AGAC's worldwide transition to biodegradable FADs

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[Ecuador, El Salvador, Guatemala, Panama, Spain]

OPAGAC-AGAC in the Pacific Ocean

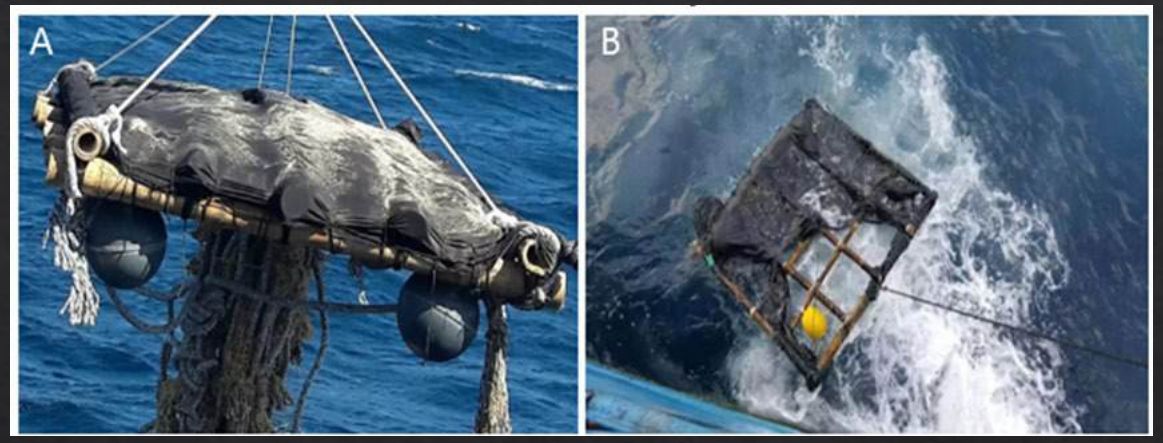
- OPAGAC: Producers' Organisation of Large Tuna Freezers from Spain (5 shipowner companies; 12 purse seiners registered in Spain, 4 in the Pacific Ocean (IATTC+WCPFC))
- AGAC: Association of Large Tuna Freezers (7 shipowner companies; 35 purse seiners registered in various countries, 19 in the Pacific Ocean; 7 in Ecuador, 4 in El Salvador, 1 in Guatemala, 7 in Panama); 10 operate exclusively in the IATTC Area
- Class 6 Vessels that use the purse seine gear to target Tropical Tunas (Associated (FAD; no dolphin) and Free-swimming schools)
- Around 8% of the total annual catches of tropical tunas, worldwide
- OPAGAC-AGAC Fleet is Certified with the MSC for the six stocks of Pacific tropical tunas; vessels also hold the AENOR Responsible Tuna Fisheries Certificate (Hands for the Ocean)
- For more information: www.opagac.org; View AGAC integral purse seine tropical tuna fishery - Pacific Ocean - MSC Fisheries; Home • APR - Atún de Pesca Responsable AENOR; Hands for the Oceans; 1,17

FAD Management in a nutshell

- 2010: Decalogue (the 10 Commandments)
- 2012: Code of Good Practices: FAD designs (less-entangling) & Safe release of bycatch (ETP)
- 2015: 100% observer coverage in all oceans
- 2016: Fishery Improvement Project OPAGAC / 1st FAD-Watch in the world (Seychelles)
- 2019: Join United Nations Global Compact (ODS 8, 12, 14 & 17)
- 2020: AGAC enters MSC-Certification process worldwide
- 2021: First stock certified: YFT IATTC
- 2022: Stocks certified in all oceans
- 2024: 80% of the AGAC catch certified with MSC / 2024: Four FAD-Watch Projects ongoing
- 2025: All FAD deployed are non-entangling, worldwide
- 2026: Trust Fund Set to support FAD-Watch in the Pacific Ocean / MSC Recertification

BIOFAD Surveys

- Indian Ocean: 2017-2019 (EU funded)
- Atlantic Ocean: Various (company driven)
  - AZTI: Exploring Materials for BIOFADs. Progress Report to EUROPECHE Tuna Group
  - Unfeasible implementation Plan: REP_EN_24-25-II-1.pdf, page 24
- Pacific Ocean: Various (regional plus company driven)
- AGAC Sinerxia BIOFAD (EU Funded)
  - (24) Publicación | LinkedIn
- EUROPECHE Tuna Group (13% global tropical tuna catch): Research and identification of biodegradable materials
- BIOFAD are fragile:
  - They cannot be treated as regular FADs
  - Materials seem to disintegrate too quickly
  - Proposed ISSF BIOFAD Categories modified to allow for the use of synthetic material to hold raft and tail together
- RFMO Implementation Chronogram reloaded (ICCAT)



BIOFAD Calendar

Figure: Example of a non-entangling, biodegradable FAD

- Category I. The DFAD is made of fully biodegradable materials.
- Category II. The DFAD is made of fully biodegradable materials except for flotation components (e.g. buoys, foam, purse-seine corks).
- Category III. The subsurface part of the DFAD is made of fully biodegradable materials, whereas the surface part and any flotation components contain non-biodegradable materials (e.g., synthetic raffia, metallic frame, plastic floats, nylon ropes).
- Category IV. The subsurface part of the DFAD contains non-biodegradable materials, whereas the surface part is made of fully biodegradable materials, except for, possibly, flotation components.
- Category V. The surface and subsurface parts of the DFAD contain non-biodegradable materials.

