



**CONVENTION ON
MIGRATORY
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ScC-SC6 CRP 9.1.2

FISH AGGREGATING DEVICES (FADs)

(Prepared by the COP-appointed Councillor for Marine Pollution and the Secretariat)

Summary:

As requested by ScC-SC5, the COP-appointed Councillor for Marine Pollution has prepared a report entitled 'An Introduction to FADs as a Source of Marine Debris'. This document provides a summary of the report, and proposes draft Decisions for adoption.

FISH AGGREGATING DEVICES (FADs)

Background

1. Following the 12th meeting of the Conference of the Parties (COP12), there were two Resolutions in effect that relate to fish aggregating devices (FADs): [Resolution 12.20 Management of Marine Debris](#) and [Resolution 12.22 Bycatch](#).
2. COP13 established the new position of COP-appointed Councillor for Marine Pollution. The Sessional Committee of the Scientific Council, at its 5th meeting in 2021, agreed a work programme on marine pollution which would include: “Preparation of a document with appropriate background information and [...] draft decisions for further work [...] focused on the following: marine debris (including fish aggregating devices), evidence of the effects of persistent organic pollutants on marine migratory species, and nutrient pollution”.
3. The effects of marine pollution on marine migratory species are presented in [UNEP/CMS/COP14/Doc.27.2.1](#). The present document summarizes a report entitled ‘Introduction to FADs as a Source of Marine Debris’, which can be found in Annex 1 of this document.

Issue

4. A FAD is “a permanent, semi-permanent or temporary object, structure or device of any material, man-made or natural, which is deployed, and/or tracked, and used to aggregate fish for subsequent capture. A FAD can be either an anchored FAD (aFAD) or a drifting FAD (dFAD)”.¹ The use of dFADs varies across regions, but in 2013 between 81,000 and 121,000 dFADs were estimated to be deployed worldwide. They are used extensively in industrial tuna fisheries, for example.
5. Anchored FADs are sometimes used to moor vessels, and this could impact loss rates of FADs. Devices can also be lost when longline or gillnet fishers cut aFAD mooring lines to avoid entanglements with their gear. Other vessels, including cargo ships, may accidentally strike aFADs, breaking them from their moorings, or operators of such vessels may cut mooring lines deliberately if the aFAD is in a shipping lane. Fishing competitors may also vandalize each other’s aFADs. All of these actions may cause the release of additional marine debris.
6. Drifting FADs, which are not collected and re-used, may also end up as marine debris, and can sink or drift to beaches, or get stuck on coral reefs or in mangrove habitats and damage them. The deeper the underwater or hanging part (tail) of the dFAD extends, the higher the probability of the dFAD touching the seabed and beaching. In the Indian and Atlantic Ocean, 9.9 per cent of all dFAD trajectories were found to end with the FAD beaching, with potential negative impacts on sensitive habitats such as coral reefs.
7. The relationship between FADs and the generation of microplastics has not been directly researched but it can be assumed that, like other plastics in the marine environment, they will produce microplastics through degradation, fragmentation and abrasion processes. The ingestion of microplastics has the potential to impact all parts of marine food webs, including by increasing the bioavailability of associated toxic substances.

¹ [FAO. 2019. Voluntary Guidelines on the Marking of Fishing Gear. Directives volontaires sur le marquage des engins de pêche. Directrices voluntarias sobre el marcado de las artes de pesca. Rome/Roma. 88 pp. Licence/Licencia: CC BY-NC-SA 3.0 IGO.](#)

8. Non-target wildlife can become entangled in both dFADs that are actively deployed and tracked by fishers, or in those which have been lost and are considered marine debris. The full scale of this is unknown. Entanglement in dFADs tends to go unobserved by fishers because much of it takes place in the submerged sections of the FAD. However, this is likely to have an impact of many threatened marine species that become accidentally entangled.
9. To reduce the risk of entanglement, in many locations hanging nets are being replaced by ropes and other non-entangling materials to prevent 'ghost fishing' and bycatch. Various organizations are advocating for the use of biodegradable material in the development of FADs. It is essential, however, that new biodegradable materials are not used to construct net structures, and that ropes or canvas are used instead. The *Non-Entangling and Biodegradable FADs Guide*² from the International Seafood Sustainability Foundation (ISSF) gives recommendations about how dFADs might be designed to prevent entanglement. In addition, tuna Regional Fisheries Management Organizations (tRFMOs) have established resolutions and recommendations to reduce entanglement of marine wildlife in FADs, to assess the developments in FAD-related technology, and to promote the use of natural or biodegradable materials in FAD construction.

