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**Can deep-water sharks be avoided? Review of tactical and technical measures investigated in the Azores longline fisheries**

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The hook-and-line fisheries of the Azores are among the most selective fisheries in Europe. Yet, the upcoming implementation of the Landing Obligation creates a strong incentive to find further ways of avoiding unwanted catch. In particular, the occasional bycatch of deep-water sharks, several of which being subject to TAC 0, put the fisheries at risk as they could turn into very restrictive choke species. Several technical and tactical measures to avoid deep-water sharks were investigated.

Some fishing experiments were carried out onboard a commercial longliner to test how circle hooks affect shark catchability, at-vessel vitality and condition. Preliminary results suggest that circle hooks would actually catch a larger amount of deep-water sharks than the J-hooks used in the commercial fishery, without significantly affecting hooking position, therefore limiting assets in terms of probability of post-release survival.

For the tactical part, habitat suitability models were developed for 15 species of deep-water elasmobranches in order to predict their spatial distribution. Those maps can help fishers identify areas to avoid because of highest occurrence of deep-water sharks. However, despite the large size of the EEZ (nearly 1 million km2), only 7% lies above 1500m, restricting the potential fishing grounds and limiting alternatives for fishers to avoid this unwanted catch. Results from telemetry experiments further suggest that depth avoidance strategies could be promising. Though, the large species diversity and wide depth range occupied by deep-water sharks compromises the potential effectiveness of such measures for all species.

Keywords: Landing Obligation, TAC 0 species, circle hook experiments, habitat suitability models, avoidance strategies

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