

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

GULF OF CÁDIZ ISRA

European Atlantic Region

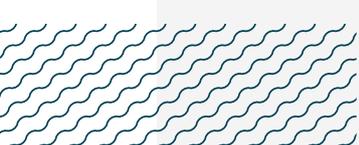
SUMMARY

Gulf of Cádiz is located on the southwest coast of the Iberian Peninsula, Spain. The area encompasses the Bay of Cádiz and the estuarine mouth of the Guadalquivir River. It is characterised by broad sandy beaches, saltmarshes, mudflats, seagrass patches, and estuaries, with muddy and sandy substrates. It is influenced by seasonal river inflow, coastal aquifers, and water exchange between the Atlantic Ocean and the Mediterranean Sea via the Strait of Gibraltar. This area overlaps with one Ecologically or Biologically Significant Marine Area and three Key Biodiversity Areas. Within this area there are: **threatened species**; **reproductive areas**; and **undefined aggregations** (Blackchin Guitarfish *Glaucostegus cemiculus*).

CRITERIA

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

—	—
SPAIN	—
—	—
0-30 metres	—
—	—
884.6 km²	—
—	—





DESCRIPTION OF HABITAT

Gulf of Cádiz is located on the southwest coast of the Iberian Peninsula, Spain. It encompasses the Bay of Cádiz and the estuarine mouth of the Guadalquivir River. The area is characterised by broad sandy beaches, saltmarshes, mudflats, seagrass patches, estuaries, and rocky headlands, with a seabed composed of muddy and sandy substrates, ranging from fine silts in estuarine zones to medium and coarse sands along the open coast (Del Río et al. 2012). The coastal area harbours ecologically significant meadows of the seagrasses *Zostera noltei*, *Z. marina*, and *Cymodocea nodosa*, particularly within sheltered bays, estuarine margins, and lagoon systems (Ruiz et al. 2015). These meadows exhibit irregular morphology in shallow areas (<5 m), forming mosaics of seagrass patches interspersed with sandy and muddy channels, while at greater depths (5–20 m), they transition into more continuous, homogeneous meadows over fine sediment.

Gulf of Cádiz is influenced by water exchange between the Atlantic Ocean and the Mediterranean Sea via the Strait of Gibraltar, experiencing a semidiurnal tidal regime, with a maximum tidal range of ~3 m, creating extensive intertidal zones (Sánchez-Román et al. 2018). River inflow is seasonal and concentrated around major estuaries, although freshwater submarine discharges from coastal aquifers also contribute to local salinity gradients, particularly in nearshore zones adjacent to dune systems and wetlands. Sea surface temperature ranges from 14°C in the boreal winter to 26°C in summer.

This area overlaps with the Gulf of Cádiz Ecologically or Biologically Significant Marine Area (EBSA; CBD 2025) and the Golfo de Cádiz, Guadalquivir Marshes, and Cádiz Bay Key Biodiversity Areas (KBAs; KBA 2025a, 2025b, 2025c).

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

ISRA CRITERIA

CRITERION A – VULNERABILITY

One Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occurs in the area. This is the Critically Endangered Blackchin Guitarfish (Kyne & Jabado 2019).

SUB-CRITERION C1 – REPRODUCTIVE AREAS

Gulf of Cádiz is an important reproductive area for one ray species.

Between 2017–2025, information on Blackchin Guitarfish was obtained through a year-round citizen science initiative dedicated to the species, involving mainly recreational anglers. Data on the date, time, location, estimated sizes, and video or images of the captures were collected through social media, email, or by phone (J Penadés-Suay et al. unpubl. data 2025). Additionally, in June–October 2024 and May 2025, 11 scientific angling surveys were conducted along the beaches within the area, obtaining data on 57 individuals captured (J Penadés-Suay et al. unpubl. data 2025). During the surveys, rays were counted, sexed, and their total length (TL) recorded.

