

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

ST LUCIA ESTUARY ISRA

Western Indian Ocean Region

SUMMARY

St Lucia Estuary lies on the KwaZulu-Natal coast of northeastern South Africa. The area comprises coastal waters, the estuary mouth, and the lower estuarine system. The area overlaps with the iSimangaliso marine protected area and partially overlaps the iSimangaliso Wetland Park Key Biodiversity Area. Within this area there are: **threatened species** and **reproductive areas** (Bull Shark *Carcharhinus leucas*).

CRITERIA

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

SOUTH AFRICA

0-65 metres

11.59 km²



DESCRIPTION OF HABITAT

St Lucia Estuary lies on the KwaZulu-Natal coast of northeastern South Africa. The area comprises coastal areas, an estuary mouth, and an extensive estuarine system. It is part of the largest estuarine lake system in Africa and the largest nursery habitat for estuarine fish species in South Africa (Mann et al. 2002; Whitfield 2005; Forbes et al. 2020). Apart from a short opening due to a big-sea event in 2007, the estuary had been closed from 2002-2021, due to low freshwater input into the lake (Daly et al. 2021). Since then, the estuary mouth has been open again (Daly et al. 2021).

The area overlaps with the iSimangaliso marine protected area (MPA) which is also a World Heritage Site. It partly overlaps the iSimangaliso Wetland Park Key Biodiversity Area (KBA 2023).

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to 65 m based on the bathymetry of the area.

ISRA CRITERIA

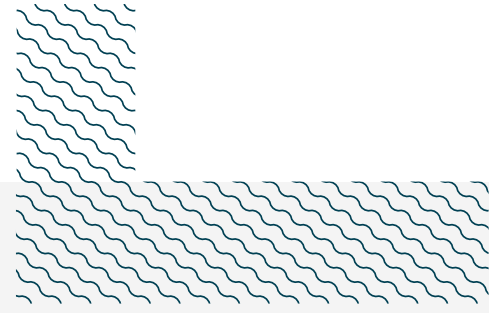
CRITERION A - VULNERABILITY

The one Qualifying Species within the area is considered threatened with extinction according to the IUCN Red List of Threatened Species™. The Bull Shark is assessed as Vulnerable (Rigby et al. 2021).

SUB-CRITERION C₁ - REPRODUCTIVE AREAS

St Lucia Estuary is an important reproductive area for one shark species.

Bull Sharks pup at the St Lucia Estuary mouth and use the lake system as a nursery. Historically, 179 immature individuals were caught and tagged in the lake between 1968 and 1970. Many had open umbilical scars, confirming the presence of neonates and pupping in the system (Bass et al. 1973). Subsequently, the St Lucia mouth closed to the ocean between 2002 and 2021 and many sharks in the system perished. However, in 2021 the estuary mouth was opened again, and Bull Sharks were observed pupping at the mouth (Daly et al. 2021). Nine neonate Bull Sharks with open umbilical scars were tagged with acoustic tags at the mouth and monitored for two years. The study showed that four of the tagged neonates recruited into the lower estuary area, but the fate of the remaining five were unconfirmed. It appears that if the mouth is open during the austral summer pupping season, Bull Sharks will pup at the mouth, confirming that the area is still an important pupping ground. The St Lucia Lake system is one of the largest estuary systems in the country and one of only 12 estuaries in KwaZulu-Natal (n = 76) where Bull Sharks have been recorded (Daly et al. 2021).



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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							



REFERENCES

Bass AJ, D'Aubrey JD, Kistnasamy, N. 1973. Sharks of the east coast of southern Africa. I. The genus *Carcharhinus* (Carcharhinidae). *Oceanographic Research Institute Investigational Report* 33: 1-168.

Daly R, Le Noury P, Hempson TN, Ziembicki M, Olsers JM, Brokensha GM, Mann BQ. 2021. Bull shark *Carcharhinus leucas* recruitment into the St Lucia Estuary, South Africa, after prolonged mouth closure, and the first observation of a neonate bull shark preyed on by a Nile crocodile *Crocodylus niloticus*. *African Journal of Marine Science* 43: 417-421. <https://doi.org/10.2989/1814232X.2021.1964599>

Forbes NT, Forbes AT, James B. 2020. Restoration of Lake St Lucia, the largest estuary in South Africa: historical perceptions, exploitation, management and recent policies. *African Journal of Aquatic Science* 45: 183-197. <https://doi.org/10.2989/16085914.2020.1719816>

Key Biodiversity Areas (KBA). 2023. iSimangaliso Wetland Park. Available at: <https://www.keybiodiversityareas.org/site/factsheet/44662> Accessed August 2023.

Mann BQ, James NC, Beckley LE. 2002. An assessment of the recreational fishery in the St Lucia estuarine system, KwaZulu-Natal, South Africa. *African Journal of Marine Science* 24: 263-279.

Rigby CL, Espinoza M, Derrick D, Pacoureaux N, Dicken M. 2021. *Carcharhinus leucas*. *The IUCN Red List of Threatened Species* 2021: e.T39372A2910670. <https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T39372A2910670.en>

Whitfield AK. 2005. Preliminary documentation and assessment of fish diversity in sub-Saharan African estuaries. *African Journal of Marine Science* 27(1): 307-324. <https://doi.org/10.2989/18142320509504089>