

{rokbox title=| Map of the study region with the different Mediterranean countries fishing grounds highlighted in black squares: (a) Italy, (b) Malta, (c) Spain, and (d) Tunisia :: Image: Authors|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-multiannual-five-fleet-molto-2022-thumb-et-al.jpeg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-multiannual-five-fleet-molto-2022-et-al.jpeg{/rokbox}

Vicenç Moltó, Ignacio A Catalán, Andrés Ospina-Álvarez, Pilar Hernández, Rubén H Roa-Ureta, 2022. [A multiannual five-fleet generalized depletion model for the stock assessment of the Mediterranean dolphinfish \(*Coryphaena hippurus*\) fishery.](#) ICES Journal of Marine Science. Volume 79. Issue 5 July 2022. <https://doi.org/10.1093/icesjms/fsac072>

Abstract: Generalized depletion models have proven useful to provide management information for data-limited fisheries. These models are suitable for stocks with fast depletion and recruitment inputs that reset the depletion. The Mediterranean common dolphinfish (*Coryphaena hippurus*) fishery shows these dynamics, being seasonally exploited mainly by fish aggregation devices in small-scale fisheries from four countries and as bycatch by longline fisheries. These fleets operate on separate fishing grounds, and with distinct effort–catch dynamics. This led to the development of a multiannual five-fleet generalized depletion model applicable to a monthly database of effort, catch, and mean weight from 2008 to 2019. Results showed a high natural mortality rate (0.25 month^{−1}) and wide intra-season fluctuations in biomass. Annual recruitment fluctuates around 10 million individuals, and it has been stable along the analysed period. Exploitation rate only exceeded 40% during the peak month of catches, being much lower the rest of the season, indicating that this stock is fished within sustainable limits. We provide here the first estimation of reference points for the management of the shared dolphinfish Mediterranean stock and show that generalized depletion models can be extended to complex fisheries with multiple fleets with different effort–catch dynamics.

Keywords: *Coryphaena hippurus*, data-limited fisheries, Mediterranean fisheries, small-scale fisheries, stock assessment.