

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

## CORSICA CANYONS ISRA

### Mediterranean and Black Seas Region

#### SUMMARY

Corsica Canyons is located on the western coast of Corsica in the northwestern Mediterranean Sea. The area is characterised by a very narrow continental shelf and an abrupt continental slope with numerous underwater canyons. It overlaps with the North-western Mediterranean Pelagic Ecosystems Ecologically or Biologically Significant Marine Area, two Key Biodiversity Areas, several Natura 2000 sites, and the Pelagos Marine Mammal Sanctuary. Within this area there are: **threatened species, reproductive areas,** and **undefined aggregations** (Spinetail Devil Ray *Mobula mobular*).

#### CRITERIA

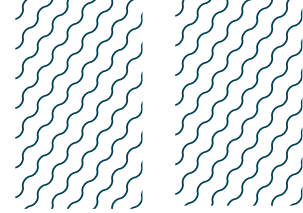
**Criterion A - Vulnerability; Sub-criterion C1 - Reproductive Areas; Sub-criterion C5 - Undefined Aggregations**

FRANCE

0-1,112 metres

4,264.7 km<sup>2</sup>





## DESCRIPTION OF HABITAT

Corsica Canyons is located in the northwestern Mediterranean Sea, on the west coast of Corsica Island, France. The area is primarily comprised of pelagic and offshore habitats. It is characterised by a very short continental shelf and an abrupt continental slope with numerous underwater canyons. These canyons generally begin around 100 m deep and rapidly reach more than 1,000 m through complex geological formations.

The major current occurring year-round in the area is the Western Corsican Current which flows south to north and affects surface, intermediate, as well as deep waters (Milot 1999). This current is stronger during the boreal summer (Ifremer 2009; Qiu et al. 2010). Coastal upwelling events are known to occur in the area and are induced by strong northerly winds, blowing parallel to the coast (Ifremer 2009).

The euphotic layer of the area is characterised by a relatively low annual primary production (~130 g C/m<sup>2</sup>/year) compared to the rest of the Provençal Basin, which is known for localised early-spring algal blooms (Olita et al. 2011). However, interannual variability in winds (e.g., strong northerly wind events) can lead to the extension of the blooming area to Corsica Canyons (Bosc et al. 2004; Olita et al. 2011).

The area overlaps with the North-western Mediterranean Pelagic Ecosystems Ecologically or Biologically Significant Marine Area (CBD 2023), two Key Biodiversity Areas (Golfe de Porto, presqu'île de Scandola et golfe de Galeria; and Iles Sanguinaires; KBA 2023a, 2023b), several Natura 2000 sites, and the Pelagos Marine Mammal Sanctuary.

This Important Shark and Ray Area is pelagic and is delineated from 0 to 1,112 m based on the global depth range of the Qualifying Species and the bathymetry of the area.

## ISRA CRITERIA

### CRITERION A - VULNERABILITY

The one Qualifying Species occurring in the area is considered threatened with extinction according to the IUCN Red List of Threatened Species™. The Spinetail Devil Ray is assessed as Endangered (Marshall et al. 2022).

### SUB-CRITERION C<sub>1</sub> - REPRODUCTIVE AREAS

Corsica Canyons is an important reproductive area for one species of ray.

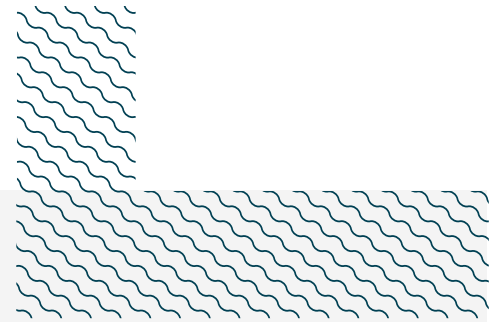
The Spinetail Devil Ray is regularly and predictably observed in the area between June and August each year (Ailerons 2022; Stephan et al. 2023). Observations have been based on the Ailerons citizen science database and records collected during scientific expeditions between 2017-2022 off the west coast of Corsica. Courtship behaviour such as mating trains, pre-copulatory positioning, and biting have been recorded throughout the area and yearly, including in a large school of 50 individuals comprised of males and females. Such courtship behaviours have been described for the species in New Zealand (Duffy & Tindale 2018) and in other mobulid species (Deakos 2012; Sobral 2013; McCallister et al. 2020).



