

{rokbox title=|Map of the study area :: Image: Authors|  
thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-conservation-trachurus-mediterranean-life-history-traits-rodriguez-et-al-2024-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-conservation-trachurus-mediterranean-life-history-traits-rodriguez-et-al-2024.jpg{/rokbox}

**José Carlos Rodríguez**  **Castañeda, Ana Ventero, Magdalena Iglesias**, 2024. [Analysis of the state of conservation of \*Trachurus trachurus\* in the Western Mediterranean Sea based on the interannual \(2009–2020\) changes in their life history traits](#)

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**Abstract:** Horse mackerel is a semi-pelagic fish widely distributed in the eastern Atlantic, where it represents a species of interest for fisheries and is subject to intense exploitation, leading to its global classification as a vulnerable species by IUCN. In the Northwestern (NW) Mediterranean Sea, the knowledge of their distribution, abundance and main biological parameters is fundamental to achieve their sustainable exploitation and contribute to the ecosystem approach to fisheries management. The time series (2009–2020) data set analyzed in this study came from two geographical subareas (GSAs) defined by the General Fisheries Commission for the Mediterranean (GFCM), Northern Spain (GSA06) and Northern Alboran Sea (GSA01) sampled in July during the MEDiterranean International Acoustic Survey (MEDIAS). Our results suggest that in summer, a higher concentration and aggregation of fish exists in GSA01, with a density ten times greater than in GSA06. Possible life history changes can be inferred through the analysis of the biological parameters of *Trachurus trachurus* in the NW Mediterranean Sea. In both GSAs, the annual decline of the size at first maturity (L50) and condition factor (Kn) was prominent. Moreover, the population structure lacked adult modes that could guarantee a successful recuperation of future stocks. Nonetheless, fish inhabiting GSA01 seem to have a better adaptive response to the events responsible for these alterations. In comparison, GSA01 is under less fishing pressure and the upwelling occurring in this area contributes to a higher availability of food, in addition to reducing the increases in sea surface temperature due to climate change during the study period.

**Keywords:** Abundance and biomass, Length frequency distribution, Length–weight relationship, Condition factor, Size at first maturity, Spatial distribution, *Trachurus trachurus*