TUNA CONSERVATION GROUP

CODE OF GOOD PRACTICES ON BOARD FOR THE MANAGEMENT AND RELEASE OF SENSITIVE ACCOMPANYING WILDLIFE IN ACCORDANCE WITH THE MITIGATION MEASURES ADOPTED BY THE INTER-AMERICAN TROPICAL TUNA COMMISSION (IATTC)

This document was prepared within the framework of the fishing improvement project of the companies EUROFISH, GRUPO JADRAN, NIRSA, SERVIGRUP and TRIMARINE. It was adopted in October 2016 and has been evaluated by a third party, who issued a series of recommendations for improvement, which were considered, to reflect the good practices on board the fleet of the vessels that make up TUNACONS.

August, 2020

TUNA CONSERVATION GROUP

Contenido

1. INTRODUCTION. –

Today the need to maintain healthy and sustained fisheries, as well as the conservation of marine biodiversity, is recognized. Marine ecosystems are subject to various types of impacts, including fishing. That is why adequate fisheries management is required so that fishing continues to contribute to the economic, nutritional and social development of the country.

Fishing activity is clearly due to the maintenance of marine ecosystems in a favorable state of conservation and in the face of the challenges posed by the conservation of our oceans, the fisherman today plays a role of singular relevance as custodian of ecosystems, both for the contribution of food to a growing human population, as well as to maintain the balance of life on the planet.

Tuna purse seine fishing in Ecuador is one of the main industrial fisheries in the country. However, the purse seine, like all fishing gear, has its level of environmental impact, which is often measured in terms of fishing mortality of non-target species (accompanying fauna); as well as, target species (too small, damaged, not suitable for consumption), which are discarded dead to the sea, known as bycatch (Hall and Román, 2013). Furthermore, the use of FADs (Fish Aggregating Devices) in the tuna purse seine fishery from the 90's, has generated a lot of pressure on the populations of juvenile tunas and other vulnerable or threatened marine species, such as sharks. , sea turtles, rays, etc., which require management measures to mitigate any negative effects of their use.

This code raises:

a) Test until its effectiveness is defined and proven, a non-entangling and biodegradable planted prototype, specifically aimed at protecting sea turtles and sharks, and the marine ecosystem in case of loss of the device,
b) Provide knowledge to the crew of the vessels, on the scientifically proven and recommended methods, and the techniques of good practices on board, aimed at minimizing the environmental impact of tuna purse seine fishing on the marine environment; and,
c) The design of a template for the collection of information on the boat's haul, which includes the following data:
    - Catches of target species,
    - Fish excluder grid,
    - Bycatch and
    - Activity of the FADs.

1.1. Purpose of the Code. -

The code is intended to be a guide for both novice and more experienced crew members, to encourage good handling practices on board, and mitigate the mortality of species considered vulnerable that interact in purse seine fishing for tuna. **It is a code that reflects the measures taken by the fleet on a voluntary basis, which serves to improve the maneuvers of tuna purse seiners and to minimize the impact on the marine ecosystem.**

2. DESIGN OF A NON-ENTANGLING AND BIODEGRADABLE FAD. –

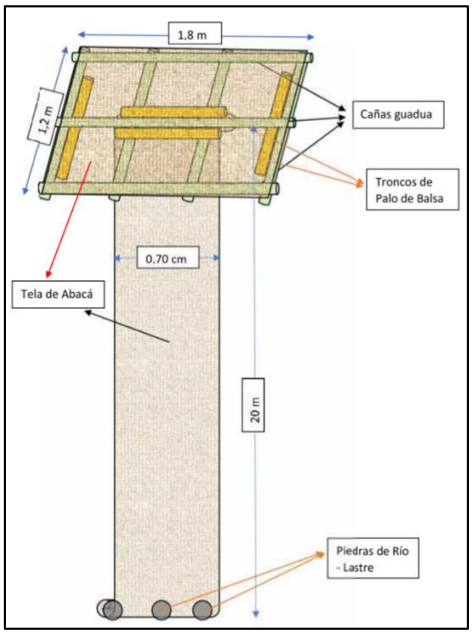
In 2015 the IATTC scientific staff made recommendations regarding the design and use of FADs, in order to mitigate the entanglement in the meshes used by traditional FADs, of certain species considered vulnerable or threatened such as sharks, rays and the Marine turtles. In accordance with annex II of amended resolution C-19-01, before January 2019 the TUNACONS fleet has been applying the first 2 criteria of the aforementioned annex; the components of its mandatory non-entangling FADs are the following:

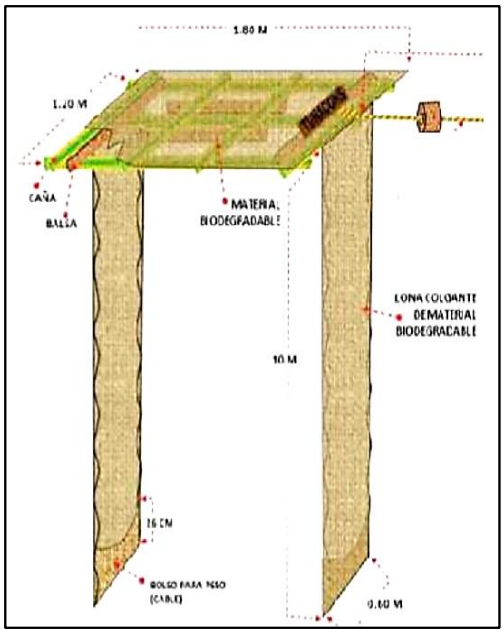
a) Floating part or Grill (flat or rolled):
- It may or may not be covered.
- If covered with net mesh, your stretched mesh span is less than 7 cm (2½") and the mesh should be tightly stretched around the entire grill, with no loose mesh hanging under the raft.

