

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

MURCIA EASTERN COAST ISRA

Mediterranean and Black Seas Region

SUMMARY

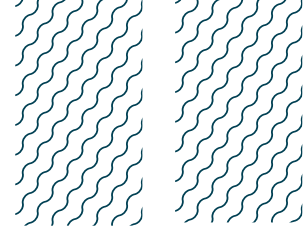
Murcia Eastern Coast is located in the coastal region of southeast Spain in the western Mediterranean Sea. The area is characterised by diverse habitats including >40 km of shallow sandy areas with one of the largest seagrass meadows in Spain, highly productive underwater seamounts hosting rocky reefs and gorgonian forests, detrital seabeds, and islands of volcanic origin. Geographical features in the area promote upwelling events which fuel high biodiversity. This area overlaps with one Key Biodiversity Area, two Ecologically and Biologically Significant Marine Areas, three Natura 2000 sites, one marine reserve, and one Specially Protected Area of Mediterranean Importance. Within this area there are: **threatened species** (e.g., Common Guitarfish *Rhinobatos rhinobatos*); **range-restricted species** (Starry Skate *Raja asterias*); **reproductive areas** (e.g., Spiny Butterfly Ray *Gymnura altavela*); and **undefined aggregations** (e.g., Common Eagle Ray *Myliobatis aquila*).

CRITERIA

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

—	—
SPAIN	—
—	—
0-85 metres	—
—	—
436.7 km²	—
—	—





DESCRIPTION OF HABITAT

Murcia Eastern Coast is located in southeast Spain in the western Mediterranean Sea. The area spans from San Pedro del Pinatar in the north to Calblanque in the south, including the volcanic islands of Isla Grosa and El Farallón, and the seamounts and islands within the Cabo de Palos - Islas Hormigas marine reserve (CPIHMR). The area is characterised by a wide variety of habitats (Calvín et al. 1999). Close to the shoreline there is a stretch of over 40 km of shallow sandy areas with one of the largest seagrass meadows in Spain (Ruiz et al. 2015). The seamounts within the CPIHMR, populated by rocky reefs, photophilic algae, precoralligenous communities, and gorgonian forests, constitute an aggregation site for resident and migratory species (Orenes-Salazar et al. 2022). The rocky reefs around the volcanic islands of Isla Grosa and Farallón and detrital beds in deeper areas further contribute to the habitat complexity of the area (Calvín et al. 1989).

Murcia Eastern Coast is divided into two distinct sections based on geography. North of Cabo de Palos, the continental shelf is wide and well-developed (15-32 km), whereas southwest of Cabo de Palos, the shelf narrows to <10 km before leading to the continental slope. The southern sector is more exposed to the nutrient-rich, cold waters that rise from the Algerian-Balearic Basin during upwelling events. The cape of Cabo de Palos acts as a physical barrier to the influx of cooler Atlantic waters entering the Mediterranean and thus the northern sector tends to be warmer (Boletín Oficial de la Región de Murcia 2019). The productivity of the area, particularly around the seamounts and islands of Cabo de Palos, typically peaks during the boreal summer when upwelling events are generated by the mix of Mediterranean and Atlantic waters (Calvín et al. 1999; Orenes-Salazar et al. 2022).

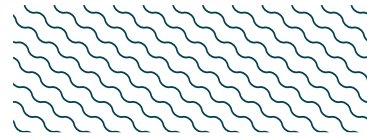
This area overlaps with one Marine Protected Area (Reserva Marina de Interés Pesquero de Cabo de Palos - Islas Hormigas) which has one of the highest fish biomasses within the Mediterranean Sea (Rojo et al. 2021). This area also overlaps with three Natura 2000 sites (Franja litoral sumergida de la Región de Murcia, Valles sumergidos del escarpe de Mazarrón and Espacio Marino de Tabarca-Cabo de Palos) and one Specially Protected Area of Mediterranean Importance (Mar Menor and Oriental Mediterranean Zone of the Region of Murcia Coast). This area also overlaps with one Key Biodiversity Area (Tabarca - Cabo de Palos) (KBA 2023) and two Ecologically or Biologically Significant Marine Areas (North-Western Mediterranean Benthic Ecosystem and North-Western Mediterranean Pelagic Ecosystems) (CBD 2023a, 2023b).

