



Agreement on the Conservation
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Effect of reduced distance between the hook and weight in pelagic longline branch-lines on seabird attack and bycatch rates and on the catch of target species

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SUMMARY

Increasing the sink rate of baited hooks in pelagic longline fisheries reduces seabird bycatch; this can be achieved by reducing the distance between the hook and the weight of the branch lines. In this study, we test the effectiveness of this branch line modification in reducing seabird bait attack and bycatch rates and the effect on the target species on a research vessel in Uruguay (2009-2017). Two branch-line types were tested: a control treatment (CT) of standard Uruguayan branch-lines with a 75g swivel at 4.5m from the hook and experimental treatments (ET) consisting of two branch-lines with 60g and 65g to 1m from the hook. Seabird attacks were assessed during 34 daylight longline sets (100-150 hooks each), with two treatments CT vs. 65g ET. The catch of target fish species was assessed during 224 paired section (75 vs. 75 hooks) in 109 additional fishing sets, comprising 77 paired section of CT vs. 60g ET and 147 paired sections of CT vs. 65g ET. During the 34 diurnal longline sets observed, 23 species were recorded, including all the species that interact with fishing hooks and discards in this fishery. Results of the paired sections CT vs 65g ET (n=34 sets), showed that the former had 231 primary attacks on baited hooks (12.0 attacks/100 hooks), 50 of which resulted in multiple attacks. The numbers of primary attacks and those that resulted in multiple attacks for the 65g ET were 91 (4.7 attacks/100 hooks) and 14, respectively. The number of primary and multiple attacks were significantly higher in the CT than the 65g ET. The seabird bycatch was 50% lower in the 65g ET than in the CT. None statistical differences were found for the main target species between the CT and 65g ET and CT and 60g ET. Results demonstrate that reducing the hook-weight distance in pelagic longline branch lines reduces seabird attacks (including multiple attacks) and bycatch. Furthermore, this modification appears not to affect the catch of target species, a pre-requisite of a mitigation measure. This study provides strong support for one of the existing specifications (60g or greater attached within 1 m of the hook) of ACAP best practice advice on branch line-weighting in pelagic longline fisheries.