

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

UPPER GULF ST VINCENT ISRA

Australia and Southeast Indian Ocean Region

SUMMARY

Upper Gulf St Vincent is located in the northern Gulf St Vincent, South Australia, Australia. The habitat is characterised by dense seagrass habitats (*Posidonia*, *Zostera*, and *Amphibolis* spp.) and silty substrates. It is influenced by an inverse estuarine system with sea surface temperature ranging 11–24°C from August to March. The area overlaps with the Upper Gulf St Vincent Marine Park. Within this area there are: **threatened species** and **reproductive areas** (Copper Shark *Carcharhinus brachyurus*).

CRITERIA

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

— —
AUSTRALIA
 — —
0-20 metres
 — —
778.1 km²
 — —





DESCRIPTION OF HABITAT

Upper Gulf St Vincent is located in South Australia, Australia. It is found in the northernmost part of the Gulf St Vincent. The area is shallow and is characterised by the presence of dense seagrass (*Posidonia*, *Zostera*, and *Amphibolis* spp.) habitats and silty substrates (Edyvane 1999).

The area is influenced by the dynamics of the Gulf St Vincent, which is a shallow gulf environment (maximum depth ~40 m) that supports an abundance of tidal wetlands, seagrass meadows, mangroves, rocky reefs, and saltmarshes (Edyvane 1999). This is an inverse estuary system, with salinity increasing with distance from the open ocean because of the evaporative processes occurring at the top of the gulf (Bye 1976). Water is transported into the gulf via Investigator Strait and Backstairs Passage, but Kangaroo Island blocks most of the gulf mouth from the open ocean, limiting water exchange and sheltering the gulf from high wave energy (Tanner 2002). At Upper Gulf St Vincent, the sea surface temperature ranges 11–24°C from August to March (Drew et al. 2019).

The area overlaps with the Upper Gulf St Vincent Marine Park (NPWS SA 2025).

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 Vulnerable Copper Shark (Huvneers et al. 2020).

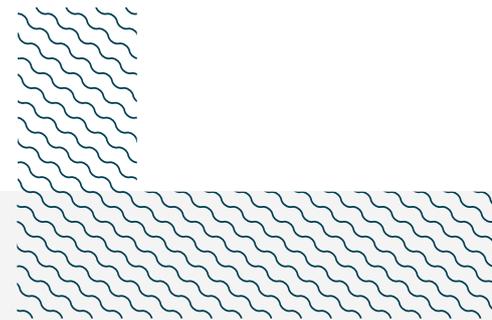
SUB-CRITERION C₁ – REPRODUCTIVE AREAS

Upper Gulf St Vincent is an important reproductive area for one shark species.

Neonate and young-of-the-year (YOY) Copper Sharks have been regularly recorded from commercial fisheries and fishing surveys in the area (Drew et al. 2017, 2019; Izzo et al. 2016). Historically, one late term pregnant female was caught in the area in January 2009 during the reported pupping season between November–February (Rogers et al. 2013; Drew et al. 2017). Upper Gulf St Vincent is the only known area in South Australia (along with Spencer Gulf) where neonate/YOY Copper Sharks have been regularly recorded in contemporary years. Between September–May 2011–2013, 60 Copper Sharks measuring 73–179 cm total length (TL) were sampled to collect vertebrae for elemental analysis (Izzo et al. 2016). Of these, 27 (45%) were neonate/YOY measuring <100 cm TL (Izzo et al. 2016). The reported size-at-birth of this species is 59–70 cm TL (Ebert et al. 2021) and the YOY size reported for the region is ~100 cm TL (Drew et al. 2017). In addition, 16 (28.3%) were small juveniles measuring <110 cm TL.

Between 2009–2014, 56 Copper Sharks were tagged with acoustic tags and were monitored on an acoustic array (n = 77 receivers) deployed in the area and in the adjacent Adelaide metropolitan area and Aldinga Reef (Drew et al. 2019). Of these individuals, 28 (50%) were classified as neonate/YOY measuring <100 cm TL. Furthermore, 11 (32.9%) Copper Sharks were small juveniles measuring <150 cm TL. Only 47 individuals provided enough tracking data to explore residency patterns with monitoring time ranging between 516–1,434 days. Most of the individuals (n = 36, 76.6%) were detected in multiple years with 36% detected over 3–4 years. Residency was higher for smaller

individuals showing that this area is used mostly by early life-stages with detections peaking between September–April when bottom temperatures are the highest in the area (~24°C). Tagged individuals were detected mostly in the area (83% of the detections) around dense seagrass patches with few detections outside the area around less dense seagrass and reef habitats (Drew et al. 2019).



