

**INTER-AMERICAN TROPICAL TUNA COMMISSION**

**98<sup>TH</sup> MEETING  
(RESUMED)**

*(by videoconference)*

**18 – 22 October 2021**

**PROPOSAL IATTC-98 A-1 REV**

**SUBMITTED BY THE EUROPEAN UNION**

**PROPOSED RESOLUTION TO AMEND RESOLUTION C-19-08**

**EXPLANATORY MEMORANDUM**

Recent challenges with the assessments of the target tuna fisheries demanded the use of sophisticated analyses that required fine-scale spatial and temporal resolution catch, effort and size data (SAC-11-06; SAC-11-07; IATTC-95-05) from the longline fleets operating far from the coasts and particularly in the high-seas, which in some cases, are not routinely available to the staff.

CPUE data from Japan forms the basis for the index of abundance used in the current assessments of bigeye and yellowfin tunas and it is key to address hypotheses of spatial structure for yellowfin tuna in the EPO. However, the magnitude and spatial extent of effort by the Japanese fleet has decreased markedly in the EPO, thereby deteriorating the quality of the indices of abundance. Recent collaborative work with Japan, Korea, Chinese Taipei and China has improved the understanding of their logbook data for developing new indices of abundance. Data for this work were only made available to the staff via multiple MoUs between the IATTC and each CPC, which are renewed annually. The data regularly submitted by the CPCs related to the Resolution C-03-05 on data provision are aggregated spatially (1° x 1° or 5° x 5°) and contain little or no gear configuration information, and no vessel identifiers, which are important factors for better understanding changes in catchability and species targeting (OTM-30), both of which influence abundance indices. Operational-level data (high resolution 'level 1' catch and effort data as defined in C-03-05) with corresponding size information are necessary to improve the indices of abundance routinely used in the stock assessments for bigeye and yellowfin tuna, and will become increasingly important for other commercially important species such as swordfish, other billfish and sharks.

These data already exist for most, if not all, large longline fleets (and for some coastal longline fleets), and are currently submitted to other t-RFMOs by IATTC CPCs (WCPFC13), and are similar to the data available to the staff for the purse-seine fishery. Therefore, these equivalent longline data should be expected to be made available to staff on an annual basis for the purposes of improving the quality of data reporting and research to facilitate fulfillment of mandates by the Antigua Convention.

The Scientific Staff has prepared an extensive workplan to address several uncertainties in the stock assessment of yellowfin, bigeye tuna and other species that will require high-resolution CPUE data with corresponding size information. The Staff has routine access to high-resolution data for most of the purse-seine fleet, but not for the longline fleet from which indices of abundance are mostly derived. The quality of stock assessments of tuna and tuna-like species undertaken by the staff will therefore continue to be severely compromised without access to these high quality existing data.

The necessary changes to accomplish this task have been incorporated into the new paragraph 8 proposed by the European Union.

Finally, the proposal also updates the metrics actually used for measuring the fishing effort in paragraph 1, with the deletion to the reference to ‘effective days of fishing’, which is obsolete.

[RESOLUTION C-19-08]

**RESOLUTION ON SCIENTIFIC OBSERVERS AND DATA COLLECTION FOR LONGLINE VESSELS**

*The Inter-American Tropical Tuna Commission (IATTC), gathered in Bilbao, Spain, on the occasion of its 94<sup>th</sup> Meeting;*

*Recognizing* the need to collect scientific information on target species as well as comprehensive data on interactions with non-target species, in particular, sea turtles, sharks and seabirds;

*Noting* the need to ensure uniform and equitable treatment of all tuna-fishing vessels operating in the Convention Area;

*Noting* that all large purse-seine vessels operating in the Convention Area are required to carry scientific observers aboard, in accordance with the Agreement on the International Dolphin Conservation Program, and that the Commission has recommended the extension of observer coverage to smaller purse-seine vessels on a voluntary basis;

*Taking* into account that IATTC scientific staff and the IATTC Working Group on Bycatch have repeatedly recommended at least 20% observer coverage on longline vessels fishing for tunas in the Convention Area, and that the Working Group on Bycatch suggested that human observer coverage could be supplemented by electronic monitoring systems (EMS) in order to achieve that goal; and

*Noting* that the Scientific Advisory Committee (SAC), at its 10<sup>th</sup> meeting in May 2019, determined that the appropriate measure of longline fishing effort for calculating observer coverage is “number of hooks.”

