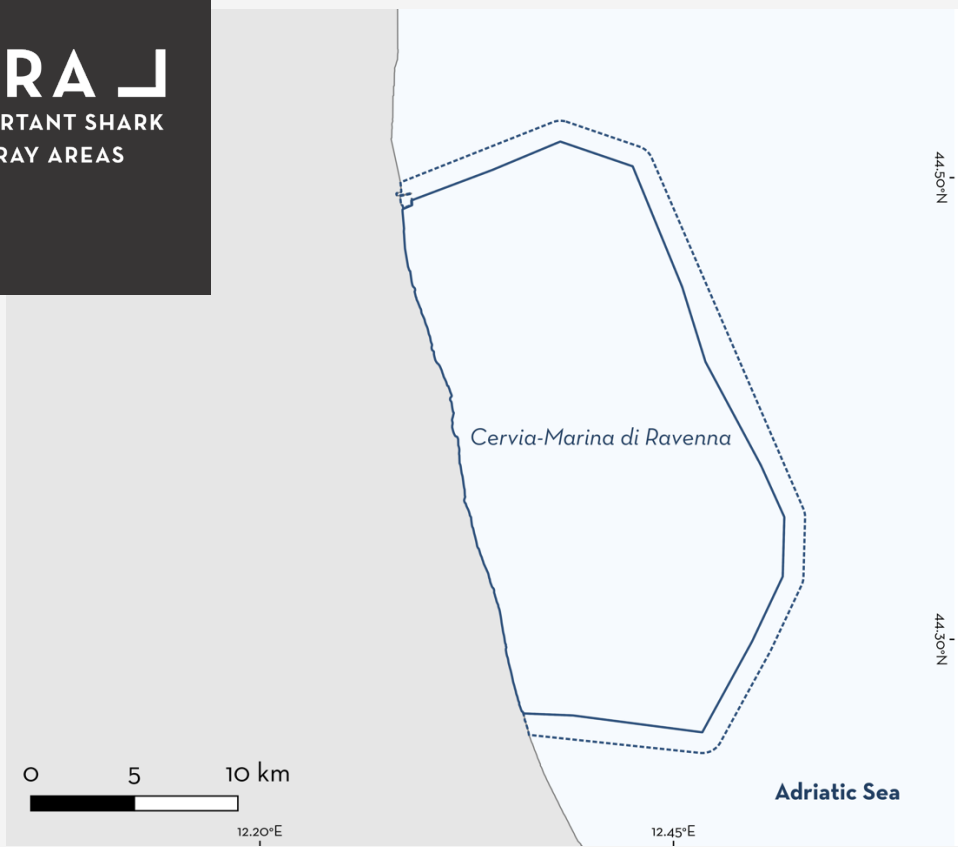
ISRA
IMPORTANT SHARK AND RAY AREAS



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

CERVIA-MARINA DI RAVENNA ISRA

Mediterranean and Black Seas Region

ITALY

0–25 metres

344 km²

SUMMARY

Cervia-Marina di Ravenna is located on the continental shelf of the northwest Adriatic Sea. The area is located between the cities of Cervia and Marina di Ravenna (Emilia-Romagna) in Italy. It is characterised by shallow depths, a muddy-sandy seafloor, and productive waters due to the presence of the Po River plume. The area has calm waters as it lies in the lee of the main wind-driven southward current. In this area there are: **threatened species** and **reproductive areas** (Sandbar Shark *Carcharhinus plumbeus*).

CRITERIA

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

DESCRIPTION OF HABITAT

Cervia-Marina di Ravenna is located between the cities of Cervia and Marina di Ravenna (Emilia-Romagna) in Italy. The area is part of the northern Adriatic Sea, a Mediterranean sub-basin with a highly seasonal variation in biotic and abiotic factors which influence the seasonal movement, distribution, and abundance of many marine species. The strong influence of the Po River plume results in low salinity, low water temperature (but see below), and high productivity (Fonda Umani 1996; Marini et al. 2008; Lipizer et al. 2014). The region has been recognised as one of high marine productivity at several trophic levels from phytoplankton to fishes (Fonda Umani 1996). Cervia-Marina di Ravenna is characterised by shallow water (0–25 m depth) and a muddy-sandy seafloor. During the boreal summer, it is warmer (up to 28°C) and calmer than adjacent areas as it lies in the lee of the main wind-driven southward current.

The area falls within the Northern Adriatic Ecologically and Biologically Significant Marine Area (EBSA) (CBD 2023) and overlaps with a biological protection zone (*zona a tutela biologica*), established after the construction of natural gas platforms and semi-buried pipelines where only the use of passive fishing gear is allowed.

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to 25 m based on the occurrence of the Qualifying Species and the bathymetry of the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

The one Qualifying Species within the area is considered threatened with extinction according to the IUCN Red List of Threatened Species™. The Sandbar Shark is assessed as Endangered (Rigby et al. 2021).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Cervia-Marina di Ravenna is an important reproductive area for one shark species.

This area contains a high density of neonate Sandbar Sharks during the main pupping season, starting from mid-summer (July) until the end of summer (September). During surveys of a small-scale fishery operating in this area from 2019 until 2021, a predictable seasonal presence of neonate and a smaller number of young-of-the-year (YOY) Sandbar Sharks were observed as bycatch of gillnet fisheries. The majority of individuals were recorded with a fresh open, or partially open, umbilical scar (i.e., neonates).

Each year, data collection was undertaken daily in July and August. Daily landings from a number of fishers were surveyed each year (n = 7 fishers in 2019; n = 5 fishers in 2020; n = 6 fishers in 2021). The total number of surveyed Sandbar Sharks caught within the area was 20 (19 neonate and 1 YOY) in 2019, 14 (13 neonate and 1 YOY) in 2020 (Barbato 2022), and 20 neonates in 2021 (M. Barbato unpubl. data 2023). The size range of observed neonate and YOY were between 47 and 67 cm total length (TL), around the reported size-at-birth range of the species (56–75 cm TL; Ebert & Dando 2021).

Before the month of July, the small-scale fishery uses pots (i.e., traps) for cuttlefish. Then, the fishery switches gear to gillnets targeting demersal fish from July until September/October (depending on the season and weather conditions). According to local ecological knowledge of fishers operating in

the area, Sandbar Sharks are frequently accidentally captured only in this area and these catches gradually decrease in frequency and become sporadic in the autumn (M. Barbato unpubl. data 2023). No presence of neonate and YOY has been reported with such high density in other areas of the northwest Adriatic Sea (Barbato 2022).

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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												
Carcharhinus plumbeus	Sandbar Shark	EN	0–280	X		X						

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Mustelus mustelus	Common Smoothhound	EN
Prionace glauca	Blue Shark	CR*
RAYS		
Pteroplatytrygon violacea	Pelagic Stingray	LC
Raja asterias	Starry Skate	NT

*Considered CR in Mediterranean Sea regional assessment but NT globally.

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 Cerva-Marina di Ravenna is an important area for a range-restricted ray. The area possibly holds the regular presence of Starry Skate. Starry Skates are common in the northern Adriatic Sea and are exploited by fisheries throughout the year (Barausse et al. 2014). During surveys of the bycatch of small-scale gillnet fisheries which aimed to document Sandbar Sharks in the area, 12 individuals were recorded in 2019 although these were not the focus of the surveys (M. Barbato unpubl. data 2023). Starry Skate is distributed primarily in the Mediterranean Sea Large Marine Ecosystem (LME) and only very marginally in the Canary Current LME and Iberian Coastal LME. Further information is required on the occurrence of the species in the area to confirm it is regular.

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