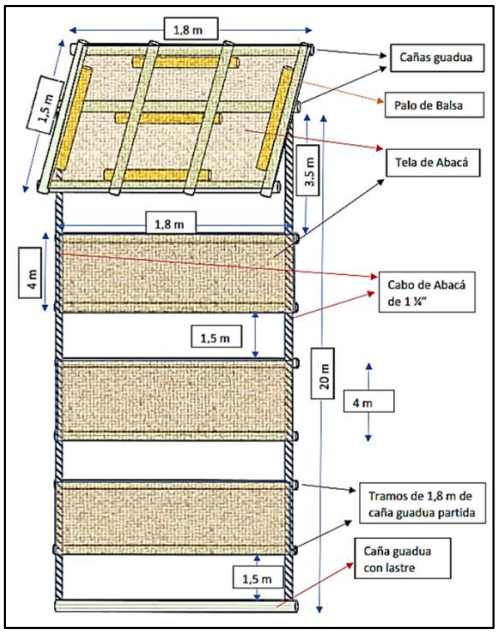
b) Hanging part or tail:
- Any hanging element must prevent any entanglement from occurring.
- If mesh netting is used, it should be tied as tightly as possible in the form of chorizo or light mesh stretched less than 7 cm (2½") with a weight at the end.

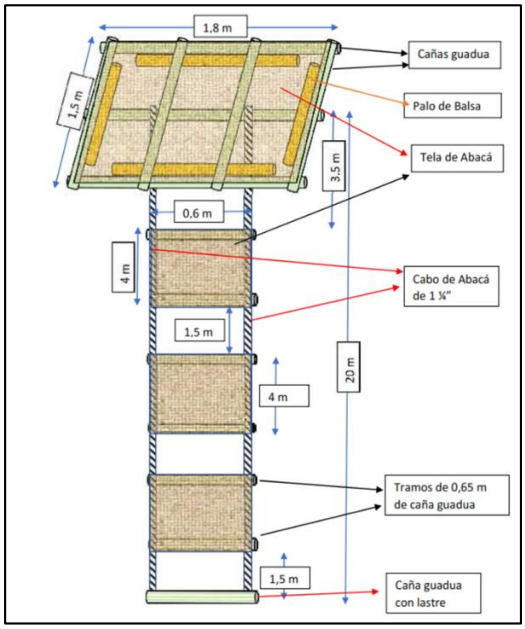
Since 2017, TUNACONS has been searching for and testing natural fiber materials, especially of vegetable origin, in order to reduce the amount of synthetic marine litter; developing tests of FADs adjusted to the 3rd criteria of Annex II, until determining a non-entangling FAD and that is 100% biodegradable.

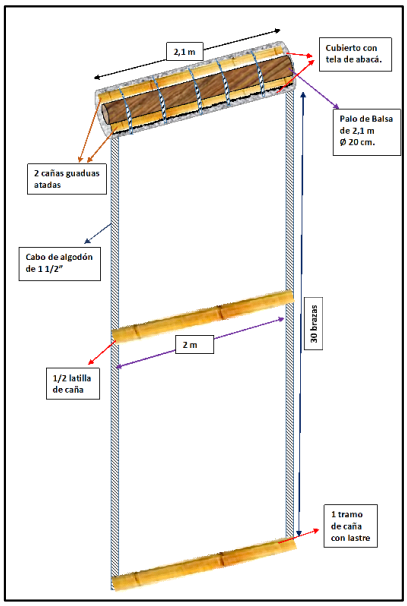
Tested designs with abaca fiber:











3. GOOD PRACTICES FOR THE MANAGEMENT AND RELEASE OF THE SENSITIVE SPECIES THAT INTERACT IN THE TUNA PURSE-SEINE FISHERY

In tuna purse-seine fishing maneuvers, there are a variety of species that interact in the catch processes with fishermen. The most relevant and sensitive companion fauna species are: Sharks, Whale Shark, Manta and Rays, and Sea Turtles.

By applying good management and release practices to these species during fishing maneuvers as quickly and adequately as possible, the survival rates of these sensitive species would improve. However, crew safety must come first, and any action that compromises it must be avoided.

Manipulation and release techniques:

a. Sharks

TUNACONS purse-seine vessels are required to apply good handling and safe release practices for all sharks, except those retained on board the vessel. Any shark (whether dead or alive) that is not retained must be released promptly and unharmed, to the extent practicable, as soon as it is observed on the net or on the deck, without risking the safety of any person.

