



WelcomeOur speakers:



Laura Rodriguez
Head of Species
Strategies &
Pathways



Toby Middleton Head of Markets Operations



Gala Moreno
Senior Scientist, International Seafood
Sustainability Foundation



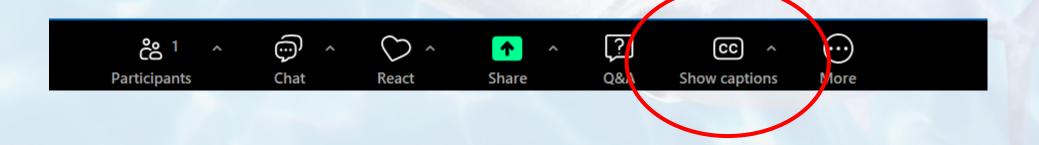
Gorka Merino
Research Area, AZTI. Chair of the IOTC's
Working Party on Tropical Tunas and ViceChair of the IOTC's Scientific Committee



Marcelo Hidalgo
Director of Sustainability of the Fishing
Industry Association of Papua New Guinea.



To turn on subtitles click 'Show Captions' in the Zoom taskbar



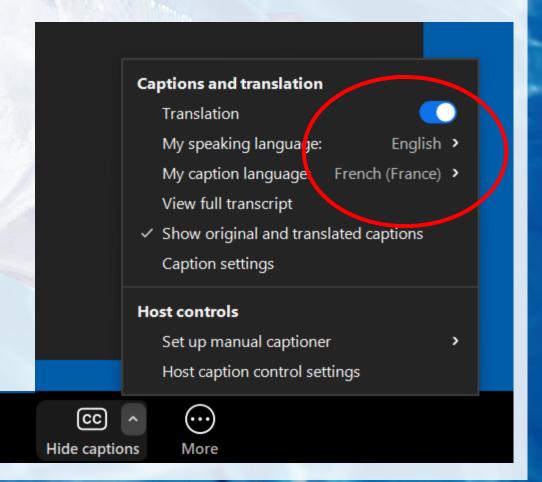
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Chat



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Q&A

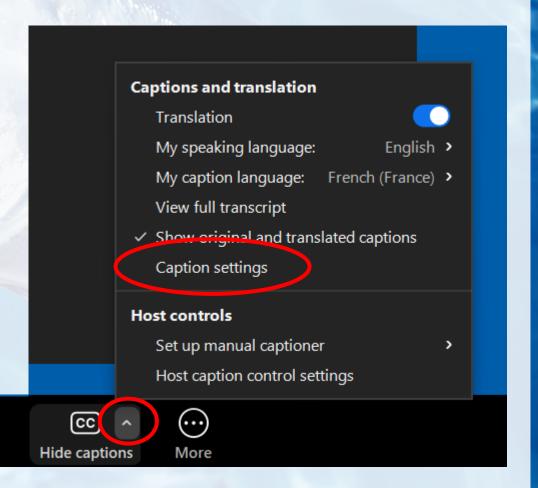
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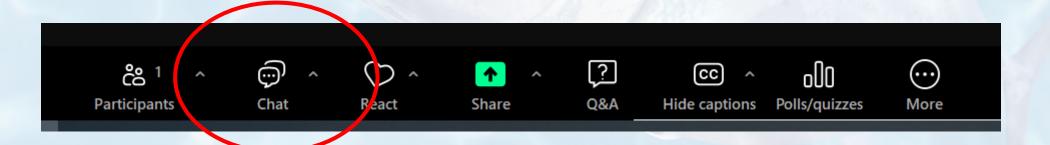
Q&A

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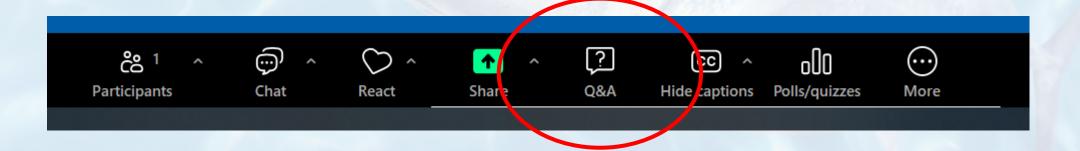
Technical queries

For technical queries, please add your message to the Chat box





Please add questions for the Q&A session to the box below.







MSC Sustainable Tuna Yearbook 2024

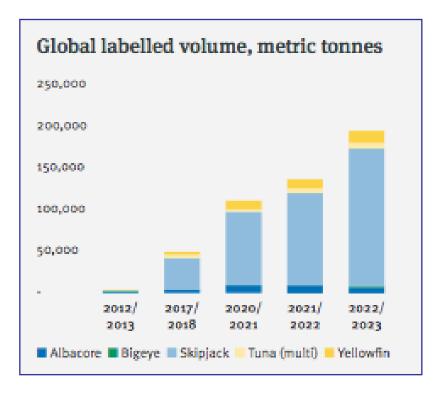


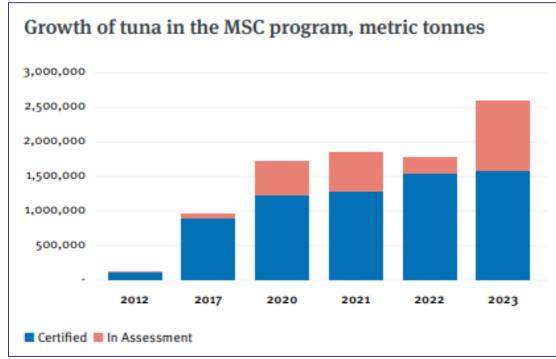
About this report

- Demonstrating the positive impact of certification on tuna fisheries
- Celebrating the continuous improvements MSC certified fisheries are making
- Reporting on the market growth for certified tuna
- An authoritative and authentic voice on sustainable tuna fishing
- Setting out MSC's strategic objectives to 2030



The growth of certified sustainable tuna fishing





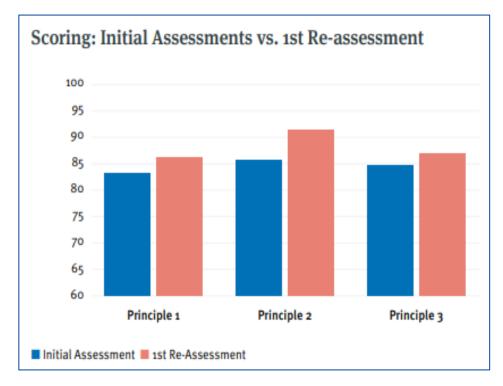
Our 2030 Strategy:

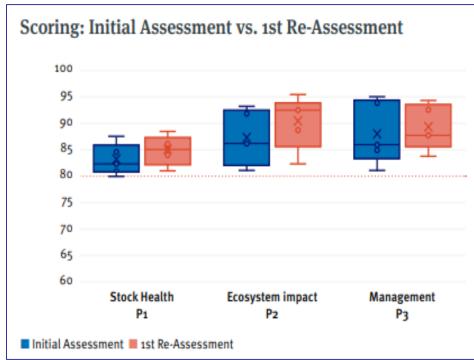
Working with our partners

- Retention of existing fisheries
- Engage new fisheries in certification
- Create robust precertification pathways



The positive impact of certification on the water





Summary of impacts:

- Biodegradable nonentangling FADs
- Progress towards state-of-the-art harvest strategies
- Reductions in bycatch, and improved data collection.



