

# Scientific Observer Logbooks instruction manual.

## Introduction

These instructions provide the background and details to assist scientific observers to complete the SIOFA Observer logbook. The Logbooks are made up of series of forms and are prepared as Excel workbooks. These instructions provide a general description of the data requirements along with detailed instructions for each field in the Form.

General comments that apply to the whole logbook are as follows:

- In order to allow automated data quality assurance processes the layout of the forms is locked and data can only be entered into cells with a white background. Many cells have format restrictions applied to ensure that numbers are entered as numeric values and date and times are in the correct format.
- Where the content of a field is one of a series of pre-defined codes these are provided in a drop-down menu. For most fields with drop-down menu it is not possible to enter data that is not in the list of options for that field in the form.
- For the FAO 3-letter species codes the drop-down contains the main species in SIOFA fisheries (as described in SC 8 Annex 1), other codes can be entered and there will be a warning to highlight if a code that is not in the drop-down menu is entered.
- For any field where there is a need to include additional data options that are not in the current list options this should be included in the Cruise Report with as much detail as possible.
- For trawl fisheries each fishing event is given a Tow ID. This should be the same as the ID for that tow provided in the vessel catch data.
- For line fisheries each fishing event is given a Set ID. This should be the same as the ID for that tow provided in the vessel catch data.
- Comments on the data formats specified in CMM 02 Annex C.

Date and Time – all times should be reported in 24-hour format YYYY-MON-DD hh:mm:ss (for convenience we suggest using separate fields for Dates and Times - but that both retain the same formats)

SIOFA has agreed to three formats for reporting coordinates Degrees minutes seconds (DD°MM'SS'') or Degrees minute decimal (DD°MM.XX) or Decimal degrees (DD.XXXX).(the data precision is the same for each, if there is no agreement on a single format suggest that they all be converted to DD.XXXX format as part of data submission processing).

Most of the forms are the same for all fisheries while some, such as Gear Details and Fishing Operations, are specific to particular fisheries. There are also some forms that are only used in certain fisheries. All forms have been included in these instructions to provide consistency, allow for ease of review and updating of instructions. Each Logbook has an Introduction page that includes the Logbook version number and a list of the Forms.

*Notes (in italics) have been included in this document to highlight where additional consideration by SIOFA is required and also to identify where the data requirements represent a change from those described in CMM 02(2023) Annex B.*

The SIOFA list of priority fish species is included in Appendix 1.

## Form – Observer Details

This form should be completed once per Observer cruise to record the details of each Observer and the vessel. Here we define a **Vessel Trip** as the entire period between port visits for a vessel and an **Observer Cruise** as the period for which the observer is on the vessel. The form is designed so that it can be completed for either a port-to-port observer cruise or for that part of the vessel trip where fishing took place in the SIOFA area. The vessel details should be requested from the Captain and are included here are to provide a confirmation of the vessel details provided by the flag State. The Observer is not expected to independently confirm any of the vessel details such as the tonnage, engine power and hold capacity.

### Vessel Details

The vessel details information can either be verified from the vessel markings (in accordance with FAO best practice) or from the official vessel documents such as the vessel registration documents issued by authorities from the flag state.

Vessel Name - The registered name of the Ship as it appears on the vessel superstructure.

Vessel Flag – Confirm the country of registry of the vessel as it appears on the vessel superstructure.

Vessel callsign - Record the unique registration letters assigned to a vessel they appears on the vessel superstructure.

Vessel IMO - Record the unique (Seven Digits) IMO number of the vessel as it appears on the superstructure.

Vessel Gross Tonnage - The vessel GT as it appears on the vessel information on the bridge.

Engine Power (indicate HP or KW) - The vessel tonnage as it appears on the vessel information on the bridge.

Vessel Type – The ISSCFG code for the type of fishing vessel.

Total Frozen Hold Capacity (m<sup>3</sup>) - The vessel freezer capacity as it appears on the vessel information on the bridge.

### Vessel Trip Details

*NOTE: As the Observer may or may not be able to complete all parts of this part of the form it might be better to put this in the narrative Cruise Report.*

Port of departure –the last port visited by the vessel.

Date of departure – The date of departure of the vessel from the last port visited.