*Agrees that:*

1. For the purposes of this Resolution, longline fishing effort is defined as the number of effective days of fishing<sup>1</sup> ~~or~~ hooks deployed.
2. The main task of the scientific observers and/or EMS shall be to record, consistent with data standards established by the SAC, any available biological information, the catches of targeted fish species, species composition, and any available biological information, as well as any interactions with non-target species such as sea turtles, seabirds and sharks.
3. Each Member and Cooperating Non-Member (CPC) shall ensure that at least 5% of the fishing effort made by its longline fishing vessels greater than 20 meters length overall carries a scientific observer.
4. Each CPC shall endeavor to ensure that observer coverage is representative of the activities of its fleet, including in terms of gear configuration, target species and fishing areas.
5. CPCs shall:

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<sup>1</sup> ~~As defined by SAC-03 in 2012~~

- a. Ensure that the minimum level of coverage is met;
  - b. Take all necessary measures to ensure that observers are able to carry out their duties in a competent and safe manner;
  - c. Endeavor to ensure that observers alternate vessels between their assignments;
  - d. Ensure that the vessel on which an observer is placed provide suitable food and lodging during the observer's deployment at the same level as the officers, where possible. Vessel masters shall ensure that all necessary cooperation is extended to observers in order for them to carry out their duties safely, including providing access, as required, to the retained catch, and catch which is intended to be discarded.
6. The reporting requirements established by the SAC pursuant to resolution C-11-08 can be found in Annex A. The SAC may decide to modify these reporting requirements or establish new ones whenever deemed necessary and shall notify the Commission as appropriate for endorsement at the subsequent annual meeting of the IATTC.
  7. CPCs shall submit operational data collected by observers from the previous year, consistent with the Minimum Data Reporting Standards (Annex B), to the Director no later than June 30 of each year.
  8. The IATTC scientific staff shall develop a template for the collection of set-by-set catch and effort (TASK II 'level 1' data) and ancillary operational information from longline logbooks. This template would be developed by the Scientific Staff by April 1, 2022, for review at the Meeting of the SAC and adoption at the next Meeting of the Commission. Data submitted in accordance with this template would cover both available historical and current periods, and be submitted annually by June 30. Data collected pursuant to this paragraph shall be treated in accordance with Resolution C-15-07 on data confidentiality policy and procedures.
  9. Unless otherwise specified by the SAC, CPCs shall submit other reporting under this Resolution by 31 March of each year.
  10. The IATTC Scientific Staff, in consultation with CPCs, shall prepare a draft proposal for the development of minimum standards for the implementation of an EMS for the longline fleets, taking into account the experience of CPCs that are implementing EMS on longline vessels and progress made in other tuna RFMOs, to be submitted to the SAC meeting of 2020.
  11. The SAC, in consultation with the IATTC Scientific Staff, shall present recommendations on this proposal to the Commission for its consideration at its annual meeting in 2020.

Annex A: Annual Summary Reporting (established by SAC-10)

Annex B: Minimum Data Reporting Standards (2 options, established by SAC-08)

Option 1 (harmonized with WCPFC)

Option 2 (IATTC-developed longline observer forms)

Annex A.

**Template for annual summary reports on fleet information and observer data for longline vessels >20 m LOA operating in the EPO**

(adopted by the 10<sup>th</sup> Meeting of the IATTC Scientific Advisory Committee, May 2019)