Setting a new standard

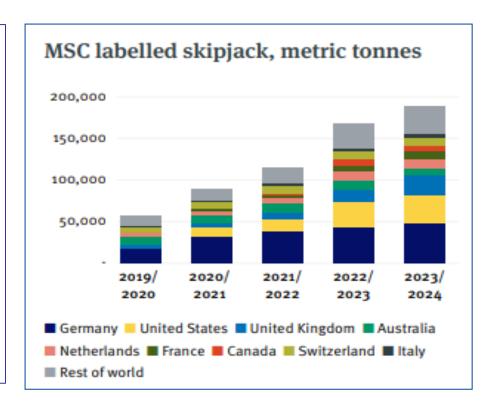
- Higher levels of monitoring and surveillance
- Changes to requirements on harvest strategies
- Fish Aggregating Device best practice, including ghost gear management
- Clarification on shark finning requirements to ensure the standard continues to reflect best practice
- New requirements for Endangered, Threatened, and Protected species

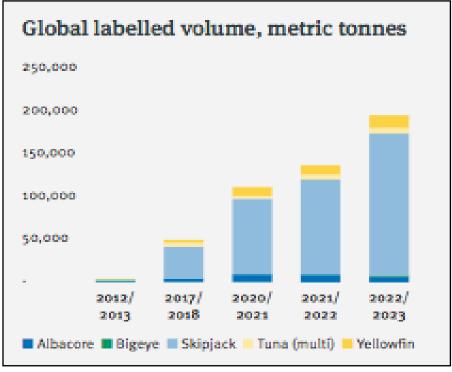


Market demand for MSC certified seafood

Commercial developments:

- MSC established in growing number of markets
- MSC label adopted by over 250 brands worldwide
- Fastest growth in South Europe & North America







More than just setting a standard

Investing in sustainable tuna:

- MSC's improvement programme
- MSC's Ocean Stewardship Fund
- Giving a voice to the market to drive change
- Understanding consumer opinions

"The main challenge is the promotion of good governance at an international level because tuna are migratory fish."

Julio Morón, Managing Director of OPAGAC

"There can be no sustainable fishing without taking conservation issues into account."

Bertrand Wendling, Chief Executive, SATHOAN







Shaping the future of Tuna Fisheries: How fishers are improving best practices with FADs

MSC Talking Tuna Webinar

Navigating a Course to 2030

Dr. Gala Moreno

Senior Scientist at International Seafood Sustainability Foundation

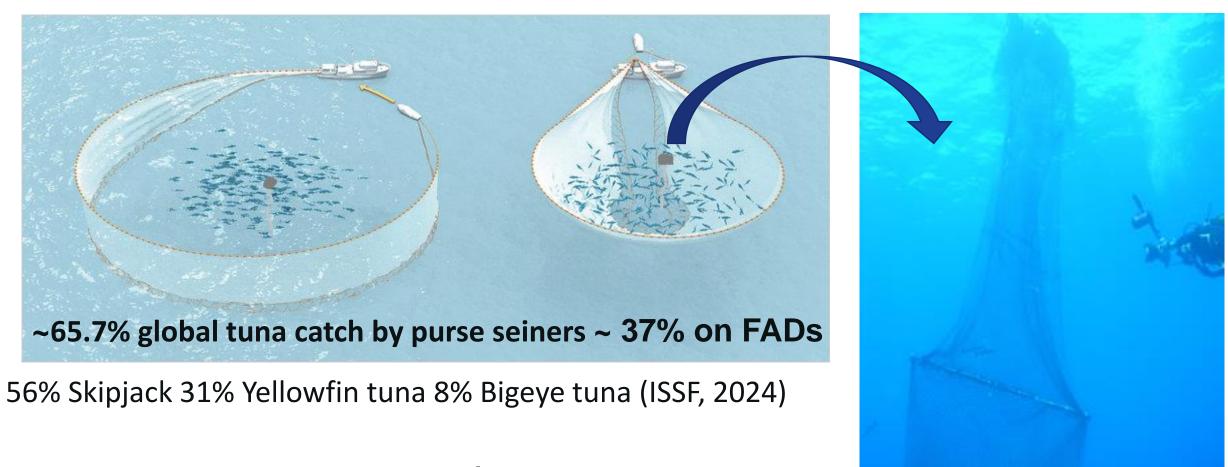


Photo: David Itan

Importance of FADs



In 2022, **5.2 million tonnes** catch of major comercial tunas



~100,000 FADs deployed/year, All oceans

Impacts of FADs on the ecosystem



1. Bycatch







3. Habitat damage & Marine Pollution

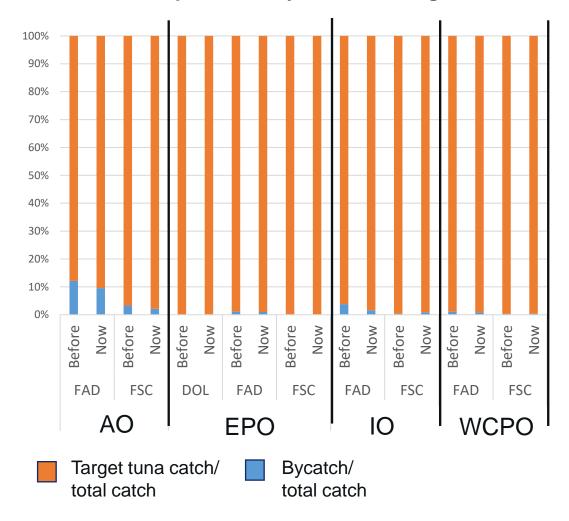




Purse Seine Bycatch vs. Target Catch



Total Catch Composition: Bycatch vs. Target Tuna Catch — 2009 vs. 2018



Bycatch Ratios:

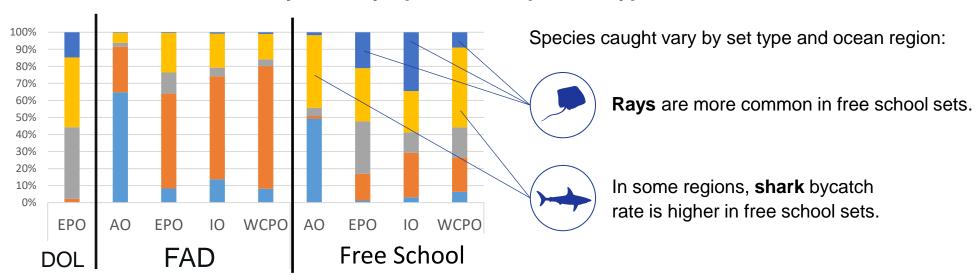
- Generally small
- Decreased slightly over the past 10 years
- Highest in the Atlantic because minor tuna species are targeted and utilized