Date of Entry into SIOFA -The date that the vessel first entered the SIOFA Agreement Area

Date Start Fishing in SIOFA - The date that the vessel started its first fishing operation in the SIOFA : Area

Date End Fishing in SIOFA - The date that the vessel completed the last fishing operation in the SIOFA Agreement Area

Date of Exit from SIOFA - The date that the vessel exited the SIOFA Agreement Area

Port of landing - The name of the port or location transshipment occurred where the catch from fishing operations in the SIOFA Agreement Area were landed if known.

Date of landing - The date of entry into the port where the catch from fishing operations in the SIOFA Agreement Area were landed.

*NOTE: We suggest that the inclusion of Targeted Species and Number of Crew on this form be reviewed.*

### **Observer details**

Observer full name - The first name and family name(s)

Nationality – The nationality of the observer as shown on the passport.

Employer Name - The name of the employing organisation that the observer is contracted to for their period in the SIOFA fishery.

Employer address – The postal address of the name of the employing organisation that the observer is contracted to for their period in the SIOFA fishery.

Employer email – The email of the relevant contact person in the employing organisation that the observer is contracted to for their period in the SIOFA fishery.

Employer phone – The telephone number of the relevant contact person in the employing organisation that the observer is contracted to for their period in the SIOFA fishery.

Embarkation location – The location where the observer joined the vessel - either a port or a latitude longitude for a location at-sea

Embarkation date/time – The date that the observer joined the vessel.

Disembarkation location – The location where the observer left the vessel - either a port or a latitude longitude for a location at-sea.

Disembarkation date/time - The date that the observer left the vessel.

Report submitted Date - The date that the Observer Logbook was submitted to the Observer employer.

### **Catch details**

*NOTE: As the Observer may or may not be able to complete all parts of this part of the form it might be better to put this in the narrative Cruise Report.*

## Form – Gear Details

This Form is designed to collect the gear aspects of the fishing gear used by the vessel in order to help in the interpretation of the observer data. Use the form to assign a Gear ID to the different configurations of gear used by the vessel so that these can be referred to in the data that is collected on a per Set/Tow basis.

*NOTE: SIOFA should determine the gear information required by SIOFA and whether this should be supplied by the vessel with a subset of fields collected by the observer that can be used to confirm those details. This is particularly important for Trawl gear.*

### Gear Trawl

Net type - The FAO Standard abbreviation following the International Standard Statistical Classification of Fishing Gear (ISSCFG) (He et al. 2023 Appendix A)

Headrope length (m)- The length of the rope where the top edge of the net and floats are attached (this is sometimes referred to as the headline.)

Groundrope length (m) - The length of the rope where the bottom edge of the net (this is sometimes referred to as the ground gear.)

Bobbin diameter (cm) - The diameter (in cm) of the bobbins if they are attached to the groundrope.

Otterboard to wing length (m) – The distance in metres from the otterboard to the net.

Horizontal opening (m) – The maximum distance between the two sides of the net when the net is fully open.

Vertical opening (m) - The distance from the headrope to the ground rope when the net is fully open.

Codend mesh size (cm) – The distance between opposite knots in the codend mesh when fully stretched.

Codend circumference (m) - The circumference of the first section of the codend

Mesh type - The type of mesh used in the codend (e.g. diamond or square mesh)

Otterboard type - The shape of the otterboard (rectangular or oval) and material (steel, aluminium, wood).

Otterboard weight (kg) - The estimated weight of the otterboard (this may be marked on the otterboard).

Net design - The manufacturer and model number of the Net if available.

Ground rope Bobbins present? Y/N – Are bobbins attached to the ground rope.

Ground rope Bobbins material – The material that the bobbins are made of, typically steel or rubber.

Ground rope Bobbins weight (combined) – The weight (Kg) of all of the Bobbins combined.

