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Regulation (EU) 2018/975 of the European Parliament and of the Council of 4 July 2018 laying down management, conservation and control measures applicable in the South Pacific Regional Fisheries Management Organisation (SPRFMO) Convention Area

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ANNEX X

Observer data

Vessel and observer details are to be recorded only once for each observed trip, and shall be reported in a way that links the vessel data to data required in Sections A, B, C, and D.

- A. *Vessel and observer data to be collected for each observed trip*
- 1. The following vessel data are to be collected for each observed trip:
- (a) Current vessel flag
- (b) Name of vessel
- (c) Name of the vessel master
- (d) Name of the fishing master
- (e) Registration number
- (f) IRCS (if any)
- (g) Lloyd's/IMO number (if allocated)
- (h) Previous names (if known)
- (i) Port of registry
- (j) Previous flag (if any)
- (k) Type of vessel (use appropriate ISSCFV codes)
- (l) Type of fishing method(s) (use appropriate ISSCFG codes)
- (m) Length (m)
- (n) Length type e.g. 'LOA', 'LBP'
- (o) Beam (m)
- (p) Gross tonnage GT (to be provided as the preferred unit of tonnage)
- (q) Gross register tonnage GRT (to be provided if GT not available; may also be provided in addition to GT)
- (r) Power of main engine(s) (kilowatts)
- (s) Hold capacity (cubic metres)
- (t) Record of the equipment on board which may affect fishing power factors (navigational equipment, radar, sonar systems, weather fax or satellite weather receiver, sea-surface temperature image receiver, Doppler current monitor, radio direction finder), where practical
- (u) Total number of crew (all staff, excluding observers)
- 2. The following observer data are to be collected for each observed trip:
- (a) Observer's name
- (b) Observer's organisation

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- (c) Date observer embarked (UTC date)
- (d) Port of embarkation
- (e) Date observer disembarked (UTC date)
- (f) Port of disembarkation
- B. Catch and effort data to be collected for trawl fishing activity
- 1. Data are to be collected on an un-aggregated (tow by tow) basis for all observed trawls.
- 2. The following data are to be collected for each observed trawl tow:
- (a) Tow start date and time (the time gear starts fishing UTC)
- (b) Tow end date and time (the time haul back starts UTC)
- (c) Tow start position (Lat/Lon, 1 minute resolution decimal)
- (d) Tow end position (Lat/Lon, 1 minute resolution decimal)
- (e) Intended target species (FAO species code)
- (f) Type of trawl, bottom or mid-water (use appropriate bottom or midwater trawl codes from the standard ISCCFG fishing gear standards)
- (g) Type of trawl: single, double or triple (S, D or T)
- (h) Height of net opening
- (i) Width of net opening
- (j) Mesh size of the cod-end net (stretched mesh, mm) and mesh type (diamond, square, etc.)
- (k) Gear depth (of footrope) at start of fishing
- (l) Bottom (seabed) depth at start of fishing
- (m) Estimated catch of all species (FAO species code) retained on board, split by species, in live weight (to the nearest kg)
- (n) Were any marine mammals, seabirds, reptiles or other species of concern caught? (Yes/No/Unknown)
 - If yes, record the numbers by species of all marine mammals, seabirds, reptiles or other species of concern caught.
- (o) Was there any benthic material in the trawl? (Yes/No/Unknown)
 - If yes, record sensitive benthic species in the trawl catch, particularly vulnerable or habitat-forming species such as sponges, sea-fans or corals.
- (p) Estimate of the amount (weight or volume) of remaining marine resources not recorded under point (m), (n) or (o) discarded, split to the lowest known taxon
- (q) Record any by-catch mitigation measures employed:
 - (i) Were bird scaring (tori) lines in use? (nil/equipment code as described in Section L)

