/195443/68619789>

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

References

- Heard, M. and Huvneers, C. 2015. *Dentiraja flindersi*. *The IUCN Red List of Threatened Species* 2015: e.T195443A68619789.
- 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.
- Sporcic, M., Bulman, C.M. and Fuller, M. 2021. *Ecological Risk Assessment for the Effects of Fishing. Report for the Southern and Eastern Scalefish and Shark Fishery (Gillnet Hook and Trap Sector): Shark gillnet sub-fishery 2012–2016*. Report for the Australian Fisheries Management Authority. 218 p.
- Walker, T.I., Stevens, J.D., Braccini, J.M., Daley, R.J., Huvneers, C., Irvine, S.B., Bell, J.D., Tovar-Ávila, J., Trinnie, F.I., Phillips, D.T., Treloar, M.A., Awruch, C.A., Gason, A.S., Salini, J. and Hamlett W.C. 2008. Rapid assessment of sustainability for ecological risk of shark and other chondrichthyan bycatch species taken in the Southern and Eastern Scalefish and Shark Fishery. Final report to Fisheries Research and Development Corporation Project No. 2002/033. (July 2008).
- 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., Huvneers, 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.