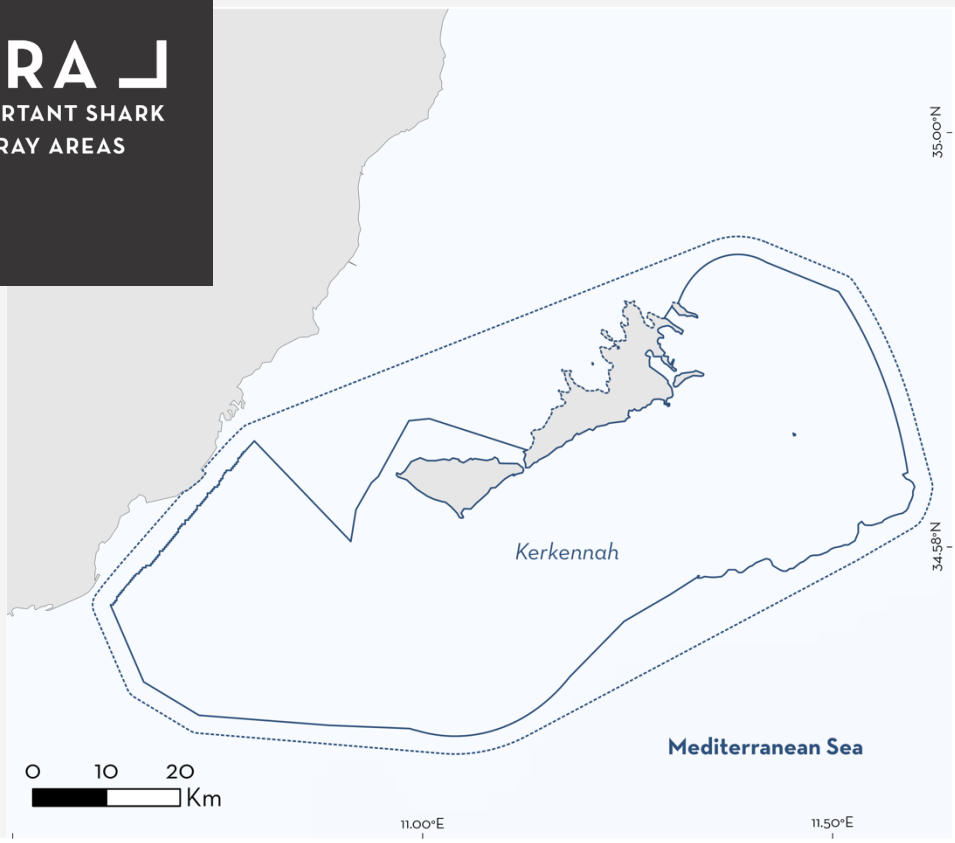
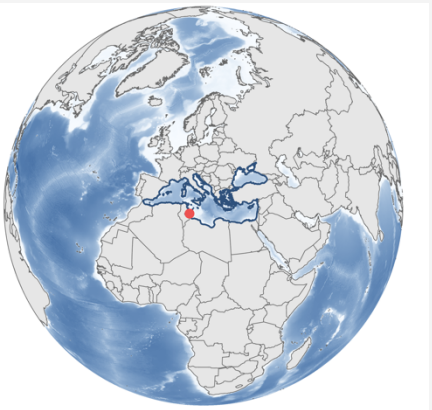
ISRA
IMPORTANT SHARK AND RAY AREAS





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

KERKENNAH ISRA

Mediterranean and Black Seas Region

TUNISIA

0–30 metres

2,329.5 km²

SUMMARY

Kerkennah is located on the northern side of the Gulf of Gabès in Tunisia, surrounding the Kerkennah Islands. The Gulf of Gabès is characterised by shallow waters and the presence of the most extensive and continuous Neptune Grass (*Posidonia oceanica*) meadow of the Mediterranean Sea. The area overlaps with Le Golfe de Gabès Ecologically or Biologically Significant Marine Area. Within this area there are: **threatened species** (e.g., Common Guitarfish *Rhinobatos rhinobatos*); and **reproductive areas** (e.g., Common Smoothhound *Mustelus mustelus*).

CRITERIA

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

DESCRIPTION OF HABITAT

Kerkennah is located on the northern side of the Gulf of Gabès in Tunisia. This area is situated in south-eastern Tunisia and surrounds Kerkennah Islands. The Gulf of Gabès is characterised by a semi-diurnal tide with a high amplitude (to 2 m), and a wide and shallow continental shelf (60 m depth extends to 110 km from the coast) which are uncommon in the Mediterranean (Ben Othman 1973). This area includes the most extensive seagrass beds of Neptune Grass (*Posidonia oceanica*) on which most of the benthic and demersal communities associated with seagrasses present in the Mediterranean inhabit (e.g., teleost fishes and crustaceans) (El Lakhrach et al. 2012, 2019; Mabrouk et al. 2013). This area is one of the most productive areas of the Western Mediterranean Sea (Ben Salem et al. 2002).

In Kerkennah, Neptune Grass is well distributed (15–43 m depth) and preserved, forming meadows to 27 m, especially in the southern area (El Lakhrach et al. 2012, 2019). Beds of the brown algae *Arthrocladia villosa* are also present in the area on sandy-muddy substrates.