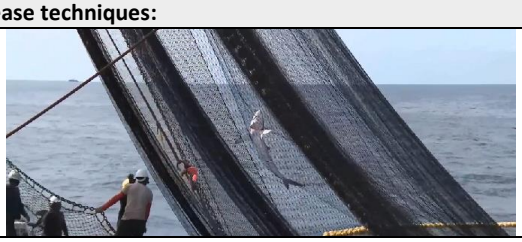
Apply the following procedures or other means of equal effectiveness:

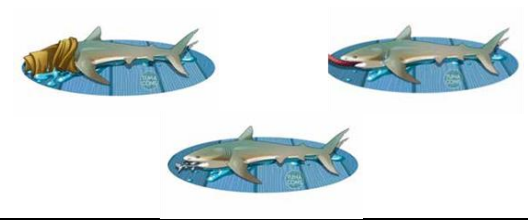
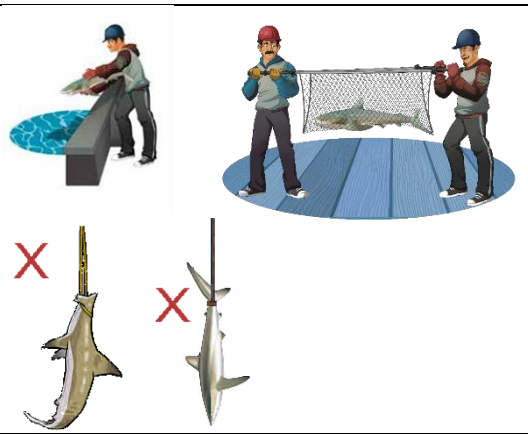
a. Sharks must be released from the net by directly releasing the brailler into the ocean.

Sharks that cannot be released without risking the safety of people or sharks before being landed on the deck should be returned to the water as soon as possible, either by using a ramp from the deck connected to an opening on the side of the ship, or through escape hatches. If no ramps or hatches are available, sharks should be lowered into a sling or cargo net, using a crane or similar equipment, if available.

b. The use of hooks, claws, or similar instruments to manipulate sharks is prohibited. No shark will be lifted by the head, tail, gill slits, or spiracles, or by the use of wire around or through the body, and piercing of the shark's body will not be permitted (for example, to pass a cable to lift the shark).

Handling and release techniques:

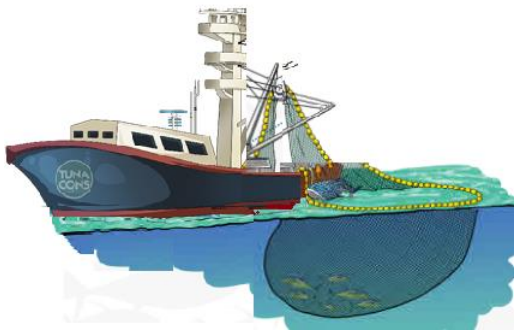
If a shark is entangled during the lifting of the net, it is necessary to stop lifting until the height of the turntable, move the boom inward, return the net and comb the cloths (if necessary, cut mesh from the net), untangle As soon as possible the animal and transport it with a stretcher or ditch that avoids any possible damage and return it to the sea.	
Never lift the animal by grasping it only by the tail or by putting your hands on the gills. **Avoid** squeezing the bottom or ventral part where the internal organs are located.	
Small-size sharks can be handled by one person. It is best to grasp the dorsal or pectoral fin with one hand and the tail with the other. Medium-sized sharks must be handled by two people: one grabs the pectoral and dorsal fins and the other the tail.	
The crew must take safety measures to avoid flicks, bites or stitches.	

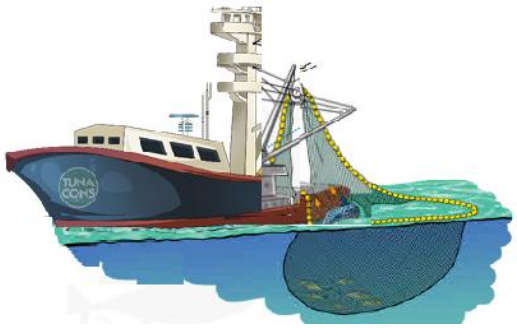
Attention on board. If you cannot immediately release it, put it in the shade in a safe place, with a hose in around the mouth and a moderate flow of water. Cover your head with a damp cloth without pressing the eyes. To prevent bites, a fish can be put into its mouth while it is being handled**.**	
Tracking: N / A	
Release: To release, drop the animal (avoid throwing it) from a reasonable height with the head pointing towards the water. With larger animals, a stretcher, brailler or canvas-crane can be used. **Never** use ropes / hooks on their body to suspend them with a crane. In any case, suspend it with a crane / pulley supported on a canvas or cargo net. This canvas should be on hand on deck before charging for art.	
It is very important to record the actions carried out with this species during fishing maneuvers, not only to audit our handling on board, but also to expand our knowledge of the behavior of the species in its environment. It is recommended to film these good release practices when possible and verify their effectiveness in order to show the general public the development of the fleet.	

b. Whale shark

Whale sharks (Rhincodon tipus) are a species incidentally caught in the Eastern Pacific.
The TUNACONS fleet is prohibited from setting the purse-seine net over tunas associated with a live whale shark, if the animal is observed before the set begins.
In the event that a whale shark is unintentionally pursed off (not seen before inside the purse), the master of the vessel shall:
a. Take all reasonable steps to ensure your safe release, and
b. Report the incident to the appropriate authority, including the number of individuals, details of how and why the confinement occurred, where it occurred, the steps taken to ensure the safe release, and an assessment of the life condition of the animal or animals upon release (including whether any were released alive, but subsequently died).