By-Catch reduction device present (Y/N) - Yes/No if the net is fitted with any kind of by-catch reduction device. If Yes, please provide details in Cruise Report

Selectivity device present (Y/N) - Yes/No if the net is fitted with any kind of selectivity device. If Yes, please provide details in Cruise Report

*NOTE: The details required to describe the By-catch reduction device and Selectivity device should be specified in the Observer Manual.*

#### Gear Line

Line Type - The FAO Standard abbreviation following the International Standard Statistical Classification of Fishing Gear (ISSCFG) (He et al. 2023 Appendix A)

Line Configuration - For LLS gear record the gear configuration (Spanish/Double Line, Drop/Trotline, Autoline)

Mainline Material - the material the mainline is made from.

Mainline Diameter (cm)– The diameter/ width of the mainline in cm.

Branchline Material – The material that the Branch Line is made from.

Branchline Length – The length of the Branch Line in metres.

Snood Material - The material that the snoods are made of (e.g. multifilament, monofilament, steel)

Snood Length (m) – The length of the snood in metres

Line Weight Kg/m -The overall line weighting in kg per metre of line.

Hook Type (J, C) – The shape of the hooks

Hook Manufacturer - The name of the hook manufacturer

Hook Model Name: - The model number of the hooks.

*NOTE: The measurement details for the Hook specified in CMM 02 (2023) have been replaced with reporting details of the Manufacturer and model name.*

#### Gear Pot

Gear Material – The material that the pot is made from (e.g. plastic, metal, wood)

Pot Type - The FAO Standard abbreviation following the International Standard Statistical Classification of Fishing Gear (ISSCFG) (He et al. 2023 Appendix A) – Note this is FPO for pots

Mesh Size - The diagonal distance across the mesh in the walls of the pot.

Number of chambers - The number of chambers in the pot.

Port Orientation - The location of the Port (the entrance to the Pot), should be either on the top or the side of the pot.

Port Aperture - The minimum diameter of the Port (the entrance to the Pot)

Escape Port Present (Y/N) - Does the pot have an escape port?

Dimensions of Escape Port - The minimum diameter (cm) of the escape port if present.

Weights attached (Y/N) - Were additional weights attached to the Pot?

Min Weight (kg) - The minimum weight attached to the Pot if attached.

Max Weight (kg) – The maximum weight attached to the Pot if attached.

#### Gear Mitigation

For description of the required details please refer to CMM 13 (2022) Annex 1.

Streamer line height above water attached (m) - The height above sea-level that the streamer line was attached to the vessel.

Number of streamer lines regularly set – The number of streamer lines that were normally used.

Streamer line position - The position on the vessel where the streamer line was attached (port or starboard)

Streamer line length (m) - The total length of the streamer line in metres.

Streamer Length min (m) - The length of the minimum streamer length in metres.

Streamer length max (m) - The length of the maximum streamer length in metres.

Streamer line distance between streamers (m) - The distance between the attachment points of streamers on the Streamer Line in metres.

Distance of first streamer from attachment point (m) -The distance to the first streamer in metres.

Number of streamers – The total number of streamers attached to the Streamer Line.

Streamer material - The material that the streamers are made from.

Streamer diameter - The width of the streamers.

Streamer colour - The colour of the streamers.

Streamer line aerial extent- The aerial extent of the steamer line.

Towed object present (Y/N) – Is an object attached to the end of the steamer to maintain tension.

Distance from stern to warp entry point (m) - The distance behind the vessel that warps enter the water (for trawl gear only).

Other Mitigation Device – Where other mitigation devices are used put a YES in the Gear Form and provide a full description in the cruise report.

## Form – Fishing Operations

This sheet records the fishing operation details for each trawl tow or line set that takes place during an observer cruise. It is important that the identifier for the fishing event matches the identifier used by the vessel when reporting the total catch so that any subsampling carried out by the observer can be scaled-up.

In order to allow data quality checking please fill in the form for all Tows/Sets even if no observations are carried out during that operation.

Line

Set\_ID – This should be a consecutive, unique number that matches the Set ID used by the vessel for their catch and effort data forms.

Gear\_ID - The ID number of the gear used from the Gear Form

Start setting: Date-time - The time and date when first part of the gear, including the anchors, entered the water.

Start setting: Latitude – The latitude at start of gear setting.

Start setting :Longitude – The longitude at the start of setting.

Start setting: Bottom Depth (m) - The depth at the start setting location (collect from echosounder rather than charts).

End setting: Date-time – The time when final part of the gear, including the location buoys, entered the water.

