

Ecological implications of the Landing Obligation on balanced harvesting in Mediterranean fisheries

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Discard bans (DBs) are proposed as part of management policies aimed at balanced harvest (BH). Although DBs are generally focused on the commercial target species, current research indicates that other main compartments governing the ecosystem structure and dynamics should be also included. However, information on those key compartments is usually not available from fishery-dependent datasets. In fisheries depending on juveniles and small-sized individuals such as those in the Mediterranean Sea, the ecological impact of DBs has been questioned, and yet not demonstrated. To answer this question, parallel research on fishery-dependent and -independent data should be taken into account.

We here investigate the ecological implications of DB strategies on the structure of fish communities of the deep shelf off the Balearic Islands (Western Mediterranean Sea) where the bottom trawl hake fishery operates. We use BH indicators derived from size spectra analyses, which provide robust size-based metrics to assess potential effects of fishing removal. We compare current DB scenario (as ‘baseline’) with a partial implementation and a full implementation of the Landing Obligation. Our objective is to assess the complementary information provided by fishery-dependent and -independent information to shed new light on the potential ecological impact of DBs on fish communities’ structure in the framework of a BH strategy.

Keywords: Balance Harvesting, European hake, discard ban, Mediterranean Sea, size spectra

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