4. […] the use of non-biodegradable materials, in particular nylon ropes, can be used exclusively to strengthen the structure of the floating or underwater component of the FAD categories I & II, as a temporary solution and only provided no biodegradable alternative is available.

C-23-04_FADS boiodegradables

	IOTC	ICCAT*	WCPFC	IATTC
01-Jan-17		Non-entangling		
01-Jan-18				
01-Jan-19				
01-Jan-20	Non-entangling			
01-Jan-21				
01-Jan-22				
01-Jan-23				
01-Jan-24			Non-entangling	
01-Jan-25		Categories I, II, III		Non-entangling
01-Jan-26	Categories I, II, III, IV	Categories I, II	To be decided	Categories I, II, III, IV
01-Jan-27	Categories I, II			
01-Jan-28		Category I		
01-Jan-29	Category I			Categories I, II
01-Jan-30				
01-Jan-31				To be decided

* Likely to be modified (to be in line with IATTC)

Pacific Ocean: FAD Designs

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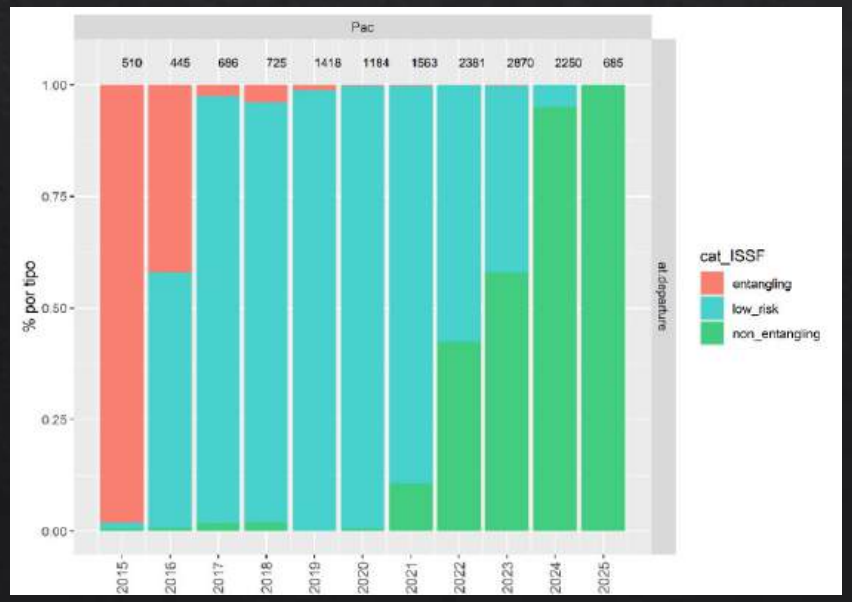
Some comments on FAD designs

- Biodegradable alternatives are more expensive and less durable than previous materials
- The complexity and structure of FAD designs relies on the type of operation of the purse seiner
  - Vessels operating on both WCPFC and IATTC areas need FADs that are more durable (higher amount of synthetic and floating material may be required)
- The use of raw canvas (mostly cotton) made of biodegradable materials for the raft, or the hanging structure is not working, unless it is covered using some kind of resin (or the raft is covered with such resin and the canvas removed)
- The IATTC Director and Staff have facilitated contacts with the industry to clarify and address potential issues identified by observers
  - What is part of the raft and the tail ?
  - Use of non-biodegradable materials to enhance FAD flotation
  - Use of synthetic ropes to strengthten the structure of raft and tail on categories III & IV
- The implementation plan set by the IATTC seems reasonable, as compared to other RFMO

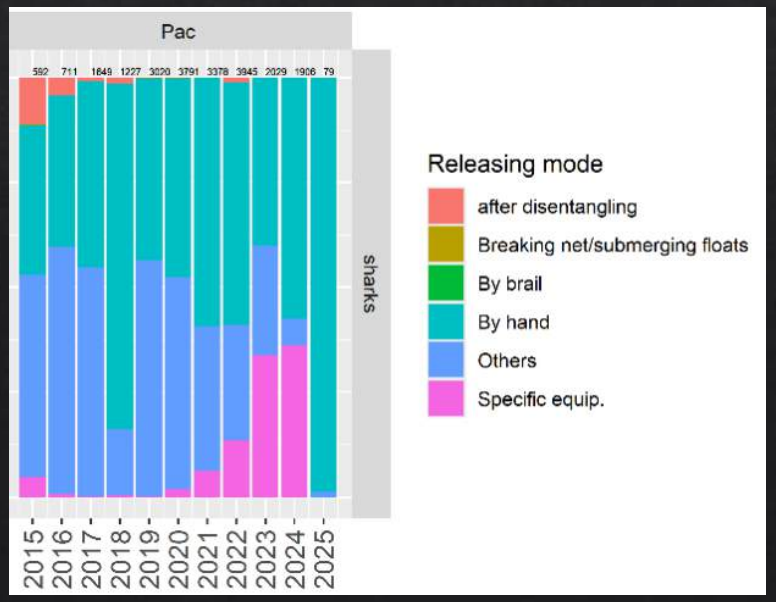
Monitoring Control & Surveillance

- RFMO & Flag State observer programmes
  - Some provisions subject to interpretation: more clarity now with most
- Industry driven: AZTI