CPC	Name
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FLEET INFORMATION (vessels >20 m LOA)									
	Both set types combined			Shallow sets (<15 HPB/HBF <sup>1</sup> or <100 m max hook depth)			Deep sets (≥15 HPB/HBF or ≥100 m max hook depth)		
	Date range DD-MMM-YY – DD-MMM-YY	Date range DD-MMM-YY – DD-MMM-YY	Date range DD-MMM-YY – DD-MMM-YY	Date range DD-MMM-YY – DD-MMM-YY	Date range DD-MMM-YY – DD-MMM-YY	Date range DD-MMM-YY – DD-MMM-YY	Date range DD-MMM-YY – DD-MMM-YY	Date range DD-MMM-YY – DD-MMM-YY	Date range DD-MMM-YY – DD-MMM-YY
Period covered	from (XXX) <sup>o</sup> W to (XXX) <sup>o</sup> W and from (XX) <sup>o</sup> S/N to (XX) <sup>o</sup> S/N			from (XXX) <sup>o</sup> W to (XXX) <sup>o</sup> W and from (XX) <sup>o</sup> S/N to (XX) <sup>o</sup> S/N			from (XXX) <sup>o</sup> W to (XXX) <sup>o</sup> W and from (XX) <sup>o</sup> S/N to (XX) <sup>o</sup> S/N		
Area fished	from (XXX) <sup>o</sup> W to (XXX) <sup>o</sup> W and from (XX) <sup>o</sup> S/N to (XX) <sup>o</sup> S/N			from (XXX) <sup>o</sup> W to (XXX) <sup>o</sup> W and from (XX) <sup>o</sup> S/N to (XX) <sup>o</sup> S/N			from (XXX) <sup>o</sup> W to (XXX) <sup>o</sup> W and from (XX) <sup>o</sup> S/N to (XX) <sup>o</sup> S/N		
	Total Fleet	Observed	% observed	Total Fleet	Observed	% observed	Total Fleet	Observed	% observed
No. of vessels that fished									
No. of trips									
No. of effective days fishing									
No. of sets									
No. of hooks (in thousands) <i>(If unknown, approx. no. of hooks/set, using a *)</i>									
Predominant <sup>2</sup> hook type/size (IATTC code)									
Predominant bait type <sup>3</sup>									

<sup>1</sup> Hooks per basket / Hooks between floats

<sup>2</sup> 'Predominant' means most common, i.e., >50%

<sup>3</sup> Bait codes: SQ – squid; F – fishes (e.g. *Scomber* spp.); A – artificial lure (e.g. plastic jig)

NON-RETAINED SPECIES (vessels >20 m LOA)										
		No. of individuals observed								
		Both set types combined			Shallow sets (<15 HPB/HBF <sup>1</sup> or <100m max hook depth)			Deep sets (≥15 HPB/HBF or ≥100m max hook depth)		
		Released			Released			Released		
Species code	Species	Alive	Dead	Condition unknown	Alive	Dead	Condition unknown	Alive	Dead	Condition unknown
DKK	Leatherback ( <i>Dermochelys coriacea</i> )									
TTL	Loggerhead ( <i>Caretta caretta</i> )									
TUG	Green ( <i>Chelonia mydas</i> )									
LKV	Olive ridley ( <i>Lepidochelys olivacea</i> )									
	<i>Add rows for additional species as required</i>									
<b>Sharks and rays</b>										
FAL	Silky ( <i>Carcharhinus falciformis</i> )									
OCS	Oceanic whitetip ( <i>Carcharhinus longimanus</i> )									
BSH	Blue shark ( <i>Prionace glauca</i> )									
SMA	Shortfin mako ( <i>Isurus oxyrinchus</i> )									
SPL	Scalloped hammerhead ( <i>Sphyrna lewini</i> )									
SPZ	Smooth hammerhead ( <i>Sphyrna zygaena</i> )									
SPK	Great hammerhead ( <i>Sphyrna mokarran</i> )									
RMB	Giant manta ray ( <i>Manta birostris</i> )									
	<i>Add rows for additional species as required</i>									
<b>Marine mammals</b>										
FAW	False killer whale ( <i>Pseudorca crassidens</i> )									
DRR	Risso's dolphin ( <i>Grampus griseus</i> )									
SGF	Guadalupe fur seal ( <i>Arctocephalus townsendi</i> )									
	<i>Add rows for additional species as required</i>									
<b>Seabirds</b>										
DQS	Antipodean albatross ( <i>Diomedea antipodensis</i> )									
DPK	Waved albatross ( <i>Phoebastria irrorata</i> )									
DIZ	Laysan albatross ( <i>Phoebastria immutabilis</i> )									
DAQ	Short-tailed albatross ( <i>Phoebastria albatrus</i> )									
	<i>Add rows for additional species as required</i>									
<b>Billfishes</b>										
MLS	Striped marlin ( <i>Kajikia audax</i> )									
SSP	Shortbill spearfish ( <i>Tetrapturus angustirostris</i> )									
BUM	Blue marlin ( <i>Makaira nigricans</i> )									
	<i>Add rows for additional species as required</i>									

Annex B, Option 1.