Purse Seine Bycatch



BY SPECIES GROUP

ALL OCEANS: Current % Bycatch by Species Group & Set Type

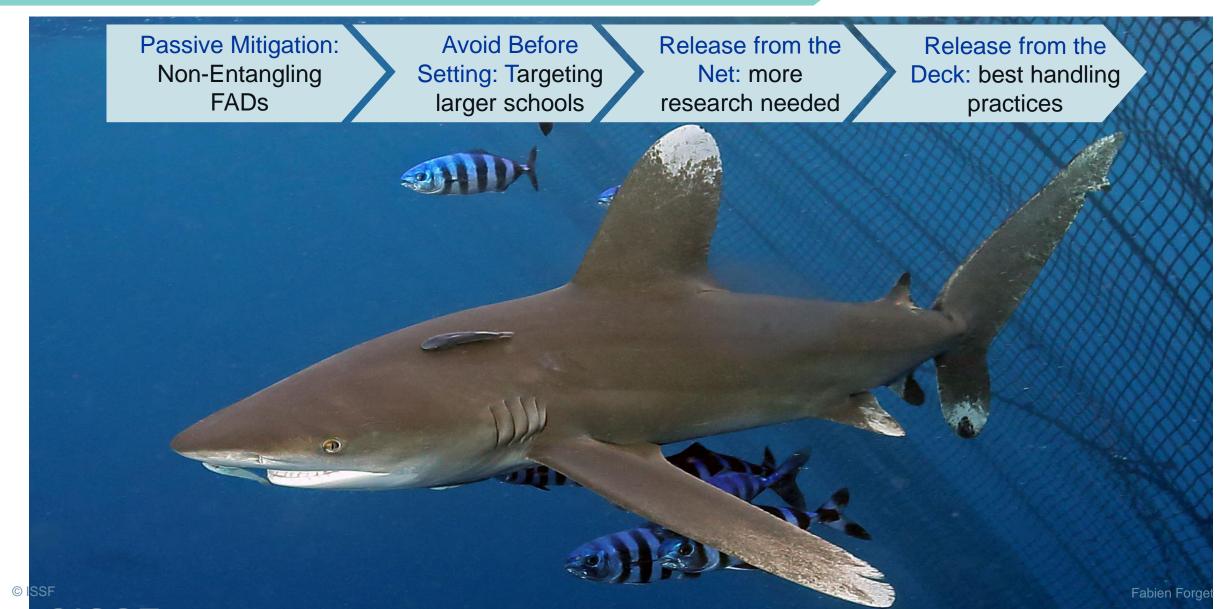




Source: Observer data provided from SPC (WCPO), IATTC (EPO) and by the research institutes in charge of EU-PS observer programs in the Atlantic and Indian oceans. Data is 2013-2017 for all oceans, except Atlantic Ocean, which is 2012-2016. Note: "FAD" to include all associated sets, e.g. sets on natural logs would be included there too.

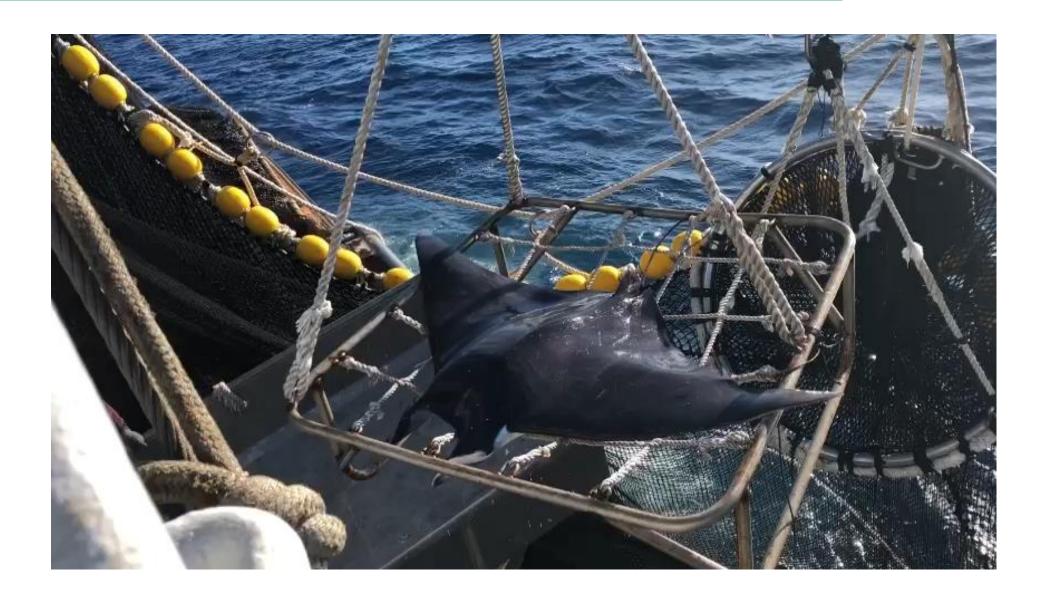
The Chronological Hierarchy of Bycatch Mitigation