Handling and release techniques:

Any interaction with whale sharks should always be handled in the water. If a Whale Shark is inside the purse, the hoisting of the net must be carefully, always observing the animal until the sack is reached. Once there, depending on the direction of the animal's head in relation to the boat, the following measures can be taken: 1. Depending on the sea conditions and the direction of its head, the line of corks must be immersed with weights, or with poles or through the crew, so that the animal's head is above the cork and the Whale can swim out of the net by itself.	

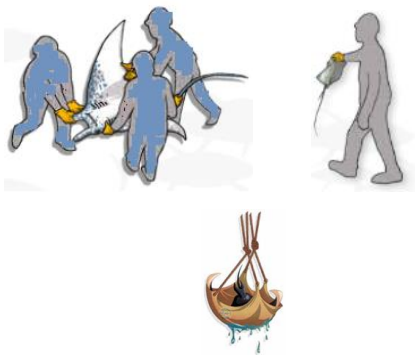
2. If the animal is trapped in the sack with the head facing the stern, the maneuver of removing it above the cork becomes complicated. The union closest to the head of the cloth with the border should be located and cut a couple of fathoms (depending on the size of the animal), making a window where the animal should come out, lowering the net a little until the window is submerged.	
Never tow a Whale Shark by the tail outside the purse. **Nor** lift a Whale Shark with the single tied at the tail.	
Tracking: N/A	

It is very important to record the actions carried out with this species during fishing maneuvers, not only to audit our handling on board, but also to expand our knowledge of the behavior of the species in its environment. It is recommended to film these good release practices when possible and verify their effectiveness to show the general public the development of the fleet.

c. Manta rays

Mobulidae rays are caught incidentally in purse-seine tuna fisheries in the Eastern Pacific.
The retention on board, transshipment, unloading, storage, sale, or offer to sell Mobulidae rays (including Manta and Mobula rays), in whole or in part, caught in the Convention of the IATTC is prohibited in the TUNACONS fleet.
TUNACONS ships will release any live Mobulidae rays as soon as they are observed in the net or on the deck, and do so in a way that causes the least possible damage to the Mobulidae rays, without jeopardizing the safety of any person, following at all times the following recommendations:
1. The use of hooks to move the rays is prohibited.
2. It is forbidden to lift the rays through the gill slits or spiracles.
3. It is forbidden to make holes in the body of the rays (for example, to pass a cable to lift the ray).
4. Rays that are too large to be safely lifted by hand are required, to the extent practicable, to be removed from the net using the brailler with which the catch is hauled on board.
5. Oversized stingrays that cannot be safely released before being taken aboard are required to be returned to the water as quickly as possible from the deck, preferably using a paddle ramp from the deck to an opening on the side of the ship or, if a ramp is not available, placing them on a cargo net or chinguillo and release them with the help of a crane.

Handling and release techniques

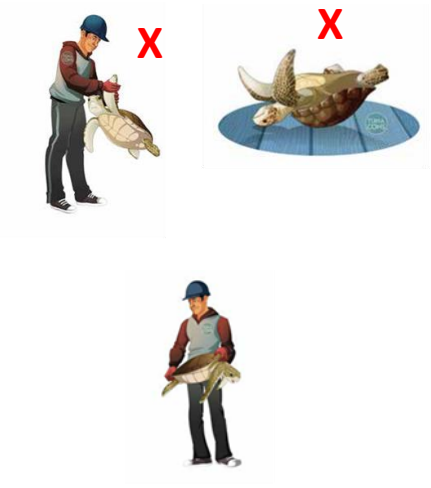
A small manta ray can be handled by 2 or 3 people: it is recommended to carry it on the wing side. When it comes to whip rays, avoid taking them by the tail due to the poisonous stinger that these animals have, it is preferable to handle them from the front.	

For large manta rays they can be taken out of the purse using the brailler with which the catch is hauled on board. They can be returned to the water by means of a section of net or a piece of plastic canvas lifted by a crane. Before any fishing operation, the crew must have a length of net (or a piece of cloth) available on the deck to be ready to release large animals. **Avoid** passing lines through the brachial grooves and lifting them. Do not insert hooks or other pointed objects into the animal's body.	
Tracking:	**N/A**
It is very important to record the actions carried out with this species during fishing maneuvers, not only to audit our handling on board, but also to expand our knowledge of the behavior of the species in its environment. It is recommended to film the good release practices when possible and verify their effectiveness to show the general performance of the fleet.	

d. Sea turtles

The capture of sea turtles in the purse-seine tuna fishery is also incidental. Recent work has led to advances in best practices and techniques to avoid interactions and / or reduce mortality of sea turtles that interact with this fishery in the Eastern Pacific.
TUNACONS purse-seine vessels are required to apply good handling and safe release practices promptly to all sea turtles, to the extent practicable, without risking the safety of any person.
Fishermen are required to release any sea turtle observed entangled in a FAD.

Handling and release techniques

If a turtle becomes entangled during a set, the net should be collected on the turntable at a height of about 2 meters, the main boom should be moved to starboard or port (according to the maneuver) and the net should be pulled back, so that the crew can free the turtle from the mesh as soon as possible and return it to the sea on the starboard or port side if it is clear. Collecting should not be resumed until the turtle has been untangled and released.	 
Never lift the animal by grasping only the fins or use sharp objects to remove it. **Do not** leave the animal turned upside down. The ideal is to manipulate the turtle between two people, especially if it is an adult. Hold the turtle with one hand on the front of the fin and the other on the edge of the lower third of the shell. In the case of juvenile turtles of small size, you can put one hand on the front and another on its caudal region, taking care to move it far enough away from the body so as not to suffer a flap. The crew must take safety measures to avoid fins, bites or cuts with the nails or the shell.	

