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

ARRÁBIDA ISRA

European Atlantic Region

PORTUGAL

0–200 metres

39.87 km²

SUMMARY

Arrábida is located on the west coast of Portugal. The area is characterised by rocky reefs, extensive algae patches, and sandy and muddy substrates. Its southern coastline is protected from the predominant north/northwest winds, creating sheltered low energy environments with nutrient-rich waters transported to the area via upwelling. The area overlaps with one Ecologically or Biologically Significant Marine Area and one protected area. Within this area there are: **threatened species** (e.g., White Skate *Rostroraja alba*) and **undefined aggregations** (e.g., Common Stingray *Dasyatis pastinaca*).

CRITERIA

Criterion A – Vulnerability; Sub-criterion C5 – Undefined Aggregations

DESCRIPTION OF HABITAT

Arrábida is located on the west coast of Portugal. The area is characterised by diverse benthic habitats. Rocky reefs are found bordering the southern coastline at shallow depths, with an abundance of macroalgae of different morphology (crustose, filamentous, thalliform). The exposed west side is dominated by rocky substrates and coarse sediments. Beyond the rocky reefs, fine and medium-grain sandy substrates dominate shallower waters, while coarse sediment patches can be found scattered. This is replaced by a mix of sand and mud sediments with increasing depth, after which these are replaced by muddy sediments as the dominant substrate type (Henriques et al. 2015).

The area is found in a transition zone between colder environments further north and warmer environments from the south (Cunha et al. 2014). The west/southwest orientation of the peninsula protects the southern coast from the prevailing north and northwest winds and provides these waters with mostly low-energy environments. Because of this and the steep depth profile that ends in an underwater canyon, upwelling events regularly occur (Cunha et al. 2014).

The area overlaps with the West Iberia Canyons and Banks Ecologically or Biologically Significant Marine Area (EBSA; CBD 2025) and with the Luiz Saldanha Marine Park (UNEP-WCMC & IUCN 2025).

This Important Shark and Ray Area is benthic and is delineated from inshore and surface waters (0 m) to 200 m based on the bathymetry of the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

Two Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occur in the area. These are the Endangered White Skate (Jabado et al. 2021) and the Vulnerable Common Stingray (Serena et al. 2024).

SUB-CRITERION C5 – UNDEFINED AGGREGATIONS

Arrábida is an important area for undefined aggregations of two ray species.

Common Stingrays were caught with trammel nets and longlines and tagged with acoustic transmitters in the area in 2019 and 2021. Individuals were detected across the area in an array of 37 receivers between 2019–2022 (Kraft et al. 2023, 2024b). Aggregations were defined as the co-detection of two or more individuals on the same receiver (detection range = 200 m) in a 15-minute window (Kraft et al. 2024b). Of the 14 Common Stingray tagged, all but one individual was co-detected with other individuals. On ~65% of the days during the study period, half or more of the tags detected on a given day were recorded on the same receiver. Aggregations of 3–4 individuals were detected in the west and central part of the area with larger aggregations composed of up to nine individuals (64% of tagged individuals) detected only in the western side. Aggregations of >4 individuals were recorded in 8,524 instances and these were more commonly recorded between October–April, when the residence index in the area was highest (~1). These aggregations were recorded prior to individuals migrating to Sado Estuary where they were detected between March/April–October/November and were virtually absent from this area (Kraft et al. 2023). Small aggregations were equally composed of females and males while aggregations of >6 individuals were

all males (Kraft et al. 2024b). Additional information is required to understand the nature and function of these aggregations.

White Skates were tagged with acoustic transmitters between 2019–2020 and monitored between April 2019–June 2023 in the same acoustic array where Common Stingray were detected (Kraft et al. 2024a). Individuals were caught with trammel nets and longlines and measured between 39–137 cm total length (TL). All but two individuals were immature. Of 30 White Skates tagged, the maximum number of individuals detected in the array in a single day was 11 individuals (33% of those tagged). Aggregations composed of 3–6 individuals (detected on the same receiver in a 15-minute window with a detection range = 200 m) were detected on multiple days in the area (Kraft et al. 2024a; S Kraft & D Abecasis unpubl. data 2025). In days when the maximum number of White Skates detected in the array was 4–8, the majority (70–83%) were recorded on the same receiver. In contrast, on days when the maximum number was between 9–11 individuals, between 30–60% were recorded on the same receiver (S Kraft unpubl. data 2025). For White Skates with detections across a period of more than one year (n = 15), the detection probability was moderate (0.5–0.6) and constant year-round (Kraft et al. 2024a). Additional 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												
Dasyatis pastinaca	Common Stingray	VU	0–200	X						X		
Rostroraja alba	White Skate	EN	0–750	X						X		

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Mustelus mustelus	Common Smoothhound	EN
Prionace glauca	Blue Shark	NT
Scyliorhinus canicula	Smallspotted Catshark	LC
RAYS		
Aetomylaeus bovinus	Duckbill Eagle Ray	CR
Leucoraja naevus	Cuckoo Skate	NT
Myliobatis aquila	Common Eagle Ray	CR
Raja brachyura	Blonde Skate	NT
Raja clavata	Thornback Skate	NT
Raja miraletus	Brown Skate	LC
Raja undulata	Undulate Skate	NT
Torpedo marmorata	Marbled Torpedo Ray	VU
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.

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