LONGLINE GEAR FORM

F2

VESSEL: _____ **SAMPLE No:**_____ **OBSERVER:** _____

Registration		**Length**	m	**Fuel capacity**	gal	**Number of crew**	
Company name		**Width**	m	**Fuel used**	gal	**Water capacity**	gal
Captain Name		**Draft**	m	**Type of fuel**		**Catch conserve method**	
Departure date/time		**Distance deck to water**	m	**Type (fibra-mother ship)**		**If the vessel is a 'fibra', ↓ name of mother ship ↓**	
Arrival date/time		**Well capacity**	MT	**Number of fibras**			
Departure port		**Main motor**		**Navigation and fishing equipment:**			
Arrival port		**Aux. motor**					

Characteristics	**Quantity**	**Material ***	**Diameter**	**Length**	**Color ***
Mainline			mm	Nm	
Upper gangion			mm	fath	
Middle gangion			mm	fath	
Lower gangion			mm	fath	
Floatline / dropline				cm	
Buoy			cm		
Flag					
Float			cm		

Distance btwn. hooks↓	**Max. hooks on mainline↓**	**Number of lights↓**	**Number of radio buoys↓**
bz			

Mainline weights:
Yes ( ) No ( )

Dropline connection to mainline:
Knots ( ) Snaps ( )

Mainline retrieval
By hand ( )
Manual crank ( )
Hydraulic crank ( )
Other _____ ( )

Fishing gear diagram

Hooks	**Type (J / C)**	**Size**	**J-straight/ J-curved**	**Material***	**Manufac-turer**	**Offset**	**Ring (Yes / No)**	**Other details**	**Observations**
Hook A									
Hook B									
Hook ©									

* Use numbers from code tables

LONGLINE SET FORM

F3

VESSEL: ______________________________ **SAMPLE No:** _____ **OBSERVER:** ______________________________

Set number		SET		RETRIEVAL		Number of hooks in the set by type:	Hook. A	Hook. B	Hook. ©		Type of bait	% of total
		Start	End	Start	End							
↓ Date ↓	LAT									Bait 1		
	LON					**Total** no. of hooks in set:				Bait 2		
	TIME					No. of hooks lost:				Bait 3		

Target Fishery	Set	Yes	Retrieval direction		Sea surf. temp.	No. hooks btwn. floats	Avg. hook depth	Bottom longline?	
								Yes	No
	Special?	☐	Start to end	☐					
	Patrolled?	☐	End to start	☐			fath	☐	☐

Observations:

Set number		SET		RETRIEVAL		Number of hooks in the set by type:	Hook. A	Hook. B	Hook. ©		Type of bait	% of total
		Start	End	Start	End							
↓ Date ↓	LAT									Bait 1		
	LON					**Total** no. of hooks in set:				Bait 2		
	TIME					No. of hooks lost:				Bait 3		

Target Fishery	Set	Yes	Retrieval direction		Sea surf. temp.	No. hooks btwn. floats	Avg. hook depth	Bottom longline?	
								Yes	No
	Special?	☐	Start to end	☐					
	Patrolled?	☐	End to start	☐			fath	☐	☐

Observations:

Set number		SET		RETRIEVAL		Number of hooks in the set by type:	Hook. A	Hook. B	Hook. ©		Type of bait	% of total
		Start	End	Start	End							
↓ Date ↓	LAT									Bait 1		
	LON					**Total** no. of hooks in set:				Bait 2		
	TIME					No. of hooks lost:				Bait 3		

Target Fishery	Set	Yes	Retrieval direction		Sea surf. temp.	No. hooks btwn. floats	Avg. hook depth	Bottom longline?	
								Yes	No
	Special?	☐	Start to end	☐					
	Patrolled?	☐	End to start	☐			fath	☐	☐

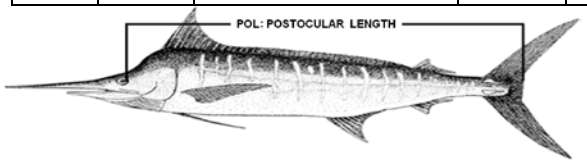
Observations:

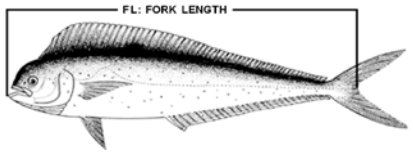
CATCH FORM

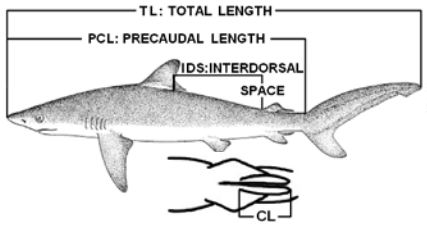
F4

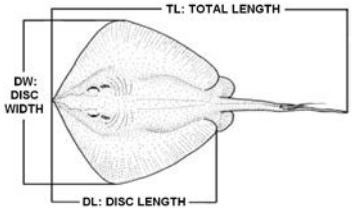
VESSEL: _____ **SAMPLE No:** _____ **OBSERVER:**_____