This Important Shark and Ray Area is benthopelagic from inshore and surface waters (0 m) to 85 m based on the depth range of Qualifying Species in the area.

ISRA CRITERIA

CRITERION A - VULNERABILITY

Four 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 Eagle Ray (Jabado et al. 2021a) and Common Guitarfish (Jabado et al. 2021b), the Endangered Spiny Butterfly Ray (Dulvy et al. 2021), and the Vulnerable Common Stingray (Jabado et al. 2021c).



CRITERION B - RANGE RESTRICTED

This area holds the regular presence of the Starry Skate as a resident range-restricted species. According to data obtained from the European Union Mediterranean International Trawl Surveys (MEDITS), in early summer (May-July) from 2002 to 2012, this area holds one of the highest abundances of Starry Skates on the northeast Mediterranean coast of Spain (24 individuals per km²) (Giménez et al. 2020). Further analysis of MEDITS data undertaken under project CANNONMAR3 has identified the presence of this species to the southwest of the area up to 2014 (Arroyo et al. 2020). 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.

SUB-CRITERION C₁ - REPRODUCTIVE AREAS

Murcia Eastern Coast is an important reproductive area for two ray species.

Neonate Common Guitarfish are regularly documented in this area. From March to December each year from 2019-2022, 39 Common Guitarfish were recorded (mean = 8 ± 5 encounters/year) within the sandy shore habitats through citizen science observations (M. Pozo-Montoro unpubl. data 2023). Six individuals (20-35 cm total length [TL]) encountered between September-October were neonates based on the size-at-birth reported in the Mediterranean Sea (25-30 cm TL; Ebert & Dando 2021). In July 2022, one individual (~40 cm TL) was recorded and determined to be young-of-the-year (Başusta et al. 2008). Total length was estimated using objects of known length in the photos (M. Pozo-Montoro pers. obs. 2023). Local ecological knowledge (LEK) surveys of 33 divers in the area further support the predictable presence of small individuals towards the end of the summer (56% of divers observe this species in the area) (M. Pozo-Montoro unpubl. data 2023). Additionally, four potentially pregnant adult females were reported, based on visibly distended abdomens. This observation was made two months before the occurrence of neonates (between June-July), which coincides with the time of the year (summer) when this species gives birth in other areas of the Mediterranean Sea (e.g., Ismen et al. 2007).

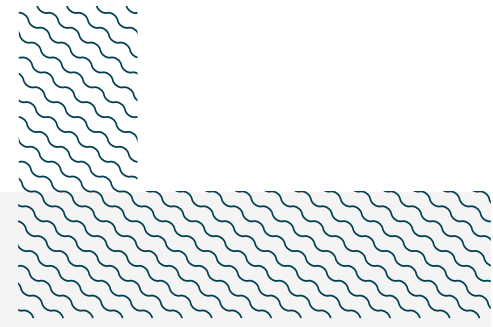
From 2019-2022, 43 sightings of Spiny Butterfly Ray have been recorded between March to December (mean = 9 ± 9 encounters/year) within the sandy shore habitats, at Isla Grosa, and around the seamounts of CPIHMR (M. Pozo-Montoro unpubl. data 2023). Among these encounters, two individuals were identified as neonates in June 2020 and September 2022, based on size estimates close to the size-at-birth reported from the Mediterranean Sea (38-44 cm disc width [DW]; Ebert & Dando 2021). A specimen of ~50 cm DW was identified as a young-of-the-year in October 2019, based on length-at-age provided in Parsons et al. (2018). Three potentially pregnant females with visibly distended abdomens were observed in June 2020 and August 2022. Ten out of 33 respondents in the LEK survey indicated observing small individuals in the area, mostly in the spring, with two respondents indicating seeing regular aggregations of small individuals and adults (10-30 individuals; M. Pozo-Montoro unpubl. data 2023). This species is known to give birth between spring and autumn in other areas of the Mediterranean Sea (Daiber & Booth 1960; Alkusaairy et al. 2014).

