

FAD-Watch: turning the tide on FAD-beaching

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Summary

This document presents the Seychelles FAD Watch Project as a Case Study for the handling of FADs at risk of beaching in sensitive areas and proposes some guidelines for the implementation of such initiatives in other areas. The Seychelles FAD-Watch project is a first multi-sectorial initiative intended to prevent and mitigate FAD beaching across islands in the Republic of Seychelles, in which the impact of FADs at risk of beaching is reduced through its removal from coastal waters. It is the result of collaborative work, involving OPAGAC, and three agencies in Seychelles: Island Conservation Society (ICS), Island Development Company and Seychelles Fishing Authority. Upon request from OPAGAC, its buoy service providers set up a FAD detection system, covering 6 island groups in the archipelago. This made possible sending alerts to ICS for FADs that crossed the established buffer areas. ICS collects information on each intercepted FAD, including its location at interception and fate, habitat type, ownership, FAD design, and entangled fauna and its fate. The results from the Project are assessed regularly with changes introduced as required. In recent years, tuna-RFMOs have adopted specific data reporting standards concerning FADs, with most recommending the implementation of initiatives to evaluate the number of FADs that are lost each year, their fate, the risk that lost FADs may ultimately pose to the environment, and the way in which those impacts could be reduced.

The problem and the local solution

It is not feasible for a vessel to retrieve all the drifting FADs (dFADs) it has deployed, which leads to some of them being lost every year. Unretrieved dFADs might happen because they are intercepted and appropriated by others, or lost, sinking in open ocean or beaching in coastal areas. Recent estimates indicate that around 10% of the dFADs deployed by purse seine fleets may end up beaching in coastal areas (Murua *et al.* 2018). As most of the materials used at present are highly durable synthetic material, their loss contributes to the growth of marine litter and may also have detrimental impacts on some sensitive marine fauna, such as marine turtles and sharks, through entanglement in the nets used for its construction (Murua *et al.* 2018).

FAD beaching events in the Seychelles have been documented since 2015 (Balderson and Martin 2015). Aware of the adverse impacts that FADs deployed by tuna purse seine fleets were having over coastal marine ecosystems in the Seychelles, OPAGAC decided to address the issue. In 2016, ICS and OPAGAC worked towards design of the Pilot, which was completed in June 2016, and a MoU was signed between OPAGAC, ICS, Islands Development Company and the Seychelles Fishing Authority. The results of this Project were presented at IOTC's Working Party on Ecosystems and Bycatch (Zudaire *et al.* 2018).

A roadmap to a broader initiative

Below we provide some guidance on the steps to make in order to tailor FAD-Watch initiatives to the situation in each country, depending on the importance of FAD-beaching, the relevance of impacts in the country, the feasibility of implementing a FAD recovery programme, and some additional considerations.

Phase 1, Scoping

- Request from a coastal country and risk analysis on the importance of dFAD beaching events: Consideration for starting a FAD-Watch Project can originate on a request from a specific country and/or a FAD beaching risk analysis based on data from all, or at least a large proportion of the fleets using dFADs in a specific region; if the total number of beaching events or the contribution of the fleet(s) to the total number of beaching events is over some agreed threshold implementation of specific FAD-Watch initiatives may be required.

Phase 2, Prioritization

- Coastal ecosystem and biodiversity: The type of coastal ecosystem and its value in terms of biodiversity and conservation must be assessed in order to prioritize areas where a swift interception of FADs at risk of beaching may be required.

- Interaction with other activities: The type of interactions between FADs and other activities carried out in coastal waters and the risk that those interactions may pose shall also be assessed. Among the activities that can be assessed, the most important are tourism, small-scale coastal fisheries, other coastal activities such as seismic surveys, navigation lanes, etc.

Phase 3, Feasibility

- Country status evaluation: It is convenient to look at some country status indicators (i.e. security, governance, utilities) to assess if implementation of a FAD-Watch type initiative is feasible in the country concerned.
- Identification of implementing agency: This can be governmental, non-governmental, a service provider, or multi-agency. It is preferable that the Agency identified has the staff, equipment & tools necessary to carry out the work (e.g. boat, etc.).
- Short-term field survey: frame survey of beached FADs, in order to identify the geographical area, and assess the type of collection that may be required, depending on the size and the nature of the environment where beaching events are recorded.
- Cost & funding: This shall be estimated by the Agency selected. Depending on the cost, the identification of alternative funding mechanisms may be required, especially in the case that running costs are very high.

Phase 4, Project design: providing it is feasible, the fleet operators and institutions concerned can design the project, considering also the priorities established in Phase 2. It is worth to bear in mind that for the Project to be successful it is very important to secure the participation of as many vessels as possible.

Phase 5, Implementation

- Formalizing the agreement: can be done in various ways, e.g. through signing a MoU by the partners.
- Set-up and training: Setting-up of the hardware and software for tracking the FADs, storage of buoy track data throughout the duration of the Project, setting-up of the software to record the data collected at interception of FADs and training of project staff (they shall be trained on FAD monitoring, interception and handling; data collection and computerization).
- Implementation: there should be a test phase to make the necessary adjustments, for at least 3 months; then the full-scale implementation should start.
- Evaluation & dissemination of results: Implementation of the Project shall be reviewed at regular intervals. The Project partners shall also make arrangements for the data collected through the Project to be analysed, and results presented through publications presented at the agreed fora.
- Extension & consolidation: At the end of the Project, the partners shall contemplate a full Project internal review or, where required, a review by an independent third party. The partners will then agree extension and consolidation of the Project.

Concluding remarks

The OPAGAC Seychelles FAD-Watch Pilot was a world first. In addition, after its second year, it has succeeded to add value to the initiative through securing the participation of most purse seine vessel operators in the Indian Ocean. Within the context of the FAD-Watch initiative, there is less beaching events than originally estimated through simulations but still enough to justify the continuation and extension of the project to other outer islands considering that Seychelles is a top tourist destination and rich in biodiversity. In addition, beaching events of FADs may be also important in other areas of the Indian Ocean and should be evaluated.

As the Seychelles FAD-Watch demonstrated, multi-stakeholder cooperation and the commitment of all the vessel operators concerned are required to implement a successful programme. Similarly, FAD risk analysis will require data from as many actors as possible, to avoid getting biased results because of both using a small sample and not accounting for all vessel-FAD interactions. This stresses the need for all tRFMO Member and Cooperating Parties to report FAD data as per the agreed standards, and for the risk analysis to be based on as complete a dataset as possible. The BIOFAD Pilots that have been launched in all oceans must provide some light on materials and designs of FADs that are more eco-friendly, while remaining efficient. It will then be the time for t-RFMO to agree on how the FAD future should look like.

References

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