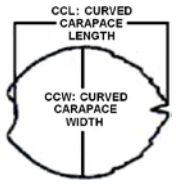
Set No.	Time	Species name	Number caught	Hook A B ©	Hook location *	Dispo-sition *	Sex M=1 F=2	Weight (kg)	LENGTHS (cm)			Male sharks			Observations
									POL-FL-TL-CCL	PCL-*DL*	IDS-*DW*-CCW	CL (cm)	CAL	SEMEN	











* Use numbers from code tables

F5

TURTLE FORM

(Record turtle sightings <u>only</u> for hawksbill, loggerhead and leatherback turtles)

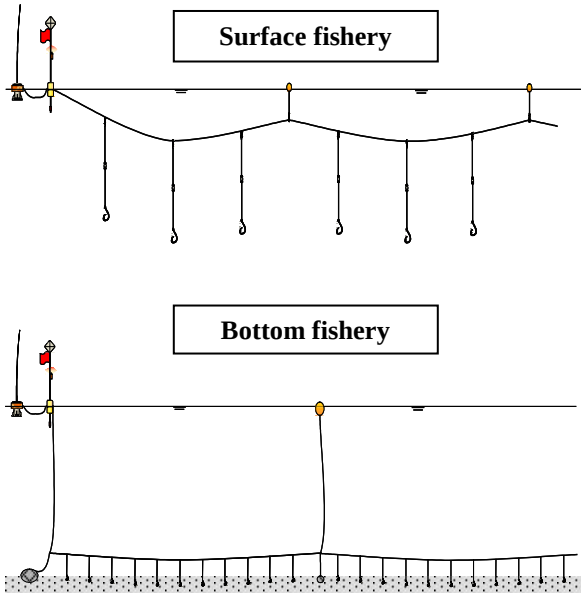
VESSEL: _____ **SAMPLE No:** _____ **OBSERVER:** _____

Date	Time	Set number	Species	Sex	CCL[1] (cm)	CCW[2] (cm)	Tail LTC (cm)	Hook A B C	Color of the nearest float or buoy*

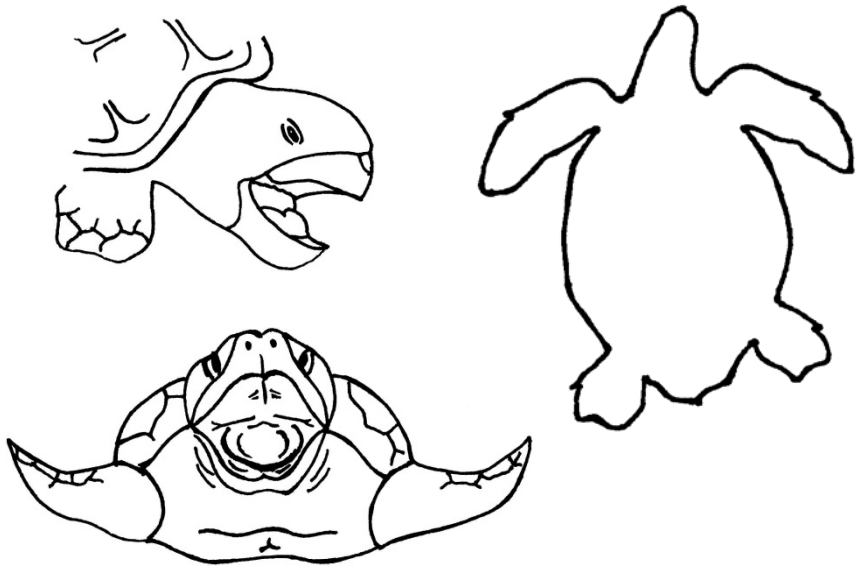
Position:	Latitude		Longitude	

Condition *( )	Entanglement *( )	Hooking *( )	Disposition*( )	Observations:

Turtle location in relation to the fishing gear



Hook location and turtle entanglement

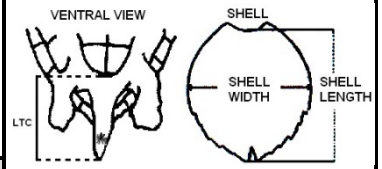


Existing tag 1:

Existing tag 2:

New tag 1:

New tag 2:



[1]CCL: Curved carapace length [2]CCW: Curved carapace width

* Use numbers from code tables

BIRD FORM

F6

VESSEL: _____ **SAMPLE No:** _____ **OBSERVER:** _____

Set No.	Date	Time	Species name	Position		Age Immature=1 Adult=2	Sex M=1 F=2	Caught in set Yes/No	Hook A B ©	Cond-ition *	Mitig. 1 *	Mitig. 2 *	Dispo-sition *	Photo Yes/No	Observations
				Latitude	Longitude										

* Use numbers from code tables

Longline Observer Program

Field Manual

Last update: July 7, 2014

INDEX

Introduction

This manual is intended to explain the correct method of recording data on the specialized forms which were developed for collecting catch data on longline vessels.