- (ii) Were bird bafflers in use? (nil/equipment code as described in Section N)
- (iii) Describe the offal/discard discharge management in place (select all that apply: no discharge during shooting and hauling/only liquid discharge/waste batching > 2 hours/other/none)
- (iv) Were any other measures used to reduce the by-catch of marine mammals, seabirds, reptiles or other species of concern? (Yes/No)If yes, describe.
- C. Catch and effort data to be collected for purse seine fishing activity
- 1. Data are to be collected on an un-aggregated (set by set) basis for all observed purseseine sets.
- 2. The following data are to be collected for each observed purse-seine set:
- (a) Total search time before this set, since the last set
- (b) Set start date and time (the time gear starts fishing UTC)
- (c) Set end date and time (the time haul back starts UTC)
- (d) Set start position (Lat/Lon, 1 minute resolution decimal)
- (e) Net length (m)
- (f) Net height (m)
- (g) Net mesh size (stretched mesh, mm) and mesh type (diamond, square, etc.)
- (h) Intended target species (FAO species code)
- (i) Estimated catch of all species (FAO species code) retained on board, split by species, in live weight (to the nearest kg)
- (j) Were any marine mammals, seabirds, reptiles or other species of concern caught? (Yes/No/Unknown)
 - If yes, record the numbers by species of all marine mammals, seabirds, reptiles or other species of concern caught.
- (k) Was there any benthic material in the net? (Yes/No/Unknown)
 - If yes, record sensitive benthic species in the catch, particularly vulnerable or habitatforming species such as sponges, sea-fans or corals.
- (l) Estimate of the amount (weight or volume) of remaining marine resources not recorded under point (i), (j) or (k) discarded, split to the lowest known taxon
- (m) Record and describe any by-catch mitigation measures employed
- D. Catch and effort data to be collected for bottom long line fishing activity
- 1. Data are to be collected on an un-aggregated (set by set) basis for all observed longline sets.
- 2. The following fields of data are to be collected for each observed set:

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- (a) Set start date and time (UTC format)
- (b) Set end date and time (UTC format)
- (c) Set start position (Lat/Lon, 1 minute resolution decimal format)
- (d) Set end position (Lat/Lon, 1 minute resolution decimal format)
- (e) Intended target species (FAO species code)
- (f) Total length of longline set (km)
- (g) Number of hooks for the set
- (h) Bottom (seabed) depth at start of set
- (i) Number of hooks actually observed (including for marine mammals, seabirds, reptiles or other species of concern caught) during the haul
- (j) Estimated catch of all species (FAO species code) retained on board, split by species, in live weight (to the nearest kg)
- (k) Were any marine mammals, seabirds, reptiles or other species of concern caught? (Yes/No/Unknown)
 - If yes, record the numbers by species of all marine mammals, seabirds, reptiles or other species of concern caught.
- (l) Was there any benthic material in the catch? (Yes/No/Unknown)
 - If yes, record sensitive benthic species in the catch, particularly vulnerable or habitatforming species such as sponges, sea-fans or corals.
- (m) Estimate of the amount (weight or volume) of remaining marine resources not recorded under point (j), (k) or (l) discarded, split to the lowest known taxon
- (n) Record any bycatch mitigation measures employed:
 - (i) Were bird scaring (tori) lines in use? (nil/equipment code as described in Section L)
 - (ii) Was setting restricted to the time between nautical dusk and nautical dawn? (Yes/No)
 - (iii) What type of fishing gear was used? (external weighting system/internal weighting system/trot line/other)
 - (iv) If external weighting system, describe weighting and float regime (using the form provided in Section M)
 - (v) If internal weighting system, what was the line core's weight (grams per metre)?
 - (vi) If trot line, were cachalotera nets used? (Yes/No)
 - (vii) If other, describe
- (o) What haul mitigation was used? (bird deterrent curtains/other/none) If other, describe.

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- (p) What was the bait type? (fish/squid/mixed; live/dead/mixed; frozen/thawed/mixed)
- (q) Describe discharge of any biological material during shooting and hauling (discharge not batched for two hours or more/discharge batched for two hours or more/none/unknown)
- (r) Were any other measures used to reduce the bycatch of marine mammals, seabirds, reptiles or other species of concern? (Yes/No)

If yes, describe.

E. Length-frequency data to be collected

Representative and randomly sampled length-frequency data are to be collected for the target species and, time permitting, for other main by-catch species. Length data are to be collected and recorded at the most precise level appropriate for the species (cm or mm and whether to the nearest unit or unit below) and the type of measurement used (total length, fork length, or standard length) is also to be recorded. If possible, the total weight of length-frequency samples is to be recorded, or estimated and the method of estimation recorded, and observers may be required to also determine sex of measured fish to generate length-frequency data stratified by sex.

