

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

SIGACIK BAY ISRA

Mediterranean and Black Seas Region

SUMMARY

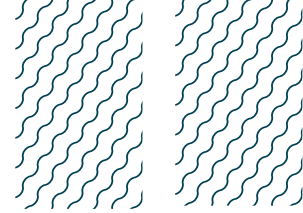
Sigacik Bay is located in the southern Aegean Sea of Türkiye. The area has a narrow continental shelf and is characterised by sandy and muddy substrates. It overlaps with an Ecologically or Biologically Significant Marine Area (Central Aegean Sea) and with two Key Biodiversity Areas. Within the area there are: **threatened species** (Velvet Belly Lanternshark *Etmopterus spinax*); and **reproductive areas** (e.g., Blackmouth Catshark *Galeus melastomus*).

CRITERIA

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

—	—
TÜRKIYE	—
—	—
100–600 metres	—
—	—
508.9 km²	—
—	—





DESCRIPTION OF HABITAT

Sigacik Bay is located in the southern Aegean Sea of Türkiye. The area extends from Doğanbey to Teke. The area has a narrow continental shelf and is characterised by sandy and muddy substrates (Soykan et al. 2016). The highest sea surface temperatures occur in the boreal summer (23.9°C) and the lowest in winter (16.5°C; Soykan et al. 2016).

The area overlaps with an Ecologically or Biologically Significant Marine Area, the Central Aegean Sea (CBD 2023), and with two Key Biodiversity Areas, Kizildag Izmir and Alaçatı (KBA 2023a, 2023b).

This Important Shark and Ray Area is benthic and is delineated from 100 m to a depth of 600 m, based on the distribution of the Qualifying Species in 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 Velvet Belly Lanternshark is assessed as Vulnerable (Finucci et al. 2021).

SUB-CRITERION C1 - REPRODUCTIVE AREAS

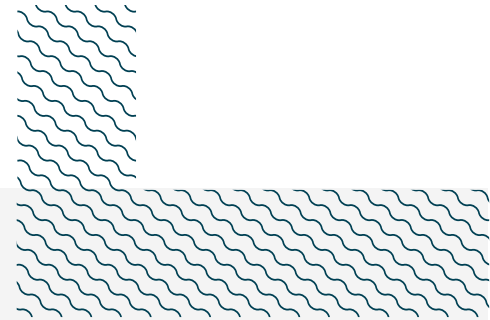
Sigacik Bay is an important reproductive area for three shark species.

Between 2008–2009 and 2014, 129 Velvet Belly Lanternsharks were recorded from benthic trawlers (Eronat & Özaydın 2014; Bengil et al. 2019). Most individuals had sizes below size-at-maturity, and some were considered neonates based on their size (<10 cm total length [TL]), similar to the reported size-at-birth for the species (8–14 cm TL; Ebert et al. 2021). Previously, from 119 individuals collected in 2003–2004 between 200–500 m depths, all were juveniles (<21 cm TL) and some individuals were <14 cm TL (Bilge et al. 2010), confirming the regular presence of neonates in the area. Adults have rarely been reported as bycatch in benthic trawlers within the area (average size = 17.1 ± 0.4 cm TL; Eronat & Özaydın 2014; Bengil et al. 2019).

Between 2008–2009 and 2014, 441 Blackmouth Catsharks were collected from benthic trawlers (Eronat & Özaydın 2014; Bengil et al. 2019). Most individuals had sizes (<45 cm TL) below size-at-maturity (males 34–42 cm TL, females 39–45 cm TL; Ebert et al. 2021) and very few had larger sizes (average size = 14.6 ± 0.3 cm TL). Size-at-birth is unknown for this species, but some individuals sampled measured between 8.9–15 cm TL, which is smaller than the reported size-at-birth for related species, suggesting these were neonates (<20 cm TL for Corrigan's Catshark *Galeus corriganae*; <17 cm TL for Gecko Catshark *Galeus eastmani*; Ebert et al. 2021).

Between 2008–2009 and 2014, 308 Longnose Spurdogs were recorded from benthic trawlers (Eronat & Özaydın 2014; Bengil et al. 2019). Some of the individuals are considered neonates based on their size (16–18 cm TL), which is similar to the reported size-at-birth for the species (~23 cm TL; Ebert et al. 2021). This species has been assessed as Data Deficient on the IUCN Red List and therefore, while data are limited, the lack of information means that these observations are important.





Acknowledgments

Elizabeth Grace Tunka Bengil (Kyrenia University Faculty of Maritime Studies), Nuri Basusta (Firat University Türkiye), and Emiliano García-Rodríguez (IUCN SSC Shark Specialist Group - ISRA Project) contributed and consolidated information included in this factsheet. We thank all participants of the 2023 ISRA Region 3 - Mediterranean and Black Seas workshop for their contributions to this process.

This factsheet has undergone review by the ISRA Independent Review Panel prior to its publication.

This project was funded by the Shark Conservation Fund, a philanthropic collaborative pooling expertise and resources to meet the threats facing the world's sharks and rays. The Shark Conservation Fund is a project of Rockefeller Philanthropy Advisors.

Suggested citation

IUCN SSC Shark Specialist Group. 2023. Sigacik Bay ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group.