Work and responsibilities

You have been chosen to board a longline vessel for the length of a fishing trip. You will be required to carefully follow the instructions in this manual exactly as they are stated. You are responsible for the accuracy of the data that you collect, and that the required forms are complete. NEVER report information that you do not directly observe, or if for some reason you do need to report unobserved information, be sure to clearly indicate that the data you are recording was not directly observed. If you have any doubt about the data you are recording, it is preferable to document your doubts than record as fact data that might be incorrect. During the trip you will record information related to the fishing activities of the vessel in the following forms:

F2) Longline Gear Form
F3) Longline Set Form
F4) Catch Form
F5) Turtle Form
F6) Bird Form

You should make every effort not to interfere with the fishing activities while performing your duties. **The information that you collect is the property of the observer program, and is highly confidential.** Do not make copies of the forms and other data for your personal use, nor divulge fishing information to others. What happens during a fishing trip should not be discussed with crewmembers on another trip. While you are aboard the vessel, you should not engage in any activities, personal or otherwise, which could interfere with your work as an observer. Given the sensitive nature of the data which you are collecting, it is necessary to conduct your activities in a responsible and professional manner during the entire trip. The abuse of alcohol and use of illegal drugs reduces your credibility as an observer, and will result in immediate dismissal if detected. Your responsibility is limited to observation and registration of data in the appropriate forms provided. You should not interpret laws or regulations or interfere in any way with the normal fishing operations of the vessel, even when the captain or other crewmember solicits your opinion. If this occurs, you should politely remind the crew that you are not qualified for this, and that you have no authority to apply the law or to make exceptions to the law, and that the authorities of the jurisdiction of the vessel should be consulted for any clarification. Even though you know the laws, and observer a violation of them, your only function on the vessel is to collect data carry out any other activities assigned to you by the observer program. HOPEFULLY the observer will make an effort to train the crewmembers of all participating vessels on the best methods to free hooked or entangled turtles, including the use of instruments designed for this purpose. AS A GENERAL RULE: IT IS EXPECTED THAT THE OBSERVER WILL REPORT ONLY WHAT IS SEEN. IF THE OBSERVER CANNOT SEE SOMETHING, OR HAS DOUBTS ABOUT ANYTHING, THEY SHOULD MAKE A NOTE OF THEIR DOUBTS ON THE DATA FORMS AND NOT ATTEMPT TO “GUESS” THE ANSWER.

Before the trip

You should be adequately prepared in a training course before boarding a vessel. Technicians from the observer program will provide training in the identification of fish, turtles and birds, the data forms, personal security measures and the proper protocol to follow while on the vessel. Be sure to have the sample number for the trip, since this number will need to be written on each data form. The observer program staff will provide this number.

During the trip

Familiarize yourself with this *Field Manual*, and consult it often to ensure that you are correctly filling out the data forms. This will help to avoid repeating the same errors. Become familiar with the layout of the vessel and the conduct and "rules" of the crewmembers. Pay particular attention to the location of life vests, fire extinguishers, and first aid supplies. Establish cordial relationships with the crewmembers. Explain your activities to them, and that you it is your responsibility to collect correct data. Always be vigilant of your personal safety, and do not take risks. NO DATA IS MORE VALUABLE THAN THE LIFE OF AN OBSERVER. Never enter the water during fishing operations under any circumstances. Obtain the fishing captains permission before using any of the vessel equipment. If you are injured, it is important to document in detail the circumstances, and to ask the captain to note the event for legal purposes and reimbursement of medical expenses.

After the trip

You should work with the data editors review, complete and correct the data on the forms. The data review is your best opportunity to clarify doubts, explain problems and relate any other items of interest which occurred during the trip. Given your understanding of the objectives of the observer program, hopefully you will discuss any observations not covered in the forms, but which you believe are useful and have documented in the comments sections of the forms, with the data editors during the data review.

INSTRUCTIONS FOR THE COLLECTION OF DATA

Your primary responsibility during the trip is to record the data with the highest precision possible in the manner that you were instructed. The notations should be legible, written in block letters and numbers in the indicated spaces. If you are not sure of a data item, leave the corresponding space blank and write an explanatory note on the form.

Forms

F2 – Longline Gear Form

The Longline Gear Form is designed to record data related to the vessel and the trip. The form is separated into 3 sections:

- Vessel and trip data
- Longline gear characteristics
- Hook characteristics

Fields of the form

Trip data

VESSEL: The name of the vessel which made the sets.

SAMPLE No: The sequential number assigned to this trip. The observer program staff will provide this number before the vessel leaves port.

OBSERVER: The name of the observer recording the data.

Registration The official identification of the vessel.

Company name The name of the vessel owner. Additional useful information includes the company address, telephone numbers, email, etc. Be careful to write the names exactly as they should be to avoid the creation of false duplications.

Captain name The name of the person directing the fishing operations.

Departure / arrival date and time The date and time of the vessel departure / arrival.

Departure / arrival port The name of the departure / arrival port.

Length The length, in meters, of the vessel from the tip of the bow to the stern.