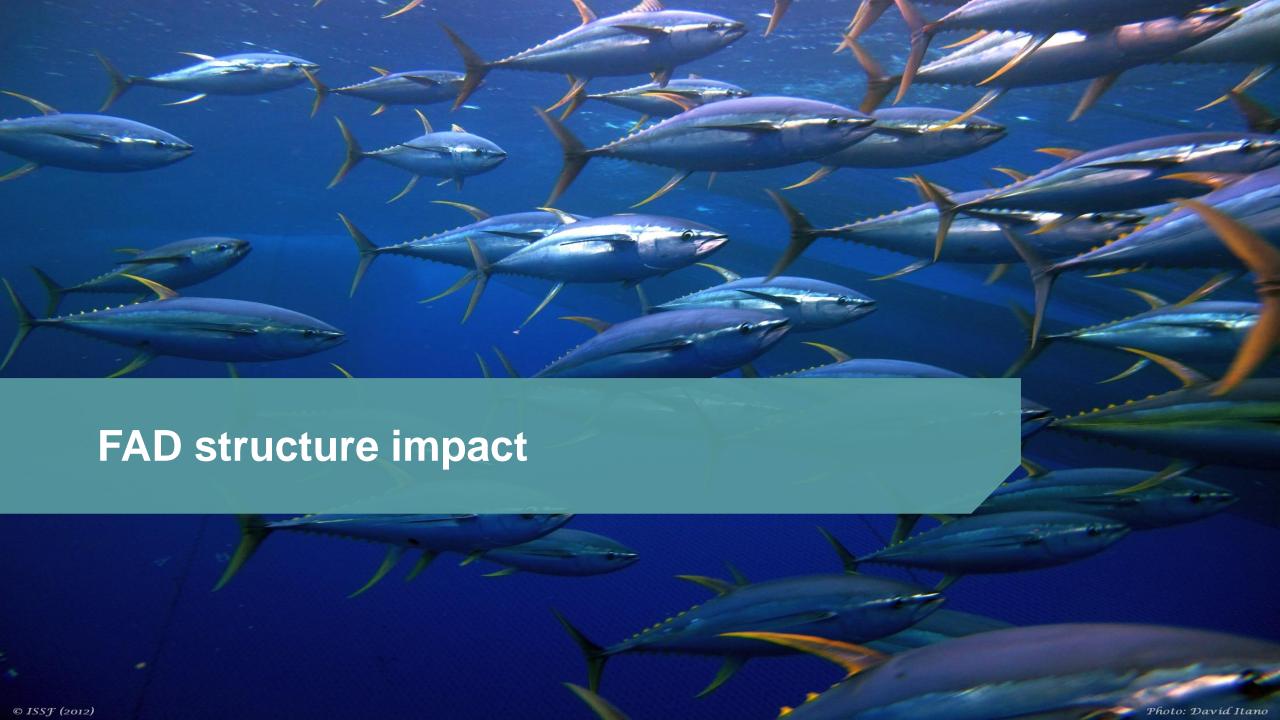




Progress in Design & Testing of Sorting Grids

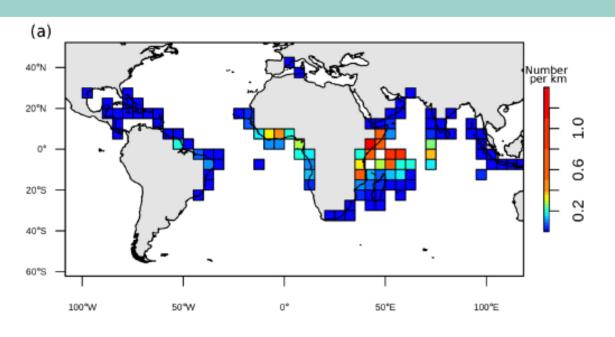






FAD loss and abandonment



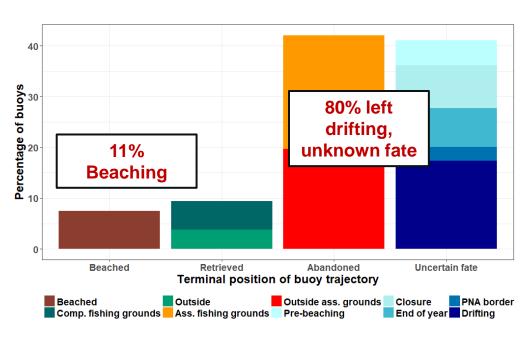


Western Pacific (Escalle et al. 2019)

Fate of deactivated FADs?

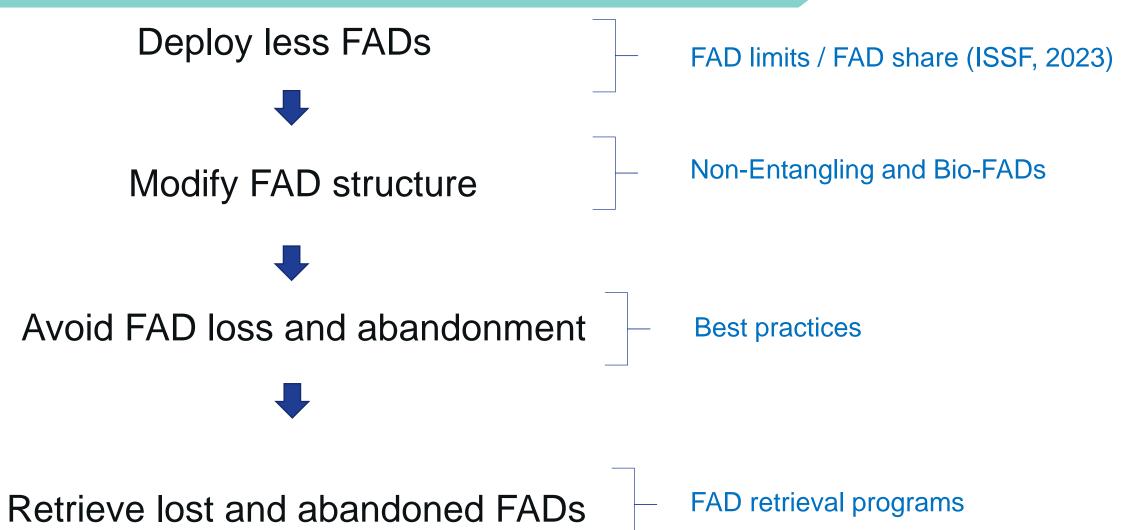
Atlantic Ocean 19-22% (Imzilen et al. 2021)

Indian Ocean 15-20% (Imzilen et al. 2021)



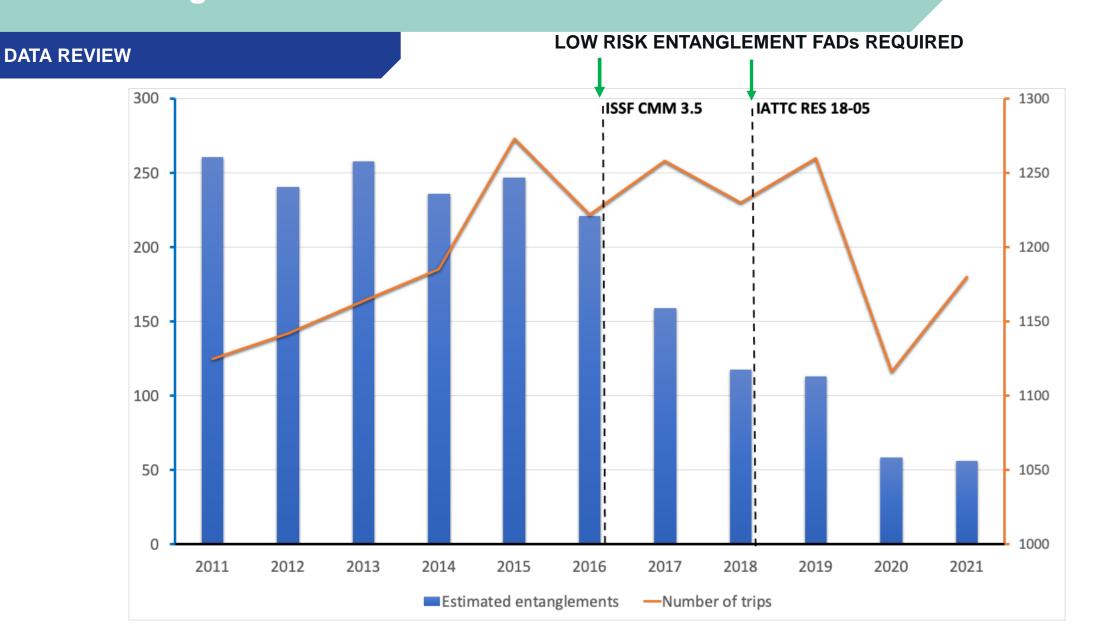
Solution: A combination of actions required







Turtle Entanglements at FADs in the Eastern Pacific



Biodegradable FADs

Biodegradable-FADs (Bio-FADs): New ISSF Trials and Large-Scale Deployment

2018-Present

With Purse-Seine and Pole-and-Line Tuna Fleets That Participate in and Help to Fund These Research Projects

100+ bio-FADs & Jelly-FADs Pevasa fleet, ANABAC 216 2021-ongoing bio-FADs Funded by ISSF & Pevasa Western & Eastern Pacific Ocean: US-F 2022-2024 Funded by NOAA, ISSF & participating fleet 715 bio-FADs Fastern Pacific Ocean: IATTC tests with UNACONS & AGAC fleets 2018-ongoing 147 Funded by EU bio-FADs Jelly-FADs Atlantic Ocean: GTA 2018-2021 Eastern Pacific Ocean: Funded by ISSF, FAO, & GEF Ugavi fleet 2021-ongoing

Funded by participating fleet

20 Jelly-FADs Dakar Tuna Fleet 2023-ongoing 62 Jelly-FADs (testing prototypes) 2021-2024 Funded by ISSF, AZTI, & EU 60 1,000 Jelly-FADs bio-FADs Atlantic Ocean: BIOFAD project Indian Ocean Via Ocean fleet EU & Korean fleets 2021-2022 2017-2019 Funded by participating fleet Funded by EU, ISSF, FAO, GEF, & participating fleets