Data field	Description/Instructions/Comments
<b>GENERAL VESSEL AND TRIP INFORMATION</b>	
<b>VESSEL IDENTIFICATION</b>	
Name of vessel	Name, including all numbers or other characters
Flag Registration Number	The number issued to the vessel by the authorities of its flag State.
International Radio Call Sign	If issued.
Vessel Owner/Company	Name (individual or company) and contact information, if available, of the vessel owner.
International Maritime Organization 'IMO' or Lloyd's Register number 'LR'	If issued.
<b>VESSEL TRIP INFORMATION</b>	
Date and time of departure from port	The date and time the vessel leaves port to start its fishing trip.
Port of departure	Include both the port name and country.
Date and time of return to port	The day and time the vessel returns to a port at the completion of its trip.
Port of return	Include both the port name and country.
<b>OBSERVER INFORMATION</b>	
Observer name	Full name.
Observer provider	Name of the organization or agency that employs the observer and has placed him on the vessel.
Date, time and location of embarkation	The date, time, and location where the observer boards the vessel to start his trip.
Date, time and location of disembarkation	The date, time, and location where the observer leaves the vessel and concludes his observer duties.
<b>CREW INFORMATION</b>	
Name of captain	Full name.
Name of fishing master	Full name.
Total number of crew	Total number of people aboard the vessel, excluding the observer
<b>VESSEL CHARACTERISTICS</b>	
Note: These characteristics only need to be noted if what is observed differs from specifications reflected on the IATTC vessel register.	
Vessel fish hold capacity	The total combined capacity, in metric tons (MT), of the vessel freezers, wells, and any other areas that can be used to store catch.
Freezer type	Some vessels may have more than one type of freezer. List all types present.
Length Over All (specify unit)	The "LOA" can typically be found in the vessel plans or other documents.
Tonnage (specify unit)	The vessel tonnage, as recorded in the vessel's registration documents; may be expressed as Gross Tonnage (GT) or Gross Register Tonnage (GRT).
Engine power (specify unit)	The engine power is typically listed in the vessel plans.
<b>VESSEL ELECTRONICS</b>	
Indicate "Yes" if present, "No" if absent. If more than one of type is present, indicate the total number present	
Radars	"Yes" if present, "No" if absent.

Depth Sounder	"Yes" if present, "No" if absent.
Global Positioning System (GPS)	"Yes" if present, "No" if absent.
Track Plotter	"Yes" if present, "No" if absent.

Data field	Description/Instructions/Comments
Weather Facsimile	"Yes" if present, "No" if absent.
Sea Surface Temperature (SST) gauge	"Yes" if present, "No" if absent.
Sonar	"Yes" if present, "No" if absent.
Radio/ Satellite Buoys	"Yes" if present, "No" if absent.
Doppler Current Meter	"Yes" if present, "No" if absent.
Expendable Bathythermograph (XBT)	"Yes" if present, "No" if absent.
Satellite Communications Services (Phone/Fax/Email)	Indicate all the vessel Satellite numbers if the vessel has Satellite communications on board
Fishery information services	"Yes" if present, "No" if absent. Please also list the information service used.
Vessel Monitoring System	Indicate the type(s) of VMS used on the vessel (e.g. INMARSAT, ARGOS, etc.)
Refrigeration Method	List all refrigerator types used on the vessel.
<b>GENERAL GEAR CHARACTERISTICS</b>	
Mainline material	List the of the mainline used by the vessel (e.g. Kuralon, Braided nylon, Monofilament Nylon, etc.).
Mainline length (specify unit)	The total length of the mainline when it is fully set
Mainline diameter (specify unit)	
Branch line material(s)	A branch line can consist of one type of material like monofilament or it can be made up of many different materials like braided nylon wire trace and mono filament, etc. If different types are used in different branch line positions, please describe.
<b>SPECIAL GEAR CHARACTERISTICS</b>	
Wire trace	<b>At the trip level</b> indicate "Yes" or "No" -if the vessel uses wire traces on some or all of its lines. If wire traces used on all lines during the trip then record "ALL LINES." If the vessel used wire traces on certain branch line positions during the trip, describe the configuration. For example, "wire traces were used on first and tenth branch lines of each basket". If the proportion of leaders that are wire varies within a trip, record the average based on a sample of ten total baskets from a range of sets.
Mainline hauler	Does the vessel use an instrument to haul in the main line after it is set or is the line hauled by hand?
Branch line hauler	Does the vessel use a special hauler to coil branch lines?
Line shooter	Does the vessel use a line shooter?
Automatic bait thrower	Does the vessel use a bait thrower or are bait and branch lines thrown overboard manually?
Automatic branch line attached	Does the vessel have an automatic branch line mechanism that attaches the branch at regular intervals or is this done manually?
Hook type	<b>For each set</b> , record the type of hook or hooks used, using the codes in the hook catalogue (e.g. J hooks, circle hooks, offset circle hooks, etc.)
Hook size	<b>For each set</b> , record the size of the hooks used. If not sure, ask the bosun or refer to a hook catalogue.