Width The width, in meters, of the vessel at the point where the vessel is widest.

Draft The height of the vessel, in meters, measured at the vessel midpoint from the work deck to the bottom of the hull.

Distance deck to water The distance, in meters, from the work deck to the water surface. The measurement should be taken when the vessel is empty. This measurement is useful for the determination of the length of turtle dehooking tools and dip nets.

Well capacity The maximum capacity, in metric tonnes, of all fish holding wells.

Main motor Details of the main motor, for example the manufacturer, model, year of manufacture, horsepower, inboard vs. outboard, etc.

Aux. motor Details of the auxiliary motor, if there is one.

Fuel capacity The maximum amount of fuel the vessel normally carries, in gallons. If the vessel normally carries portable fuel containers in addition to the main fuel tanks, the capacity of these containers should also be included with an explanation of the details.

Fuel used The quantity of fuel, in gallons, consumed during the trip.

Type of fuel Note the type of fuel used, for example diesel or gasoline.

Number of crew The number of crew members working on the vessel during the fishing trip, including the fishing captain.

Water capacity The maximum volume of water the vessel normally carries, in gallons.

Catch conserve method Describe the method used to conserve the catch, for example ice, ammonia, etc.

If the fishing vessel in this trip works with a mother ship (nodriza) or operates as a mother ship for smaller towed vessels (fibras de remolque) answer:

The questions in this section should only be answered if the catcher vessel operates with the assistance of a mother ship (nodriza) or if the catcher vessel is a mother ship which also provides at-sea support to smaller catcher vessels (fibras).

Type (fibra-mother ship) Indicate whether the catcher vessel is a fibra or mother ship.

Number of fibras If the vessel is a mother ship, indicate the number of smaller towed fibras that accompany the vessel. If the vessel is not a mother ship, leave this cell blank.

If the vessel is a 'fibra', name of mother ship When the catcher vessel is a fibra, write the name of the mother ship. If the catcher vessel is a mother ship, leave this cell blank.

Navigation and fishing equipment: Describe any navigation or fishing equipment (GPS, sonar, thermometers, etc.) on the vessel, including the make, model, range, etc.

Longline gear characteristics

This section is used to record the characteristics of the longline fishing gear. Elements of the longline are listed at the top of each column, with the specific part of the gear listed in the column on the left side. Data should not be recorded in shaded spaces, as these are not applicable and unnecessary. Many of the spaces contain a label for the correct units of the measurement. Be sure to always record the data IN THESE UNITS.

For the Material and Color columns, numeric codes from the corresponding code tables tblMaterial and tblColor should be used (see the annex at the end of this manual). If an element of the longline contains more than one material or color, the numeric codes of all materials or colors should be recorded. Multiple codes should be separated with a dash(-). For example if there are red, brown and yellow floats, in the 'Float' line and 'Color' column the value '4-10-3' should be recorded.

Mainline Record the diameter of the mainline in millimeters, the **total** length in nautical miles, and the distance between hooks in fathoms.

Upper/middle/lower gangion Record the characteristics in each space on the form. If there is not a middle gangion, leave the line blank. If there is a leader on the hook, record the details in the 'Lower gangion' line. A leader is a metal portion of the lower gangion used in the shark fishery.

Floatline/dropline Record the length, in centimeters, and codes for the material and color.

Buoy A buoy is the principal float on the mainline, normally tied to each end. Record the necessary data.

Flag Record the necessary data.

Float Floats are the smaller buoys attached at regular intervals along the length of the mainline. Record the diameter in centimeters along with the rest of the required data.

Distance btwn. hooks The distance between hooks, measured in fathoms.

Max. hooks on mainline Record the **total number** (maximum) of hooks that the entire mainline contains when it is completely rigged.

Number of lights Record the maximum number of lights used during any set of the trip.

Number of radio buoys Record the maximum number of radio buoys or other locating devices used during any set of the trip.

Mainline weights: Indicate whether weights are attached to the mainline.

Dropline connection to mainline: Indicate whether the dropline is connected to the mainline with knots or snaps.

Mainline retrieval Indicate the primary method for hauling in the mainline from the options presented. If an unlisted method is used, indicate 'Other' and describe the method.

Fishing gear diagram Use this space for a simple drawing of the longline gear, with details such as the location of flags, floats, weights, hooks, number of hooks between floats, etc. Indicate distances such as the fishing depth of the hooks, distance between hooks, etc.

Hook characteristics

This section is used to record the characteristics of the distinct types of hooks used in the ENTIRE mainline during the trip. If the crewmembers change the configuration of the mainline during the trip, include the characteristics of each type of hook used during the trip.

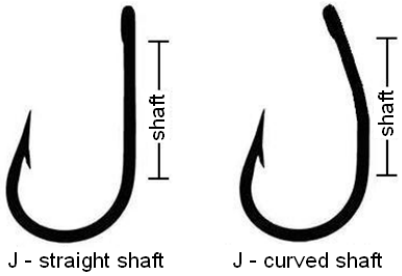
There is space on the form to record the characteristics of up to 3 different types of hooks. If there are more than 3 different types of hooks used during the trip, you should record the characteristics of the most important hooks.