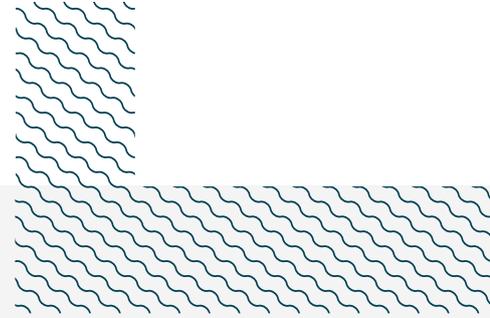
Between 2017–2025, a total of five neonates and young-of-the-year (YOY) were captured in the area by recreational fishers and reported through the citizen science initiative (J Penadés-Suay et al. unpubl. data 2025). These individuals measured between 34–45 cm TL. Size-at-birth for the species

is ~34 cm TL (Last et al. 2016) and maturity is reached at ~100-130 cm TL for males and females (Enajjar et al. 2012). During the angling surveys in 2024-2025, 16 juveniles were captured, representing 28% of the captures (n = 57). Furthermore, between 2019-2025, fishers informally reported 16 instances of capturing one or more neonates and/or YOY Blackchin Guitarfish, visually estimated in size, while using stationery and trammel gill nets at depths to ~30 m. In one instance, as many as 30 neonates were caught in a single net (J Penadés-Suay et al. unpubl. data 2025). Between 2010-2024, sporadic reports also documented juveniles aggregating with adults in shallow waters within the area (J Penadés-Suay et al. unpubl. data 2025). The Gulf of Cádiz is the only area in continental Europe where neonates and YOY have been regularly and predictably reported in recent years.

SUB-CRITERION C5 - UNDEFINED AGGREGATIONS

Gulf of Cádiz is important for undefined aggregations of one ray species.

Between 2010-2024, aggregations of Blackchin Guitarfish were regularly observed in this area occurring in small tide pools connected to the sea during June-September (J Penadés-Suay unpubl. data 2025). Aggregations of up to 30 individuals, including juveniles and adults of both sexes, were observed in shallow water (0.2 m deep), with the animals partially exposed but typically returning to deeper water (J Penadés-Suay unpubl. data 2025). Aggregations of Blackchin Guitarfish have been recorded (n = 5) in July 2010, July 2019, June 2021, and twice in June 2024 (J Penadés-Suay unpubl. data 2025). It is likely that these aggregations are seasonal feeding events (J Penadés-Suay pers. obs. 2025) due to the large amount of prey available in these estuarine areas (e.g., arthropods buried in the sediment, small fishes, polychaetes, and molluscs) (Cuesta et al. 2006; Sobrino & García-Jiménez 2007; Rasoia et al. 2012; Miró et al. 2020; González-Ortegón et al. 2023). Evidence from the recapture of a tagged individual, citizen science reports, angling surveys, and informal reports from fishers suggests that the species uses the area permanently throughout all seasons (J Penadés-Suay et al. unpubl. data 2025). Further information is required to understand the nature and function 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	D2
RAYs												
<i>Glaucostegus cemiculus</i>	Blackchin Guitarfish	CR	0-100	X		X				X		

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Galeorhinus galeus</i>	Tope	CR
<i>Galeus melastomus</i>	Blackmouth Catshark	LC
<i>Mustelus mustelus</i>	Common Smoothhound	EN
<i>Mustelus punctulatus</i>	Blackspotted Smoothhound	VU
<i>Scyliorhinus canicula</i>	Smallspotted Catshark	LC
<i>Scyliorhinus stellaris</i>	Nursehound	VU
<i>Sphyrna zygaena</i>	Smooth Hammerhead	VU
RAYS		
<i>Aetomylaeus bovinus</i>	Duckbill Eagle Ray	CR
<i>Bathytoshia lata</i>	Brown Stingray	VU
<i>Dasyatis pastinaca</i>	Common Stingray	VU
<i>Gymnura altavela</i>	Spiny Butterfly Ray	EN
<i>Myliobatis aquila</i>	Common Eagle Ray	CR
<i>Pteroplatytrygon violacea</i>	Pelagic Stingray	LC
<i>Raja asterias</i>	Starry Skate	NT
<i>Raja brachyura</i>	Blonde Skate	NT
<i>Raja clavata</i>	Thornback Skate	NT
<i>Raja miraletus</i>	Brown Skate	LC
<i>Raja montagui</i>	Spotted Skate	LC
<i>Raja undulata</i>	Undulate Skate	NT
<i>Taeniurops grabatus</i>	Round Fantail Stingray	NT
<i>Torpedo marmorata</i>	Marbled Torpedo Ray	VU
<i>Torpedo torpedo</i>	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.





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