Evidence of ongoing non-compliance of drifting FADs, and the associated impacts this has on Indian Ocean biodiversity

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Submitted by Marinas Guardian

Marinas Guardian is a new ocean focused NGO dedicated to the mission of securing a 100% sustainably managed ocean for the benefit of both ocean ecosystems and people. With a special interest in the Indian Ocean and the surrounding states, Marinas Guardian is grateful for being granted observer status at the IOTC and being offered the opportunity to contribute to the work of the Commission.

RFMOs around the world have introduced measures in the last decade to manage the impacts of drifting fish aggregating devices (dFADs), however, the evidence is consistently showing that more must be done to strengthen the measures that are in place and to ensure that these measures are complied with so that they have the positive impact they are intended to have. A paper presented to the IOTC last year by the International Pole and Line Foundation on data from a FAD recovery project through the University of Exeter shows that there is a lack of compliance with the regulations set out by the Indian Ocean Tuna Commission in Resolution 19/02 [1,2]. The use of entangling materials and designs, as well as improper marking, were highlighted as the primary areas of non-compliance, and there was little evidence of biodegradable materials being utilised by distant water purse-seiners, despite them being encouraged to increase the use of biodegradable materials since 2020. This raises concerns around the effectiveness of the measure and the subsequent impacts on Indian Ocean biodiversity.

Drifting FADs are widely recognised as a significant threat to ocean ecosystems due to the high levels of bycatch of threatened and protected species, damage to critical habitats, contributions to stock declines of tropical tuna by driving catches of juvenile yellowfin and bigeye tunas, both of which are overfished and remain subject to overfishing [3].

Over the last decade, a number of scientific studies have been published which show the environmental impact of dFADs on ocean biodiversity and endangered, threatened and protected species. In the Indian Ocean, research has found various fish species, leatherback turtles, and, in particular, silky sharks to be the most susceptible to entanglements in dFADs [4, 5]. For example, a 2013 study in the Indian Ocean estimated that as many as 960,000 silky sharks are entangled and killed in the appendages of dFADs every year [6]. At the time, silky sharks (*Carcharhinus falciformis)* were listed on the International Union for Conservation of Nature's Red list as Near Threatened. However, in the species' 2017 assessment showed a global decline resulting in a them be categorised as Vulnerable [7] but a lack of available data means a certain assessment is not possible for the Indian Ocean population. The decline of this species indicates that not enough is being done to protect it and, with evidence of intense pressure on the species, a lack of data is concerning and is something that the IOTC could contribute to addressing.

Beyond entanglements of endangered, threatened and protected species, dFADs have also been shown to have negative impacts on critical habitats for ocean biodiversity. In the Seychelles, some research found that despite moves towards less entangling FAD designs around 2015, the devices still posed a significant threat to coral reefs [8], ecosystems that are crucial for both marine biodiversity and coastal communities. This was due to the entangling nature of the designs and plastic-based materials used which cause physical damage and spread disease [9,10]. In addition, estimates based on data from the Western Central Pacific Ocean suggests that dFADs irreversibly damage and kill 10km^2 of coral reef every year across the world [11]. When beached, dFADs will have similar impacts on other

critical habitats like beaches, seagrass meadows and mangroves which all contributes to the biodiversity crisis we face today.

As a drifting fishing gear, it is difficult to control the impacts of dFADs. It is not feasible to prevent these devices from entering Exclusive Economic Zones (EEZs) or protected areas where dFADs are prohibited, thus, undermining the efforts of others to conserve and restore the biodiversity of our ocean. Better management and control are vital to reduce the indiscriminate entanglement of protected species, the damage inflicted on critical coastal habitats and the burden placed on coastal states.

The continuing use of entangling materials and entangling designs in dFAD construction has been highlighted as one of the key indices of non-compliance. Therefore, industry claims that entanglements are no longer an issue, due to legislation prohibiting meshed materials, are putting oceanic biodiversity, and tuna stocks, at greater risk. It is important that, despite the legislation, the Indian Ocean stakeholders recognise that evidence suggests that compliance is low, so the threat remains ongoing and does not dismiss studies which pre-date the introduction of these rules. Studies, estimates and concerns, even from beyond 5 years ago, all remain relevant, due to efforts to alleviate the impacts of dFADs being undermined.

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