100
bio-FADs & Jelly-FADs
Western Pacific Ocean: CFC fleet
2020-2021
Funded by ISSF,
FAO, & CFC

200+
Jelly-FADs
Western Pacific Ocean:
Silla, CFC, FCF, US-F, ATA,
& Cape Fisheries fleets
2022-2024
Funded by EU, US-G,
Nestle-Purina, & ISSF

AGAC = Association of Large Tuna Freezers

ANABAC = La Asociación Nacional de Armadores de Buques Atuneros Congeladores ATA = American Tunaboat Association AZTI = AZTI Tecnalia

EU = European Union

CFC = Caroline Fisheries Corporation

FAO = Food and Agriculture
Organization of the United Nations

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Jelly-FADs

Atlantic Ocean:

OPAGAC fleet
2021–2022
Funded by Spanish government

FCF = Fong Chun Formosa GEF = Global Environment Facility GTA = Ghanaian Tuna Association

GTA = Ghanaian Tuna Association
NOAA = National Oceanic and
Atmospheric Administration

SPC = The Pacific Community
US-F = United States Fleets
US-G = United States Government

*With ICM-CSIC and FAO-GEF Common Oceans Project



FAD Retrieval



Advance the **definition** of FAD recovery programs

- 1. Palmyra program
- 2. Galapagos program
- 3. Seychelles FAD watch program
- 4. Strategy to retrieve FADs in open ocean

Conclusions



Looking back 10 years shows that there has been **great** progress

Still **challenges** to address to make the use of FADs more sustainable in relation to MSC Principle 2:

- Fully non-entangling and biodegradable FADs
- Fewer FADs, but better FADs
- Better knowledge on tunas, sharks and other species
- New techniques and devices and ways of fishing









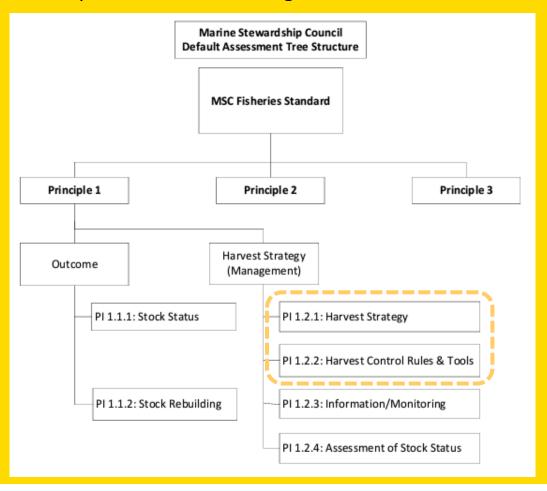
Introduction

MSC Fisheries Standard Principle 1: Sustainable target fish stocks

"A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery."

Introduction

MSC Fisheries Standard Principle 1: Sustainable target fish stocks





What is a Harvest Strategy (= Management Procedure)

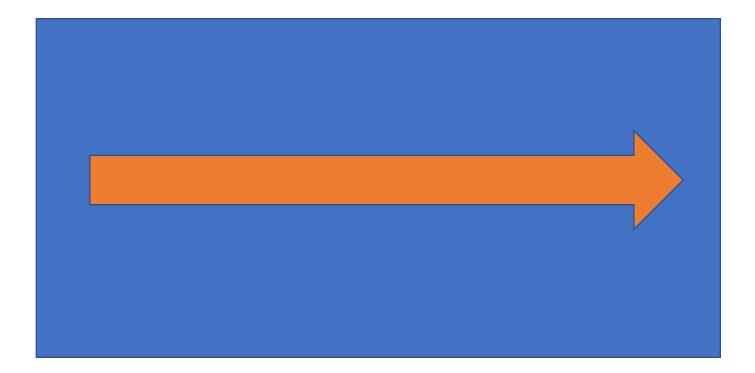
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What is a Harvest Strategy (= Management Procedure)

...

State of stocks → Management





Why HS are necessary in RFMOs? Common resource

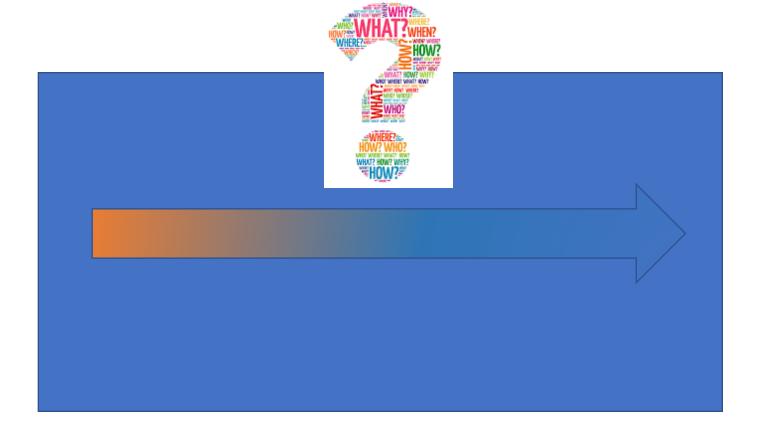






Why HS are necessary in RFMOs? Science uncertain







How to adopt HS? Management Strategy Evaluation (MSE)







How to adopt HS? Management Strategy Evaluation (MSE)

- MSE is a process towards an adaptive automatic management system that avoids delayed/ignored reponses to scientific advice.
- MSE is a feedback process between managers and scientists to define the most suitable management system.



How to adopt HS? Management Strategy Evaluation (MSE)

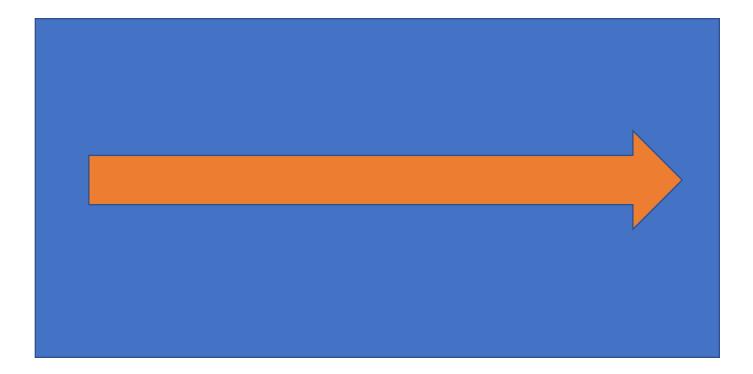
- MSE is a process towards an adaptive automatic management system that avoids delayed/ignored reponses to scientific advice.
- MSE is a feedback process between managers and scientists to define the most suitable management system.
 - Managers define management goals for a fishery and potential ways for regulation (catch limits, maximum changes of catch, conditions...)
 - Scientists will evaluate the different paths (Management Procedures: combinations of data, analytical methodologies and mechanisms to react to fish stocks' abundance with management) to achieve goals.



What is a Harvest Strategy (= Management Procedure)

...