Record the characteristics of each hook that the vessel uses in the Longline Gear Form F2. Labels **A**, **B**, © are assigned to each of the 3 lines used to describe the hooks. These different labels are used as a reference to the hooks in the Longline Set Form F3 section detailing the percentage of each type of hook used in the set. For example, the hook identified as © in the Longline Gear Form should continue to be identified as © in the Longline Set Form F3.

Type (J/C) Indicate whether the hook is a J hook (write 'J') or a circle hook (write 'C').

Size Indicate the size of the hook. For example, if the hook is a C16 you should write 'C' in the Type column, and '16' in the Size column.

J-straight / J-curved If the hook is a J hook, indicate whether the shaft of the hook is straight or curved. If the hook is a circle hook, leave this space blank.



Material Record the code of the hook material. Consult the table tblAnzMaterial (tblHookMaterial).

Manufacturer Record the manufacturer of the hook, if it is known, for example 'Mustad' or 'Korea'.

Offset Record the offset of the hook. If there is no offset, write '0' (zero).

Ring Indicate with 'Yes' or 'No' the presence of a separate ring on the end of the hook shaft. Do not confuse the ring with the loop that is fashioned from the hook itself.

Other details Record any other characteristics that are not specifically listed in one of the columns dedicated to the description of the hook. For example, if the hook has a wire tied to the barb to minimize turtle hooking, you could write 'barb wire' in this column with a more detailed description in the Observations column.

Observations Note any other data of interest relevant to the hook. This is especially important when the vessel uses a hook with characteristics that are not covered by the columns dedicated to the description of the hook.

F3 – Longline Set Form

The Longline Set Form is designed to record data related to individual sets during the fishing trip. You should only record data for sets which you have directly observed.

Fields of the form

VESSEL: The name of the vessel which made the sets.

SAMPLE No: The sequential number assigned to this trip. The observer program staff will provide this number before the vessel leaves port.

Set number The consecutive set number, starting with 1.

Date The date of the set.

LAT/LON/TIME There are 4 important moments in each set: the start and end of the deployment of the mainline, and the start and end of the retrieval of the mainline. For each moment you should note the latitude and longitude, in degrees and minutes, and the time. Always note the time using the 24 hour clock. For example, 8:35 pm is written 20:35.

Number of hooks in the set by type: Record the total number of each type of hook defined with the symbol **A**, **B**, © on form F2 *Longline Gear Form* placed in the water during the initial setting of the mainline.

Total no. of hooks in set: Record the total number of hooks that placed in the water during the initial setting of the mainline. The sum of hooks **A**, **B**, © in the previous section should be equal to the total number of hooks in the set.

No. of hooks lost: Record the number of each type of hook lost during the set.

Bait There is space for up to 3 types of bait:

Type of bait - % of total Record the type of bait and the percentage of each type in the space provided. Use tblCarnada (tblBait) for numeric bait codes.

Target fishery Record the target fishery of the set, according to the fishermen (e.g. shark, tuna, etc.) Choose one of the fishery types from the table tblPesca (tblFishery) in the annex.

Set - Special? Indicate with a check mark ☑ if the set is special, for example a 'circle set' or a set in association with dolphins. Document the details in the 'Observations' section.

Set - Patrolled? Indicate with a check mark ☑ if the fishermen removed catch from individual hooks and rebaited the hooks before retrieving the entire mainline.

Retrieval direction Indicate with a check mark ☑ if the fishermen returned to the original end of the mainline to begin the retrieval process (*Start to end*), or if after setting the entire line they began to retrieve the mainline from the end that was the last to enter the sea (*End to start*).

Sea surf. temp. Record the sea surface temperature.

No. hooks btwn. floats Record the number of hooks between floats. If the number of hooks varies, record the number of hooks between floats that is most prevalent.

Avg. hook depth Record the average depth of the hooks, in fathoms.

Bottom longline? Indicate with a check mark ☑ the box labeled 'Yes' if the mainline was configured to rest on the bottom of the sea. If the mainline is configured to fish at the surface or mid-water, mark the box labeled 'No'.

Observations Note any other data of interest related to the set.

F4 – Catch Form

The Catch Form is designed to record the catch of all animals brought on deck. ONLY ANIMALS WHICH ARE BROUGHT ABOARD THE VESSEL ARE CONSIDERED CATCH; IF THE ANIMAL IS LOST FROM A HOOK, ESCAPES OR FALLS BACK INTO THE SEA, DO NOT INCLUDE THE CATCH ON THIS FORM.

All catch should be noted on the Catch Form F4, including fish, turtles, marine mammals and birds. Use the Turtle Form F5 and Bird Form F6 to collect additional turtle and bird data that is not defined on this form. Note that all catch of turtles and birds should always be listed on Catch Form F4, and if additional turtle or bird data is collected this should be recorded on Turtle Form F5 and Bird Form F6. EVERY turtle and bird listed in the Turtle Form and Bird Form should also be listed in the Catch form.