Tori Lines	<b>For each set,</b> record whether the vessel uses Tori lines when setting; if yes, how many and their length.
side setting with bird curtain and weighted branch lines	<b>For each set,</b> record whether the vessel used side-setting with a bird curtain in combination with weighted branch lines.

Data field	Description/Instructions/Comments
Weighted branch lines-	<b>For each trip</b> where weighted branch lines are used, record the mass of the weight attached to the branch line. If more than one type of weighting is used during a trip, describe each type and indicate the proportion based on a sample of ten baskets from a range of different sets.
Shark lines	<b>For each set</b> , record the number of shark lines (branch lines running directly off the longline floats or drop lines) observed. Where possible, record the length of this line for each set.
Blue dyed bait	<b>For each set</b> , record whether the vessel used blue-dyed bait.
Distance between weight and hook (in meters)	<b>For each set</b> , record the distance in meters from where the bottom of the weight is attached on the branch line to the eye of the hook.
Deep setting line shooter	<b>For each set</b> , record whether the vessel used a deep setting line shooter.
Management of offal discharge	<b>For each set</b> , record whether the vessel used the management of offal discharge.
Date and time of start of set	<b>For each set</b> , record the date and time the first buoy is thrown into the water to start the setting of the line.
Latitude and Longitude of start of set	<b>For each set</b> , record the GPS reading at the time the first buoy is thrown into the water
Date and Time of end of set	<b>For each set</b> , record the date and time the last buoy (usually has radio beacon attached) at the end of the mainline is thrown into the water
Latitude and Longitude of end of set	<b>For each set</b> , record the GPS reading at the time the last buoy is thrown into the water
Total number of baskets or floats	<b>For each set</b> , record the number of baskets utilized. A basket is the sum of all the hooks set between two buoys on a longline; usually it is the same as the number of floats set minus one.
Number of hooks per basket (number of hooks between buoys)	<b>For each set</b> , record how many hooks set from one buoy to another, the number is usually constant along the line, but can vary in some cases, also if the vessel also sets a branch line on the buoy, count this as a hook between floats as well.
Total number of hooks used	<b>For each set</b> , record how many hooks were used. This is typically calculated by multiplying number of baskets by the number of hooks per basket.
Line shooter speed	<b>For each set</b> where the vessel uses a line shooter, record the shooter speed. The shooter will normally have an indicator to show its running speed, as well as a sound indicator or light, that beeps at a regular interval, when it is time to attach a branch line.
Length of float-line	<b>For each trip</b> , record length of the line that is attached to the floats, get a coil and measure the length. It usually remains the same throughout the trip.
Distance between branch-lines	<b>For each set</b> , record the distance between branch line attachments to the mainline. This can be determined easily if vessel has a line shooter with electronic attachment indicator.
Length of branch-lines	<b>For each set</b> , measure the length of a sample of the majority of branch lines used, some may vary slightly due to repairs.