State of stocks → Management





Harvest Strategies (HS) in tuna RFMOs

Stock	ICCAT	ЮТС	WCPFC	IATTC	CCSBT
Albacore	HS Adopted Rec 21-04				
Bluefin	HS Adopted Rec 22-09				*SBT HS Adopted
Swordfish		HS Adopted Res 24-08			
Bigeye		HS Adopted Res 22-03			
Yellowfin					
Skipjack		HS Adopted Res 24-07	HS Adopted CMM 2022-01		



Harvest Strategies in tuna RFMOs

Stock	ICCAT	ІОТС	WCPFC	IATTC	CCSBT
Albacore	HS Adopted Rec 21-04	MSE ongoing	MSE ongoing		
Bluefin	HS Adopted Rec 22-09		(V)		*SBT HS Adopted
Swordfish		HS Adopted Res 24-08		MSE ongoing	
Bigeye	MSE ongoing	HS Adopted Res 22-03	MSE ongoing		
Yellowfin	War		MSEON		
Skipjack		HS Adopted Res 24-07	HS Adopted CMM 2022-01		

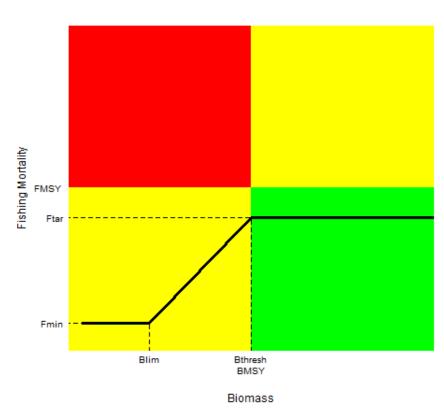


The case of North Atlantic albacore (ICCAT)



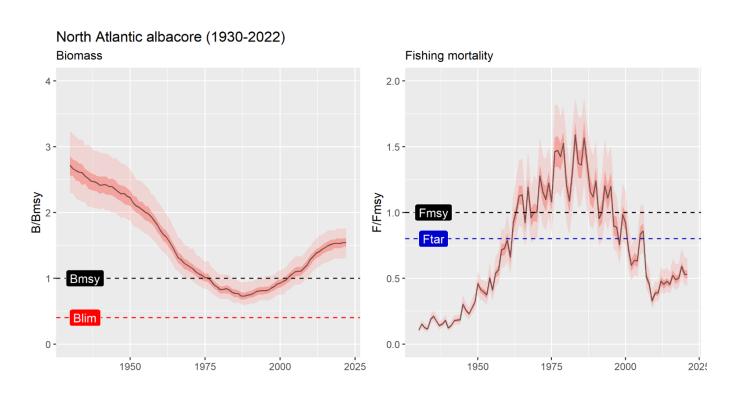
The case of North Atlantic albacore (ICCAT)

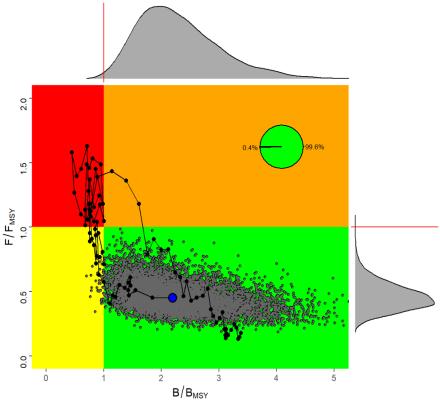
- In 2021, ICCAT adopted a Harvest Strategy for North Atlantic albacore (Recommendation 21-04).
- Management Objective: To maintain the stock in the green quadrant of the Kobe plot with 60% prob.
- The HS (or MP) specifies the data to be used, the stock assessment model to be applied and the Harvest Control Rule to set catch limits every 3 yrs.
- It contains an Exceptional Circumstances protocol.





The case of North Atlantic albacore (ICCAT)





Take home messages

- Management Procedures (MP) = Harvest Strategies (HS) are a precautionary management system
 that accounts for the main sources of uncertainty in fisheries assessments and allows by-passing
 political discussions that often delay/hamper fisheries management.
- Tuna RFMOs have committed to adopt HS for the most important tuna stocks.
- The MSE processes have been developed in different ways, speed... and probably motivation but
 MSC and the aim for fisheries certification has speeded up processes for North Atlantic albacore,
 Indian Ocean skipjack and probably many others.
- North Atlantic albacore is currently managed under a HS, the stock is estimated in a healthy status and catch limits are being sustainably increasing.







Our FIA PNG members

Its membership composition consists of:

- Funded in 1991, Registered under the PNG Associations Incorporations Act 1966
- Vertically Integrated Tuna players
- Companies and operators in the tuna industry (both the fishing and shore-based processors)

MSC fishery certification:

- Skipjack, Yellowfin, and Bigeye
- Access to 750.000 MT of tuna in the PNA fishing ground
- 53 tuna purse seiners
- Six (6) tuna canneries in Papua New Guinea
- Associated canneries in Thailand and the Philippines
- 25 % of Global tuna catches come from Papua New Guinea Waters