End setting: Latitude - The latitude at end of gear setting

End setting: Longitude – The longitude at the end of setting

End setting: Bottom Depth (m) – The depth at the end setting location from echosounder (collect from echosounder rather than charts).

Target species – The intended target species for this fishing event. This may be more than one species in some cases “DPX - Demersal percomorphs nei” fisheries.

*NOTE: The specification of the reporting of target species should be reviewed by SIOFA.*

Setting Observed (Y/N) – Did the observer collect any data during the setting process? [This field is used as a data integrity check.]

Offal dumping during setting (Y/N) – Was offal dumping observed by the observer (should be Yes/No/Not Observed for)?

Main line length (m) - The total length of line set in metres.



Number of hooks set – The total number of hooks set.

Bait species - The FAO code for the bait species used. Where there is a mixture of baits use code separated by // [Note: review use of dropdown for FAO code for mixed baits and whether there is a need to record the % of different baits.]

Deck light used during setting Y/N) - Was deck lighting used during setting?

Number of streamer lines used - How many streamer lines were used at setting.

Bait entry position(m) – The distance in metres from stern where the bait enters the water - use 0 for underwater setting.

Start hauling: Date-time: The time and date when first piece of gear, including the location buoys, is landed on the vessel.

Start hauling: Latitude: The latitude at start of hauling.

Start hauling: Longitude: The longitude at the start of hauling.

End hauling: Date-time: The time when final part of the gear, including the location buoys, is landed on the vessel.

End hauling: Latitude: The latitude at end of gear hauling

End hauling: Longitude: The longitude at the end of hauling

Number of hooks observed for catch - The number of hooks that were observed for catch.

Bird Exclusion device ID - The ID number of the Mitigations design used taken from the Gear Form.

## Trawl

Tow\_ID – This should be a consecutive, unique number that matches the Set ID used by the vessel for their catch and effort data forms

NET\_ID – The appropriate NET\_ID from the GEAR form.

Target species – The intended target species for this fishing event. This may be more than one species in some cases “DPX - Demersal percomorphs nei” fisheries.

*NOTE: The specification of the reporting of target species should be reviewed by SIOFA.*

Gear deployment: Date time – The time and date when the Net entered the water.

Fishing start time – The time the net reached fishing depth.

Fishing start Net Depth – The depth in metres of the net when no more warp is paid out.

Fishing start Bottom Depth(m) – The depth in metres of the bottom at the start of fishing location (from echosounder rather than charts). For bottom fisheries this will be the same as the Fishery start depth.

Fishing-start Latitude – The latitude when the net reached fishing depth.

Fishing start Longitude The longitude when the net reached fishing depth.

Fishing end time – The time when hauling (net retrieval) commences.

Fishing-end Latitude – The latitude when the hauling (net retrieval) commences.

Fishing end Longitude- The longitude when the hauling (net retrieval) commences.

Fishing end Trawl Depth – The depth in metres of the net when the hauling (net retrieval) commences.

Fishing end Bottom Depth – The depth in metres of the bottom when the hauling (net retrieval) commences.

Hauling end date time – The time when hauling (net retrieval) is completed.

Bird scaring streamer line used – The Mitigation Id in the gear form, or 0 where not used.

Bird bafflers used - The Mitigation Id in the gear form, or 0 where not used.

Offal discharged during shooting (Y/N) - Was offal/fishwaste discharged in the period between 15 mins prior to the net entering the water and the start fishing time?

Offal discharged during hauling (Y/N) - Was offal/fishwaste discharged in the period between 15 mins prior to the hauling commencing and the net being brought onto the vessel?

Catch Observation (Y/N) – Was the Tow observed for catch/bycatch?

Sub Sample total weight (kg)- The weight in kg taken for observer sampling, this subsample must be taken before any processing of the catch takes place.

## Form – Biological Sampling

This is an important form as it used to record the biological characteristics (e.g. length, weight, sex, etc.) for a representative sample of fish from each fishing operation

Tow\_ID [trawl] Set\_ID [line] – the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

FAO Species code - The 3-letter FAO code of the species.

Fish Serial Number – A sequential number that identifies each fish sampled to allow sample linking.

