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PEW – IMPROVING MANAGEMENT OF THE WCPFC FAD FISHERY

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Pew Environment Group
Managing the WCPFC Drifting FAD Fishery
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The UUU Fishery – Unregulated, Unreported, and Untracked Drifting FADs in the Western and Central Pacific

WPCFC Drifting FAD fishery

Over the past several decades, the use of drifting FADs (dFADs) by tuna purse-seiners targeting skipjack has expanded dramatically in the western and central Pacific. Due to the propensity of tuna to gather underneath floating objects, FADs provide greater ease and efficiency of locating and capturing greater quantities of catch. However, as skipjack catch from dFADs use increases so does the mortality of juvenile bigeye, yellowfin, and other vulnerable bycatch species such as silky sharks. Additionally, the uncontrolled proliferation of FADs may have broader ecosystem impacts and contributes to marine debris. Currently, tens of thousands of dFADs are estimated to be drifting in the WCPFC Convention Area. They are in effect "UUU" – unregulated, unreported and untracked.

The consequences of growing dFAD use were taken into account by WCPFC CCMs in 2008 with the adoption of CMM 2008-01 which called for a three month FAD closure and required CCMs to submit FAD management plans. Countries were to have submitted FAD management plans by July of 2009, but out of the twenty CCMs who participate in purse seine fishing in the WCPFC area only four plans were produced on time[1]. Furthermore, many of these plans were preliminary or expired and did not include limits on the number of dFADs being used or specific reporting requirements, both of which were recommended in CMM 2008-01.

The number of active dFADs is not directly recorded by any CCM in their reports to the WCPFC, making attempts to manage the fishery difficult and putting vulnerable species further at risk as no limits exist on the number of dFADs that can be deployed. One method to estimate the relative level of FAD fishing a CCM participates in is to evaluate the percentage of big eye catch recorded by their purse seine fleet. In the tables below higher percentages of bigeye could indicate higher levels of dFAD usage. However, different fleets have different fishing practices and operate in different ocean areas, which may also account for different proportions of bigeye catch.

Table 1. Bigeye catch (metric tonnes) by purse seine fleet, 2011

Country	Bigeye catch	Total Purse Seine Catch	Percentage Bigeye
Solomon Islands	239	25,561	**0.9**
Japan	2,511	190,746	**1.3**
Philippines	3,250	159,919	**2.0**

[1] WCPFC-TCC7-2011-OB-01

Vietnam	688	22,937	3.0
Indonesia	6,201	206,697	3.0
PNG	5,420	161,882	3.3
South Korea	7,383	207,702	3.6
Vanuatu	851	23,382	3.6
New Zealand	845	20,389	4.1
China	3,280	77,542	4.2
US + territories (not American Samoa)	10,466	203,239	5.1
Tuvalu	433	6,696	6.5
Chinese Taipei	11,390	175,935	6.5
FSM	1,725	26,505	6.5
Kiribati	3,216	46,514	6.9
Marshall Islands	7,525	90,182	8.3
El Salvador	1,867	12,226	15.3
Ecuador	2,921	18,045	16.2
EU	7,158	39,451	18.1

As seen in Table 1, some CCMs are able keep their bigeye catches to a minimum, while others catch relatively high percentages of bigeye.

Also to be taken into account is the geographic location of the purse seine fishing as bigeye are more prevalent in the central Pacific. Table 2 illustrates the locations where bigeye are most susceptible to dFAD fishing.

Table 2. Bigeye catch (metric tonnes) in purse seine fleet by national waters, 2011

Country	Bigeye catch in EEZ	Total Purse Seine Catch in EEZ	Percentage Bigeye
New Zealand	0	10,197	0
Cook Islands	5	1,394	0.3
Tokelau	339	18,147	1.9
Japan	114	6,041	1.9
Philippines	1,508	79,107	1.9
Vanuatu	4	145	2.5
PNG	17,960	616,365	2.9
Vietnam	688	22,937	3.0
Indonesia	6,202	206,743	3.0
Solomon Islands	4,736	149,872	3.2
FSM	4,447	139,445	3.2
Samoa	18	513	3.4
American Samoa	51	1,476	3.5
Fiji	16	439	3.5
Wallis and Futuna	2	40	4.1
Tuvalu	3,125	51,800	6.0
Nauru	8,407	105,212	8.0
Kiribati	18,172	192,904	9.4

US + territories (not American Samoa)	101	1,005	**10.1**
Marshall Islands	2,596	25,363	**10.2**

Proposed dFAD Management System

The need for an operational and effective dFAD management system has never been more pressing given the continued overfishing of bigeye and the record high number of FAD sets experienced in 2011. A system that tracks FADs throughout the WCPO would be useful for scientists and managers alike. Given that many dFAD buoys collect oceanographic data as well as biomass estimates, the information could be helpful to the SPC in future stock assessments and shed light on important questions regarding fish behavior around dFADs. Additionally, position data from dFADs could be used for MCS purposes to verify the FAD closure and back up observer data.

Much of the data required to create such a management framework is already collected by independent purse seine vessels and companies, so the additional cost of reporting the numbers and locations of dFADs to the WCPFC would be minimal. A low cost WCPFC dFAD management system could be developed using the following criteria:

- Unique dFAD identification
  - Each dFAD should have a unique WCPFC identification number, which can be confirmed by observers when deployed, set upon, and/or recovered.
- Require observers and captains to report on all dFADs deployed
  - dFAD characteristics like netting depth, construction materials, and type of location device should be recorded.
- Track dFADs via link to VMS
  - Most dFADs are actively tracked using satellite buoys. These buoys operate similarly to VMS, and data on location could be tracked on a daily basis by WCPFC, FFA, and/or PNA.
- Establish a maximum number of FADs to be deployed per year, per vessel, and/or per fleet
  - The SPC recommends limiting FAD set effort to 2010 levels. This could also be a reference point to limit the number of FADs deployed.
- Consider other FAD management measures consistent with data
  - Guidelines on FAD construction, time/area restrictions, limits on the depth of netting, bans on light usage in order to minimize impact on fish behavior and habitats, etc should be considered.

Recommendations

In August of 2012, the WCPFC Scientific Committee (SC) concluded that the existing limits on the purse seine industry have not controlled bigeye catch to the extent needed to end overfishing and that FAD closures have not ended overfishing of bigeye since FAD sets increased outside of the closure period.

According to the SC, stronger controls over the FAD fishery as well as a decreased dependency on the use of FAD sets are needed to end the overfishing of bigeye.

Based on the 2012 WCPFC SC report, the Pew Environment Group makes the following recommendations. TCC8 should recommend that the WCPFC:

- **Limit the number of FAD sets to 2010 levels.**
- **Reduce dFAD usage in the central pacific where bigeye mortality is the highest by setting a precautionary hard limit on FAD sets, based on 2010 levels, in the eastern part of the Convention Area.**
- **Increase monitoring, control, and surveillance over dFAD fishing activities by implementing an operational FAD management system that records and tracks dFADs throughout the WCPO by 2014.**