

## Fish Aggregation Devices: No More Excuses

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As tuna stocks have been overfished globally, in some cases to the point of collapse, the Pacific has become the source of more than half of the world's tuna. Unless management is urgently brought onto a sustainable path, the Pacific's tuna fisheries will follow the same course of over exploitation, decline and collapse, costing both the region and the fishing industry. Recent economic modelling of the Pacific tuna fisheries forecasts large economic losses of approximately USD 3.4 billion if the current trends of over exploitation continue in the region<sup>1</sup>.

Since its inception in 2004, member countries of the Western and Central Pacific Fisheries Commission (WCPFC) have been warned by the Commission's own Scientific Committee (SC) that a number of Pacific tuna stocks are being fished beyond sustainable levels. Increased fishing effort has resulted from the migration of fishing capacity from other oceans (such as the Albatun super seiner fleet owned by the Spanish company Albacora), from more and larger vessels being added to fishing fleets (for example the tripling of the US tuna fleet between 2008 and 2010) and from the addition of silent fishing capacity and effort in the form of Fish Aggregation Devices or FADs in purse seine fisheries. The frequency of FAD sets globally has risen from an estimated 50%<sup>2</sup> to at least 70% of purse seine operations by 2008<sup>3</sup>.

### Bigeye and yellowfin tuna are in trouble

The spawning population of bigeye tuna in the Western and Central Pacific has now been overfished down to an estimated 17% of the unfished levels, and the species is now listed as vulnerable to extinction by the IUCN<sup>4</sup>. Yellowfin tuna is overfished in Region 3 of the Western Central Pacific Ocean, where the majority of catches are taken.

In 2008, WCPFC member countries agreed to reduce fishing effort by 10 per cent per year over three years to curb the overfishing of bigeye and yellowfin tuna – a measure which was recognised at the time not to be sufficient to achieve the 30% immediate reduction in bigeye mortality recommended by scientists. As too often in RFMOs such as the WCPFC this measure was already too little too late.

An important portion of the agreed 30% reduction was to come from banning the use of purse seine fishing with FADs for two months in 2009 and three months in 2010. It was estimated that the three months ban in 2010 would remove 18.4% out of the agreed 30% reduction in overfishing of bigeye and that with further measures agreed in 2010, the 30% reduction objective would be achieved during 2011.

But it has become clear that the agreed measures to decrease overfishing have not met their objectives. In 2009 a record 2,467,903 tonnes of tuna were caught in the WCPO. The top five fishing nations were Japan, Philippines, Indonesia, Korea and USA. Together, these countries took two-thirds of the entire catch (1,625,542 tonnes). The use of FADs by the purse seine fleets of all these countries continues to be widespread/has continued to expand. The amount of bigeye caught in 2009 was 118,657 tonnes<sup>5</sup> the second highest on record and around 40% higher than the average over the period 2001–2004.

### The impacts of FAD fishing have been well established by the WCPFC

Evidence provided to the WCPFC SC in August 2009 showed that the use of FADs resulted in increased catches of juvenile tuna compared with free school sets. Fork length of yellowfin tuna was most

<sup>1</sup> Kompas et al. 2010. Bioeconomic losses from overharvesting tuna. Conservation Letters. Vol 3. pp. 177-183.

<sup>2</sup> Bromhead D, Foster J, Attard R, Findlay J, Kalish J (2003). A review of the impacts of fish aggregating devices (FADs) on tuna fisheries. Final Report to the Fisheries Resources Research Fund. Bureau of Rural Sciences, Canberra, ACT, Australia. 122pp. Accessed May 2010 at: <http://adl.brs.gov.au/brsShop/data/PC12777.pdf>.

<sup>3</sup> Hallier J-P & Gaertner D (2008) Drifting fish aggregation devices could act as an ecological trap for tropical tuna species. Marine Ecology Progress Series 353: 255–64. Accessed May 2010 at: [http://hal.ird.fr/docs/00/26/91/72/PDF/Hallier\\_GaertnerMEPS7180\\_Prev2.pdf](http://hal.ird.fr/docs/00/26/91/72/PDF/Hallier_GaertnerMEPS7180_Prev2.pdf)

<sup>4</sup> International Union for the Conservation of Nature (IUCN) Red List of Threatened Species (available at [www.iucnredlist.org/apps/redlist/details/21863/0](http://www.iucnredlist.org/apps/redlist/details/21863/0)).