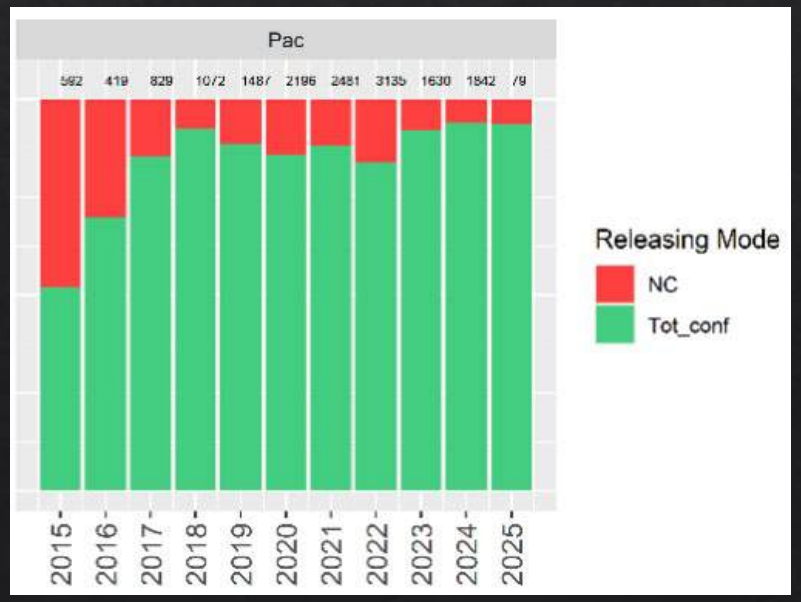
FAD Designs



ETP (sharks) Release Mode



ETP (sharks) Release Conformity



FAD-Watch Initiatives (Pacific)

- The Origin: FAD-Watch Seychelles
- Co-funding of the Galapagos Islands (Ecuador), FAD-Watch (run by TUNACONS)
- Partners to ATA on the Palmyra and Aitutaki FAD-Watch Projects (run by TNC)
- Partners to the Tuna Alliance for Recovery of FADS in the [Eastern] Pacific Ocean: ATA (USA), ATUNEC (Ecuador), FIPESCA (Panama), OPAGAC-AGAC (various countries)
  - **Ocean FAD Recovery Foundation officially set in April 2026**
    - First priority: FAD-Watch French Polynesia

FAD Recovery Foundation: Guiding Principles

- When reviewing project proposals for potential funding, the Steering Committee will consider, among other factors, the extent to which the proposed project:
  - Focuses on concrete and substantial **efforts to track and remove FADs from the water** that are **no longer operational for fishing** purposes;
  - Ensures that priority is given to **identifying and removing FADs in ecologically sensitive areas**, such as marine protected areas, coral reefs, etc., or those at risk of entering such areas;
  - Maintains and openly **shares a record of the number of floating objects tracked and recovered**, and the form of disposal;
  - **Shares information for scientific purposes** with Regional Fisheries Management Organizations (RFMOs) and other accredited researchers;
  - Investigates the behavior and drift of FADs to **prevent or mitigate the chances of stranding in ecologically sensitive areas**;
  - Has the potential to **attract matching funds** to amplify the contribution from the Fund itself.

Ocean FAD Recovery Foundation

Source: RFMO vessel record databases (include all seiners, regardless of size

Take home messages

- AGAC and its Companies have been investing a lot of resources to improving practices
- The transition to BIOFADs has increased the cost of FADs substantially
  - BIOFAD and FAD-Watch: How can we avoid strandings?
- Uneven progress, linked to vessel operation and expected durability
- Was vouching for Black-and-White progress (ISSF categories) feasible ?
  - FAD durability still relies on the use of synthetic materials for flotation and reinforcing the structure: Not sure when fully biodegradable models will be operational (feasibility of some RFMO calendars)
- Need further guidance about which FAD designs are in line/not in line with the BIOFAD categories and other provisions in C-23-04
- Is the market prepared to source the biodegradable materials as locally as possible?
  - What the carbon footprint is if materials are sourced from the other corner of the World?
- Fishing is a competitive commercial activity: We must let the companies find their own way rather than proposing one-for-all solutions (e.g., pre-set FAD designs or FAD sharing schemes)
- All fleets should join efforts to address gear loss, regardless of the fishing mode

Final acknowledgements

- Thanks to the IATTC Director and Staff for maintaining the dialogue constantly open
- Thanks to you all for listening


LOONEY TUNES
That's all Folks.