Attention on board / comatosis: In case you need to delay its release due to perceiving a state of comatosis or lightheadedness, it is placed on an inclined surface with the head 15 cm lower than the rear. This will allow the water to drain out of its lungs. It is important to keep the animal humid and protected from the sun while on deck (it can be covered with a wet towel without obstructing the nostrils or the mouth) and kept at a temperature above 15 °C.	
Tracking: Assess whether the turtle has reflexes stimulating its cloaca or eyelids every 2-3 hours. If, after 24 hours, the turtle shows no recovery symptoms, it is very likely dead. If recovered, proceed to release it following the procedure described below.	
Release: To release, drop the animal (avoid throwing it) from a reasonable height with the head pointing towards the water. With larger animals, a crane and a canvas can be used. **Never** use a crane with ropes / chains to suspend them. In any case, suspend it with a crane / pulley supported on a canvas. This canvas should be prepared on deck beforehand.	
It is very important to record the actions carried out with this species during fishing maneuvers, not only to audit our handling on board, but also to expand our knowledge of the behavior of the species in its environment. It is recommended to film the good release practices when possible and verify their effectiveness to show the general performance of the fleet.	

4. DATA COLLECTION TEMPLATE

Presentation of the template for recording catches, both for target species and non-target species of the vessels of the companies that are part of the Fisheries Improvement Program, for the different types of sets they make.

With detailed information on their catches and bycatch management, the fleet will be able to evaluate and develop better techniques to reduce bycatch in sets on breezes and FADs, for which the following instructions are attached (See Annexes # 1, # 2, # 3, # 4 and # 5).

a. INSTRUCTION FOR COMPLETING THE CATCH RECORD SHEET OF THE TARGET SPECIES AND BYCATCH.

Fishing Trip General Information

B/P: Write down the name of the Ship.

Registration Number: Enter the naval registration number granted by the Harbor Master.

Fishing Trip N°: Enter the number of the fishing trip corresponding to the year of the catch, considering a fishing trip from the date of departure to fishing operations until the date of entry into port to unload the catch.

Travel days: List the days of the fishing trip was delayed.

Shorting grid: Enter YES or NO, if the vessel has a fish excluder grid (Medina Panel).

DEPARTURE: to fishing operations.

Port: Write down the name of the port from which the boat sets sail for the fishing trip and in which it receives the clearance.

Date: Record the sequence day-month-year. For example: April 14, 2016 will be written 04/14/2016.
ENTRY: to Port**.**
Port: Enter the name of the port of arrival where the catch is landed. Record this information in the last set, when the ship completes its load.
Date: Record the sequence day-month-year. For example: May 6, 2016 will be written 05/06/2016.
Fishing Captain: Enter the name of the fishing captain who made the sets.
Responsible for the data: Write down the name of the person responsible for registering the data.

Fishing Operations. -

I. Record of sets

Date: Record the date the set is carried out, with the day-month sequence. For example: May 6, it will be written 05/06.
Set Number: Use a progressive numerical order of each set made, with or without catch during the fishing trip.
Geographical position: It refers to the place where the fishing sets are made. The latitude and longitude should be noted, both data expressed in degrees and minutes.
Type of school: Mark with an "X" in the corresponding box, if the school is B = breeze, P = log (palo), FAD = traditional and ECO = ecological.
Aid: You used aircraft aid to locate the school, check YES or NO in the column.
Set Time: Time recording will be adjusted to local time.
Start: Write down the time when the net setting starts. It will be written in 24-hour format; for example, if it is one fifteen in the afternoon, it will be recorded at 13:15 p.m.
Finish: Write down the time the fishing task ends. It will be written in 24-hour format; for example, if it is four forty in the afternoon, it will be written down 16:40 p.m.
Sea Water T°: Record the temperature of the sea surface water in degrees Celsius or Fahrenheit. The measurement and recording will be made at the time of the start of the net setting.
Tuna catches in tons:
Record for each species of tuna, the catch in metric tons per set. In others: record the catch in metric tons of other species of tuna (eg: bottle, dry leg, etc.). **In well:** record the wells where the catch of each set was hauled on board. **In discards**, write down the tuna that was discarded to the sea in metric tons, if a few kilos were discarded use decimals, eg: 100 kg = 0.1 tons.
Observations: Note any fortuitous incidents that occurred during fishing operations, if the set was blank, etc.

II. Shorting Grid Register

Grid Model: Write down the model that is installed in the net (Arrue, Eliseo "stainless cable", Salica "net wire", Probrisa "cape dyneema", Salic "net wire-hexagonal mesh", Arrue "modified" or "other").
Submerged%: Enter the percentage in which the grid has been submerged since the start of the escape (25%, 50%, 75%, 100%).
Tuna that escaped through the grid: Try to determine the tuna you observed leaving; If the evasion is massive, try to estimate in tons what came out (if it was only a few kilos, use decimals, eg: 200 kg = 0.2 tons). Depending on the species, try to categorize the sizes. If you cannot estimate by size category, leave the spaces for each category blank and complete only the Total column.