The area is within the Gulf of Gabès Ecologically or Biologically Significant Marine Area (CBD 2023) and is contiguous with the Îles Kerkennah Key Biodiversity Area (KBA 2023).

This Important Shark and Ray Area is benthopelagic and is delineated from the surface and inshore waters (0 m) to a depth of 30 m based on the bathymetry of the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

Three 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 Common Guitarfish (Jabado et al. 2021a), Endangered Common Smoothhound (Jabado et al. 2021b), and Vulnerable Blackspotted Smoothhound (Jabado et al. 2021c).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Kerkennah is an important reproductive area for two shark and one ray species.

Between 2004–2008, of 2,068 Common Smoothhounds examined (34–165 cm total length [TL]), 12% were neonates and 62% were juveniles (Enajjar et al. 2015). In the Gulf of Gabès, the size-at-birth is 34–42 cm TL (Saïdi et al. 2008). Neonates exhibiting an unhealed umbilical scar were captured from April to July at depths between 10 and 30 m; pregnant females were captured from February to April at depths between 10 and 30 m (Enajjar et al. 2015). From May–July 2009, 706 Common Smoothhounds were sampled which were either neonates or young-of-the-year, with a dominance of neonates in which a high density of neonates in the Sfax zone (southernmost part of this area) (Saïdi et al. 2016). This species has a defined annual reproductive cycle based on the study of reproductive tracts (Saïdi et al. 2008). Mating occurs during May and early June, fertilisation occurred from early June to early July, and parturition occurred during late April and early May, after a gestation period of 10–11 months (Saïdi et al. 2008).

Between January 2002 and December 2005, 565 Blackspotted Smoothhounds were examined (24.5–122 cm TL) which included neonates with unhealed umbilical scars (n = 52) observed in June, and pregnant females with full-term embryos or post-partum females observed from mid-May to early June (Saïdi et al. 2009). From May to July of 2009, 117 neonate Blackspotted Smoothhounds were examined (25–34 cm TL) with umbilical scars (Saïdi et al. 2016). In this study, all individuals sampled of this species were neonates. In the Gulf of Gabès, the size-at-birth is 24.5–30.5 cm TL (Saïdi et al. 2009). Mating occurred through late-May and June and parturition occurred from mid-May to early June, after a gestation period of 11 months, based on the reproductive cycle by assessing reproductive tracts (Saïdi et al. 2009). Neonate Blackspotted Smoothhound have also been observed in the landings of Sfax port between May and August (Hamdaoui 2010).

Between 2004–2008, of 2,385 Common Guitarfishes examined (29–115 cm TL), 40% were neonates and juveniles (Enajjar et al. 2015). In the Gulf of Gabès, the size-at-birth is 25–30 cm TL (Enajjar et al. 2008). Neonates were captured in the boreal autumn at depths less than 30 m. Pregnant females with encapsulated eggs were caught from September to June, and later from June to August, the females were recorded with embryos (Enajjar et al. 2015). Parturition occurs from the end of summer to the beginning of autumn, and mating occurs after parturition, based on the reproductive cycle assessed through an examination of reproductive tracts (Enajjar et al. 2008).

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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												
Mustelus mustelus	Common Smoothhound	EN	5–800	X		X						
Mustelus punctulatus	Blackspotted Smoothhound	VU	0–300	X		X						
RAYS												
Rhinobatos rhinobatos	Common Guitarfish	CR	0–180	X		X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Carcharhinus brevipinna	Spinner Shark	VU
Carcharhinus plumbeus	Sandbar Shark	EN
Carcharodon carcharias	White Shark	VU
Isurus oxyrinchus	Shortfin Mako	EN
RAYS		
Aetomylaeus bovinus	Duckbill Eagle Ray	CR
Dasyatis pastinaca	Common Stingray	VU
Dasyatis tortonesei	Tortonese's Stingray	DD
Glaucostegus cemiculus	Blackchin Guitarfish	CR
Gymnura altavela	Spiny Butterfly Ray	CR
Myliobatis aquila	Common Eagle Ray	VU
Pteroplatytrygon violacea	Pelagic Stingray	LC
Raja clavata	Thornback Skate	NT
Raja radula	Rough Skate	EN
Taeniurops grabatus	Round Fantail Stingray	DD
Torpedo torpedo	Ocellate Torpedo	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.

SUPPORTING INFORMATION

There are additional indications that Kerkennah is an important reproductive area for one ray species. Between June 2011 and October 2014, 383 Common Stingrays were collected in the Gulf of Gabès (Saadaoui et al. 2015). From the 59 adult females sampled, 18 were pregnant females with fertilised eggs observed from December to March and females with near-term embryos (11.2–13.2 cm DW) were found in June (Saadaoui et al. 2015). Neonates (n=5) ranging from 12.7 to 16.6 cm disc width (DW) were observed at the end of June and early July (Saadaoui et al. 2015). In the Gulf of Gabès, the size-at-birth is 11–13 cm DW (Saadaoui et al. 2015). Thus, this area could be important for reproductive purposes for the Common Stingray, yet more information is needed to verify this.

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