SUB-CRITERION C₅ - UNDEFINED AGGREGATIONS

The Murcia Eastern Coast is important for undefined aggregations of two ray species.

Aggregations of adult Common Eagle Ray have been recorded, at least once between August to November every year between 2019 and 2022, around the seamounts and islands furthest from shore off Cabo de Palos - Islas Hormigas marine reserve (M. Pozo-Montoro unpubl. data 2023). These aggregations, ranging from 15 to >40 individuals, have been observed on consecutive days at the same location. Counted Common Eagle Rays were observed in very brief fields of view of the cameras (maximum ~25 m) with a high density. LEK data from recreational divers (4 of the 33 respondents) support the occurrence of these undefined aggregations at least yearly or every two years towards the end of summer (M. Pozo-Montoro unpubl. data 2023). While the species is present year-round with divers reporting between one to three individuals per encounter according to LEK surveys, the likelihood of detecting these aggregations depends on where they occur. If the aggregation occurs in the MPA zone where divers are allowed and frequent, they are likely identified given the high number of divers each day in the area. If they occur where only research is allowed, they may or not be detected as research effort in the area for other projects varies between years. The purpose of these aggregations is currently unknown.

The Common Stingray has been seen in the sandy areas closest to shore of the area from July to September and December to January, according to 45 encounters recorded since 2021 (mean = 22 ± 6 encounters/year; M. Pozo-Montoro unpubl. data 2023). According to the best documented aggregation in Calblanque, a snorkeler citizen scientist who visits this location 3-4 times a year indicated seeing at least three individuals in a given moment and then one or two every two to three minutes swimming, counting up to 7-15 individuals in a survey (transect length ~1 km). This occurs each time this survey is undertaken in Calblanque. Most of the individuals recorded were <25 cm DW, according to the best estimation without scale elements. When scale elements were available, two individuals (~18 cm DW) were sighted in July and January 2022, and identified as potential young-of-the-year (Yeldan & Gundogdu 2018). Aggregations have been also observed in Cabo de Palos with five medium to large individuals recorded resting together in the sand in July 2022. Based on LEK surveys, three of 17 respondents indicated seeing them regularly in the area and reported aggregations of 6-15 small individuals yearly at the end of summer and in early autumn. The purpose of these aggregations is currently unknown. Further investigation is required to determine if the purpose of these aggregations is related to reproduction, specifically, whether the presence of small (potentially young-of-the-year) individuals is regular and predictable.



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QUALIFYING SPECIES

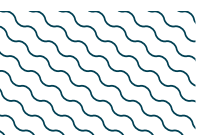
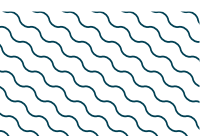
Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
RAYS												
<i>Dasyatis pastinaca</i>	Common Stingray	VU	0-200	X						X		
<i>Gymnura altavela</i>	Spiny Butterfly Ray	EN	0-100	X		X						
<i>Myliobatis aquila</i>	Common Eagle Ray	CR	0-537	X						X		
<i>Raja asterias</i>	Starry Skate	NT	0-700		X							
<i>Rhinobatos rhinobatos</i>	Common Guitarfish	CR	0-180	X		X						

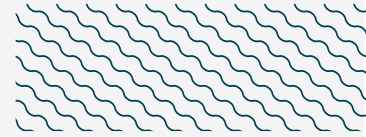
SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Isurus oxyrinchus</i>	Shortfin Mako	EN
<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
RAYS		
<i>Aetomylaeus bovinus</i>	Duckbill Eagle Ray	CR
<i>Leucoraja naevus</i>	Cuckoo Skate	LC
<i>Mobula mobular</i>	Spinetail Devil Ray	EN
<i>Pteroplatytrygon violacea</i>	Pelagic Stingray	LC
<i>Raja brachyura</i>	Blonde Skate	NT
<i>Raja montagui</i>	Spotted Skate	LC
<i>Raja polystigma</i>	Speckled Skate	LC
<i>Raja radula</i>	Rough Skate	EN
<i>Raja undulata</i>	Undulate Skate	EN
<i>Torpedo marmorata</i>	Marbled Torpedo Ray	VU
<i>Torpedo torpedo</i>	Ocellate Torpedo	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 Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.





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