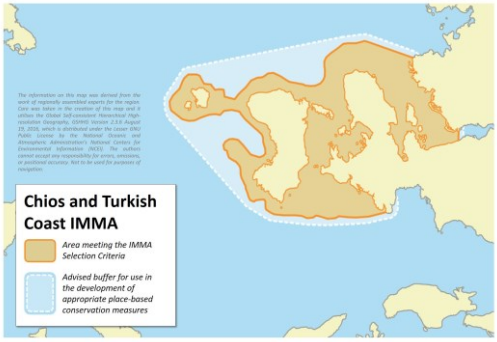
Chios and Turkish Coast Important Marine Mammal Area - IMMA



Area Size

3,838 km^2

Qualifying Species and Criteria

Mediterranean monk seal - *Monachus monachus*
Criterion A; C (1)

Summary

This region of the Central Eastern Aegean Sea comprises an area surrounded by Chios, Psarra, Cesme, Karaburun Peninsula, Gulf of Izmir, and Foça, extending offshore towards the 200m isobath. This area is an important pupping area for the Endangered Mediterranean monk seal (*Monachus monachus*), facilitated by the caves located along the coastal zone. However, telemetry studies have revealed that monk seals easily cross such deep areas even though they tend to spend their time in shallower water.

Description

In general, the circulation in the Aegean Sea is cyclonic, with warm, saline water from the Levantine entering the Aegean through the eastern Cretan Straits via the branches detached from the Asia Minor Current. This Levantine water mass travels northwards along the eastern Aegean Sea. The Central Aegean is dominated by two permanent cyclones, which contribute to this general cyclonic circulation (SoHelME, 2005). The area west of Chios constitutes one of the two important basins of the Central Aegean Sea and of the five basins of the Aegean overall. Its maximum depth is 1,160m (Barnes, 2000). Together with the Skyros basin, the basin of Chios is responsible for the forming of cyclonic circulation in the Central Aegean Sea, which brings dense and cold intermediate water near surface. The surface water temperature is further decreased by open sea convection. Deep water is found to be formed mainly through open sea convection, where cyclonic circulation favours this mechanism (Besiktepe in Katağan et al., 2015). Furthermore, the cyclonic structure of the Chios basin is considered to be (alongside with winds and upwelling phenomena) one of the most optimal physical factors allowing the building up of phytoplankton together with increase in nutrients (Turkoglu in Katağan et al., 2015).

The area enclosed by Chios, Psarra, Cesme and Karaburun Peninsula, Gulf of Izmir and Foça along with its Special Environmental Protection Area constitutes an important area for the monk seal, since it hosts a resident breeding population and caves suitable for pupping (Legakis & Maragou, 2009, Dede in Katağan et al., 2015 and CBD, 2014). Regarding the Turkish coast, between 1991-1998, Güçlüsoy and Savaş (2003, 2004) listed

11 caves with potential seal pupping habitats in Foça and they have observed nine seals, two of which were born inside the Foça Pilot Area. Kıraç and Güçlüsoy (2008) indicated that at least three monk seals still exist in Foça Pilot Area according to the data obtained 2005–2008 (Dede in Katağan et al., 2015).

Monachus monachus (Hermann, 1779). The Mediterranean Monk Seal is listed as Endangered on the IUCN Red List of Threatened Species. The species is still widely distributed throughout coastal and insular Greece; important sub-populations can be found in the Aegean, mainly in Northern Sporades, Kimolos, Gyaros and Karpathos, and Ionian Seas mainly in Zakynthos and Cephalonia. The minimum population size estimate for Greece is 179 adult individuals, which represents 40-51% of the estimated world's total of mature adults. Major threats to the species are a) habitat deterioration and loss by human coastal development, b) deliberate killing and accidental entanglement in fishing gear, c) decreased food availability due to overfishing, d) marine pollution and e) stochastic events, such as disease outbreaks. Conservation measures for the species focus on the establishment of marine protected areas, rescue and rehabilitation of orphaned or injured seals, environmental education and public awareness. The species is strictly protected under Greek law, European Directives and International Conventions.