- 1. Commercial sampling protocol
- (a) Fish species other than skates, rays and sharks:
 - (i) fork length is to be measured to the nearest cm for fish which attain a maximum length greater than 40 cm fork length
 - (ii) fork length is to be measured to the nearest mm for fish which attain a maximum length less than 40 cm fork length;
- (b) Skates and rays:

Maximum disk width is to be measured;

(c) Sharks:

Appropriate length measurement to be used is to be selected for each species (see FAO technical report 474 on measuring sharks). As a default, total length is to be measured.

2. Scientific sampling protocol

For scientific sampling of species, length measurements may need to be made at a finer resolution than specified in point 1.

- F. Biological sampling to be conducted
- 1. The following biological data are to be collected for representative samples of the main target species and, time permitting, for other main by-catch species contributing to the catch:
- (a) Species
- (b) Length (mm or cm), with a record of the type of length measurement used. Measurement precision and type are to be determined on a species by species basis consistent with that defined in Section E
- (c) Sex (male, female, immature, unsexed)

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- (d) Maturity stage
- 2. Observers are to collect tissue, otolith and/or stomach samples according to predetermined specific research programmes implemented by the SPRFMO Scientific Committee or other national scientific research.
- 3. Observers are to be briefed and provided with written length-frequency and biological sampling protocols, where appropriate, and priorities for the above sampling specific to each observer trip.
- G. Data to be collected on incidental captures of seabirds, mammals, turtles and other species of concern
- 1. The following data are to be collected for all seabirds, mammals, reptiles (turtles) and other species of concern caught in fishing operations:
- (a) Species (identified taxonomically as far as possible, or accompanied by photographs if identification is difficult) and size
- (b) Count of the number of each species caught per tow or set
- (c) Fate of by-caught animal(s) (retained or released/discarded)
- (d) If released, life status (vigorous, alive, lethargic, dead) upon release
- (e) If dead, then collect adequate information or samples for onshore identification in accordance with pre-determined sampling protocols. Where this is not possible, observers may be required to collect sub-samples of identifying parts, as specified in biological sampling protocols.
- (f) Record the type of interaction (hook/line entanglement/warp strike/net capture/other)

 If other, provide a description.
- 2. Record sex of each individual for taxa where this is feasible from external observation, such as pinnipeds, small cetaceans or *Elasmobranchii* and other species of concern.
- 3. Were there any circumstances or actions that may have contributed to the by-catch event? (for example tori line tangle, high levels of bait loss).
- H. Detection of fishing in association with VMEs

For each observed trawl, the following data are to be collected for all sensitive benthic species caught, particularly vulnerable or habitat-forming species such as sponges, sea fans, or corals:

- (a) Species (identified taxonomically as far as possible, or accompanied by a photograph where identification is difficult);
- (b) An estimate of the quantity (weight (kg) or volume (m³)) of each listed benthic species caught in the tow;
- (c) An overall estimate of the total quantity (weight (kg) or volume (m³)) of all invertebrate benthic species caught in the tow;
- (d) Where possible, and particularly for new or scarce benthic species which do not appear in guides for the identification of species, whole samples are to be collected and suitably preserved for identification on shore.
- I. Data to be collected for all tag recoveries

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The following data are to be collected for all recovered fish, seabird, mammal or reptile tags if the organism is dead, to be retained, or alive:

- (a) Observer name
- (b) Vessel name
- (c) Vessel call sign
- (d) Vessel flag
- (e) Collect, label (with all details below) and store the actual tags for later return to the tagging agency
- (f) Species from which tag recovered
- (g) Tag colour and type (spaghetti, archival)
- (h) Tag numbers (The tag number is to be provided for all tags when multiple tags were attached to one fish. If only one tag was recorded, a statement is required that specifies whether or not the other tag was missing.) If the organism is alive and to be released, tag information is to be collected in accordance with predetermined sampling protocols.
- (i) Date and time of capture (UTC)
- (j) Location of capture (Lat/Lon, to the nearest 1 minute)
- (k) Animal length/size (cm or mm) with description of what measurement was taken (such as total length, fork length, etc.). Length measurements are to be collected according to the criteria defined in Section E.
- (1) Sex (F = female, M = male, I = indeterminate, D = not examined)
- (m) Whether the tags were found during a period of fishing that was being observed (Yes/No)
- (n) Reward information (e.g. name and address where to send reward)

(It is recognised that some of the data recorded here duplicates data that already exists in the previous categories of information. This is necessary because tag recovery information may be sent separately to other observer data.)

