

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

EUROPA ISLAND ISRA
Western Indian Ocean Region

SUMMARY

Europa Island is a small, remote, low-lying coralline island in the Mozambique Channel, ~500 km off the coast of Mozambique and ~300 km off Madagascar. This coral atoll has a continuous rim of fringing reef that steeply drops to abyssal depths and consists of ~28 km² of land, with mangrove forests lining the lagoon shore and sandy beaches on the western shore. It lies within the Iles Éparsées and the Mozambique Channel Ecologically or Biologically Significant Marine Areas and overlaps with the Europa Key Biodiversity Area and the Ile d'Europa Marine Protected Area. Within this area there are **threatened species** (e.g., Scalloped Hammerhead *Sphyrna lewini*); **reproductive areas** (Blacktip Reef Shark *Carcharhinus melanopterus*); and **undefined aggregations** (Scalloped Hammerhead).

CRITERIA

Criterion A - Vulnerability; Sub-criterion C1 - Reproductive Areas; Sub-criterion C5 - Undefined Aggregations

—	—
FRANCE	—
—	—
0-1,043 metres	—
—	—
102.9 km²	—
—	—





DESCRIPTION OF HABITAT

Europa Island is a remote coral reef island located ~500 km off the coast of Mozambique and ~300 km off Madagascar in the Mozambique Channel. The atoll is 6–7 km in diameter and has 28 km² of land surface (Guillaume & Séret 2021). The island rises steeply from the abyssal seafloor, with a depth of 3,000 m only ~15 km from the reef crest. Water flow in the Mozambique Channel is dominated by large anticyclonic and cyclonic eddies that propagate southward (Schouten et al. 2003). These eddies result in patchy productivity of surface waters with strong temporal and spatial variation, including off Europa Island (Weimerskirch et al. 2005). The area includes varied habitats including pelagic waters, steep reef slopes, shallow fringing reefs, a lagoon with seagrass beds, and mangrove areas. The 22 km long coastline of the island has a continuous fringing reef surrounding it. A shallow lagoon of ~7 km² opens to the sea over the reef flat in the north. The lagoon is mainly fringed by mangroves, with some areas in the west having sandy beaches.

Europa Island lies within two Ecologically or Biologically Significant Marine Areas (Mozambique Channel and The Iles Éparses; CBD 2023a, 2023b) and overlaps with the Europa Key Biodiversity Area (KBA 2023). It also lies within the Ile d'Europa Marine Protected Area and is a Ramsar site (Wetland of International Importance).

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to 1,043 m based on the depth range of the Qualifying Species in the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

Two Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species™ regularly occur in the area. These are the Critically Endangered Scalloped Hammerhead (Rigby et al. 2019) and the Vulnerable Blacktip Reef Shark (Simpfendorfer et al. 2020).

SUB-CRITERION C₁ – REPRODUCTIVE AREAS

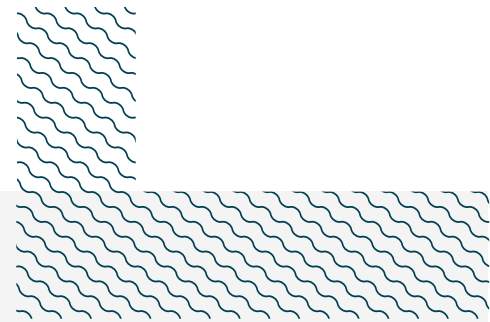
Europa Island is an important reproductive area for one shark species.

Visual surveys in the shallow mangrove system of the island in April 2009 recorded Blacktip Reef Sharks of various sizes (Wickel et al. 2009). Compared with published size-at-birth (48 cm total length [TL]) and sizes of young-of-the-year and juveniles (Lyle 1987; Chin et al. 2013), the observations consisted of nine neonates of ~40–50 cm TL, nine young-of-the-year of <70 cm TL, and six likely juveniles up to 100 cm TL (Wickel et al. 2009). A 3-day survey in 2011 also reported young Blacktip Reef Sharks in the mangrove areas, but no further details were recorded (Séret et al. 2011). In four surveys in April–June 2013, 18 Blacktip Reef Sharks were recorded in the lagoon, and only one individual was seen on the reef (Guillaume & Séret 2021). Some of these were neonates (~40 cm TL) reported in the mangrove system and the others were larger juveniles (80–100 cm TL) reported in a channel between the mangroves and the lagoon. Overall, the evidence from the surveys show that the shallow mangrove areas likely function as a nursery habitat for the species (as defined in Heupel et al. [2007]). The isolated geographic area of this atoll, >300 km from the nearest coast where Blacktip Reef Shark nurseries could exist, further emphasises the importance of this area for their reproduction.

SUB-CRITERION C5 - UNDEFINED AGGREGATIONS

Europa Island is an important area for undefined aggregations of one shark species.

Visual dive/snorkel surveys (n = 79) conducted in April-June 2013 found 16 aggregations of Scalloped Hammerheads, comprising an average of 23 individuals, and up to 150 individuals, per school (Guillaume & Séret 2021). In April-June 2018, Scalloped Hammerheads were regularly encountered, and in December 2018 several small schools and one larger school (17 individuals) were recorded (Guillaume & Séret 2021). Additional visual and baited remote underwater video systems (BRUVS) surveys from July 2010 found 55 Scalloped Hammerheads in the area, with the largest aggregation comprising 35 individuals (Save Our Seas Foundation 2010; Clarke et al. 2012). Unlike other shark species recorded using bait, Scalloped Hammerheads were seen in passing and not interested in the bait. It is likely that these aggregations are for resting and social interactions during the day (Klimley 1985), but further research is needed to understand the drivers of these aggregations.



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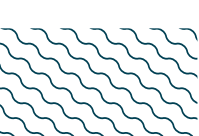
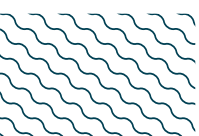
QUALIFYING SPECIES

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
SHARKS											
<i>Carcharhinus melanopterus</i>	Blacktip Reef Shark	VU	0-75	X		X					
<i>Sphyrna lewini</i>	Scalloped Hammerhead	CR	0-1,043	X						X	

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Carcharhinus albimarginatus</i>	Silvertip Shark	VU
<i>Carcharhinus amblyrhynchos</i>	Grey Reef Shark	EN
<i>Carcharhinus falciformis</i>	Silky Shark	VU
<i>Carcharhinus galapagensis</i>	Galápagos Shark	LC
<i>Galeocerdo cuvier</i>	Tiger Shark	NT
<i>Negaprion acutidens</i>	Sharptooth Lemon Shark	EN
<i>Rhincodon typus</i>	Whale Shark	EN
<i>Sphyrna mokarran</i>	Great Hammerhead	CR
<i>Triacodon obesus</i>	Whitetip Reef Shark	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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