Black Sea

Vama Veche

O   2.5   5 km

28.65°E   28.75°E

43.81°N

43.74°N

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

VAMA VECHE ISRA

Mediterranean and Black Seas Region

SUMMARY

Vama Veche is located in the southern Romanian Black Sea. The area is characterised by a wide continental shelf with sandy and muddy substrates. Other habitats within the area include reefs, rocky areas, and patches of seagrass. This area overlaps with the Vama Veche-2 Mai Marine Reserve Ecologically or Biologically Significant Marine Area, the Black Sea Key Biodiversity Area, and a Natura 2000 site. Within this area there are: **threatened species** and **undefined aggregations** (Spiny Dogfish *Squalus acanthias*).
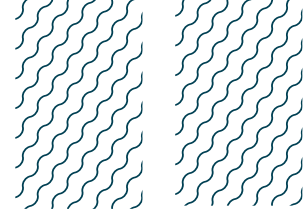
CRITERIA

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

ROMANIA

0–120 metres

52.3 km²

sharkrayareas.org

DESCRIPTION OF HABITAT

Vama Veche is located in the southern Romanian Black Sea, near the border with Bulgaria. It is characterised by a wide continental shelf with muddy and sandy substrates. Other habitats within the area include reefs, rocky areas, and patches of seagrass (Nicolaev et al. 2018). The area holds a high biodiversity of benthic and pelagic species producing one of the most diverse areas in Romania (Niță et al. 2012, 2022; Nicolaev et al. 2018). Sea surface temperature in the area ranges from 2–6°C during the boreal winter to 23°C in summer (EMFF 2017).

The area overlaps with Vama Veche-2 Mai Marine Reserve Ecologically or Biologically Significant Marine Area (CBD 2023), the Black Sea Key Biodiversity Area (KBA 2023), and the Vama Veche - 2 Mai Marine Reserve, a Natura 2000 Marine Protected Area.

This Important Shark and Ray Area is benthopelagic and is delineated from the surface (0 m) to 120 m based on the distribution of the Qualifying Species in the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

The one Qualifying Species within the area is considered threatened with extinction according to the IUCN Red List of Threatened Species™. The Spiny Dogfish is assessed as Vulnerable (Finucci et al. 2020).

SUB-CRITERION C5 – UNDEFINED AGGREGATIONS

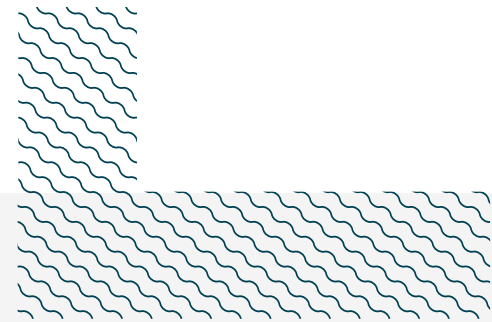Vama Veche is an important aggregation area for one shark species.

According to catches from benthic trawlers, Spiny Dogfish are present year-round in the area (Radu et al. 2013a). From April–June and October–November, individuals are found aggregating in nearshore parts of the area (10–50 m depths) while the rest of the year they occupy depths of 60–120 m (Radu et al. 2013a). Movements to nearshore areas seems to be related to reproductive processes. It has been reported that pregnant females move to the coastal zone to give birth during the spring and autumn, at depths between 10–30 m and temperatures between 12–18°C, while males remain at depths between 30–50 m (Radu & Miauta 2012; Radu et al. 2013a).

Between 2002-2005 and 2009-2019, all individuals caught in benthic trawlers, beam trawlers, and turbot gillnets were adults. Sizes (89-143 cm total length [TL]) were larger than the reported maturity size for the species (females 66–93 cm TL; males 52–64 cm TL; Ebert et al. 2021), with most sharks between 102–122 cm TL (Maximov et al. 2007; Radu & Miauta 2012; Radu et al. 2013a; Totoiu et al 2016; Galaţchi et al. 2021; Ţiganov et al. 2021). The presence of these mature individuals confirms the contemporary occurrence of these aggregations after the reported decline in catches of the species as a result of population reductions (Radu et al. 2011, 2013a, 2013b; Ellis et al. 2016). Due to the characteristics of fishing gears, neonates are rarely caught in these fisheries (Radu et al. 2010, 2011, 2013a), but the rich habitat and species diversity found in the area may provide optimal locations for shelter and feeding of early life-stages (Niță et al. 2012, 2022; Nicolaev et al. 2018). In addition, recent monitoring has confirmed that juveniles are caught in the area (V. Niță et al. pers. obs. 2023).

Large schools also aggregate in the area during winter at depths of 70–120 m. Previously, the area was reported as an important feeding area in the 1980s (Radu & Miauta 2012) where they were

feeding on Whiting *Merlangius merlangus*, European Sprat *Sprattus sprattus*, and European Anchovy *Engraulis encrasicolus* aggregations that migrate to wintering grounds in the area (Radu & Miauta 2012; Radu et al. 2013a). These species are one of the most important fishing resources in Romania since the 1970s (Radu et al. 2010, 2011, 2013a; Nicolae et al. 2011; Totoiu et al 2016). However, there are no contemporary data confirming that feeding is still occurring. In 2019, Spiny Dogfish were bycatch of fishing operations targeting Whiting and European Sprat, indicating that prey are still abundant in the area and that Spiny Dogfish could feed on them during their aggregations (Tiganov et al. 2021). More evidence is needed to confirm the contemporary purpose of these aggregations.