- J. Hierarchies for observer data collection
- 1. Recognising that observers may not be able to collect all of the data described in these standards on each trip, a hierarchy of priorities is to be implemented for collection of observer data. Trip-specific or programme-specific observer task priorities may be developed in response to specific research programme requirements, in which case such priorities are to be followed by observers.
- 2. In the absence of trip- or programme-specific priorities, the following generalised priorities are to be followed by observers:
- (a) Fishing Operation Information
 - All vessel and tow/set/effort information
- (b) Reporting of Catches

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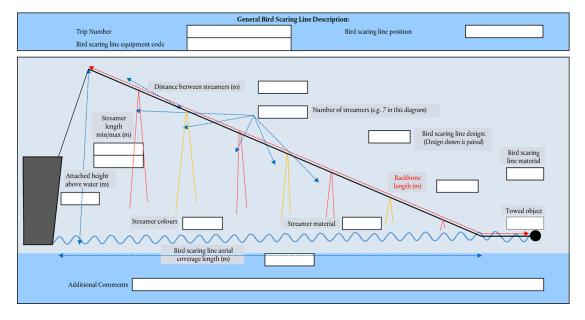
- (i) Record time, weight of catch sampled versus total catch or effort (e.g. number of hooks), and total numbers of each species caught
- (ii) Identification and counts of seabirds, mammals, reptiles (turtles), sensitive benthic species and vulnerable species
- (iii) Record numbers or weights of each species retained or discarded
- (iv) Record instances of depredation, where appropriate
- (c) Biological Sampling
 - (i) Check for presence of tags
 - (ii) Length-frequency data for target species
 - (iii) Basic biological data (sex, maturity) for target species
 - (iv) Length-frequency data for main by-catch species
 - (v) Otoliths (and stomach samples, if being collected) for target species
 - (vi) Basic biological data for by-catch species
 - (vii) Biological samples of by-catch species (if being collected)
 - (viii) Take photos
- (d) The reporting of catches and biological sampling procedures are to be prioritised among species groups as follows:

Species	Priority (1 highest)
Primary target species (such as jack mackerel, for pelagic fisheries, and orange roughy for demersal fisheries)	1
Seabirds, mammals, reptiles (turtles) or other species of concern	2
Other species typically within top 5 in the fishery (such as blue mackerel for pelagic fisheries, and oreos and alfonsino for demersal fisheries)	3
All other species	4

The allocation of observer effort among these activities will depend on the type of operation and setting. The size of sub-samples relative to unobserved quantities (such as the number of hooks examined for species composition relative to the number of hooks set) is to be explicitly recorded under the guidance of Member State observer programmes.

- K. Coding specifications to be used for recording observer data
- 1. Unless otherwise specified for specific data types, observer data are to be provided in accordance with the same coding specifications as specified in this section.
- 2. Coordinated Universal Time (UTC) is to be used to describe times.

- 3. Decimal degrees are to be used to describe locations.
- 4. The following coding schemes are to be used:
- (a) species are to be described using the FAO 3 letter species codes;
- (b) fishing methods are to be described using the International Standard Classification of Fishing Gear (ISSCFG 29 July 1980) codes;
- (c) types of fishing vessel are to be described using the International Standard Classification of Fishery Vessels (ISSCFV) codes.
- 5. Metric units of measure are to be used, specifically:
- (a) kilograms are to be used to describe catch weight;
- (b) metres are to be used to describe height, width, depth, beam or length;
- (c) cubic metres are to be used to describe volume;
- (d) kilowatts are to be used to describe engine power.
- L. Bird scaring line description form



BIRD SCARING LINE CODES/LIST OPTIONS:				
Position	Design	Towed Object	Material	Colour
Port Side	Single	F =Inverted funnel/ plastic cone	T =Plastic tubing	P = Pink
Starboard Side	Paired	L =Length of thick line	S =Plastic strapping	R =Red
Stern		K =Knot or loop of thick line	O =Other	C =Carrot (Orange)
		B =Buoy		Y =Yellow