## SUB-CRITERION C5 - UNDEFINED AGGREGATIONS

Corsica Canyons is an important area for undefined aggregations of one species of ray.

Citizen science observations recorded in the Ailerons database yearly from June to August between 2017–2022 highlights sightings (n = 29) of aggregations of Spinetail Devil Rays (4–40 individuals per sighting; Ailerons 2022) from the area. In June 2023, two additional aggregations were spotted in the area with 62 and 40 individuals respectively (Ailerons 2023). The purpose of the aggregation behaviour is currently unknown. The purpose of this aggregating behaviour is currently unknown.



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### Acknowledgments

Atlantine Boggio-Pasqua (Ailerons), William Travers (Ailerons), Matthieu Lapinski (Ailerons), Théophile L. Mouton (IUCN SSC Shark Specialist Group - ISRA Project), and Julien Gasc (Ailerons) contributed and consolidated information included in this factsheet. We thank all participants of the 2023 ISRA Region 3 - Mediterranean and Black Seas workshop for their contributions to this process.

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### Suggested citation

**IUCN SSC Shark Specialist Group. 2023.** Corsica Canyons ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

## QUALIFYING SPECIES

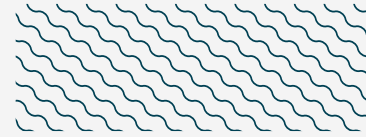
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met									
				A	B	C1	C2	C3	C4	C5	D1	D2	
RAYS													
<i>Mobula mobular</i>	Spinetail Devil Ray	EN	0-1,112	X		X					X		

## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Alopias vulpinus</i>	Common Thresher	VU
<i>Carcharodon carcharias</i>	White Shark	VU
<i>Cetorhinus maximus</i>	Basking Shark	EN
<i>Galeorhinus galeus</i>	Tope	CR
<i>Hexanchus griseus</i>	Bluntnose Sixgill Shark	NT
<i>Isurus oxyrinchus</i>	Shortfin Mako	EN
<i>Lamna nasus</i>	Porbeagle	VU
<i>Mustelus mustelus</i>	Common Smoothhound	EN
<i>Prionace glauca</i>	Blue Shark	CR*
<i>Scyliorhinus canicula</i>	Smallspotted Catshark	LC
<i>Scyliorhinus stellaris</i>	Nursehound	VU
<i>Squatina squatina</i>	Common Angel Shark	CR
<b>RAYS</b>		
<i>Aetomylaeus bovinus</i>	Duckbill Eagle Ray	CR
<i>Dasyatis pastinaca</i>	Common Stingray	VU
<i>Myliobatis aquila</i>	Common Eagle Ray	CR
<i>Pteroplatytrygon violacea</i>	Pelagic Stingray	LC
<i>Raja asterias</i>	Starry Skate	NT
<i>Raja undulata</i>	Undulate Skate	EN
<i>Rostroraja alba</i>	White Skate	EN
<i>Torpedo marmorata</i>	Marbled Torpedo Ray	VU
<i>Torpedo torpedo</i>	Ocellate Torpedo	VU
<b>CHIMAERAS</b>		
<i>Chimaera monstrosa</i>	Rabbitfish	VU

\*Assessed as CR in a Mediterranean regional assessment but considered NT globally.

IUCN Red List of Threatened Species Categories are available by searching species names at [www.iucnredlist.org](http://www.iucnredlist.org). Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.



## REFERENCES

**Association AILERONS (Ailerons). 2022.** Assistance à la synthèse et à la valorisation des sciences participatives en Méditerranée française en vue d'un plan d'actions pour les espèces rares et menacées d'élaémobranches. Montpellier, France: Association AILERONS.

