ISRA
IMPORTANT SHARK AND RAY AREAS

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.

ARCHER RIVER ISRA

Australia and Southeast Indian Ocean Region

AUSTRALIA

0–20 metres

115.6 km²

SUMMARY

Archer River is located in north Queensland, Australia. This estuarine-riverine system sits on the western side of Cape York Peninsula on the Gulf of Carpentaria. The area comprises a turbid brackish estuary and lower river reaches with sandy and muddy substrates, mangroves (extending ~25 km upstream), salt flats and saltmarshes, wet heath swamps, floodplain grass sedge, herb and tree swamps, and riverine habitat. The area is subject to a tropical monsoonal climate with distinct wet and dry seasons and is influenced by seasonal freshwater input and tidal saltwater intrusions. Within this area there are: **threatened species** and **reproductive areas** (Largetooth Sawfish *Pristis pristis*).

CRITERIA

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

DESCRIPTION OF HABITAT

Archer River is located in north Queensland, Australia. This estuarine-riverine area includes Acher Bay, and reaches of the Archer River, Ward River, and Watson River. The head waters of the Archer River rise in the McIlwraith Range on the eastern side of Cape York, where it flows west entering Archer Bay on the eastern side of the Gulf of Carpentaria. The Watson River and Ward River also flow into Archer Bay. The catchment area is ~13,820 km^2, which includes ~4% (510 km^2) of wetland habitats, including estuarine mangroves (extending ~25 km upstream), salt flats and saltmarshes, wet heath swamps, floodplain grass sedge, herb and tree (e.g., *Melaleuca* spp.) swamps, and riverine habitat (Waltham & Schaffer 2015). Estuarine waters are turbid and brackish, and substrates are sandy and muddy.

Archer River is a highly dynamic estuarine-riverine environment heavily influenced by tidal variation and a tropical monsoonal climate with distinct wet and dry seasons. Nearly all rainfall occurs during the wet season (~December–April). During these months, the area is influenced by freshwater flows from the rivers which lower salinity in the estuary. During the dry season, tides push marine/brackish waters into the estuary and lower reaches of the rivers. Tropical storms and cyclonic activity are frequent during the wet season.

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 20 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 Critically Endangered Largetooth Sawfish (Espinoza et al. 2022).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Archer River is an important reproductive area for one ray species.

Surveys of incidental sawfish catch in a commercial fishery operating in the area have been undertaken in February and March each year between 2021–2025 (RD Pillans unpubl. data 2021–2025). Animals were measured (total length; TL), sexed, and released with a subset being tagged to monitor movements. Early life-stage (neonate and young-of-the-year; YOY) Largetooth Sawfish are regularly captured throughout Archer River (RD Pillans unpubl. data 2021–2025). Size-at-birth for the species is 72–91 cm TL and YOY are estimated to measure <130 cm TL based on growth curves (Peverell 2009). Between 2021–2025, 187 Largetooth Sawfish were caught in this area. Largetooth Sawfish ranged 77–289 cm TL (mean ± standard deviation = 212.2 ± 49.0 cm TL) and comprised 13 neonates (6.9%), 9 YOY (4.7%), and 165 juveniles (88%; 1–4 years old). Early life-stages (neonates and YOY combined; n = 22) represented 11.7% of Largetooth Sawfish and were sampled in February and March each year coinciding with the timing of research effort (RD Pillans unpubl. data 2021–2025).

An array of 17 acoustic receivers spanning from the mouth to 50 km upstream has been deployed throughout the area from 2024. A total of 29 Largetooth Sawfish were tagged, all of which were juveniles. All individuals displayed extended residency within the array over the study period (2024–January 2026). Only individuals estimated to be >270 cm TL were recorded departing the array and

have subsequently been recorded by acoustic receivers in the Gulf of Carpentaria. An additional 51 sawfish (all juveniles) have been tagged with satellite tags. All individuals demonstrated residence over periods of 60–200 days (tag attachment period) and included animals moving between the Ward and Archer rivers, and between the Archer and Watson rivers.

Additional observations of small (early life-stage) Largetooth Sawfish have been made by researchers and Indigenous Rangers within the area (RD Pillans unpubl. data 2021–2025). Since Largetooth Sawfish leave rivers only upon reaching sexual maturity (Peverell 2009), the presence of neonates, YOY, and juveniles up to 270 cm TL (close to the size-at-maturity of 280–300 cm TL; Thorburn et al. 2007; Whitty et al. 2008; Peverell 2009) indicates that Archer River is an important reproductive area for the species. Furthermore, Largetooth Sawfish display female philopatry, with rivers representing genetically distinct and reproductively isolated systems (Phillips et al. 2011; Feutry et al. 2015).

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Richard D Pillans (CSIRO) and Peter M Kyne (Charles Darwin University; IUCN SSC Shark Specialist Group – ISRA Project) contributed and consolidated information included in this factsheet. We thank all participants of the 2025 ISRA Region 08 – Australia and Southeast Indian Ocean workshop for their contributions to this process.

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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												
Pristis pristis	Largetooth Sawfish	CR/EN	0–60	X		X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Carcharhinus leucas	Bull Shark	VU

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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