

## **International Workshop on Mitigating Environmental Impacts of Tropical Tuna Purse Seine Fisheries**

In March, 2019, our Chief Executive Kepa Etxebarria was one of about 60 participants in a 2-day workshop held in Rome to consider the need for mitigating environmental impacts of tropical tuna purse seine fisheries. The report is available **here** (<https://iss-foundation.org/knowledge-tools/technical-and-meeting-reports/download-info/issf-2019-08-report-of-the-international-workshop-on-mitigating-environmental-impacts-of-tropical-tuna-purse-seine-fisheries/>).

The workshop considered six issues: Bycatch of the tuna purse seine fishery: sharks and rays, small bigeye and yellowfin tuna, FAD structure impacts, FAD management, and looking ahead: the next 10 years.

Dr Victor Restrepo of the ISSF reviewed bycatch by set type and ocean region and how this bycatch comprised five different species groups (minor tuna species, rays, sharks, billfishes, and other bony fishes). Dr Restrepo provided evidence that the overall rate of bycatch in tropical tuna purse seine fisheries is small; while the bycatch of ETP species such as sharks and marine mammals is minor compared to that in tuna fisheries using other gears.

In a second presentation, Dr Restrepo Victor Restrepo considered management of purse seine fisheries, with emphasis on FADs. Amongst other things, he noted that the purse seine fishery needs to be managed holistically as overly focusing on FAD sets detracts from other important issues. Fisheries using gears other than purse seine also need to be managed. NGOs have identified what they consider are the best practice elements for FAD management; RFMOs follow some or all of these to some extent, but there are loopholes, exemptions and weak compliance systems. FAD data reporting remains sparse, with some exceptions, and the limits on active FADs warrant a careful look because they could actually allow for increases in the number of FADs over current levels. Whatever, many factors complicate FAD management complicated, and requires a comprehensive package of measures, tailored to each RFMO. Fleets have much to contribute in terms of finding practical and effective solutions.

Dr Dagorn the Scientific Advisory Committee of the International Seafood Sustainability Foundation (ISSF) The Scientific and Technical Advisory Committee (STAC) reported that the main shark species caught at FADs is the silky shark, followed by oceanic white tip. While shark entanglement in traditional FADs was probably of a very high magnitude but the introduction of non-entangling FADs has responded to this issue. While shark bycatch is low, less than 0.5% by weight, some shark species are vulnerable or at-risk, and the purse seine fishery should strive to mitigate this bycatch. Besides non-entangling FADs, reducing shark mortality in the purse seine fishery will likely entail the use of several actions used in combination (setting on large tuna aggregations, fishing and releasing sharks from the net, safe handling and release from the deck, avoiding hot spots, etc.)

Dr Jefferson Murua of the Basque fishery research foundation AZTI gave a presentation on small individuals of bigeye and yellowfin caught in purse seine fisheries, primarily on FAD sets. He argued that catching juvenile bigeye and yellowfin does not necessarily cause overfishing but this can happen if too many small fish and large fish are harvested. Dr Murua noted that RFMOs could manage impacts through quotas and/or seasonal or time/area closures. In the near future, research on acoustics can result in technology for fishers to be more selective in targeting FADs with higher proportion of skipjack relative to yellowfin and bigeye

Dr Gala Moreno from ISSF gave a presentation on the impacts of FAD structure on vulnerable marine Ecosystems. One of the primary focus areas to mitigate these impacts is research to develop biodegradable FADs. But additional activities to better manage FADs and lower the risk of negative impacts are also necessary. She concluded: (i) biodegradable FADs should be made of only natural fibres / materials that are sustainably harvested, until other materials such as synthetic bio-plastics that are non-toxic for the marine environment become available, (ii) the size and weight of FADs

should be reduced, (iii) FAD should not be deployed in areas where there is a high risk of stranding; and fishing companies should implement policies to reduce and control FAD loss and abandonment.

In a second presentation Dr Dagorn identified five objectives that need attention during the decade ahead: (i) improved data for ecosystem-based fisheries management, (ii) further reduce fishery-induced mortality of sharks and rays; (iii) further reduce fishery-induced mortality of small bigeye and yellowfin tuna, (iv) further reduce environmental impacts of FADs, (v) improve the knowledge on the effects of FADs on the ecology of tunas and other associated species (ecological trap hypothesis).