Tuna fishing companies













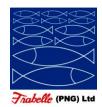




Tuna processors













FIA PNG Responsible Sourcing Policy

RSP (2018) **Due diligence**

Sustainability

Marine litter & Fishing gear

Social Responsibility & Crew Welfare

Traceability

Certification, third party assessment, & public access tools



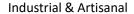
























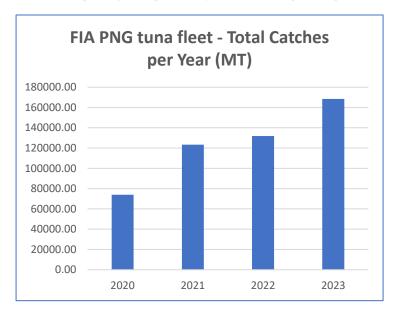


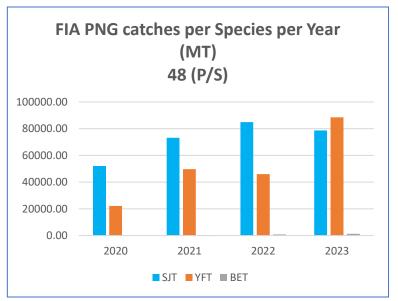


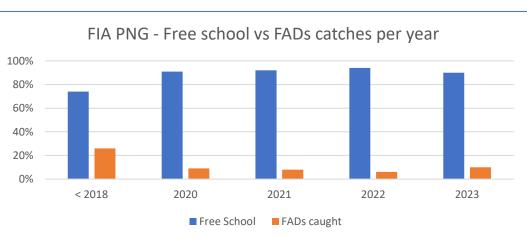


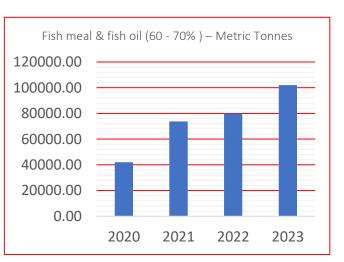


The Growth - Tuna





























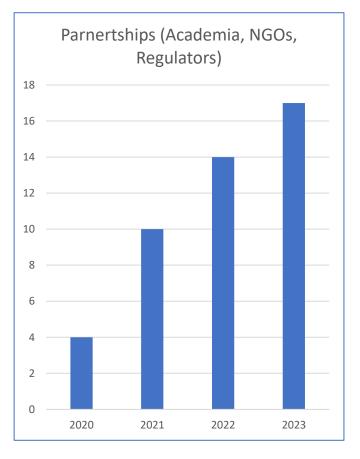




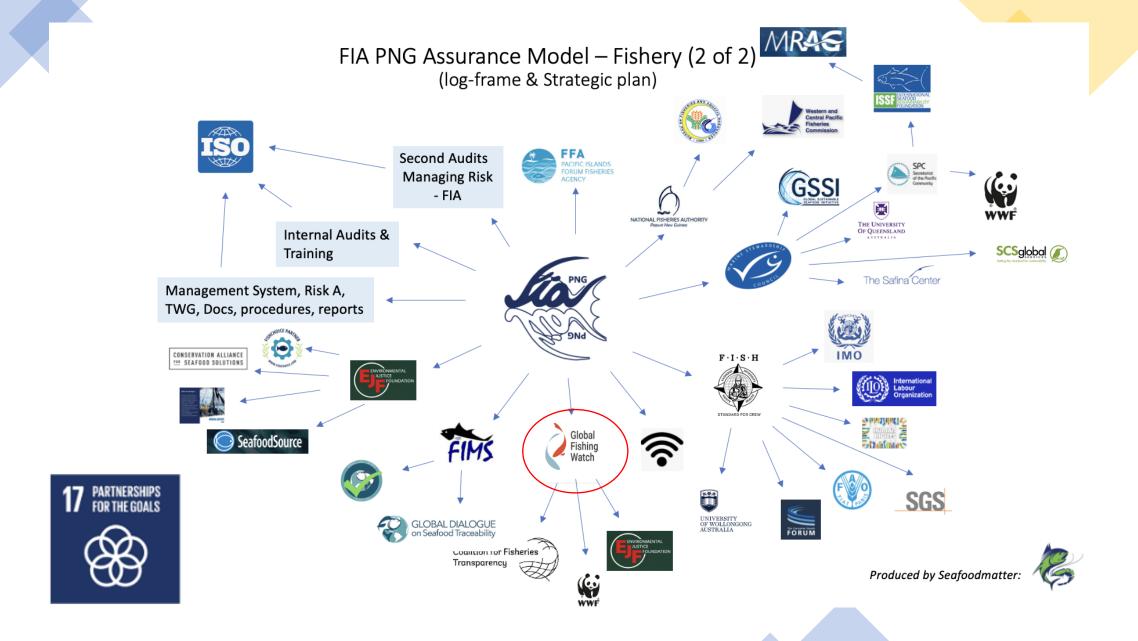
At Sea: 1344 Crew – direct job



At Land: 11.000 Workers - direct job



SDG: OceanAction #38702



Impact of the MSC in our Fishery



Ecological Applications August 2024

Evidence to inform spatiotemporal management of a western Pacific Ocean tuna purse seine fishery

Eric Gilman¹, Milani Chaloupka², Nialangis Posanau³, Marcelo Hidalgo³, Sylvester Pokajam³, Donald Papaol³, Adrian Nanguromo⁴, François Poisson⁵

Table 6. Life status of observed captured, non-retained whale sharks, 2019-2022.

Year	Number discarded	No. retained	No. escaped		
2019	94	0	0		
2020	56	0	1		
2021	38	0	0		
2022	17	0	0		
2023	14	0	0		

Table 5. Number of observed captured whale sharks, by fate (discarded, retained, or escaped), 2019-2022.

Year	Alive	Dead	Life status unknown
2019	89	2	3
2020	56	0	1
2021	34	0	4
2022	17	0	0
2023	13	1	0





¹ Fisheries Research Group, The Safina Center, Honolulu, USA

² Ecological Modelling Services Pty Ltd and Marine Spatial Ecology Lab, University of Queensland, Brisbane, Australia

³ Papua New Guinea Fishing Industry Association, Port Moresby, PNG

⁴ Papua New Guinea National Fisheries Authority, Port Moresby, PNG

⁵ MARBEC IFREMER, IRD CNRS University of Montpellier, Sète, France

Impact of the MSC in our Fishery



FIA research on the potential for area-based management tools to reduce bycatch of atrisk species

FIA in collaboration with The Safina Center, through a grant from MSC, conducted research (described in the CAP for year 4 of condition 2-7) analyzing observer program data to determine the potential for area-based management tools to reduce silky shark catch rates by separating fishing at silky shark and tuna catch rate hotspots. This study has been completed and a publication from the study is available:

Gilman E, Chaloupka M, Posanau N, Hidalgo M, Pokajam S, Papaol D, Nanguromo A, Poisson F. 2024.

Evidence to inform spatiotemporal management of a western Pacific Ocean tuna purse seine fishery. *Ecological Applications*

Table # 1: FADs deployed by the FIA PNG Tuna Fleet per year (updated March 2024)

Drifting Fish Aggregating Devices - dFAD													
			ompany Nar	mes	Material			ISSF/GGGI/RSP/NFA					
Year	Starcki	TSP	TPJ	Frabelle	Bluecatch	Fairwell	RD fishing	Non-Biodegradable	Biodegradable & Organic	Mixed	Entangling	Non-entangling	
2019	0	0	0	0	0	0	81			*		*	
2020	0	20	0	0	0	0	133			*			
2021	0	0	35	0	0	0	120			*		*	
2022	0	9	42	0	0	0	148			*		*	
2023	0	30	129	0	0	53	no fishing			*		*	

TOTAL DRIFTING FAD DEPLOYED 2023: 212

	Anchored Fish Aggregating Devices - aFAD													
	Fishing Company Names							Material			ISSF/GGGI/RSP/NFA			
Year	Starcki	TSP	TPJ	Frabelle	Bluecatch	Fairwell	RD fishing	Non-Biodegradable	Biodegradable & Organic	Mixed	Entangling	Non-entangling		
2019	0	0	0	0	0	0	0							
2020	0	0	0	50	0	0	0			*		*		
2021	0	0	0	0	0	0	0							
2022	0	0	0	0	0	0	0							
2023	0	0	0	35	0	0	0			*		*		

TOTAL DRIFTING FAD DEPLOYED 2023:

*Source: Data collected by an annual survey of our FIA PNG tuna fleet members.

*PNA allows 300 FADs per vessel

*NFA PNG allows accountability of aFADs, and recording of dFADs/aFADs in iFIMS mandatory

Table # 2: Summary of catch rate by species/group for PNG - and Philippine-flagged tuna purse vessels in the western Pacific Ocean, from 2001-2022 per tunas and number for other species groups

Set Type	Catch per set (MT)										
	skipjack tuna	yellowfin tuna	bigeye tuna	silky shark	rays	toothed whales	whale sharks	hard-shelled turtles			
Free school	13.6	8.0	0.3	1.1	0.091	0.031	0.008	0.005			
Drifting FAD	28.7	7.6	1.9	2.5	0.102	0.106	0.004	0.008			



Table # 3: Sets made on anchored FAD in the last 9 years

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023
Sets on Anchored FAD	13.7	7.7	1.4	0.6	0.059	0.099	0.001	0.006	0.003







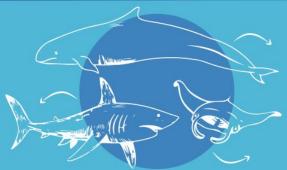


AREA-BASED MANAGEMENT OF THREATENED SPECIES BYCATCH IN A PACIFIC OCEAN TUNA PURSE SEINE FISHERY

WHAT:

Analyzed observer program data of Papua New Guinea and Philippine flagged tuna purse seine vessels operating in the western Pacific Ocean in order to estimate the effect of the spatial and temporal distribution of fishing effort on target and at-risk catch rates.





