

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.

NAMBUCCA RIVER ISRA

Australia and Southeast Indian Ocean Region

SUMMARY

Nambucca River is located on the mid-north coast of New South Wales, Australia. It comprises river and estuary habitats in the lower reaches of the river. The habitat is characterised by soft sediment, sandbanks, islands, mangroves, and agricultural land bordering the river. It is influenced by freshwater and sediment input from the river, with seasonally higher flow during the austral summer, and by tidal saltwater intrusion. Within this area there are: **threatened species** and **reproductive areas** (Bull Shark *Carcharhinus leucas*).

CRITERIA

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

— AUSTRALIA —

— 0-10 metres —

— 7.50 km² —





DESCRIPTION OF HABITAT

Nambucca River is located on the mid-north coast of New South Wales, Australia. The area is situated between Coffs Harbour and Port Macquarie. It comprises riverine and estuarine waters in the lower reaches of the Nambucca River that drains a catchment of 1,407 km² (Doyle 2003). The area extends from the river mouth to ~15 km upstream. The habitat is characterised by soft substrates, sandbanks, islands, and mangroves. The riverbank is mostly agricultural land.

The area is influenced by freshwater and sediment input from the river, and by tidal saltwater intrusions, resulting in a gradient of salinity levels. The tidal limit is further upstream, outside the boundaries of this area (Doyle 2003). It is also influenced by a subtropical climate and ~1,400 mm of rain per year, with increased rain and river flow during the austral summer (Doyle 2003).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 10 m based on the bathymetry of the area.

ISRA CRITERIA

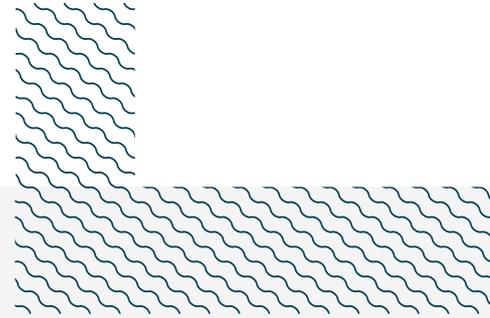
CRITERION A – VULNERABILITY

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 Bull Shark (Rigby et al. 2021).

SUB-CRITERION C₁ – REPRODUCTIVE AREAS

Nambucca River is an important reproductive area for one shark species.

Neonate and young-of-the-year (YOY) Bull Sharks are regularly encountered in this area (N Lubitz unpubl. data 2025). Recreational fishing records logged between December 2013 and January 2026 captured 120 Bull Sharks in this area. A research study captured and released an additional 28 individuals between 2019–2024 (N Lubitz unpubl. data 2025), leading to a total of 148 captures in this area. The total length (TL) of 146 individuals was measured. There was a seasonal signal in records, with most Bull Sharks (89%; n = 131) captured between November–March. Based on sizes, most of the captures were neonates (n = 50; 34%) ranging 66–81 cm TL, or YOY (n = 55; 38%) ranging 82–99 cm TL. The size-at-birth for the species is 56–81 cm TL and YOY can be up to 99 cm TL (Pillans et al. 2020; Ebert et al. 2021). The remaining individuals were mainly small juveniles <150 cm TL (n = 30; 21%), with few larger juveniles and adults (n = 11; 8%). Bull Sharks in eastern Australia remain in river and estuary habitats for up to five years (Werry et al. 2011; Niella et al. 2022), highlighting that juveniles, in addition to neonates and YOY, are still largely restricted to the area, with the larger juveniles potentially making some movements into adjacent marine waters (Smoothey et al. 2023). Although Nambucca River is located only ~20 km from Bellinger River, and ~125 km from Clarence River to the north, both of which also host important habitat for young Bull Sharks, these river systems are individually important. Bull Sharks in Australia display natal philopatry, with females returning to particular river systems to pup (Tillett et al. 2012; Lubitz 2023). For example, half-sibling pairs were found within a river up to seven cohorts apart, highlighting the long-term natal philopatry of females (Lubitz 2023). Therefore, individual rivers in this region represent discrete portions of habitat that are important to Bull Sharks.



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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	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met									
				A	B	C1	C2	C3	C4	C5	D1	D2	
SHARKS													
<i>Carcharhinus leucas</i>	Bull Shark	VU	0-256	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.



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