

## Sydney Skate, *Dentiraja australis*

<b>Report Card assessment</b>	<b>Recovering</b>		
IUCN Red List Australian Assessment	Near Threatened* (Endemic to Australia)	IUCN Red List Global Assessment	Near Threatened
Global Assessors	Rigby, C.L., Sherman, C.S., Derrick, D. & Pacoureau, N.		
Australian Assessors	Kyne, P.M., Heupel, M.R., White, W.T., Simpfendorfer, C.A. (Shark Action Plan).		
Report Card Remarks	Significant declines due to historically high fishing pressure; however, pressure has significantly declined, population estimated to be increasing and now at low risk.		

\*The Global assessment is more recent than the Shark Action Plan Australian status of Vulnerable and includes a new catch trend analysis over three generations and a recent ecological risk assessment that shifted status from VU to NT.

### Summary

The Sydney Skate is a small continental shelf ray endemic to subtropical and temperate waters of eastern Australia in a relatively restricted range. It is caught in the Commonwealth Southern and Eastern Scalefish Fishery (SESSF) and was released; post-release mortality is unknown. Significant declines in all skate species were noted in SESSF surveys over 20 years from 1977–1997 with the Sydney Skate dominating skate catches across all survey grounds at depths of 220–275 m. From 1998–2006, the Sydney Skate



standardised catch-per-unit effort in the SESSF indicated a risk-peak-decline trend and analysis of this data over three generations (21 years) estimated an increasing trend. Thus, although it has undergone significant population decline in southeast Australia, fishing pressure has since declined in the SESSF, the population appears to have started to increase, and it is now assessed as at low risk in the SESSF. It is also taken in the New South Wales Ocean Trawl Fishery and in the Queensland East Coast Trawl Fishery where it is assessed as at low risk. The species would also have some refuge in the network of marine parks. Its vulnerability to fishing and climate change was assessed as low. Therefore, the Sydney Skate is assessed as Near Threatened (IUCN) (Rigby et al. 2021) and Recovering (SAFS).

### Distribution

The Sydney Skate is endemic to subtropical and temperate eastern Australian waters (Last et al. 2016). It occurs in a relatively restricted range from Moreton Bay (Queensland) to Tathra (New South Wales) (Last and Stevens 2009).

### Stock structure and status

The Sydney Skate was historically common, has undergone significant historic population declines in the Commonwealth Southern and Eastern Scalefish Fishery (SESSF), but its population has since been estimated to be increasing (Rigby et al. 2021).

### Fisheries

The Sydney Skate is an incidental catch of mainly trawl and to a lesser extent Danish seine fisheries. It is caught in the Commonwealth Southern and Eastern Scalefish Fishery (SESSF) with an estimated annual average catch of 157 t between 2000–2006 all of which was released; post-release mortality is unknown (Walker and Gason 2007, Rigby et al. 2021). From 1998–2006, the species standardised catch-per-unit effort in the SESSF indicated a rise-peak-decline trend (Walker and Gason 2007). A trend analysis of this data over the past three generations (21 years) indicate an estimated increasing population (Rigby et al. 2021). This rise-peak-decline catch trend was also estimated in later years, that is, during 2010–2019, based on observer data, though these catch estimates were unstandardized; total estimated catches were 155 t from 2003–2019 with no retention of the species (Daley and Gray 2020). There was a decline of 75–88% in mean catch rates of deepwater skates in the SESSF over 20 years from 1977–1997 with the Sydney Skate dominating catches across the survey grounds at depths of 220–275 m (Graham et al. 2001). This decline was prior to the last three generations of 21 years and fishing pressure has declined significantly in the SESSF since the historic high levels and although fishing pressure is ongoing, a recent ecological risk assessment of the Sydney Skate found it at low risk in the Commonwealth Trawl Sector of the SESSF (Rigby et al. 2021, Sporcic et al. 2021). It is also caught and released in the New South Wales Ocean Trawl Fishery (OTF) with the species noted in 6% of observed shots over two years (2017/18–2018/19) (Johnson and Barnes 2023). It is taken in the Queensland East Coast Trawl Fishery and is assessed as at low risk (Campbell et al. 2018). It would receive some refuge in the Commonwealth South-east Marine Park Network which include zoning and gear restrictions (Parks Australia 2023). The species vulnerability to fishing and climate change was assessed as low (Walker et al. 2021).

### Habitat and biology

The Sydney Skate is demersal on the on the continental shelf and slope at depths of 20–325 m (Last et al. 2016). Maximum size is approximately 55 cm total length (TL) and males mature at 43–48 cm TL (Last et al. 2016). Little else is known of its biology.

Longevity and maximum size	Longevity: unknown Max size: ~55 cm TL
Age and/or size at maturity (50%)	Males: 43–48 cm TL Females: unknown

**CAAB Code:** 37 031002

**Link to IUCN Page:** <https://www.iucnredlist.org/species/161637/68620350>

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

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