The characteristics of hooks **A**, **B**, **C** are defined in the Vessel Form. You must use the same label **A**, **B**, **C** to reference the corresponding hooks in the Catch Form. This label will be used to record which type of hook caught the fish. Be sure to always use the same label for the same hook in each of the forms used in the trip, as defined in the Vessel Form.

Fields of the form

VESSEL: The name of the vessel which made the sets.

SAMPLE No: The sequential number assigned to this trip. The observer program staff will provide this number before the vessel leaves port.

Set No. The set number which corresponds to the sets defined in the Longline Sets Form.

Time The time that the catch was taken on board. It is not necessary to record the date.

Species name Record the scientific name WHENEVER POSSIBLE, the common name, or the alpha code assigned to this species in tblEspecie (tblSpecies). Never use the numeric code, since it is almost impossible to verify its validity.

Number caught Record the number of individual fish caught. Note that the characteristics in the following columns (Hook location, Disposition, Sex) must apply to ALL of the fish counted on a line. For example, if you record 3 mahi-mahi with sex 'male', this means that all 3 fish must be male. If there are 2 male mahi-mahi and one female mahi-mahi, the catch should be separated into 2 lines on the form, with the 2 male mahi-mahi on one line and the single female mahi-mahi on the next line. If you record data with Length and/or Weight measurements, you may not record more than one fish per line and the 'Number caught' will always be '1'.

Hook A B C Record on which of the previously defined hooks the fish was caught. The characteristics of hooks **A**, **B**, **C** are defined in the Vessel Form. Be sure to use the same label **A**, **B**, **C** to reference the corresponding hooks in the Catch Form.

Hook location Record the location of the hook on the fish, using the numeric code from the Hooking Location table tblEnganche at the end of this manual. Only use codes marked for use with fish, not those applicable to turtles.

Disposition Record the fate of the catch, using the numeric code from the Disposition table tblDestino at the end of this manual. Only use codes marked for use with fish, not those applicable only to turtles and/or birds.

Sex Record the sex of the fish if it is possible to determine. For males, use the letter 'M' or numeric code 1. For females, use 'F' or numeric code 2.

Weight If a reliable measurement is possible, record the weight of the fish, in kilograms.

LENGTHS section

POL-FL-TL-CCL This column is used for the primary length of each animal. Record the length, in centimeters, of the distinct species according to the diagrams at the foot of the form F4. For billfish, measure the postorbital length **POL,** from the posterior edge of the eye socket to the center of the fork in the tail. Tuna and other fish are measured by fork length **FL**, which is from the tip of the jaw or snout with mouth closed to the center of the fork in the tail. Sharks are measured by total length **TL** from the tip of the snout to the tip of the tail. If the tail is damaged or missing, leave this measurement blank. Rays should be measured by total length **TL** from the tip of the disc to the tip of the tail. For turtles, measure the curved carapace length **CCL**, which is the length of the shell over the curve measured from the midpoint of the nuchal scute to the posterior tip of the shell.

PCL-*DL* This column is used for two measurements, according to the species. For sharks, use the column to record the precaudal length **PCL**, from the tip of the snout to the anterior insertion of the caudal fin, according to the diagram in Figure 1 below. For rays, use the column to record the disc length ***DL***. For all other species, leave the cell blank.

IDS-*DW* -CCW This column is used for three measurements, according to the species. For sharks, use the column to record the interdorsal space **IDS**, which is the length from the posterior insertion of the first dorsal fin to the anterior insertion (start) of the second dorsal fin, according to the diagram in Figure 1 below. For rays, use the column to record the disc width ***DW***. For turtles, use the column to record the curved carapace width ***CCW***, which is the width of the shell measured over the curve. For all other species, leave the cell blank.

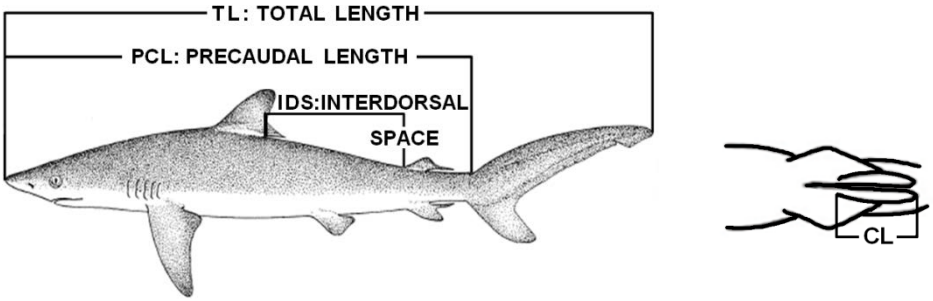


Figure 1: shark measurements

Male sharks section

The three columns in this section are only applicable to male sharks. For female sharks and all other species, the cells should be blank. Sexual maturity of male sharks is determined by the clasper length and condition.

CL This column is used to record, in centimeters, the shark clasper length **CL** (Figure 1).

CAL This column is used to indicate the presence or absence of clasper calcification. Record a 'Y' (yes) or 'N' (no) in the column.