Time-depth recorders (TDRs)	Does the vessel use TDRs on its line? If yes record the number of TDRs used it may use and their location along the mainline.?
Number of light-sticks	<b>For each set</b> , indicate whether the vessel uses light sticks on its line, record the number used, and where possible, information on the location ( <i>e.g.</i> “used on first and tenth branch lines from the float”).
Target species	What species does the vessel target? Tuna (BET YFT), Swordfish, Sharks, etc.
Bait Species	<b>For each set</b> , record the bait species used Pilchard, Sardine, Squid, artificial bait, etc.
Date and time of start of haul	<b>For each set</b> , record the date and time the first buoy of the mainline is hauled from the water to start the haul.
Date and time of end of haul	<b>For each set</b> , record the date and time the last buoy of the mainline is hauled from the water to end the haul.
Total number of baskets, floats monitored by observer in a single set	<b>For each set</b> , record how many floats or baskets were monitored by the observer?
<b>INFORMATION ON CATCH FOR EACH SET</b>	
Hook number (location between floats)	For each individual capture, record the hook number that the animal is caught on, counting from the last float hauled on board.
Species	Use FAO species code.
Length of fish	Measure length of specimen, using the recommended measurement approach for the species.
Length measurement code	Reflect the type of length measurement taken using the appropriate measurement code. For example, all tunas are measured from the end of the upper Jaw to fork of the tail, measurement code UF.
Sex	Sex the species if possible. If an unsuccessful attempt is made to sex the individual, record “I” for indeterminate. If no attempt to sex the individual is made, record “U” for unknown.
Condition when caught	For bycatch species ( <i>e.g.</i> sharks, sea turtles, seabird, marine mammals, etc.) also reflect hooking location [ <i>i.e.</i> hooked in mouth, hooked deeply (throat/stomach), and hooked externally].
Fate	Record the ultimate disposition of the capture using the appropriate code ( <i>e.g.</i> retained, discarded, etc.)
Condition when released	If released, record the animal’s status when returned to the sea.
Tag recovery information	Record as much as information as possible on any tags recovered
<b>SPECIES OF SPECIAL INTEREST</b>	
<b>Sea turtles, marine mammals, sea birds, and sharks</b>	
<b>GENERAL INFORMATION</b>	
Type of interaction	Indicate the type of interaction ( <i>e.g.</i> entangled, hooked internally, hooked externally, interaction with vessel only, etc.).
Date and time of interaction	Record ships date and time of interaction
Latitude and longitude of interaction	Record position of the interaction.
Species code of sea turtle, marine mammal, or seabird.	Use FAO codes for Species.
<b>LANDED ON DECK</b>	
Length	Measure length, in centimeters.
Length measurement code	Measure using the measure method determined for that species.
Sex	Sex the animal if possible.

Estimated fin weight (for sharks)	Weigh the fins separately if shark has been finned by crew. If no scales, estimate the weight.
Estimated carcass weight (for sharks)	Weigh the carcass of a finned shark. If no scales available, carcass is discarded, or if it is too large to handle, estimate the weight.
Condition when landed on Deck	Record the animal's condition when landed on deck, using

Data field	Description/Instructions/Comments
	appropriate code.
Condition when released	If released, record the animal's condition at the time of release, using appropriate code.
Tag recovery information	Record as much as information as possible on any tags recovered
Tag release information	Record as much as information as possible on any tags placed on the species before release.

Annex B, Option 2.

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 *	Distance btwn. hooks ↓	Max. hooks on mainline ↓	Number of lights ↓	Number of radio buoys ↓
Mainline			mm	Nm		bz			
Upper gangion			mm	fath		<b>Mainline weights:</b> Yes ( ) No ( )		<b>Mainline retrieval</b> By hand ( ) Manual crank ( )	
Middle gangion			mm	fath		<b>Dropline connection to mainline:</b> Knots ( ) Snaps ( )		Hydraulic crank ( ) Other _____ ( )	
Lower gangion			mm	fath		Fishing gear diagram			
Floatline / dropline				cm					
Buoy			cm						
Flag									
Float			cm						

