

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.

BRISBANE RIVER ISRA

Australia and Southeast Indian Ocean Region

SUMMARY

Brisbane River is located in southeast Queensland, Australia. It comprises freshwater areas up to ~82 km upstream, brackish waters, and estuarine waters at the river mouth. The habitat is characterised by mud substrate, highly turbid river water, mangroves, and urban riverbanks. It is influenced by a subtropical climate with high variation in river flow, and by tides that result in a wide gradient of salinity levels. Within this area there are: **threatened species** and **reproductive areas** (Bull Shark *Carcharhinus leucas*).

CRITERIA

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

— AUSTRALIA —

— 0-15 metres —

— 22.78 km² —





DESCRIPTION OF HABITAT

Brisbane River is located in southeast Queensland, Australia. This area comprises freshwater parts of the Brisbane River up to ~84 km upstream, brackish water in the lower river, and estuarine waters at the river mouth opening into Moreton Bay (Pillans 2006). The upstream boundary is College's Crossing and the lower boundary is the river mouth. The river in this area flows through the city of Brisbane and Brisbane's port at the river mouth. The habitat is characterised by mud substrate, turbid river water, mangroves, and urban riverbanks.

The area is influenced by tides, with saltwater intruding at high tide, and by freshwater flow from the river. The tidal limit is just outside the boundary of this area, ~86 km upstream, and saltwater intrudes up to ~60 km upstream (Yu et al. 2013). River flow is influenced by the subtropical climate, with higher flow during the austral summer and exceptionally high flow of up to ~12,500 m³s⁻¹ during floods (Kemp et al. 2016).

This Important Shark and Ray Area is benthic and pelagic and is delineated from inshore and surface waters (0 m) to 15 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).

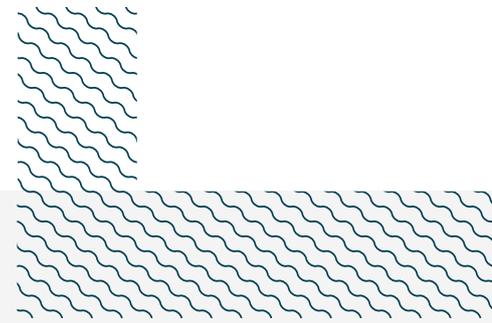
SUB-CRITERION C₁ – REPRODUCTIVE AREAS

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

Neonate, young-of-the-year (YOY), and juvenile Bull Sharks are regularly observed in this area (Pillans 2006; Lubitz 2023; N Lubitz unpubl. data 2025). A historical research study captured 714 Bull Sharks with rod-and-line in this area and the adjacent Moreton Bay in 2001–2004 (Pillans 2006). Catch-per-unit-effort (CPUE) in the upper freshwater reaches of the river was high, with 1.18 sharks per hour of fishing or 2.8 sharks per fishing trip. It was much higher in the freshwater section of the river compared to the river mouth (0.09 sharks per hour) or Moreton Bay (0.08). The middle- and upper estuary sections had intermediate CPUE of 0.26 and 0.3 sharks per hour of fishing, respectively. Almost all sharks were captured from November–May. Most of the individuals captured in the river (68%) were neonates with open umbilical scars and a size range of 56–83 cm total length (TL). The size-at-birth for the species is 56–81 cm TL (Ebert et al. 2021). The remaining individuals were YOY and small juveniles up to 130 cm TL, while in Moreton Bay, outside the area, only sub-adults and adults were captured. No pregnant females were captured (Pillans 2006).

In 2021, 2024, and 2025, Bull Sharks were captured in research surveys in this area mostly using rod-and-line during the spring and summer from October–January (N Lubitz unpubl. data 2025). A total of 43 Bull Sharks were captured over nine fishing days, with a CPUE of 4.8 sharks per day, similar to the previous study. Individuals ranged in size from 70–85 cm TL and all were either neonates with an open umbilical scar or YOY with a semi-healed umbilical scar (N Lubitz unpubl. data 2025). Genetic analysis of tissue samples from these neonates/YOY identified six full-sibling and half-sibling pairs suggesting that this area is used by multiple females to give birth (N Lubitz unpubl. data 2025). There are many additional contemporary records across multiple years of small Bull Sharks in the Brisbane

River in the media. Combined, the data show that Brisbane River is important for the early life stages of the species.



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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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