WHY - STUDY OBJECTIVE:



HOW:

to spatially-explicit generalised additive

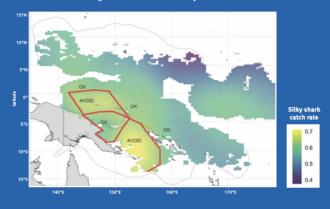


INFORMING THE MANAGEMENT OF THE SPATIAL DISTRIBUTION OF EFFORT:

Effort could be focused in an area within core fishing grounds to reduce overlap with hotspots for silky sharks, rays and whale sharks without affecting catch rates of target tunas. Effort could also be shifted outside of core fishing grounds to zones with higher commercial tuna catch rates that reduce overlap with hotspots for at-risk species.



Fishing Grounds to Reduce Silky Shark Catch



AREAS WHERE SPATIAL SEGREGATION MIGHT NOT BE FEASIBLE:

Two tuna catch rate warmspots overlapped with warmspots for whale sharks in the northwestern zone of the PNG EEZ, and for silky sharks, rays and whale sharks in the Coral Sea in the southeastern PNG EEZ. Here, spatial separation of target and at-risk catch may not be feasible.

SPECIES FOR WHICH SPATIAL SEGREGATION **MIGHT NOT BE FEASIBLE:**

There were sparse hard-shelled marine turtle and whale shark catch rate hotspots generally scattered across the fishing grounds.



ADDITIONAL RESEARCH ON SOCIOECONOMIC EFFECTS OF ALTERNATIVE STATIC AREA-BASED MANAGEMENT STRATEGIES

is a priority, such as accounting for costs including from fuel efficiency and operational constraints of adjusting fishing grounds.

Additional research could also assess the spatial distribution of the size frequency distribution of the principal market tuna catch.

OTHER OPPORTUNITIES TO REDUCE DOLPHIN BYCATCH:

Unlike for silky shark, whale shark, rays and turtles, a small subset of sets had disproportionately large numbers of odontocete captures. Real time fleet communication and move-on rules, and avoiding sets on dolphin schools, might hold promise to reduce odontocete catch rates.



MANAGEMENT OF SIGNIFICANT OPERATIONAL PREDICTORS

SET TYPE: Silky shark catch was lowest in sets on anchored fish aggregating devices (FADs), and highest in drifting FAD and in other associated sets compared to sets on free swimming schools. The fishery has increasingly conducted free school sets, making up over 80% of sets during

MESH SIZE: Sets using nets with a smaller mesh size were more likely to have no silky shark or ray catch. Mesh size did not affect tuna catch rates.

NO TEMPORALLY DYNAMIC AREA-BASED MANAGEMENT METHODS IDENTIFIED.

Results did not identify opportunities for temporally dynamic area-based management of target and bycatch catch rates. Time of day of initiating sets was an important predictor for tuna catch rate, but not for at-risk bycatch species. Previous studies that explored time of day effects on attendance at drifting FADs found that target tunas and silky sharks unfortunately make excursions away from the FADs, likely to forage, at similar times (mainly during the night

CONCLUSION:

Findings inform the design of a bycatch management strategy that incorporates area-based management to avoid catch rate hotspots of at-risk species without compromising the catch of principal market species.



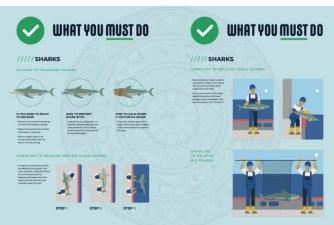
- Ongoing
- Bycatch project
- Per vessel
- Per fleet
- Per NTS
- BY Q1 2025

Impact of the MSC in our Fishery



FIA PNG Strategic Plan for Mitigating Bycatch - Public on our website











- 1. Since 2018 when the Fishing Industry Association of Papua New Guinea (FIA PNG) committed to the Responsible Sourcing Policy (RSP) which is a due diligence model based on four pillars addressing market requirements
- 2. Provides a level of confidence that objectives will be achieved within an acceptable level of risk
- 3. Stable tuna supply chain
- 4. Protection of Corporate brand
- 5. Protection of our people and marine ecosystem science based
- 6. It is a proven model and scalable (MSC Lobster & Mud Crab)









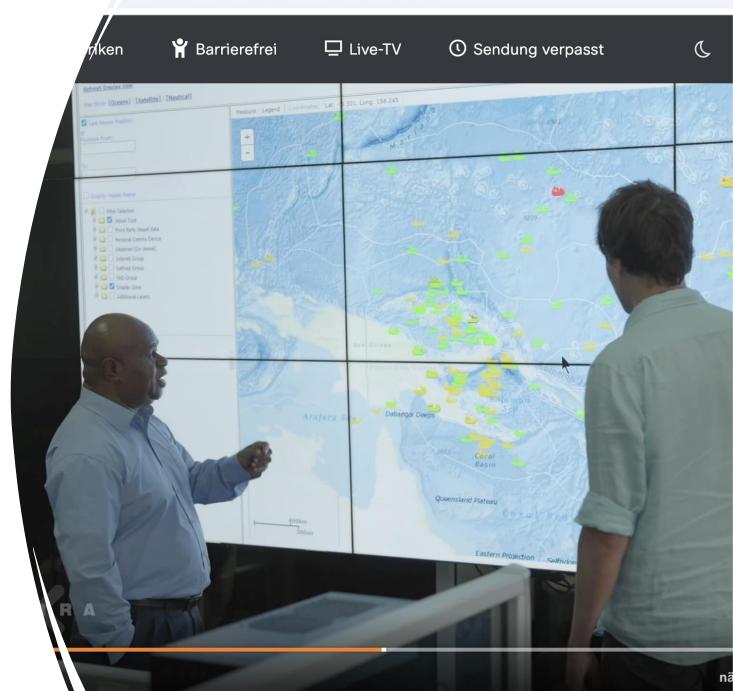
Conclusions - FIA PNG assurance model relies on

- Credible certifications and third-party audits MSC, FISH, GDST
- Real-time monitoring at Sea at Land FIMS
- Opened Vessel Monitoring System (VMS) Global Fishing Watch
- Close cooperation with authorities, regulators and key stakeholders (e.i NGOs)
- Continuous RSP pillars' monitoring at Sea with only competent and qualified internal auditors – on a monthly basis
- A robust Managements System



FIA PNG TUNA Sustainable film

- Link from minutes 17:00 start about FIA PNG MSC tuna https://www.zdf.de/dokumentation/terra-x/thunfisch-der-bedrohte-jaeger-mit-uli-kunz-doku-100.html
- Release in Germany on 25th August 2024
- During the first two (2) weeks has been raking in # 2 documentary on German TV, and
- More than 3'000.000 people have watched the film.
- Next countries: Austria, Switzerland, and France
- We will post it on our website with English Subtitles by October 2024



Thank you for your attention



www.fia-png.com





Panel Q&A

msc.org/tuna

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Registered Company number: 3322023.
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Thank you

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