Suggested citation

IUCN SSC Shark Specialist Group. 2023. Vama Veche 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	D2
SHARKS												
Squalus acanthias	Spiny Dogfish	VU	0–1,978	X						X		

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
RAYS		
Dasyatis pastinaca	Common Stingray	VU
Raja clavata	Thornback Skate	NT

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.
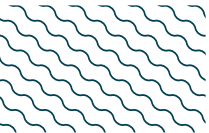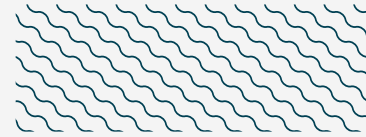
REFERENCES

Convention on Biological Diversity (CBD). 2023. Vama Veche-2 Mai Marine Reserve. Available at: https://chm.cbd.int Accessed May 2023.

Ellis JR, Soldo A, Dureuil M, Fordham S. 2016. *Squalus acanthias* (Mediterranean assessment). *The IUCN Red List of Threatened Species* 2016: e.T91209505A16527761.

European Maritime and Fisheries Fund (EMFF). 2017. Marine spatial plan for the cross-border area Mangalia Shabla. Volume 1. European Union/European Maritime and Fisheries Fund.

Finucci B, Cheok J, Chiaramonte GE, Cotton CF, Dulvy NK, Kulka DW, Neat FC, Pacoureau N, Rigby CL, Tanaka S, et al. 2020. *Squalus acanthias. The IUCN Red List of Threatened Species* 2020: e.T91209505A124551959. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T91209505A124551959.en

Galaţchi M, Ţiganov G, Danilov CS, Păun CV, Panayotova M. 2021. Observations on bycatch rate for vulnerable fish species on the Romanian Coast. *Cercetări Marine - Recherches Marines* 51: 129–139.

Key Biodiversity Areas (KBA). 2023. Key Biodiversity Areas factsheet: Black Sea. Available at: http://www.keybiodiversityareas.org/ Accessed May 2023.

Maximov V, Nicolaev S, Radu G, Staicu I. 2007. Estimation of growing parameters for main demersal fish species in the Romanian marine area. *Recherches Marines* 38: 289–304.

Nicolae CG, Maximov V, Radu G, Zaharia T, Nita V, Micu D, Cristea V, Popa RA, Popa D. 2011. Study on the dynamics of fish catches in the Romanian marine waters during 1950-2009. *Universitatea de Ştiinţe Agricole şi Medicină Veterinară Iaşi, Seria Zootehnie* 56: 332–337.

Nicolaev S, Maximov V, Niţă V, Zaharia T, Nenciu M. 2018. Marine protected areas management: Interaction with commercial fisheries in Natura 2000 Sites along the Romanian Black Sea coast. *Marine Research Journal* 48: 5–25.

Niţă V, Nenciu M, Galaţchi M. 2022. *Fish species of the Romanian coast. Updated atlas.* Constanţa: National Institute for Marine Research and Development "Grigore Antipa".

Niţă V, Zaharia T, Nenciu M, Cristea M, Ţiganov G. 2012. Current state overview of the Vama Veche - 2 Mai Marine Reserve, Black Sea, Romania. *Aquaculture, Aquarium, Conservation & Legislation International Journal of the Bioflux Society* 5(1): 44–54.

Radu G, Miauta N. 2012. Regarding the conservation of migratory shark Spiny Dogfish *Squalus acanthias* from the Black Sea. Bonn: Convention on the Conservation of Migratory Species of Wild Animals, First Meeting of the Signatories to the Memorandum of Understanding on the Conservation of Migratory Sharks.

Radu G, Anton E, Golumbeanu M, Raykov V, Yankova M, Panayotova M, Shlyahov V, Zengin M. 2011. State of the main Black Sea commercial fish species correlated with the ecological conditions and fishing effort. *Journal of Environmental Protection and Ecology* 12: 549–557.

Radu G, Anton E, Raykov V, Yankova M, Panayotova M. 2010. Sprat and turbot fisheries in the Bulgarian and Romanian Black Sea areas. *International Multidisciplinary Scientific Geoconference & Expo SGEM* 20: 26.

Radu G, Maximov V, Anton E, Cristea M, Tiganov G, Totoiu A, Spinu AD. 2013a. State of the fishery resources in the Romanian marine area. *Cercetări Marine* 43: 268–295.

Radu G, Nicolaev S, Anton E, Maximov V. 2013b. Evolution of Romanian marine fisheries following EU accession. *Cercetări Marine*: 249–267.

Ţiganov G, Danilov Cs, Păun Cv, Galaţchi M. 2021. Preliminary data on the ichthyofauna structure from the northern part of the Romanian Black Sea coast. *Annals of the Academy of Romanian Scientists Series on Biological Sciences* 10: 5–11. https://doi.org/10.56082/annalsarscibio.2021.1.5

Totoiu A, Galaţchi M, Radu G, Spînu AD. 2016. Characterization of the populations of the main demersal commercial fish species in the Romanian Black Sea. *Cercetări Marine* 46: 109–127.