

Blue lines indicate the area meeting the ISRA Criteria; dashed lines indicate the suggested buffer for use in the development of appropriate place-based conservation measures

CARNARVON ISRA

Australia and Southeast Indian Ocean Region

SUMMARY

Carnarvon is located in the Gascoyne region of Western Australia, Australia. This area overlaps with the Carnarvon Estuary into which the Gascoyne River discharges. This estuary is highly influenced by tidal incursion, periodic high-discharge events, and sediment input from fluvial floods. Vegetation communities in the estuary zone and adjacent coastal wetlands include mangroves, salt marshes, and associated tidal floodplain habitats. Within this area there are: **threatened species** and **reproductive areas** (Green Sawfish *Pristis zijsron*).

CRITERIA

Criterion A - Vulnerability; Sub-criterion C1 - Reproductive Areas

— AUSTRALIA —

— 0-6 metres —

— 42.21 km² —





DESCRIPTION OF HABITAT

Carnarvon is located in the Gascoyne region of Western Australia, Australia. This area overlaps with the Carnarvon Estuary (also known as the Gascoyne River Estuary) into which the Gascoyne River discharges into the Indian Ocean. The area stretches from Miaboolya Beach in the north to Oyster Creek in the south.

Vegetation communities in the estuary zone and adjacent coastal wetlands include mangroves, salt marshes, and associated tidal floodplain habitats (DPLH 2015). This estuary is highly influenced by tidal incursion, periodic high-discharge events, and sediment input from fluvial floods (DPLH 2015). Because the river is ephemeral (flows are intermittent), much of the time the estuary is dominated by saline or brackish conditions, with tidal waters penetrating upstream during lower river flows (DPLH 2015). When significant rainfall or cyclonic events occur, pulses of freshwater flush through the system, delivering sediments and influencing coastal and nearshore marine ecosystems (DPLH 2015).

Within the hot, arid Gascoyne region, only three river-fed estuaries occur: the Gascoyne River Estuary, the Wooramel River Estuary, and the Lake MacLeod coastal wetland, with the Gascoyne River Estuary by far the largest.

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 6 m based on the depth range of Qualifying Species in the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

One Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occurs in the area. This is the Critically Endangered Green Sawfish (Harry et al. 2022).

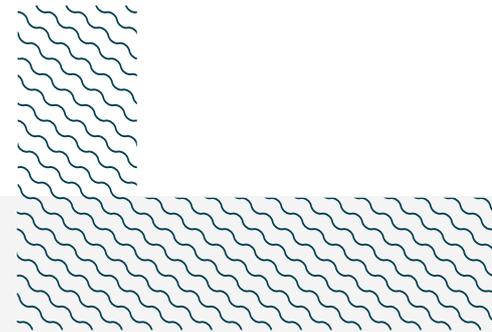
SUB-CRITERION C1 – REPRODUCTIVE AREAS

Photos and capture details of sawfish were submitted by citizen scientists to Sharks And Rays Australia (SARA) and other researchers (SARA 2025; A Harry unpubl. data. 2025). Species and size (total length; TL) were either reported, visually estimated through photographs (using references), or estimated through rostrum morphometrics (Biskis et al. 2025).

In 1984, 2003, 2013, 2014, 2018–2021, and 2023–2025, 22 Green Sawfish and 18 non-identified sawfish species (*Pristis* spp.) were recorded from this area, comprising 14 neonates, 15 young-of-the-year (YOY), six juveniles, two sub-adults, two adults, and one with undetermined body size (A Harry unpubl. data. 2025; BE Wueringer unpubl. data. 2025). Of the 29 neonate or YOY, 15 (51.7%) were confirmed Green Sawfish. All these were recorded between 2019–2021. It is also likely that all the non-identified sawfish records correspond to Green Sawfish as this is the species with the southernmost distribution in Western Australia. Size-at-birth of the species is 77–97 cm TL (Morgan et al. 2015) and YOY sizes are estimated at <117 cm TL, based on growth curves (Lear et al. 2023).

Although this area has been poorly studied, with no targeted research and records based solely on citizen science, early life stages are regularly observed, supporting its role as reproductive habitat.

This area represents the southernmost documented reproductive habitat for the Green Sawfish along its western distribution in Australia, and across the Indian Ocean (Jabado et al. 2023).



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We acknowledge the Traditional Owners of Country throughout Australia and recognise the continuing connection to land, waters, and culture. We pay our respects to Elders past, present, and emerging.

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QUALIFYING SPECIES

Scientific Name	Common Name	IUCN Red List Category/EPBC Act	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met									
				A	B	C1	C2	C3	C4	C5	D1	D2	
RAYS													
<i>Pristis zijsron</i>	Green Sawfish	CR/VU	0-100	X		X							

IUCN Red List of Threatened Species Categories are available by searching species names at www.iucnredlist.org Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.

Australian Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) categories are available at: <https://www.dcceew.gov.au/environment/epbc/our-role/approved-lists> Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; CD, Conservation Dependent.



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