Other species that escaped through the grid: Try to determine the number of individuals per species - size or weight - that escaped through the grid. If you cannot make an estimate by size category, leave the spaces for each category blank and complete only the Total column.
In Others: write down common name of the species and number of individuals.
Observations: Note any fortuitous incidents that occurred during the use of the exclusion grid in the set.

III. Record of Bycatch on Natural Objects or FADs

Id. Of the FAD or the Obj. Nat.: Record the Identification of the Natural Object or the FAD.
Species name: Enter the name of the captured species.
 # retained specimens: Record in # individuals, whether small or large.
 # dead returned specimens: List # individuals, small or large.
# of live released specimens: Record # individuals, small or large. In release mode: enter the corresponding code.

	Code	Description
Release Mode	1	Using brailer
	2	Use of light equipment such as a stretcher, cloth, sarria or cargo net.
	3	Use of specific equipment such as a gutter or side door
	4	Manually from the deck.
	5	After untangling
	6	Sinking the corks.
	7	Making cut in the net.
	8	Removing remains of nets, plastics, hooks or hook.
	9	Not satisfied.
	Note: If it is **9,** place in Observations the reason: **(M)** lack of material to handle the animal properly and safely; **(NC)** does not comply with good practices, they do not apply, although the conditions allow their application.	

In the state of the species: put the corresponding code:

	Code	Description
Species status	S	Healthy, no damage
	M	Moderate, moderate damage.
	G	Serious, significant damage with risk of non-survival of the animal.
	D	Unknown, could not be observed.

Observations: Record relevant points occurred in fishing operations, especially their management and release.

IV. Registration of Objects

If you are planting FAD´s or replanting, fill in information only from this table. If there has been a haul to a FAD or natural object fill this box to know if it is collected or continues in the water and its conditions.
Actions:
Type: Indicate if it is a natural object (stick), or an FAD or an EcoFad.
Event: Choose the numeric code below, the one that best describes the event.

1. **Check:** The ship is about to check if the natural object or FAD has fish, but does not make a set
2. **Deployment:** The ship places a new or relocated FAD.
3. **Collected:** The object or FAD is collected and kept on board.

4. Continues in the water: The object or FAD is still left in the water after casting.

5. Other: Record any activity not previously described, under comments

Date: The Date of the event to be recorded, in the format DD / MM / YY (day / month / year)
Time: Local time in 24-hour format (1pm = 13h00) when the event occurred.
Latitude (N/S): Record the geographical position of the event (Latitude) in degrees and minutes, indicating the hemisphere (N = North, S = South).
Longitude (E/W): Record the geographical position of the event (Longitude) in degrees and minutes, indicating the hemisphere (E = East, W = West).
Model: Note the model of the planting according to the attached table on the models, both for the floating part and the submerged part.
Stick / FAD Id: Enter the unique stick / FAD identification number.
Buoy Id: Enter the unique identification number of the beacon.
Observations: Record relevant points occurred in fishing operations. If it is a foreign or own FAD.
Characteristics and Conditions:
Write down the characteristics of the Stick and / or FAD, according to its parts (floating and submerged), length, width and thickness in meters and the Epibiot that covers it in%.
Record in each component table (used material) and in condition the value of the number or code that corresponds to it according to the attached tables.
In observations, for both floating and submerged parts, place the mesh eye of the net you are using (in cm or inches).
In bait container: place an X, if it is made of natural or synthetic material.

5. STRENGTHENING CAPABILITIES FOR CAPTAINS AND CREWS.

With the objective of strengthening the knowledge on the good handling on board and release of species considered sensitive; The Captains and Crew members of the fleet that make up TUNACONS are continuously trained on the topics covered in this code of good practices, through workshops during the closed seasons organized by the Eastern Pacific School of Fisheries (EPESPO) or by instructors from the IATTC staff, and / or also at the request of the companies. Additionally, we have worked on the development of materials such as posters, posters, guides, manuals and videos; as well as training is given on the correct filling of the catch registration template.

6. CODE REVIEW COMMITTEE:

In order to improve this Code, it is recommended to create a Review Committee made up of fleet managers and technical specialists in fishing, whose main function will be to ensure its correct application and keep it updated, incorporating the suggestions of fishermen and of the FIP technical advisers. It is recommended that this Committee meet at least every three months or as necessary to solve structural problems that arise.

It is also recommended that the composition of the committee be formalized at a monthly FIP meeting.

7. VERIFICATION AND MONITORING OF THE APPLICATION OF THE CODE OF GOOD PRACTICES.

To monitor the level of compliance with these good practices, the fleet managers have prepared a check list (see annex # 5) to verify the complete completion of the FIP data template by the Navigator Captains or their delegate. In this check list, the tuna catches in the different types of sets, the incidental catches and their handling on board, the activity on FADs and their design characteristics (non-entangling and biodegradable) are recorded. This monitoring and verification method must be carried out continuously each trip, in all the vessels of the companies that make up TUNACONS.

All class 6 ships, as well as those under that class, have an observer on board; Information on the management of bycatch from the trips will be requested from the IATTC on a random basis, for data verification in relation to the collection of information in the FIP data template. In addition, the Captains may request the observers (depending on their availability), a summary of compliance as a certification of what is registered in the data template.