Acknowledgments

Charlie Huveneers (Flinders University), Michael Drew (SARDI – Aquatic Sciences), and Emiliano García-Rodríguez (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.

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.

This factsheet has undergone review by the ISRA Independent Review Panel prior to its publication.

This project was funded by the Shark Conservation Fund, a philanthropic collaborative pooling expertise and resources to meet the threats facing the world’s sharks and rays. The Shark Conservation Fund is a project of Rockefeller Philanthropy Advisors.

Suggested citation

IUCN SSC Shark Specialist Group. 2025. Upper Gulf St Vincent ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

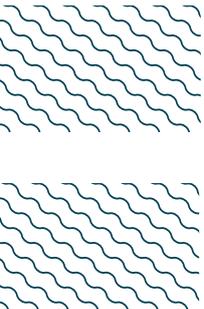
QUALIFYING SPECIES

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 brachyurus</i>	Copper Shark (Bronze Whaler)	VU	0-145	X		X							

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
RAYS		
<i>Trygonorrhina dumerilii</i>	Southern Fiddler Ray	LC

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.





REFERENCES

Bye J. 1976. Physical oceanography of Gulf St Vincent and Investigator Strait. In: Twidale CR, Tyler MJ, Webb BP, eds. *Natural history of the Adelaide region*. Adelaide: Royal Society of South Australia, 143–160.

Drew M, Rogers P, Huveneers C. 2017. Slow life-history traits of a neritic predator, the bronze whaler (*Carcharhinus brachyurus*). *Marine and Freshwater Research* 68: 461–472. <https://doi.org/10.1071/MF15399>

Drew M, Rogers P, Lloyd M, Huveneers C. 2019. Seasonal occurrence and site fidelity of juvenile bronze whalers (*Carcharhinus brachyurus*) in a temperate inverse estuary. *Marine Biology* 166: 56. <https://doi.org/10.1007/s00227-019-3500-x>

Ebert DA, Dando M, Fowler S. 2021. *Sharks of the world: A complete guide*. Princeton: Princeton University Press.

Edyvane KS. 1999. Coastal and marine wetlands in Gulf St. Vincent, South Australia: understanding their loss and degradation. *Wetlands Ecology and Management* 7: 83–104. <https://doi.org/10.1023/A:1008481228129>

Huveneers C, Rigby CL, Dicken M, Pacoureaux N, Derrick D. 2020. *Carcharhinus brachyurus*. *The IUCN Red List of Threatened Species* 2020: e.T41741A2954522. <https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T41741A2954522.en>

Izzo C, Huveneers C, Drew M, Bradshaw CJA, Donnellan SC, Gillanders BM. 2016. Vertebral chemistry demonstrates movement and population structure of bronze whaler. *Marine Ecology Progress Series* 556: 195–207. <https://doi.org/10.3354/meps11840>

National Parks and Wildlife Service South Australia (NPWS SA). 2025. Marine parks. Available at: <https://www.marineparks.sa.gov.au/> Accessed September 2025.

Rogers PJ, Huveneers C, Goldsworthy SD, Cheung WWL, Jones GK, Mitchell JG, Seuront L. 2013. Population metrics and movement of two sympatric carcharhinids: A comparison of the vulnerability of pelagic sharks of the southern Australian gulfs and shelves. *Marine and Freshwater Research* 64: 20–30. <https://doi.org/10.1071/MF11234>

Tanner JE. 2002. Three decades of habitat change in Gulf St. Vincent, South Australia. In: Tanner JE, ed. *Habitat modification and its influence on prawn and crab fisheries*. Project No. 98/208. Adelaide: Fisheries Research and Development Corporation/South Australian Research and Development Institute Aquatic Sciences, 199–213.