{rokbox title=|Map of the study region showing the area subdivision :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-adult-mediated-connectivity-and-spatial-population-structure-of-sardine-bay-biscay-and-iberian-coast-silva-et-al-2019-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-adult-mediated-connectivity-and-spatial-population-structure-of-sardine-bay-biscay-and-iberian-coast-silva-et-al-2019.jpg{/rokbox}

Alexandra Silva, Susana Garrido, Leire Ibaibarriaga, Lionel Pawlowski, Isabel Riveiro, Vitor Marques, Fernando Ramos, Erwan Duhamel, **Magdalena Iglesias**, Philippe Bryère, Antoine Mangin, Leire Citores, Pablo Carrera, Andres Uriarte, 2019.
Adult-mediated connectivity and spatial population structure of sardine in the Bay of Biscay and Iberian coast.
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Abstract: This work investigated adult-mediated connectivity and spatial population structure of sardine in the European Atlantic waters. The spatial and temporal progress of cohorts was modelled using abundance-at-age survey data by area in the period 2000–2016, covering the region from the northern Bay of Biscay to the eastern Gulf of Cadiz. A novel methodology was used to calculate indices of cohort movement between areas. Movement was relatively low between three large regions, the Bay of Biscay, the northern Spanish and Portuguese waters and the Gulf of Cadiz, each hosting a recruitment hotspot. On the other hand, one half of the sardines recruited in North Portugal and a quarter of those recruited in Southwest Portugal moved to northern Spanish waters and South Portugal, sustaining local populations and fisheries. Movement was mainly driven by recruitment strength and, in a less extent, by food availability during fall. The connectivity and dynamic patterns suggest a metapopulation with three weakly connected populations and density-dependent source-sink movement within the northern Spanish and Portuguese waters population. While the weak connectivity does not invalidate the management boundary between the Bay of Biscay and the Iberian Peninsula, the Gulf of Cadiz may be treated as a separate stock. Multi-area/metapopulation assessment approaches should be applied to account for complex population structure, the higher risks of depleting source areas and/or less productive populations.

Keywords: Metapopulation, Source-sink dynamics, Adult-mediated connectivity, Cohort dispersal, Small pelagic fishes, Stock identity, Fisheries management