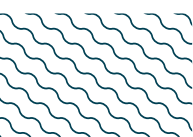
QUALIFYING SPECIES

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
SHARKS											
<i>Etmopterus spinax</i>	Velvet Belly Lanternshark	VU	70-2,000	X		X					
<i>Galeus melastomus</i>	Blackmouth Catshark	LC	55-2,000			X					
<i>Squalus blainville</i>	Longnose Spurdog	DD	15-1,500			X					

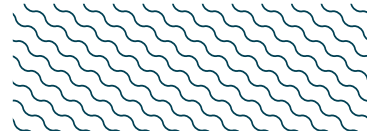
SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
<i>Dalatias licha</i>	Kitefin Shark	VU
<i>Heptranchias perlo</i>	Sharpnose Sevengill Shark	NT
<i>Mustelus mustelus</i>	Common Smoothhound	EN
<i>Oxynotus centrina</i>	Angular Roughshark	EN
<i>Scyliorhinus canicula</i>	Smallspotted Catshark	LC
RAYS		
<i>Dipturus oxyrinchus</i>	Longnosed Skate	NT
<i>Raja asterias</i>	Starry Skate	NT
<i>Raja clavata</i>	Thornback Skate	NT
<i>Raja miraletus</i>	Brown Skate	LC
<i>Torpedo marmorata</i>	Marbled Torpedo Ray	VU
CHIMAERAS		
<i>Chimaera monstrosa</i>	Rabbitfish	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.



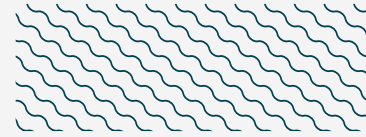
SUPPORTING INFORMATION



There are additional indications that this area is important for the reproductive purposes of one chimaera species and feeding purposes of one ray species.

Ninety-seven Rabbitfish were recorded from benthic trawlers in 2008 (Eronat 2016). Size-at-birth is unknown for this species, but some of the individuals caught measured 7.8–8.2 cm precaudal length which is smaller than the reported size-at-birth for similar species. However, more evidence is needed to confirm the regular presence of neonates in the area.

Based on stomach content analysis of Thornback Skate (n = 187) collected between 2008–2009, it has been reported that this species feed mostly on Mysidacea (Eronat & Özaydin 2015), but more information is needed to confirm the importance of the area for feeding.



REFERENCES

Bengil F, Bengil EGT, Mavruk S, Heral O, Karaman OD, Ozaydin O. 2019. Feeding ecology of four demersal shark species (*Etmopterus spinax*, *Galeus melastomus*, *Scyliorhinus canicula* and *Squalus blainville*) from the eastern Aegean sea. *Turkish Journal of Fisheries and Aquatic Sciences* 19: 475-484. https://doi.org/10.4194/1303-2712-v19_6_03

Bilge G, Filiz H, Tarkan AN. 2010. Length-weight relationship of Velvet Belly Lantern Shark *Etmopterus Spinax* (Linnaeus, 1758) in Sigacik Bay (Aegean Sea). *Istanbul University Journal of Fisheries & Aquatic Sciences* 25: 1-8.

Convention on Biological Diversity (CBD). 2023. Central Aegean Sea. Available at: <https://chm.cbd.int> Accessed May 2023.

Ebert DA, Dando M, Fowler S. 2021. *Sharks of the world. A complete guide. Second edition.* New Jersey: Princeton University Press.

Eronat EGT. 2016. Feeding ecology and trophic level of *Chimaera monstrosa* Linnaeus, 1758 (Holocephali: Chimaeridae) in the Eastern Mediterranean. *Zoology in the Middle East* 62: 51-57. <https://doi.org/10.1080/09397140.2015.1132560>

Eronat EGT, Özaydn O. 2014. Length-weight relationship of cartilaginous fish species from Central Aegean Sea (Izmir Bay and Siğacik Bay). *Ege Journal of Fisheries and Aquatic Sciences* 31: 119-125.

Eronat EGT, Özaydn O. 2015. Diet composition of the Thornback Ray, *Raja clavata* Linnaeus, 1758 (Elasmobranchii: Rajidae) in the Turkish Aegean Sea. *Zoology in the Middle East* 61: 38-44. <https://doi.org/10.1080/09397140.2014.994312>

Finucci B, Derrick D, Dia M, Ducrocq M, Neat FC, Pacoureaux N, Serena F, VanderWright WJ. 2021. *Etmopterus spinax*. *The IUCN Red List of Threatened Species 2021*: e.T161388A124475610. <https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T161388A124475610.en>

Key Biodiversity Areas (KBA). 2023a. Key Biodiversity Areas factsheet: Alaçati. Available at: <http://www.keybiodiversityareas.org> Accessed May 2023.

Key Biodiversity Areas (KBA). 2023b. Key Biodiversity Areas factsheet: Kizildag Izmir. Available at: <http://www.keybiodiversityareas.org> Accessed May 2023.

Soykan O, Akgül A, Kinacigil HT. 2016. Catch composition and some other aspects of bottom trawl fishery in Siğacik Bay, central Aegean Sea, eastern Mediterranean. *Journal of Applied Ichthyology* 32: 542-547. <https://doi.org/10.1111/jai.13042>