Total Length (cm) - The length in cm from the most anterior part of the snout to the furthest tip of the caudal fin.

Standard Length (cm) - The length from the most anterior part of the snout to the end of the vertebral column.

Snout-Anus Length (cm) - The length from the tip of the snout to the anus.

Pelvic Length The length from the tip of the snout to the end of pelvic fin (on skates only)

Wingspan (cm) – The maximum width of a skate at right angles to the total length

Length method - Record the method used to measure the fish length. This could be either (flexible tape, calliper or board)

Weight (kg)- Record the weight of the intact fish.

Weight method - Record the method used to weigh the fish. (In pelagic longline, where there may be large individual fish caught it may not be possible to weigh individual fish before they are processed).

Sex - The sex of the this fish, should be Male (M) Female (F) or not-determined (U)

Maturity Stage- The he maturity stage of the species (refer to training notes for instructions)

Gonad Weight (kg) - The gonad weight in kg (record the weight in kg even if the actual measurement was made in g.)

Otolith collected (Y/N) – Were otoliths collected from this fish ? (Ensure that the otoliths are labelled with the Set ID and the Fish Serial Number).

Additional sample collected (Y/N) - Were other samples were collected from this fish? (Ensure that any samples are labelled with the Set ID and the Fish Serial Number).

Sample Storage - Description of sample storage material.

Comments

## Form - Conversion Factors

Catches are typically reported as a processed weight of fish multiplied by a conversion factor to estimate the original green weight. Observers collect independent data to describe the conversion factors and their variability.

Tow\_ID [trawl] Set\_ID [line] – the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

FAO Species code - The 3-letter FAO code of the species.

Processing Code – The three-letter processing code e.g HAG, HAT, FIL

Number - The number of individual fish processed (this can equal 1 for large fish)

Length Type - The type of length measurement e.g. TL, SL, SAL

Min Size (cm) – The length of the smallest fish (this should equal the max size where the number of fish =1)

Max Size (cm) – The length of largest fish (this should equal the min size where the number of fish =1 )

Cut Type Code - Record the cut type where the head is removed.

Total Green weight (kg) – The total weight in kg of all fish before processing.

Processed weight (kg) – The total weight in kg of all fish after processing.

Weighing method – The method used to weigh the fish.

Conversion Factor - An automatically calculated field that provides a data quality check

## Form –Catch Details

This sheet is used to record the number and weight of all species in the catch, in the subsamples from trawls or the hook observation period for line fisheries. For LLS the sampling unit is the number of hooks observed so there will be fish lost at the surface and cut off at the surface that should be included. For Trawl the sampling unit is simply a subsample of the actual catch. In both cases there is a need to determine whether (and what weight) of the fish are retained or discarded of each species after the Observer has completed their measurements (including the biologicals). For longline it is not possible for observers to observe the catch coming on board and to weigh each fish so the tally period is only the count of fish. -

Tow\_ID [trawl] Set\_ID [line] – the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

FAO Species code - The 3-letter FAO code of the species.

Number retained – The number of each species landed on the vessel.

Weight retained (only for TRAWL) - The total weight of each species landed on the vessel.

Number discarded – The number of fish deliberately discarded by the crew (This excludes fish that were damaged as a result of the observer sampling activities)

*NOTE: There is a need for clear instructions here for how to determine if fish were discarded or cut-off or lost at surface for LL and then whether trawl fish were discarded after biological sampling.*

Weight discarded – The weight (where possible) of fish deliberately discarded by the crew (This excludes fish that were damaged as a result of the observer sampling activities).

## Form –VME indicator taxa

This sheet is for recording data on Vulnerable Marine Ecosystem (VME)-indicator taxa that are listed in the SIOFA VME indicator guide. Use a new row for each different VME indicator taxa on a Set/Tow

Tow\_ID [trawl] Set\_ID [line] – the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

FAO Species code - The 3-letter FAO code of the species.

Quantity estimate - The estimated quantity of the VME indicator taxa

Quantity unit – The units used to measure the quantity of the VME indicator taxa – Weight (Kg) or Volume (m<sup>3</sup>)

Sample taken for ID (Y/N) – Where samples or photograph was taken for Identification?