8. Bibliography

- Good Practices for the Mitigation of the Environmental Impacts of the Fishing of High Purse Seine.
- Guidelines to reduce mortality of sea turtles in fishing operations FAO 2011
- Information document for the Kobe II Workshop on SHARKS bycatch.
- Information document for the Kobe II Workshop on Turtle bycatch.
- Good practice guide to reduce mortality of ray sharks caught by accident by tropical purse-seine tuna vessels.
- Identification guide for fish involved in tuna purse-seine fishing in the Tropical Eastern Pacific Ocean, Version 2005-001
- Hall, M., & M. Román. 2013. Bycatch and non-tuna catch in the tropical tuna purse seine fisheries of the world. FAO Fisheries and Aquaculture Technical Paper. No. 568. Rome. FAO. 262 pp.
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9. Date of Updates and changes.

Date	Description	Firms
24/08/2020	Code update	

Annexes

ANNEX # 1 FAD models

Floating part → / Submerged part ↓	1	2	3	4	5	6 OTHER
1	11 [ ]	12 [ ]	13 [ ]	14 [ ]	15 [ ]	16 [ ]
2	21 [ ]	22 [ ]	23 [ ]	24 [ ]	25 [ ]	26 [ ]
3	31 [ ]	32 [ ]	33 [ ]	34 [ ]	35 [ ]	36 [ ]
4	41 [ ]	42 [ ]	43 [ ]	44 [ ]	45 [ ]	46 [ ]
5	51 [ ]	52 [ ]	53 [ ]	54 [ ]	55 [ ]	56 [ ]
6	61 [ ]	62 [ ]	63 [ ]	64 [ ]	65 [ ]	66 [ ]
7	71 [ ]	72 [ ]	73 [ ]	74 [ ]	75 [ ]	76 [ ]
8 OTHER	81 [ ]	82 [ ]	83 [ ]	84 [ ]	85 [ ]	86 [ ]

ANNEX # 2 Components of FADs and condition.

COMPONENTS			
Floating part		**Submerged part**	
Balsa wood (as a float)	1 [ ]	Balsa wood	1 [ ]
Bamboo (whole cane)	2 [ ]	Bamboo (whole cane)	2 [ ]
Bamboo (half length)	3 [ ]	Bamboo (half length)	3 [ ]
Bamboo (open plank)	4 [ ]	Bamboo (open plank)	4 [ ]
Triplay (plywood)	5 [ ]	Triplay (plywood)	5 [ ]
Another wood	6 [ ]	Another wood	6 [ ]
Cotton canvas	7 [ ]	Cotton canvas	7 [ ]
Abaca canvas	8 [ ]	Abaca canvas	8 [ ]
Canvas other vegetable fiber	9 [ ]	Canvas other vegetable fiber	9 [ ]
Mesh net (<7cm)	10 [ ]	Mesh net tied chorizo type	10 [ ]
Canvas unknown material	11 [ ]	Mesh net stretched (<7cm) weighted at its end	11 [ ]
Cotton rope	12 [ ]	Canvas unknown material	12 [ ]
Abaca rope	13 [ ]	Cotton rope	13 [ ]
Another vegetable fiber rope	14 [ ]	Abaca rope	14 [ ]
Synthetic material rope (nylon - PA - PP - PE)	15 [ ]	Another vegetable fiber rope	15 [ ]
Unknown material rope	16 [ ]	Synthetic material rope (nylon - PA - PP)	16 [ ]
Cotton piola	17 [ ]	Unknown material rope	17 [ ]
Abaca piola	18 [ ]	Ballast (cable — chain — stone)	18 [ ]
Piola other vegetable fiber	19 [ ]	Container — Tacho — bait	19 [ ]
Synthetic material string (nylon - PA - PP - PE)	20 [ ]		
Piola unknown material	21 [ ]		
Coconuts float	22 [ ]		
Natural float (other)	23 [ ]		
Synthetic material float (Cork- PVC)	24 [ ]		

Code	Condition	Description
0	Excellent	Very compact. With nothing loose or loose
1	Very good	Firm. Slightly loose. All materials present
2	Good	Little loose or broken material. Showing little color change or decomposition
3	Regular	<= 20% of material is loose, decomposed or absent
4	Bad	20 - 50% of material is loose, decomposed or absent
5	Very bad	Unrecognizable part. More than 50% of the material is loose, decomposed or absent