Semen This column is used to indicate the presence or absence of semen. Record a 'Y' (yes) or 'N' (no) in the column.

Observations Note any other data of interest related to the catch, for example if the fish 'escaped' from the circle hook.

F5 – Turtle Form

Every hooked or entangled turtle brought up to the side of the vessel or the deck should be recorded on the Catch Form F4. **If the turtle falls off the hook or disentangles itself, it should not be counted as capture; rather the turtle is considered as a sighting.** The Turtle Form F5 is used to record additional turtle information that cannot be recorded on the Catch Form F4. Each captured or entangled turtle recorded on Turtle Form F5 must also be recorded on Catch Form F4.

Use one sheet of the Turtle Form for each turtle hooked or entangled (all species of turtles) and for sightings of the 3 least common turtle species: hawksbill (*Eretmochelys imbricata*), loggerhead (*Caretta caretta*) and leatherback (*Dermochelys coriacea*). Do not record sightings of olive ridley (*Lepidochelys olivacea*), green/black (*Chelonia mydas mydas, C. mydas agassizii*) and unidentified turtles. **Sightings** of olive ridley, green/black and unidentified turtles are not required since these turtles are common and of less interest than the hawksbill, loggerhead and leatherback turtles.

The characteristics of hooks A, **B**, © are defined in the Vessel Form. You must use the same label A, **B**, © to reference the corresponding hooks in the Turtle Form. This label will be used to record which type of hook caught the turtle. Be sure to always use the same label for the same hook in each of the forms used in the trip, as defined in the Vessel Form.

Fields of the form

VESSEL: The name of the vessel which made the sets.

SAMPLE No: The sequential number assigned to this trip. The observer program staff will provide this number before the vessel leaves port.

Date / Time The date and time that the turtle arrives alongside the vessel.

Set number The set number which corresponds to the sets defined in the Longline Sets Form.

Species Record the scientific name, common name, or the alpha code assigned to this species in tblEspecie (tblSpecies). Never use the numeric code, since it is almost impossible to verify its validity.

Sex Record the sex of the turtle if it is possible to determine.

CCL Record the length of the turtle, in centimeters, over the curve of the shell (Curved Carapace Length) according to the diagram on the lower right corner of the form.

CCW Record the width of the turtle, in centimeters, at its widest point over the curve of the shell (Curved Carapace Width).

Tail LTC Record the length of the tail, in centimeters, according to the diagram on the lower right corner of the form.

Hook A B © If the turtle was hooked, record on which of the previously defined hooks the turtle was caught. The characteristics of hooks A, **B**, © are defined in the Vessel Form F2.

Be sure to use the same label **A**, **B**, **C** to reference the corresponding hooks in the Turtle Form F5.

Color of the nearest float or buoy Record the numeric color code defined in tblColor of the float or buoy closest to the hooked, entangled or sighted turtle . A buoy is a main float, normally located at each end of the mainline.

Position: Latitude / Longitude Record the position of the vessel at the time when the turtle reaches the side of the vessel.

Condition Describe the condition of the turtle (hooked, entangled alive/dead, sighted, etc.) in the space provided. In the space ( ) provided record the corresponding numeric code from the Condition table (tblEstado) at the end of this manual. Only use codes marked for use with turtles, not those applicable to fish.

Entanglement If the turtle was entangled, describe the entanglement, for example the part of the gear that entangled the turtle, or which appendage became entangled. In the space ( ) provided record the corresponding numeric code from the Entanglement table (tblEnredo) at the end of this manual. Only use codes marked for use with turtles, not those applicable to fish. If the turtle was not entangled, leave this section blank.

Hooking If the turtle was hooked, describe where the turtle was hooked. In the space ( ) provided record the corresponding numeric code from the Hooking Location table (tblEnganche) at the end of this manual. Only use codes marked for use with turtles, not those applicable to fish. If the turtle was not hooked, leave this section blank.

Disposition Describe the final state of the turtle after the encounter with the longline in the space provided. In the space ( ) provided record the corresponding numeric code from the Disposition table (tblDestino) at the end of this manual. Only use codes marked for use with turtles, not those applicable to fish. Generally, a light injury is one that the turtle will most likely survive. A grave injury is one that will likely kill the turtle. If the encounter is simply a turtle sighting, use Disposition code '0' (other fate).

Observations Note any other data of interest related to the encounter with the turtle, for example a photo number.

Existing / New tag If the turtle has a tag, record the tag identification (numbers and/or letters) of the tag(s) in addition to other information present. Do not remove tags unless instructions on the tag request that it be removed, or the turtle is dead. If you attach a new tag to the turtle, record the characteristics (tag code and where on the turtle the tag was attached).

Turtle location in relation to the fishing gear If the turtle is entangled, you may sketch the general location of the turtle in relation to the gear, for example in the mainline, a gangion, or close to a buoy or float.

Hook location and turtle entanglement If the turtle is hooked, use the diagrams to indicate where the physical location of the hook, or which part of the turtles body was entangled.