## Form - ETP Details

This form will be used to record the details of all observed incidental catch of endangered, threatened and protects (ETP) species including marine mammals, birds and reptiles.

[Observer instructions must include monitoring net hauling process as some of ETP species might be removed during net hauling period]

Tow\_ID [trawl] Set\_ID [line] – the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

FAO Species code - The 3-letter FAO code of the species.

Number caught – The number of this species caught.

Dead: Retained – The number of this species that were landed dead and retained onboard.

Dead: Discarded - The number of this species that were landed dead and not retained onboard

Alive: Released - The number of this species that were landed alive and released alive (any individuals with injuries that have a high likelihood of post-capture mortality or threated their long-term survival should be reported as Dead: Discarded.

Samples Collected (Y/N): Were sample collected? If they were then provide details in the Comments Field

Comments

## Form – Warp strikes

This form is for recording interactions of seabirds with the trawl warps.

Tow\_ID – the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

Mitigation Device - The Mitigation ID from the Gear Form

Mitigation Device – The Mitigation ID from the Gear Form where a second device is used (e.g. where there are Streamer lines and Bird Baffles)

Start Warp Strikes observation: Date - The date that the observation period started.

Start Warp Strikes observation: Time – The time that the observation period started.

End Warp Strikes observation Date - The date that the observation period ended.

End Warp Strikes observation Time - The time that the observation period started.

FAO Species code - The 3-letter FAO code of the species.

Air Strikes number – The number of bird strikes with the warp where the bird is in the air and hits the water with little to no control of its flight

Water Strikes number – The number of bird strikes the warp where the bird is on sea surface and is partially pulled beneath the surface of the water, but is not fully submerged.

Sinker Strikes - The number of bird strikes the warp where the bird strikes a warp and the entire body is submerged.



## Form – Seabirds

This form should be used for all fisheries where the Observer collects information on the number of seabirds around the vessel at a particular time. This can include conducting observations that are not during a Tow or a Set-Haul event. Where observations are done prior to a Tow or Set commencing please use the ID for the next fishing event, and note this in the Comments as this will assist the QC process.

Tow\_ID [trawl] Set\_ID [line] – the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

Start Observation Date – The date that the observation period started.

Start Observation Time - The time that the observation period started.

End Observation Date - The date that the observation period ended.

End Observation Time - The time that the observation period started.

FAO Species code - The 3-letter FAO code of the species.

Estimated number – The estimated number of birds present on a scale of 1-10, 10-50, 50-100, 100+

Fishwaste discharge (Y/N) – Was fishwaste being discharged during the observation period?

Observed feeding (Y/N) – Was this species observed feeding on fishwaste during the observation period?

Comments

## Form – Marine Mammals

This form should be used for all fisheries where the Observer collects information on the number of marine mammals around the vessel at a particular time. This can include conducting observations that are not during a Tow or a Set-Haul event. Where observations are done prior to a Tow or Set commencing please use the ID for the next fishing event and note this in the Comments as this will assist the QC process.

Tow\_ID [trawl] Set\_ID [line] – the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

Start Observation Date – The date that the observation period started.

Start Observation Time - The time that the observation period started.

End Observation Date - The date that the observation period ended.

End Observation Time - The time that the observation period started.

FAO Species code - The 3-letter FAO code of the species.

Estimated number – The estimated number of birds present on a scale of 1-10, 10-50, 50-100, 100+

Fishwaste discharge (Y/N) – Was fishwaste being discharged during the observation period?

Observed Interacting (Y/N) - Was this species observed interacting with gear or the vessel during the observation period?

## Form – Whale Interactions

This Form is for use in collecting the data specified in CMM 02 annex E to record the presence of depredating killer whales *Orcinus orca* and sperm whales *Physeter macrocephalus* in demersal longline fisheries.

Set\_ID– the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

FAO Species code - The 3-letter FAO code of the species. Note: This form is specifically for killer whale and sperm whale interactions.

Presence - Was the species present, absent or no observations were undertaken

Photos (Y/N) – Where photographs were taken?

Estimated number: Minimum – The estimated minimum number of whales present around the vessel.

Estimated number: Maximum – The estimated maximum number of whales present around the vessel.