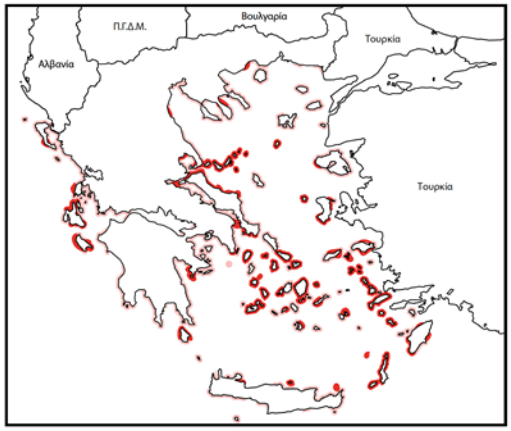
Criterion A - Species or Population Vulnerability

The Mediterranean monk seal *Monachus monachus* is assessed as Endangered [EN C2a(i)] in the IUCN Red List of threatened species (Karamanlidis, A. & Dendrinos, P. 2015).

Criterion C: Key Life Cycle Activities

Sub-criterion Ci: Reproductive Areas

The main criterion upon which the candidate IMMA was identified was based on the knowledge that the area contains breeding nuclei of monk seals (Dede in Katağan et al., 2015 and Legakis & Maragou, 2009). Therefore, Ci obviously applies. Information on the occurrence of pupping in the area is robust, recent, and undisputed, and summarised amongst many others in Dede in Katağan et al., 2015 and Legakis and Maragou, 2009.



Locations of known monk seal distribution in Greece (pink shading); important pupping habitat in Greece (red shading) (Legakis A., Maragou P. 2009).

Supporting Information

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MARINE MAMMAL PROTECTED AREAS TASK FORCE

IUCN SSC WCPA

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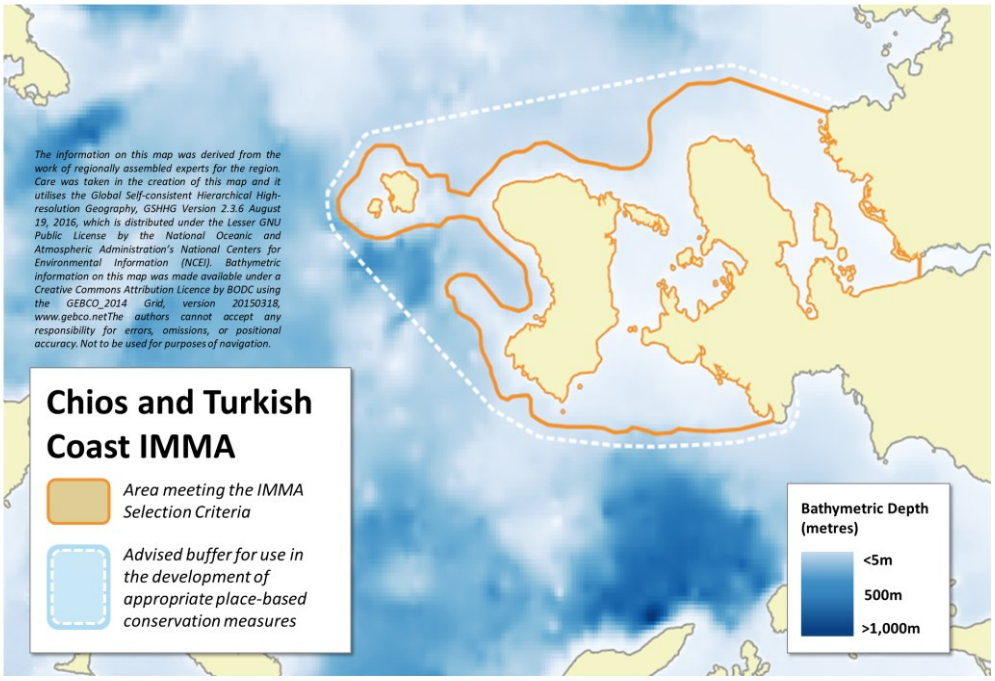
PDF made available for download at https://www.marinemammalhabitat.org/portfolio-item/chios-and-turkish-coast/

Annex I

Supplementary Maps