

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

## PRINCE ISLANDS ISRA

### Mediterranean and Black Seas Region

#### SUMMARY

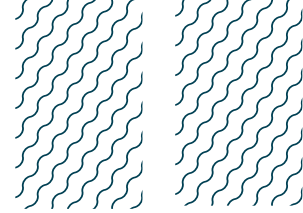
Prince Islands is an archipelago located in the northeast Marmara Sea, Türkiye. The area includes nine islands and is characterised by sandy and muddy substrates with patches of seagrass meadows and gorgonians reefs. This area overlaps with one Key Biodiversity Area and a Special Environmental Protection Area. Within the area there are: **threatened species** (Angular Roughshark *Oxynotus centrina*) and **undefined aggregations** (e.g., Bluntnose Sixgill Shark *Hexanchus griseus*).

#### CRITERIA

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

— —  
**TÜRKIYE**  
 — —  
**0-100 metres**  
 — —  
**133.7 km<sup>2</sup>**  
 — —





## DESCRIPTION OF HABITAT

Prince Islands is an archipelago located in the northeast Marmara Sea, off the Anatolian coast of Istanbul and along the coast from Bostancı to Kartal, Türkiye. The area includes nine islands: Büyükkada, Heybeliada, Burgazada, Kınalıada, Sedef, Yassiada, Sivriada, Tavşan, and Kaşık (Balcıoğlu 2019). Prince Islands sits on a narrow continental shelf. In the Marmara Sea, hypoxic conditions in central trenches have forced several species to move to shallower areas on the continental shelf (Kabasakal 2022; Kabasakal et al. 2023). The area is characterised by sandy and muddy substrates with patches of Neptune Grass *Posidonia oceanica* meadows and gorgonian reefs (Topçu & Öztürk 2021). Average mean annual sea surface temperatures are lower in the boreal winter (~6°C) and higher in summer (~25°C). However, temperatures near the seafloor (>30 m depths) are less variable throughout the year, averaging ~14°C (Topçu & Öztürk 2021; Kayadelen et al. 2022).

The area overlaps with one Key Biodiversity Area, the İstanbul Islands (KBA 2023). In November 2021, areas around Tavşan Island were declared a Special Environmental Protection Area: the Marmara Sea and Islands Special Environmental Protection Area (Resmî Gazete 2021).

This Important Shark and Ray Area is benthopelagic and is delineated from inshore and surface waters (0 m) to 100 m based on the bathymetry of the area.

## ISRA CRITERIA

### CRITERION A - VULNERABILITY

One Qualifying Species within the area is considered threatened with extinction according to the IUCN Red List of Threatened Species™. The Angular Roughshark is assessed as Endangered (Finucci et al. 2021).

### SUB-CRITERION C5 - UNDEFINED AGGREGATIONS

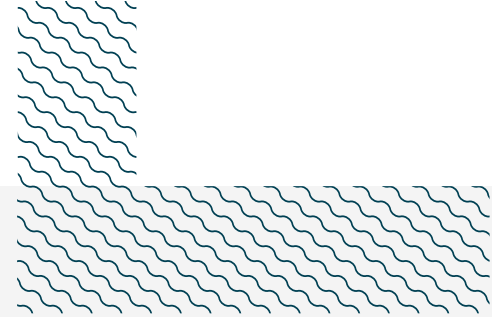
Prince Islands is an important area for undefined aggregations of two shark species. The reason(s) for these aggregations of both species is/are unknown.

Historically, the presence of Bluntnose Sixgill Sharks in areas near Prince Islands was regular, according to catches from multiple fishing gears made at depths of ~350 m (Kabasakal 2009, 2017, 2022). However, due to recent changes in species distributions driven by deoxygenation in the deeper parts of the Marmara Sea, this species is now found around Prince Islands at depths <50 m, where aggregations of two to four animals are commonly observed by commercial divers (H. Kabasakal pers. obs. 2023). Sharks caught by purse seiners in shallow waters measured between 180–250 cm total length (TL) which indicates that these are aggregations of juveniles since size-at-maturity is ~300–350 cm TL (Kabasakal 2009; Ebert et al. 2021).

The presence of Angular Roughsharks has been reported in deeper parts (below 600 m) of the Marmara Sea, in the central trenches (Kabasakal 2015, 2017). Research after 2009 demonstrated that this species also regularly occurs in the waters of the continental shelf (<200 m) (Kabasakal & Dalyan 2011; Kabasakal 2017, 2022; Kabasakal et al. 2023). One of the reasons of the regular occurrence of this deep-sea species in the shallow areas is assumed to be vertical habitat compression due to hypoxia in the deep zones (Kabasakal et al. 2023). This species has been observed aggregating regularly (usually a few individuals but groups of up to five animals have been recorded) at depths



<50 m in Prince Islands since 2009, according to visual census by commercial divers (Kabasakal 2009, 2015; H. Kabasakal pers. obs. 2023). Sharks observed were <60 cm TL which indicates they are close to size-at-maturity (60–65 cm TL) (Kabasakal 2015; Ebert et al. 2021).



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### **Suggested citation**

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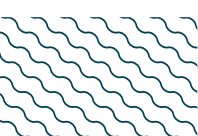
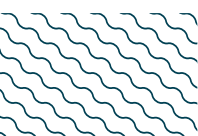
## QUALIFYING SPECIES

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
<b>SHARKS</b>												
<i>Hexanchus griseus</i>	Bluntnose Sixgill Shark	NT	0-2,490							X		
<i>Oxynotus centrina</i>	Angular Roughshark	EN	33-805	X						X		

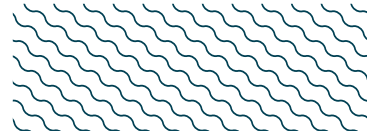
## SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
<b>SHARKS</b>		
<i>Alopias superciliosus</i>	Bigeye Thresher	VU
<i>Alopias vulpinus</i>	Common Thresher	VU
<i>Echinorhinus brucus</i>	Bramble Shark	EN
<i>Galeorhinus galeus</i>	Tope	CR
<i>Mustelus mustelus</i>	Common Smoothhound	EN
<i>Squatina squatina</i>	Angelshark	CR
<b>RAYS</b>		
<i>Dasyatis pastinaca</i>	Common Stingray	VU
<i>Myliobatis aquila</i>	Common Eagle Ray	CR
<i>Raja clavata</i>	Thornback Skate	NT
<i>Raja radula</i>	Rough Skate	EN

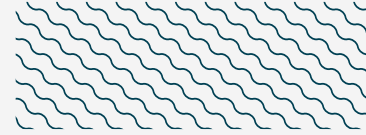
*IUCN Red List of Threatened Species Categories are available by searching species names at [www.iucnredlist.org](http://www.iucnredlist.org). Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.*



## SUPPORTING INFORMATION



There are additional indications that Prince Islands is an important area for reproductive and feeding purposes. One of the main characteristics of the benthic habitats in this area is the presence of gorgonians, which are considered spawning grounds of catsharks (H. Kabasakal pers. obs. 2023). In addition, some stomach contents from Angular Roughsharks contained elasmobranch parts, which could indicate that this is an important area for feeding (H. Kabasakal pers. obs. 2023). However, further information is needed to confirm the importance of the area for these activities.



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