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

\* 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. C	Type of bait	% of total
	Start	End	Start	End						
	LAT								Bait 1	
↓ Date ↓	LON				Total no. of hooks in set:				Bait 2	
	TIME				No. of hooks lost:				Bait 3	
Target Fishery	Set Special? <input type="checkbox"/>	Yes <input type="checkbox"/>	Retrieval direction Start to end <input type="checkbox"/>	Sea surf. temp. <input type="checkbox"/>	No. hooks btwn. floats	Avg. hook depth	Bottom longline? Yes No			
	Patrolled? <input type="checkbox"/>		End to start <input type="checkbox"/>			fath	<input type="checkbox"/> <input type="checkbox"/>			

Observations:

Set number	SET		RETRIEVAL		Number of hooks in the set by type:	Hook. A	Hook. B	Hook. C	Type of bait	% of total
	Start	End	Start	End						
	LAT								Bait 1	
↓ Date ↓	LON				Total no. of hooks in set:				Bait 2	
	TIME				No. of hooks lost:				Bait 3	
Target Fishery	Set Special? <input type="checkbox"/>	Yes <input type="checkbox"/>	Retrieval direction Start to end <input type="checkbox"/>	Sea surf. temp. <input type="checkbox"/>	No. hooks btwn. floats	Avg. hook depth	Bottom longline? Yes No			
	Patrolled? <input type="checkbox"/>		End to start <input type="checkbox"/>			fath	<input type="checkbox"/> <input type="checkbox"/>			

Observations:

Set number	SET		RETRIEVAL		Number of hooks in the set by type:	Hook. A	Hook. B	Hook. C	Type of bait	% of total
	Start	End	Start	End						
	LAT								Bait 1	
↓ Date ↓	LON				Total no. of hooks in set:				Bait 2	
	TIME				No. of hooks lost:				Bait 3	
Target Fishery	Set Special? <input type="checkbox"/>	Yes <input type="checkbox"/>	Retrieval direction Start to end <input type="checkbox"/>	Sea surf. temp. <input type="checkbox"/>	No. hooks btwn. floats	Avg. hook depth	Bottom longline? Yes No			
	Patrolled? <input type="checkbox"/>		End to start <input type="checkbox"/>			fath	<input type="checkbox"/> <input type="checkbox"/>			

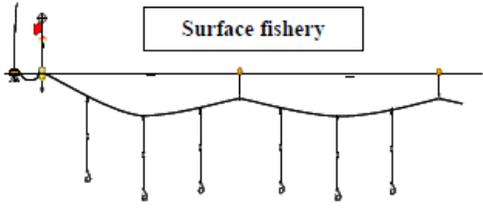
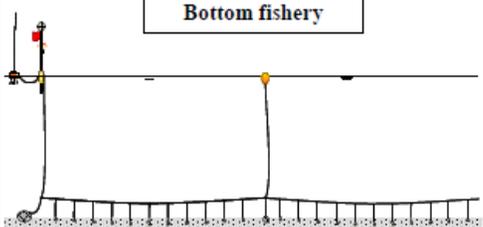
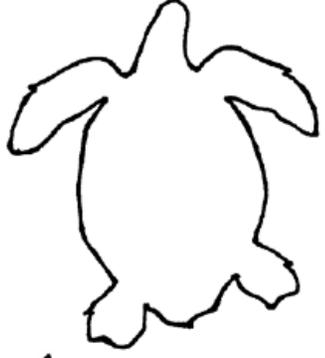
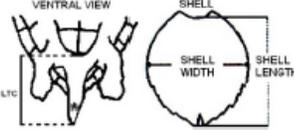
Observations:



### TURTLE FORM

(Record turtle sightings only for hawksbill, loggerhead and leatherback turtles)

VESSEL: \_\_\_\_\_ SAMPLE No: \_\_\_\_\_ OBSERVER: \_\_\_\_\_

Date	Time	Set number	Species	Sex	CCL <sup>1</sup> (cm)	CCW <sup>2</sup> (cm)	Tail LIC (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					
 <p>Surface fishery</p>				 <p>Bottom fishery</p>					
									
									
						Existing tag 1:			
						Existing tag 2:			
						New tag 1:			
						New tag 2:			
									

<sup>1</sup>CCL: Curved carapace length <sup>2</sup>CCW: Curved carapace width

\* Use numbers from code tables

