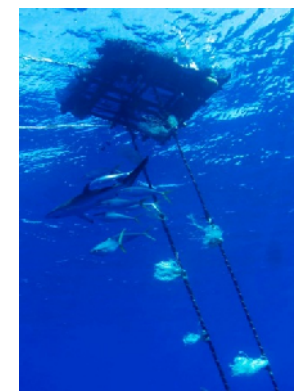
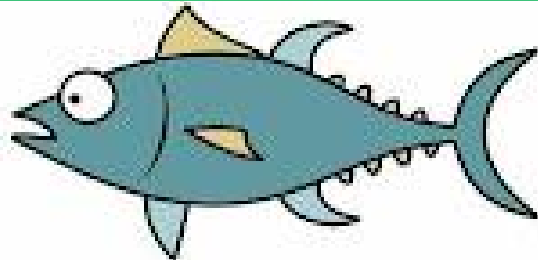


ISSF SKIPPERS WORKSHOPS

Finding best practices in bycatch reduction with the collaboration of tuna purse seine fishers

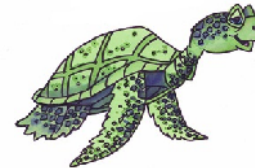
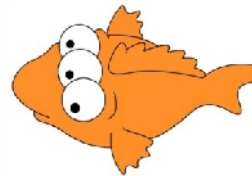
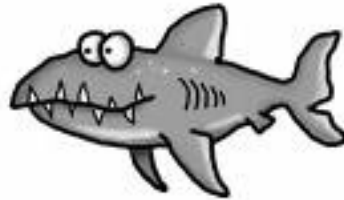
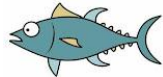


ISSF SKIPPERS WORKSHOP CONCEPT



TARGET TROPICAL TUNA (SKJ, YFT, BET)

FAD BYCATCH



ISSF BYCATCH SCIENTISTS

+



PS SKIPPERS

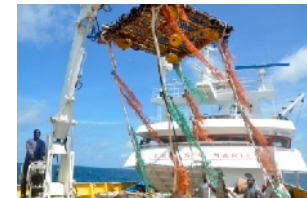
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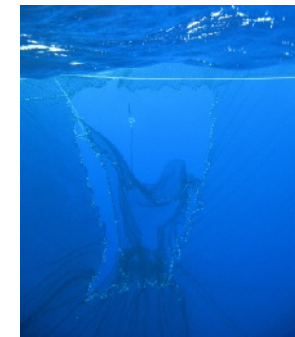
ISSF RESEARCH CRUISES

ISSF BYCATCH RESEARCH CRUISES

| OCEAN | VESSEL | LEAD SCIENTIST |
|--------|-----------------|----------------|
| EPO | Yolanda L. | Kurt Schaefer |
| INDIAN | Torre Giulia | Laurent Dagorn |
| WCPO | Cape Finisterre | David Itano |



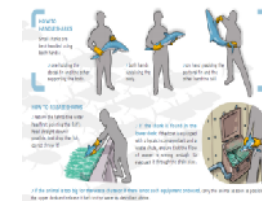
- Design of **non-entangling FADs**
- **Selectivity of buoys** with echosounder
- **Pre-estimation of bycatch** with acoustics
- **Behavior in the net** and manipulation
- Modifying **selectivity of gear (i.e. net windows)**
- Best **release practices from deck**



WORKSHOP STRUCTURE

- * BYCATCH IMPORTANCE EDUCATION
- * LATEST DEVELOPMENTS ON BYCATCH REDUCTION
- * PRESENTATION OF ISSF CRUISE RESULTS
- * FISHERS HELP IDENTIFY BEST SOLUTIONS & IMPROVE PRACTICES
- * QUESTIONNAIRES (FISHING ECOLOGICAL KNOWLEDGE)
- * VISITS ONBOARD (WHEN POSSIBLE)

By 2013 ISSF Participating Companies have made a commitment to source tuna from vessels with skippers that have completed an ISSF sponsored workshop.