<sup>5</sup> Williams and Terawasi 2010, Overview of tuna fisheries in the Western and Central Pacific Ocean including Economic Conditions – 2009. WCPFC-SC6-2010/GN WP-1.

significantly lower (mean length of 50.1cm compared to 130.1cm in unassociated sets) and bigeye tuna (mean length of 44.3cm compared to 75.3cm in unassociated sets)<sup>6</sup>.

*“The FAD sets caused catch of small-sized bigeye and yellowfin tuna with fork length smaller than 60cm.”*

Doo-Hae An et al, National Fisheries Research and Development Institute, Korea.

### The agreed temporary ban on FADs too short to meet its objectives

During the FAD ban period in 2009 the purse seine catch of bigeye tuna was significantly reduced<sup>7</sup> to the lowest level of FAD-caught bigeye tuna for a decade during the closed months. The SC recognised the effectiveness of banning FADs in reducing the mortality of overfished bigeye tuna.

However, the increased overall fishing effort during the whole 2009 resulted in the purse seine fleet making a record number of FAD sets outside of the ban period, therefore undermining any potential benefits from the short two month FAD ban.

*“We are certainly seeing increases in effort and the number of vessels in the fishery so, even though during periods of the FAD closure we are seeing evidence of reduced activity on FADs, it seems possible that during the rest of the year they are more than able to make up for it.”*

Shelton Harley, Principal Fisheries Scientist, Secretariat of the Pacific Community.

### No more excuses

Based on the findings presented at the Western and Central Pacific Fisheries Commission’s Scientific Committee, the situation is clear:

- Bigeye and yellowfin tuna are being fished at unsustainable rates.
- Even the catches of skipjack tuna now exceed MSY (MSY 1.35 MT / 2009 catch 1.8 tonnes), which hardly accounts for precautionary management of this stock. The increasing use of FADs is a major factor in these ever increasing catches of skipjack.
- FADs increase the bycatch of juvenile bigeye and yellowfin tuna.
- Banning FADs lowered the bigeye bycatch rate during the period of the ban.
- Allowing purse seine fleets to seek exemptions from the ban and to operate using FADs during the rest of the year undermines the effectiveness of such a ban.

There can be no more excuses for the use of FADs in the Pacific Ocean when their impacts are being felt on the region’s most vulnerable tuna stocks. Agreeing a temporary ban on their use in 2008 was a positive step by the WCPFC to enable scientists to assess the effectiveness of this approach. Catch data from 2009 has demonstrated not only the effectiveness of banning FADs, but also that the short seasonal closure will not achieve the objectives of the Commission to reduce the mortality of bigeye and yellowfin tuna. Given the scientific recommendation to reduce the bigeye mortality by 34–50% compared to 2004–2007 levels<sup>8</sup>

it is clear that the WCPFC urgently needs to extend the FAD ban as an effective means of reducing the mortality of the species.

***Scientific evidence clearly demonstrates that the efforts of the Commission are being undermined by allowing the use of FADs, known to increase juvenile bycatch, for nine months of the year. To have a fighting change in avoiding severe overfishing and further depletion/future collapse of the regions’ bigeye tuna a complete ban on FADs with purse seine is urgently needed. It is critical that countries meeting at the WCPFC Technical and Compliance Committee in October 2010 agree to extend the three month ban period to a complete year-round ban on the use of FADs for 2011 and beyond, until bigeye and yellowfin stocks have recovered to long-term precautionary levels and the bycatch issues of juveniles, as well as other marine life, with this fishing method are eliminated.***

<sup>6</sup> An, D. H. et al (2009) Catch of small-sized tuna by set type of Korean tuna purse seine fishery in the WCPO. National Fisheries Research and Development Institute (NFRDI), Busan, Korea. Available online at: <http://www.wcpfc.int/doc/ft-wp-02/doo-hae-you-jung-kwon-doo-nam-kim-dae-yeon-moon-and-seon-jae-hwang-catch-small-sized-tu>.

<sup>7</sup> Harley, Williams and Hampton 2010, characterization of purse seine fishing activities during the 2009 FAD closure. WCPFC-SC6-2010/MI-WP-03.

<sup>8</sup> WCPFC Scientific Committee 2009, Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. Summary Report.