Discussion and analysis

10. As described in the report, marine debris, especially plastic and ghost fishing gear, has negative impacts on marine wildlife, primarily through ingestion and entanglement. Abandoned FADs become marine debris and can sink or drift onto beaches, coral reefs, mangroves or other coastal habitats with associated negative impacts.
11. Entanglement in fishing gear adversely affects many CMS-listed species, including marine mammals, sharks and sea turtles. The individual-level effects of interactions with abandoned, lost, or discarded fishing gear include drowning, starvation, malnutrition, physical injury, reduced mobility, enhanced exposure to predators and physiological stress, reduced energy acquisition and assimilation, compromised health and reproductive impairment.
12. The primary role of CMS in addressing marine pollution originating from FADs and the associated risk of entanglement is to enhance and support the actions by other international bodies that deal with FADs directly. Draft Decisions contained in Annex 24 propose such actions for CMS Parties, the Scientific Council and the Secretariat.

Recommended actions

13. The Conference of the Parties is recommended to:
 - a) note the Report contained in Annex 1;
 - b) adopt the draft Decisions contained in Annex 2.

² [ISSF \(2019\). Non-Entangling and Biodegradable FADs Guide.](#)

AN INTRODUCTION TO FADs AS A SOURCE OF MARINE DEBRIS

NB: The annex is presented in a separate file [here](#).

DRAFT DECISIONS

FISH AGGREGATING DEVICES

Directed to Parties

14.AA Parties are requested to:

- a) Ensure that FADs deployed within their jurisdiction or by vessels for which they are a flag state are:
 - i. of non-entangling nature, designed to reduce the likelihood of them being lost, and subject to regular inspection and maintenance to avoid loss,
 - ii. marked, monitored, maintained and retrieved in an environmentally sound manner by the fisheries concerned,
 - iii. located, where possible, away from shipping routes or areas where they will be in conflict with other fisheries,
 - iv. deployed at times of the year and in locations where their beaching is less likely, and
 - v. disposed of appropriately when they are no longer required;
- b) Where they are a flag state for FAD fisheries and/or FAD deploying vessels:
 - i. ensure, whenever possible and feasible, that natural biodegradable materials are used in the construction of FADs, noting that more research is needed on this topic,
 - ii. ask fisheries [real-time mandatory lost gear reporting] to track rates of loss, identify high risk locations and gear types, and promote retrieval, particularly in sensitive marine habitats or areas of high importance for food security, where it is environmentally safe to do so;
- c) Include terms on environmental control measures in fishing licences and in development of related guidelines;
- d) Support inclusion of effective steps to address fishing gear as part of the new global plastics treaty;
- e) Report to the Conference of the Parties at its 15th meeting on the progress in implementing this Decision.

Directed to the Scientific Council

14.BB The Scientific Council shall, subject to the availability of external resources:

- a) ~~Establish a workstream on FADs, which will better e~~ Evaluate the relationship between FADs and marine debris and establish principles for best practice to avoid their loss, entanglement with marine wildlife, and beaching in corals, mangroves and other aquatic and coastal habitats, and that seek to reduce their contribution to plastic pollution. This may include liaison with the International Seafood Sustainability Foundation (ISSF), further to their work on improving FAD design, and the ~~tuna~~ Regional Fisheries Management Organizations (RFMOs);

- b) Consider a possible case study area looking at FADs as a source of marine debris, for example in the Mediterranean Sea, to:
 - i. look at compliance with existing regulations,
 - ii. devise environmental management and control measures to avoid gear loss, and
 - iii. explore ways of improving the environmentally sound retrieval of lost FADs.
- c) Report to the 15th meeting of the Conference of the Parties on the progress in implementing this Decision.

Directed to the Secretariat

14.CC The Secretariat shall, subject to the availability of external resources, support the Scientific Council in implementing Decision 14.BB.