F6 – Bird Form

The Bird Form is designed to record the involvement of all birds in longline sets, along with any mitigation measures and ultimate disposition.

The characteristics of hooks A, B, © are defined in the Vessel Form. You must use the same label A, B, © to reference the corresponding hooks in the Bird Form. This label will be used to record which type of hook caught the bird. Be sure to always use the same label for the same hook in each of the forms used in the trip, as defined in the Vessel Form.

Fields of the form

VESSEL: The name of the vessel which made the sets.

SAMPLE No: The sequential number assigned to this trip. The observer program staff will provide this number before the vessel leaves port.

Set No. The set number which corresponds to the sets defined in the Longline Sets Form.

Date / Time The date and time that the bird arrives alongside the vessel.

Species name Record the scientific name WHENEVER POSSIBLE, the common name, or the alpha code assigned to this species in tblEspecie (tblSpecies). Never use the numeric code, since it is almost impossible to verify its validity.

Position: Latitude / Longitude Record the position of the vessel at the time when the bird reaches the side of the vessel.

Age Record the developmental stage of the bird. Write code '1' for an immature bird, and '2' for an adult bird.

Sex Record the sex of the bird if it is possible to determine. For males, use the letter 'M' or numeric code 1. For females, use 'F' or numeric code 2.

Caught in set Record whether the bird was caught by taking a hook. Write Yes or No.

Hook A B © Record on which of the previously defined hooks the bird was caught. The characteristics of hooks A, B, © are defined in the Vessel Form. Be sure to use the same label A, B, © to reference the corresponding hooks in the Bird Form.

Mitig. 1 – Mitig. 2 Record mitigation measures in place to avoid capture of birds, using the numeric code from the Mitigation table (tblMitigacion) at the end of this manual.

Disposition Record the fate of the bird, using the numeric code from the Disposition table tblDestino at the end of this manual.

Photo Indicate whether photos of the bird were taken.

Observations Note any other data of interest related to the bird involvement in the set.

Code tables

Color (*tblColor*)

ID	Description
0	Other
1	Light Blue
2	Green
3	Yellow
4	Red
5	Blue
6	White
7	Black
8	Orange
9	Grey
10	Brown
11	Transparent

Condition (*tblEstado*)

ID	Description	Use for:
0	Other condition	Turtle and bird
1	Entangled alive	Turtle and bird
2	Entangled dead	Turtle and bird
3	Hooked alive	Turtle and bird
4	Hooked dead	Turtle and bird
5	Sighted	Turtle and bird

Disposition (*tblDestino*)

ID	Description	Use for:
0	Other fate	Fish, turtle and bird
1	Returned to the sea dead	Fish, turtle and bird
2	Commercial sale	Fish, turtle and bird
3	Consumed by the crew	Fish, turtle and bird
4	Utilized as bait	Fish, turtle and bird
5	Returned to the sea alive	Fish, turtle and bird
6	Retained as laboratory specimen	Fish, turtle and bird
12	Released with minor injuries	Turtle and bird
13	Released with grave injuries	Turtle and bird
17	Released with the hook still present	Turtle and bird

Entanglement (*tblEnredo*)

ID	Description	Use for:
0	Other location or unknown	Turtle
1	Alongside float	Turtle
2	Gangion	Turtle
3	Mainline	Turtle
4	Gangion and mainline	Turtle
5	Floatline	Turtle
6	Gangion, mainline and float	Turtle

Hooking Location (*tblEnganche*)

ID	Description	Use for:
0	Other location or unknown	Fish and turtle
1	Swallowed	Fish and turtle
2	Jaw	Fish and turtle
3	External	Fish and turtle
4	Entangled - not hooked	Fish and turtle
11	Head	Turtle
13	Upper jaw	Turtle
14	Lower jaw	Turtle
15	Neck	Turtle
16	Right front flipper	Turtle
17	Right rear flipper	Turtle
18	Left front flipper	Turtle
19	Left rear flipper	Turtle
20	Armpit	Turtle
21	Tongue	Turtle
22	Tail	Turtle
23	Shell	Turtle
25	Epiglottis	Turtle

Materials (*tblMaterial*)

ID	Description
0	Other
2	Nylon multifilament
3	Nylon monofilament
4	Polyethylyne
5	Polypropolyne
6	Steel
7	Bronze
8	Plastic
9	Polystyrine
10	Cloth
11	Bamboo
12	Cork
15	Carbon steel
16	Stainless steel
17	Duratín

Mitigation (*tblMitigacion*)

ID	Description	Use for:
0	Other	Bird
1	Bird scaring lines	Bird
2	Side setting	Bird
3	Night setting	Bird
4	Branchline weighting	Bird
5	Blue dyed bait	Bird
6	Line shooter	Bird
7	Underwater setting	Bird
8	Offal and discard discharge management	Bird

Target Fishery (*tblPesca*)

ID	Description
1	Tuna
2	Dorado, mahi-mahi
3	Grouper
4	Shark
5	Sea catfish
6	Ray
7	Billfish
8	Oilfish
10	Other