Behavior of fish aggregations assessed using fishers' echosounder buoys

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Abstract

Thousands of drifting FADs (DFADs) are actively monitored by the tropical tuna purse seine fishery worldwide every year. DFADs are supplied with echo-sounder buoys that remotely provide fishers with real time positions and estimations of biomass underneath the FADs. Fish aggregations around FADs are composed of target tuna species and non-target species. We have modified data received from those buoys and improved the interpretation for the use of this data in scientific studies. Now, those DFADs could be used as remote observatory platforms to improve the knowledge about the behaviour of the species showing an associative behaviour to the object. Study choices are multiple: analysis of first colonization, excursions... However, we have focused on the behaviour of 4 groups (bycatch, skipjack, and both juvenile yellowfin and bigeye) and their relationship with the abiotic and biotic factors of the habitat and their environmental preferences. By means of dynamic echosounders' biomass samples, some kind of mitigation suggestions will be searched (i.e. areas with high bycatch/tuna rate; seasons in which juvenile tunas are more associated to DFADs...).

Keywords: Tuna, Echosounder buoys, bycatch, juvenile tuna, behaviour, environmental conditions, remote discrimination, DFAD

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