ANNEX # 3 MARINE FAUNA CODES

Family	Scientific Name	Common name	Code
Beaked fish (needles, billfish, sailfish, swordfish)			
Xiphiidae	*Xiphias gladius*	Swordfish	SWO
Istiophoridae	*Istiophorus platypterus*	Indo-Pacific sailfish	SFA
	Tetrapturus audax	Striped marlin	MLS
	Tetrapturus angustirostris	Shortbill spearfish	SSP
	Makaira indica	Black marlin	BLM
	Makaira nigricans	Blue marlin	BUM
Elasmobranchs (sharks)			
Carcharhinidae	*Carcharhinus falciformis*	Silky	FAL
	Carcharhinus limbatus	Black tip	CCL
	Carcharhinus longimanus	Oceanic white tip	OCS
	Carcharhinus leucas	Bull	CCE
	Prionace glauca	Blue	BSH
Sphyrnidae	*Sphyrna lewini*	Scalloped hammerhead	SPL
	Sphyrna zygaena	Smooth hammerhead	SPZ
	Sphyrna mokarran	Great hammerhead	SPK
Lamnidae	*Isurus oxyrinchus*	Short fin mako	SMA
	Isurus spp.	Mako shark, nei	MAK
Alopiidae	*Alopias pelagicus*	Pelagic thresher	PTH
	Alopias superciliosus	Bigeye thresher	BTH
	Alopias vulpinus	Thresher	ALV
Rhincodontidae	*Rhincodon typus*	Whale shark	RHN
Elasmobranchs (manta rays and rays)			
Mobulidae	*Mobula thurstoni*	Smoothtail manta	RMO
	Mobula japanica	Spinetail manta	RMJ
	Mobula munkiana	Munk's devil ray	RMU
	Mobula tarapacana	Chilean devil ray	RMT
	Manta birostris	Giant manta	RMB
Dasyatidae	*Pteroplatytrygon violacea*	Pelagic stingray	PLS
Large and medium teleosts (fish)			
Coryphaenidae	*Coryphaena hippurus*	Common dolphinfish	DOL
	Coryphaena equiselis	Pompano dolphinfish	CFW
Carangidae	Seriola rivoliana	Longfin yellowtail	YTL
	Seriola lalandi	Yellowtail amberjack	YTC
	Seriola peruana	Bigeye trevally	RLN
	Elagatis bipinnulata	Rainbow runner	RRU
Scombridae	Acanthocybium solandri	Peto fish, wahoo	WAH
Lobotidae	Lobotes surinamensis	Tripletail	LOB
Molidae	Mola mola	Ocean sunfish	MOX
Small Teleosts (Fish)			
Balistidae	*Canthidermis maculatos*	Ocean triggerfish	CNT
Monacanthidae	*Aluterus scriptus*	Scrawled filefish	ALN
Caranguidae	*Naucrates ductor*	Pilotfish	NAU
Invertebrates			
Ommastrephidae	*Dosidicus gigas*	Jumbo squid	GIS
Sea turtles			
Cheloniidae	*Lepidochelys olivácea*	Olive ridley turtle	LKV
	Caretta caretta	Loggerhead turtle	TTL
	Chelonia mydas	Black/Green turtle	VDPT
	Eretmochelys imbricata	Hawksbill turtle	TTH
Dermochelyidae	*Dermochelys coriácea*	Leatherback turtle	DKK

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ANNEX # 4 CATCH RECORD TEMPLATE

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Fishery Improvement Project

Fisheries Improvement Project

General Information of the Fishing Trip

M/V:				Registry N°:	
Fishing Trip N°:		DEPARTURE		ARRIVAL	
Days of travel:		Port:		Port:	
Shorting grid:		Date:	/ /	Date:	/ /
Fishing Cap.:			Responsible for the data:		

Fishing Operations

I. Record of sets

Date	N° Set	Geographical positions	Type of school				Air aid	Set time		Sea water °T	Tuna catches (Tons)					
			B	P	FAD	ECO	Yes/ No	start	finish		YFT	SKJ	BET	Others	Holds	Dis-cards
		Lat.:														
		Long.:														

Observations:

II. Shorting Grid Register

Grid Model:		% sub-merged:	

Tuna that escaped through the grid (Tons)					**Mahi Mahi** (N° Individuals)			**Wahoo** (N° ndividuals)			**Other species that escaped through the grid**		
Species	Small < 2,5 Kg	Medium 2,5 - 15 Kg	Large > 15 Kg	Total	Small < 80 cm	Large > 80 cm	Total	Small < 12 lb	Large > 12 lb	Total	**Others**	Species name	(N° indivi-duals)
SKJ													
YFT													
BET													

Observations:

III. Record of Bycatch on Natural Objects or FADs

Id. of the FAD or the Obj. Nat .	**Species name**	**# retained** speci-mens		**# dead** returned specimens		**# of live** released specimens				Observations:
		Small	Large	Small	Large	Small	Large	Release mode	Species status	

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IV. Registration of Objects. Types: Natural (Stick) and/or FAD - Actiones—Characteristics— Conditions								
Actions:								
Type:	Event:	Date and time:	Latitude N/S	Longitude E/W	N° Model	ID Stick/FAD:	ID Buoy:	Observations
Characteristics:								
Floating part	Length (m):	Width (m):	Thickness (m):	Epibiot (%):	Components:		Condition:	Observations:
Sub-merged part	Length (m):	Width (m):	Thickness (m):	Epibiot (%):	Components:		Condition:	Observations:
Bait container								
Natu-ral:		Synthetic:						

(f) Responsible for the data

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ANNEX # 5. Verification and Compliance Check List for filling in the Data Template.

Vessel:			Trip #:		Departure date:					Arrival date:			
# set	I. Record of sets	II. Register of the Shorting Grid	III. Record of Bycatch on Natural Objects or FADs	IV. Registration of objects	Release of Live Sensitive Fauna					Applied Good Management Practices		Interaction with FAD Non-entangling	Interaction with ECO FAD
					Yes/No	# Sharks	Whale Shark	# Sea Turtles	# Manta rays	Yes/No	Indicate reasons for NOT applying		
1													
2													
3													
.													
.													
.													
.													
.													
.													
.													
.													
.													

Observer Name:

(Vto. Bueno) Observer of the trip

Observer Comments

(f) Fleet Chief or his Delegate