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MANAGING FAD CAPACITY AND IMPACTS ON MARINE ECOSYSTEMS

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Abstract

The authors participated in the Global FAD Science Symposium, March 20-23, 2017 in Santa Monica, California and are presented without affiliation. This paper is one of several from the Symposium and does not represent an exhaustive discussion of the issue but includes points agreed by participants. The participants recognized that impacts of FADs and FAD management cannot be considered entirely independently of harvest strategies, issues related to fishing capacity, ecosystem structure, or management of all other fishing gears in tropical tuna fisheries. None of these points alone will address the management challenges associated with FAD use. The effectiveness of any of these points will depend on the levels of implementation and compliance and need to be connected to processes in the RFMOs. Participants underlined the need for data harmonization, standardization, and availability and stressed the need to develop standardized language and definitions to support consistent interpretation of what conservation and management measures intend to achieve across ocean basins. Participants noted that "best practices" are not necessarily "most practical" and will need to be assessed to determine which are most appropriate to apply in any particular management setting or geographic area. Finally, participants stressed the need for ongoing and close collaboration among scientists, managers, and industry in driving innovative solutions within and across RFMOs. The points presented here are not in an order of priority; priorities and solutions may change on a regional basis.

Introduction

The contribution of FADs to the overall effective fishing effort in tropical tuna fisheries is a combination of the number of FADs deployed by each vessel, the number of purse seine vessels deploying and fishing on FADs, and the number of supply vessels managing FADs *in situ*, including by deploying or recovering them. In recent decades, the numbers of all three of these components of FAD capacity have increased, leading to a situation where tens of thousands of new FADs are deployed each year in tropical waters around the world. Below, we highlight some of the agreed points highlighting the impacts of FADs on marine ecosystems that were discussed at the Global FAD Science Symposium.[1] We focus our points on three primary topics – key information, proven and promising approaches to mitigation, and gaps in the current scientific knowledge on the issue.

Key information

FADs increase the fishing efficiency of purse seine vessels and are now deployed wherever purse seine vessels target tropical tunas. However, there are several indicators that the current level of FAD fishing and FAD deployment may be negatively impacting tuna stocks – by contributing disproportionately to the removal of small tunas – and other non-target stocks. The wider impacts of FADs on marine ecosystems are not as well understood, scientifically, but generally cover potential negative changes to the pelagic environment associated with FAD deployment, use, and loss and to sensitive coastal and continental shelf environments associated with grounding or beaching. Recent studies suggest that approximately 10% of

FADs deployed in the Atlantic and Indian oceans interact with coastal ecosystems. Impacts of FAD use on the pelagic environment require further research. With the constant exchange of FADs among fishing operations (via trading, selling, or stealing), it is difficult to know how many FADs are in the water, how long they last, and who is/should be responsible for mitigation and clean-up of the impacts of FADs on marine ecosystems.