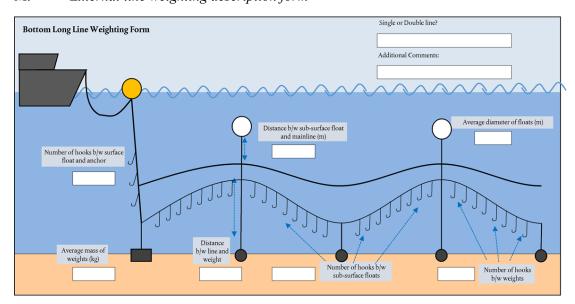
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	N =Netted buoy	G =Green
3	S =Sack or bag	B =Blue
1	W =Weight	W =Brown
	Z =No towed object	F =Faded colour (any colour)
	O =Other	O =Other

Summary of Inputted Values:			
Trip Number	Distance between streamers		
Bird scaring line equipment code	Streamer length (min)		
Bird scaring line position	Streamer length (max)		
Backbone length	Streamer colour		
Aerial coverage length	Streamer material		
Attached height above water	Number of streamers		
Bird scaring line material	Towed object		
Bird scaring line design	Additional comments		

M. External line weighting description form

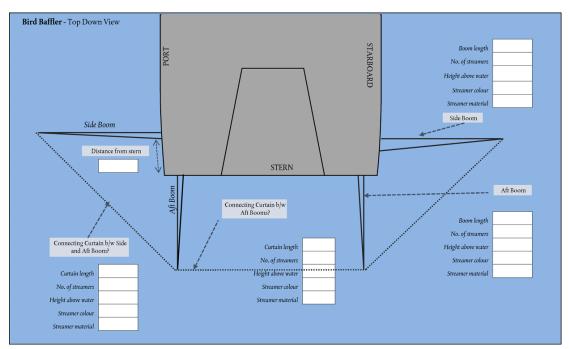


Summary of Inputted Values:	
Single or Double line?	Number of hooks b/w surface float and anchor
Avg mass of weights	Number of hooks b/w sub-surface floats
Distance b/w sub-surface float and mainline	Number of hooks b/w weights

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Distance b/w line and weight	Additional comments
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N. Bird baffler description form



Summary of Inputted Values				
_	Distance from stern			
Side Boom		Aft Boom		
_	Boom length	_	Boom length	
_	Number of streamers	_	Number of streamers	
	Average distance between streamers		Average distance between streamers	
_	Height above water	_	Height above water	
	Streamer colour	_	Streamer colour	
_	Streamer material		Streamer material	
Side-Aft Curtain		Aft Curtain		
	Curtain length	_	Curtain length	
_	Number of streamers	_	Number of streamers	
_	Average distance between streamers	_	Average distance between streamers	

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_	Height above water		Height above water
_	Streamer colour		Streamer colour
_	Streamer material	_	Streamer material

O. Standard for observer data collected during a landing or while a vessel is in port

With regards to fishing vessels flying their flag, and landing unprocessed (i.e. whole and no part of the fish having been removed) SPRFMO managed species, and where these landings are observed, Member States may collect and provide the following information:

- 1. The following vessel data for each observed landing:
 - (a) Current vessel flag
 - (b) Name of vessel
 - (c) Fishing vessel registration number
 - (d) IRCS (if any)
 - (e) Lloyd's/IMO number (if allocated)
 - (f) Type of vessel (use appropriate ISSCFV codes)
 - (g) Type of fishing method(s) (use appropriate ISSCFG codes)
- 2. The following observer data for each observed landing:
 - (a) Observer's name
 - (b) Observer's organisation
 - (c) Country of landing (standard ISO 3-alpha country codes)
 - (d) Port/Point of landing
- 3. The following data for each observed landing:
 - (a) Landing Date and time (UTC format)
 - (b) First day of trip to the extent practicable
 - (c) Last day of trip to the extent practicable
 - (d) Indicative fishing area (decimal Lat/Long, 1 minute resolution to the extent practicable)
 - (e) Main target species (FAO species code)
 - (f) Landed state by species (FAO species code)
 - (g) Landed (live) weight by species (kilograms) for the landing event being observed

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In addition, the collection of Length-Frequency data, Biological data and/or Tag recovery data is to follow the standards described in Sections E, F and I respectively of this Annex for those species observed during landings or while a vessel is in port.

Sections G (Incidental capture) and H (VMEs) are not considered relevant for observed landings. However, the standards described in Sections I (Tag recovery), J (Hierarchies) and K (Coding specifications) are still to be followed where applicable.

Status:

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