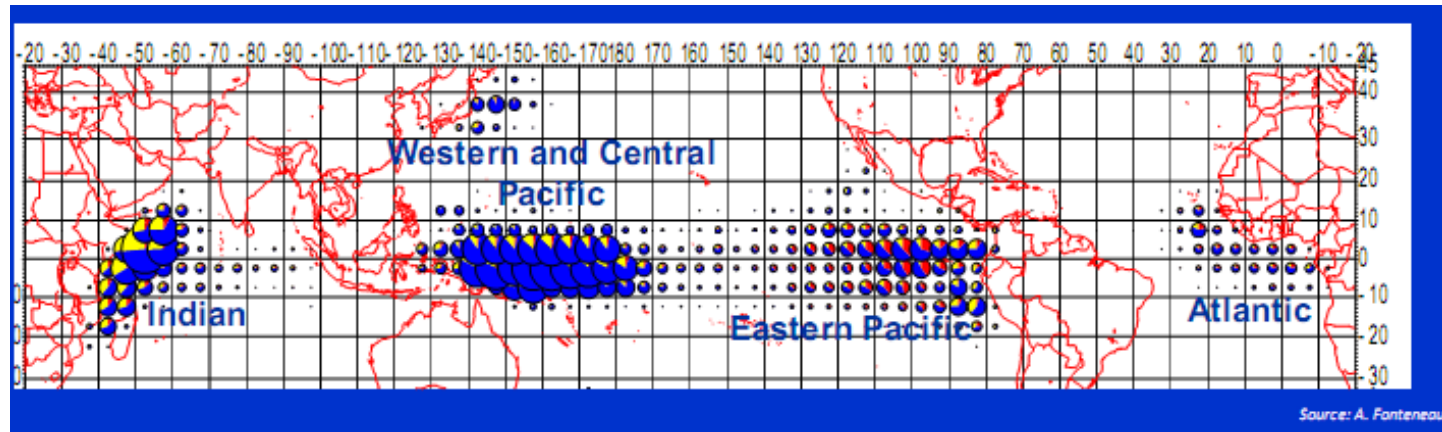
Poisson et al. 2012 © MADE



WORKSHOP MAP



OCEANS AND FLEETS ARE DIFFERENT



SKIPPERS FEEDBACK

SKIPPERS WORKSHOPS Nº1 - COMMENTS + NEW IDEAS

SHORT TERM ACTIONS

SHARKS

Move away from FAD

Release practices

Eco-FADs

TURTLES

Eco-FADS

Release practices

SMALL TUNA

Buoys with echosounder

Pre-estimation of bycatch

Net modifications (grids/Windows)

SKJ away from the FAD

LONG TERM (FUNDAMENTAL RESEARCH) ACTIONS

BONY FISH

Natural behavior (movements, double-FADs)

Removal from net

Migratory patterns

Utilization for sale

Feeding habits

Ecosystem functions

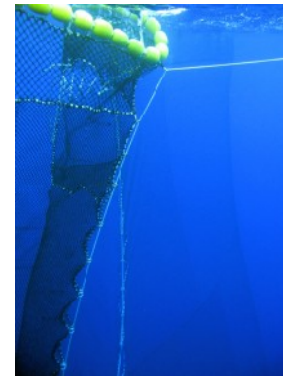
BENEFITS:

- 1000'S HOURS "SAMPLING"
- GEAR USE EXPERTISE
- FISHING TECHNOLOGY
- OCEAN SPECIFIC KNOWLEDGE
- IMPROVE SCIENTIST IDEAS
- "NOVEL" BEST PRACTICES

CAVEATS:

- OBSERVATIONS NON-STATS
- GEAR FOR FISHING
- PEER "RESPECT"
- BYCATCH SECONDARY

SKIPPERS CONTRIBUTIONS



ACCEPTANCE BY FLEET



| ACTIVITY ACCEPTANCE LEVEL BY FLEET | | | | | | | |
|--|----------------|--------|--------|--------|--------|----------------|--|
| ISSF Research Activity | Ecuador/Panama | Ghana | Spain | France | Samoa | Majuro/Pohnpei | |
| 1. Passive mitigation of by-catch | | | | | | | |
| a. Instrumented buoys (echo-sounder, etc.) | HIGH | NULL | HIGH | HIGH | HIGH | HIGH | |
| b. Ecological DFADs | LOW | HIGH | HIGH | HIGH | HIGH | HIGH | |
| c. FADs design composition fish aggregations | MEDIUM | HIGH | MEDIUM | NULL | MEDIUM | MEDIUM | |
| 2. Avoid catching by-catch before setting | | | | | | | |
| a. Pre-estimation of by-catch | HIGH | NULL | MEDIUM | LOW | MEDIUM | MEDIUM | |
| b. Natural behavior | HIGH | HIGH | HIGH | HIGH | MEDIUM | HIGH | |
| c. Catch free-swimming SKJ away from FADs | NULL | LOW | NULL | NULL | NULL | NULL | |
| d. Double FADs | LOW | MEDIUM | HIGH | LOW | MEDIUM | MEDIUM | |
| e. Attraction of sharks away from DFADs | MEDIUM | HIGH | NULL | NULL | NULL | LOW | |
| 3. Release from the net | | | | | | | |
| a. Natural behavior of fish in the net | HIGH | MEDIUM | HIGH | HIGH | MEDIUM | MEDIUM | |
| b. Behavioral manipulations | MEDIUM | HIGH | LOW | LOW | LOW | LOW | |
| c. Modifying the selectivity of gear | MEDIUM | LOW | MEDIUM | NULL | LOW | MEDIUM | |
| 4. Release from the deck | | | | | | | |
| a. Best practices for handling sharks onboard | HIGH | LOW | HIGH | HIGH | MEDIUM | HIGH | |
| b. Survival of released sharks | MEDIUM | LOW | HIGH | HIGH | HIGH | MEDIUM | |

IMPROVING BYCATCH PRACTICES



Tuna purse seiner. (Foto: Facebook/TunaSeiners)

Tuna fishers seeking to minimize purse seine fishery impact



SPAIN

Tuesday, February 21, 2012, 23:40 (GMT + 9)

The Spanish tuna fleet promised to take measures to minimize to the utmost the impact of purse seine fishing on non-target species.

The [National Association of Tuna Freezer Vessel \(ANABAC\)](#) and the [Associate Producer of Big Tuna Freezer Organization \(OPAGAC\)](#), integrated into the [Spanish Fisheries Confederation \(CEPESCA\)](#), presented in Sukarrieta (Vizcaya) a joint strategy for fisheries sustainability for the Spanish purse seiners.

The presidents of both organizations, Jose Luis Telletxea and Jon Uria, respectively, along with General Secretary of CEPESCA, Javier Garat, approved the application to the whole fleet of a joint strategy for a sustainable purse seine fishery.



PROACTIVE VESSEL REGISTER



The International Seafood Sustainability Foundation (ISSF) has launched the ProActive Vessel Register, an innovative and effective way for vessel owners to identify themselves as active participants in meaningful sustainability efforts.

The ProActive Vessel Register (PVR) will provide validated information to tuna purchasers of the positive steps each vessel is taking in implementing a series of commitments designed to improve responsible practices in tuna fishing.

2012

- Flagged to RFMO Member or Cooperating Nonmember
- IMO Number

2013

- UVI Number (if no IMO Number)
- Observer Coverage
- FAD Logbook
- Skipper Training
- All Tuna Retained

2014

- Observer Program
- Full Bycatch Retained
- Flagged to Status in "Substantial Compliance"

Participation provides each vessel owner, skipper and crew with access to continuing education in best practices in bycatch mitigation and handling, data submission, and species identification.

ISSF SKIPPERS WORKSHOP SUMMARY

- * EXPERT FEEDBACK ON GEAR, OPERATIONS, ACOUSTICS**
- * LEARN ON EQUIPMENT USE BY EACH FLEET AND REAL TIME “EVOLUTION”**
- * SPOT DIFFERENCES BETWEEN OCEANS/REGIONS: TUNA BEHAVIOR, VESSEL TYPE, FAD DESIGNS (“PS FLEET BIODIVERSITY”)**
- * NEW IDEAS OR TECHNIQUES**
- * IMPROVED RESEARCH CRUISES (“EDUCATED GUESSES”)**
- * PASS ON TO SKIPPERS BEST CURRENT FISHING PRACTICES**
- * INVOLVEMENT OF FISHERS IN BYCATCH REDUCTION: EDUCATION, LEGITIMACY, COMPLIANCE → REAL CHANGES IN THE INDUSTRY**



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KIPPERS
NDUSTRY

INTERNATIONAL SEAFOOD **SUSTAINABILITY** FOUNDATION