**Bosc E, Bricaud A, Antoine D. 2004.** Seasonal and interannual variability in algal biomass and primary production in the Mediterranean Sea, as derived from 4 years of SeaWiFS observations. *Global Biogeochemical Cycles* 18: GB1005. <https://doi.org/10.1029/2003GB002034>

**Convention on Biological Diversity (CBD). 2023.** North-western Mediterranean Pelagic Ecosystems Ecologically or Biologically Significant Areas (EBSAs). Available at: <https://chm.cbd.int/> Accessed May 2023.

**Deakos MH. 2012.** The reproductive ecology of resident manta rays (*Manta alfredi*) off Maui, Hawaii, with an emphasis on body size. *Environmental Biology of Fishes* 94: 443-456. <https://doi.org/10.1007/s10641-011-9953-5>

**Duffy CAJ, Tindale SC. 2018.** First observation of the courtship behaviour of the giant devil ray *Mobula mobular* (Myliobatiformes: Mobulidae). *New Zealand Journal of Zoology* 45: 387-394. <https://doi.org/10.1080/03014223.2017.1410850>

**Institut Français de recherche sur l'exploitation de la mer (Ifremer). 2009.** Vérification des conditions de référence des eaux côtières de Corse. Utilisation de la plateforme de modélisation. RST/DOP/LER-PAC/09-02. <https://archimer.ifremer.fr/doc/00480/59195/>

**Key Biodiversity Areas (KBA). 2023a.** Key Biodiversity Areas factsheet: Golfe de Porto, presqu'île de Scandola et golfe de Galeria. Available at: <http://www.keybiodiversityareas.org> Accessed May 2023.

**Key Biodiversity Areas (KBA). 2023b.** Key Biodiversity Areas factsheet: Iles Sanguinaires. Available at: <http://www.keybiodiversityareas.org> Accessed May 2023.

**Marshall A, Barreto R, Carlson J, Fernando D, Fordham S, Francis MP, Herman K, Jabado RW, Liu KM, Rigby CL, et al. 2022.** *Mobula mobular* (amended version of 2020 assessment). *The IUCN Red List of Threatened Species* 2022: e.T110847130A214381504. <https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T110847130A214381504.en>

**McCallister M, Mandelman J, Bonfil R, Danylchuk A, Sales M, Ajemian M. 2020.** First observation of mating behavior in three species of pelagic myliobatiform rays in the wild. *Environmental Biology of Fishes* 103: 163-173. <https://doi.org/10.1007/s10641-019-00943-x>

**Millot C. 1999.** Circulations in the Western Mediterranean Sea. *Journal of Marine Systems* 20: 423-442. [https://doi.org/10.1016/S0924-7963\(98\)00078-5](https://doi.org/10.1016/S0924-7963(98)00078-5)

**Olita A, Sorgente R, Ribotti A, Fazioli L, Perilli A. 2011.** Pelagic primary production in the Algero-Provençal Basin by means of multisensor satellite data: focus on interannual variability and its drivers. *Ocean Dynamics* 61: 1005-1016. <https://doi.org/10.1007/s10236-011-0405-8>

**Sobral AFL. 2013.** Biology, ecology, and conservation of mobulid rays in the Azores. Unpublished Masters Thesis, University of the Azores.

**Stephan P, Bousquet C, Elliott S, Durieux E, Lapinski M, Laliche C, Santoni MC, Bouet M, Barreau T, Mayot S, et al. 2023.** Cartographie la présence et la sensibilité des différentes espèces d'élaémobranches réglementées de France métropolitaine. Sous-action 1 du programme d'action DO1-PC-OE01-AN1 de la DCSMM cycle 2. Rapport préliminaire de l'UAR PatriNat et de l'Université de Corse.

**Qiu ZF, Doglioli AM, Hu ZY, Marsaleix P, Carlotti F. 2010.** The influence of hydrodynamic processes on zooplankton transport and distributions in the North Western Mediterranean: Estimates from a Lagrangian model. *Ecological Modelling* 221: 2816-2827. <https://doi.org/10.1016/j.ecolmodel.2010.07.025>