

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

SWAINS ISLAND ISRA

New Zealand & Pacific Islands Region

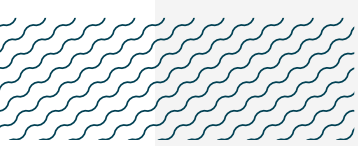
SUMMARY

Swains Island is located in American Samoa, United States of America. The area is a coral atoll and encompasses the reef flat plateau and the forereef with a reef slope. Swains Island is characterised by sandy substrates and reefs. The region is influenced by the South Equatorial Current, the South Equatorial Counter Current, and the Tonga Trench Eddy. This area overlaps with the National Marine Sanctuary of American Samoa. Within this area there are: **threatened species** and **reproductive areas** (Grey Reef Shark *Carcharhinus amblyrhynchos*).

CRITERIA

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

— —
AMERICAN SAMOA
 — —
0-280 metres
 — —
4.96 km²
 — —





DESCRIPTION OF HABITAT

Swains Island is located ~350 km northwest of Tutuila in American Samoa, United States of America. The area is geologically part of the Tokelau volcanic island group (Hart et al. 2004) and is approximately 2.4 km in diameter. The area is a coral atoll and encompasses the reef flat plateau, and the forereef with a reef steep slope. Swains Island is characterised by sandy substrates and reefs dominated by Cauliflower Coral *Pocillopora* spp. and plating Pore Coral *Montipora* spp. (Office of National Marine Sanctuaries 2022).

The rainy season in the area extends from October–May, while a slightly cooler and drier period with higher southeasterly trade wind activity lasts from June–September (Finucane et al. 2012). Average monthly mean sea surface temperatures range from 27–29°C (Office of National Marine Sanctuaries 2022). Tides in the area consist of two daily highs and lows with a mean range of 0.78 m and extremes of 0.9 m and -0.84 m (Office of National Marine Sanctuaries 2022) during king tides and El Niño Southern Oscillation events. The area is influenced by the year-round westward flowing South Equatorial Current, the South Equatorial Counter Current, which interrupts the South Equatorial Current during the austral summer; and the Tonga Trench Eddy, which regularly occurs between September–December south of the archipelago (Kendall & Poti 2011).

This area overlaps with the National Marine Sanctuary of American Samoa (UNEP-WCMC & IUCN 2024)

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to 280 m based on the bathymetry of the area and the global depth range of the species.

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 Endangered Grey Reef Shark (Simpfendorfer et al. 2020).

SUB-CRITERION C₁ – REPRODUCTIVE AREAS

Swains Island is an important reproductive area for one shark species.

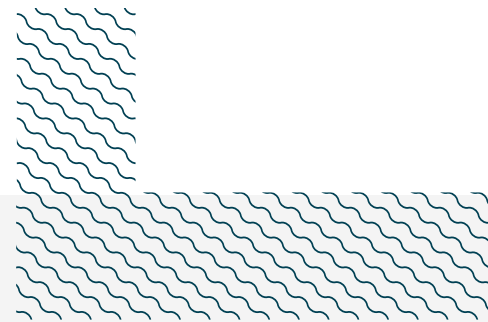
Between 2010–2012, aggregations of neonate and young-of-the-year (YOY) Grey Reef Sharks were regularly observed along the reef in Swains Island (Pacific Islands Fisheries Science Center 2024). The area was surveyed in 2002, 2004, 2006, 2008, 2010, 2012 and 2015, during February or March, over ~3 days during each survey (Heenan et al. 2017). Two survey methods were used and the size of individuals was visually estimated (Heenan et al. 2017): the stationary point count (with approximately 30–50 sites surveyed around the island every surveyed year) (Ayotte et al. 2015) and the towed-diver method (between 6–12 towed dives per surveyed year) (Richards et al. 2011), along the perimeter of the forereef (2.8 km²) at depths between 0–30 m (Pacific Islands Fisheries Science Center 2024). Grey Reef Shark aggregations and small individuals were recorded by tow-divers, where divers kept in constant motion at a rate of ~2 km hr⁻¹ while surveying the area ahead (2,200 m² per survey) (Richards et al. 2011).

Grey Reef Sharks of all class sizes were recorded during tow surveys in six survey periods (excluding 2008) with their occurrence ranging across the years between 14% (in 2002) to 66% (in 2015) and in

four survey periods (2010, 2012, 2015, 2018) during stationary point counts, with their occurrence ranging from 2.6% (in 2012) to 26.6% (in 2018) (Pacific Islands Fisheries Science Centre 2024). Neonates and YOY were observed during the tow surveys conducted in the area in 2010 (n = 9) and 2012 (n = 10), with a total of 90 neonates and/or YOY Grey Reef Sharks ranging in size from 50–75 cm of total length (TL) being observed in 33% (2010) and 50% (2012) of the surveys (Pacific Islands Fisheries Science Centre 2024). Size-at-birth for this species is 45–64 cm TL (Ebert et al. 2021). Aggregations of up to 27 individuals between 50–60 cm TL were observed within the area at the end of March 2012 (Pacific Islands Fisheries Science Centre 2024). During the stationary point count surveys individuals of <70 cm TL were recorded in 2015 (n = 3 individuals) (Pacific Islands Fisheries Science Centre 2024).

Larger Grey Reef Sharks measuring between 85–175 cm were also recorded in 2002 (n = 3 individuals), 2004 (n = 1), 2006 (n = 2), 2010 (n = 1) and 2012 (n = 82), however, sex or pregnancy state was not recorded due to the type of survey (tow survey) (Pacific Islands Fisheries Science Centre 2024).

Swains Island has historically had the highest abundance of large fishes, including sharks in American Samoa (Office of National Marine Sanctuaries 2022). Despite tow surveys tending to generate lower estimates of shark density than smaller transects (Heenan et al. 2020), the abundance of neonates/YOY Grey Reef Sharks recorded in the area highlights the importance of Swains Island for the early life stages of this species.



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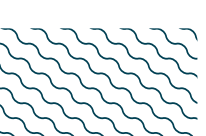
QUALIFYING SPECIES

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 amblyrhynchos</i>	Grey Reef Shark	EN	0-280	X		X							

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Carcharhinus melanopterus</i>	Blacktip Reef Shark	VU
<i>Triaenodon obesus</i>	Whitetip Reef Shark	VU
RAYS		
<i>Aetobatus ocellatus</i>	Spotted Eagle Ray	EN
<i>Pateobatis fai</i>	Pink Whipray	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.





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