

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. Buffers for freshwater areas are determined based on hydroBASINS to capture watershed boundaries.

## WALCOTT INLET ISRA

### Australia and Southeast Indian Ocean Region

#### SUMMARY

Walcott Inlet is located in the Kimberley region of Western Australia, Australia. The area encompasses the Isdell River whose main tributaries are the Greytal and Springy rivers, and Plain and Bell creeks which flow into Walcott Inlet. The habitat is characterised by rocky substrate and sandy plains with narrow alluvial valleys. Near Walcott Inlet, the Isdell River forms a long, deep gorge. Within this area there are: **threatened species** and **reproductive areas** (Northern River Shark *Glyphis garricki*).

#### CRITERIA

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

— AUSTRALIA —

— 0-23 metres —

— 38.36 km<sup>2</sup> —





## DESCRIPTION OF HABITAT

Walcott Inlet is located in the Kimberley region of Western Australia, Australia. The area spans the traditional lands of the Ngarinyin and Worrorra peoples who hold Native Title over the area. It is a bedrock-fringed estuarine embayment on the Kimberley coast. Walcott Inlet receives freshwater input from the Isdell, Charnley, and Calder rivers. Near Walcott Inlet, the Isdell River forms a long, deep gorge. The Walcott Inlet system is characterised by extensive tidal mudflats, up to 5 km wide, that are regularly inundated by tides with an average tidal range of 11 m (Burbidge et al. 1991).

The Kimberley has two dominant seasons: the wet season from November until April and the dry season from May until October. Annual rainfall in this area averages around 850 millimetres. Like rainfall, river flow in the Kimberley is extremely seasonal, with approximately 80% occurring in the five months between December and April (DWER 2008).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 23 m based on the bathymetry of 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 Vulnerable Northern River Shark (Kyne et al. 2021).

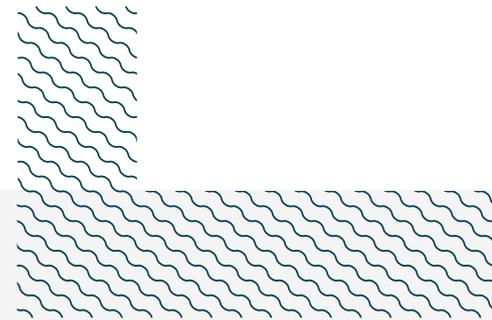
### SUB-CRITERION C<sub>1</sub> – REPRODUCTIVE AREAS

Walcott Inlet is an important reproductive area for one shark species.

Based on fishery-independent surveys across seven major sites (bays or estuaries) from Prince Frederick Harbor to King Sound between 2018–2021 and additional observations between 2015–2021, neonates and young-of-the-year (YOY) Northern River Sharks occur regularly in this area (A Harry unpubl. data 2018–2021). This area (which sits within one of the seven sites, i.e., the broader Walcott Inlet) was sampled based on reports of regular observations of very small Northern River Sharks at least since 2015 (A Harry pers. obs. 2025). In addition to this, records were obtained from photos or samples provided by commercial and recreational fishers.

Fishery-independent sampling was carried out with 30 m long net with stretched mesh sizes ranging from 5.0–20.3 cm (A Harry unpubl. data 2018–2021). Survey hours per site ranged 122–441 h (average = 307.3). Northern River Sharks were the second most commonly caught species at these seven sites (n = 37) after Dwarf Sawfish (n = 53). While Dwarf Sawfish were recorded in all sampled areas, Northern River Sharks were captured mostly in the broader Walcott Inlet (81%; n = 30 in 317 hours of survey), along with Secure Bay (n = 4 in 164 hours of survey) and King Sound (n = 3 in 333 hours of survey), both outside the area (A Harry unpubl. data 2018–2021). Of 30 Northern River Sharks from the broader Walcott Inlet, 21 were caught and measured during the fishery-independent sampling and nine came from photos provided by commercial, recreational, or customary fishers (only four with size estimates). Within this area, 26 Northern River Sharks were captured during surveys (n = 19) or by fishers (n = 7). Of 23 Northern River Sharks with size measurements in this area, 12 were neonates and YOY, with sizes ranging between 57.4–75.9 cm total length (TL) and were captured in 2019 (n = 11) and 2021 (n = 1) (A Harry unpubl. data 2018–2021). Reported size-at-birth for the species

is 50–65 cm TL (Pillans et al. 2009). Additionally, four were small juveniles ranging 78.9–82.6 cm TL, captured in 2019 (n = 2) and 2021 (n = 2), supporting the importance of this area for early life-stages. Surveys across the broader Kimberley region and local ecological knowledge supports the regular occurrence and importance of this area for early life-stage Northern River Sharks (A Harry pers. obs. 2025).



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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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### **Suggested citation**

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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	
<b>SHARKS</b>													
<i>Glyphis garricki</i>	Northern River Shark	VU/EN	0-23	X		X							

## SUPPORTING SPECIES

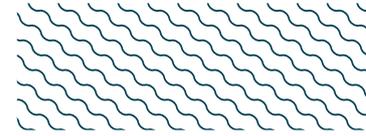
Scientific Name	Common Name	IUCN Red List Category/EPBC Act
<b>SHARKS</b>		
<i>Carcharhinus leucas</i>	Bull Shark	VU
<i>Glyphis glyphis</i>	Speartooth Shark	VU/CR
<b>RAYS</b>		
<i>Pristis clavata</i>	Dwarf Sawfish	CR/VU
<i>Pristis pristis</i>	Large-tooth Sawfish	CR/EN

*IUCN Red List of Threatened Species Categories are available by searching species names at [www.iucnredlist.org](http://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.*



## SUPPORTING INFORMATION



There are additional indications that Walcott Inlet is a potential reproduction area for one shark species. Based on the same surveys between 2018–2021, Speartooth Sharks were captured and measured ( $n = 5$  in 2019) and photo records from this area were collected ( $n = 2$  from 2021) (A Harry unpubl. data 2018–2021). All five captured animals measured 71.8–76.6 cm TL indicating those were YOY. Size-at-birth for the species is ~50–65 cm TL (Pillans et al. 2009) and YOY are estimated to grow  $16 \pm 8$  cm (mean  $\pm$  standard deviation) in their first year and were identified based on size and presence of umbilical scars (Pillans et al. 2022).

Additional information is required to confirm the importance of the area for this species.



## REFERENCES

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