Interaction (Y/N) - Did the whale interact with fishing gear? If Y provide comment to describe the nature of the interaction

Arrival time (mins) - Duration in minutes long after the first hook was hauled aboard the vessel that the first whale observed.

Comments

## Form - Tagging

Toothfish are required to be tagged in SIOFA toothfish fisheries following the CCAMLR tagging protocols.

Tag ID - Assign ID for each tag Type

Tag Type - The Tag Type (e.g T-bar, Dart)

Tag Colour - The tag colour

Tag Wording - The wording on the Tag

Comment

Set\_ID– the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

FAO Species code - The 3-letter FAO code of the species.

Latitude - The latitude at the point of release.

Longitude - The Longitude at the point of release.

Tag1: Tag ID - The Tag ID from the top of the Form

Tag1:Tag Number - The full alpha-numeric sequence on the tag.

Tag2:Tag ID - Record the Tag ID from the top of the Form.

Tag2:Tag Number – The full alpha-numeric sequence on the tag.

Tag3:Tag ID - The Tag ID from the top of the Form.

Tag3:Tag Number - The full alpha-numeric sequence on the tag.

Person Tagging - The Observer ID or a Name (if not the Observer) for the person that tagged the fish.

Total Length (cm) - The length in cm from the most anterior part of the snout to the furthest tip of the tail.

Released Fate - The fate of the fish on release.

Comments

## Form – Tag Recapture

All tagged toothfish (and any other species of tagged fish) that are recaptured should be recorded with as much detail as possible. Whenever possible for fish the tag should be retained.

Set\_ID– the ID from the Fishing Operation form.

Observer ID – The Observer ID from the Observer Details for the person collecting this data.

FAO Species code - The 3-letter FAO code of the species.

Tag Finder - The Observer ID or a Name (if not the Observer) for the person that found the tagged fish.

Tag1: Tag Type – The Tag Type (e.g T-bar, Dart)

Tag1: Tag Colour – The tag colour

Tag1: Tag Number - The full alpha-numeric sequence on the tag

Tag1: Tag Wording - The wording on the Tag

Tag2: Tag Type – The Tag Type (e.g T-bar, Dart)

Tag2: Tag Colour – The tag colour

Tag2: Tag Number - The full alpha-numeric sequence on the tag

Tag2: Tag Wording - The wording on the Tag

Tag3: Tag Type – The Tag Type (e.g T-bar, Dart)

Tag3: Tag Colour – The tag colour

Tag3: Tag Number - The full alpha-numeric sequence on the tag

Tag3: Tag Wording - The wording on the Tag

Total Length (cm) - The length in cm from the most anterior part of the snout to the furthest tip of the tail.

Weight (kg)- Record the weight of the intact fish.

Weight method - Record the method used to weigh the fish. (In pelagic longline, where there may be large individual fish caught it may not be possible to weigh individual fish before they are processed).

Sex - The sex of the this fish, should be Male (M) Female (F) or not-determined (U)

Maturity Stage- The he maturity stage of the species (refer to training notes for instructions)

Gonad Weight (kg) - The gonad weight in kg (record the weight in kg even if the actual measurement was made in g.)

Otolith collected (Y/N) – Were otoliths collected from this fish ? (Ensure that the otoliths are labelled with the Set ID and the Tag1: Tag Number).

Additional sample collected (Y/N) - Were other samples were collected from this fish? (Ensure that any samples are labelled with the Set ID and the Tag1: Tag Number).

Tag Site Condition - Provide a description of the condition of the skin around the tagging site

Tag photo (include in cruise report) (Y/N) – Was a photograph of the tags and/or the tagged fish included in the cruise report?

Comments

### Appendix 3.1. SIOFA Priority species list.

SC 8 paras 206 to 209 provided a series of interim definitions for different categories of catch and agreed species designations (SC8 Annex I) including whether the species was either primary or secondary species according to the following definitions.

a. Primary species: Species for which management tools and measures should be in place and the achievement of stock management objectives is expected. These species-gear encounters tend to encompass a high proportion of the fished area for that fishery. The Scientific Committee would be expected to undertake relevant biological studies and periodic stock assessments (quantitative, semi-quantitative or qualitative whichever is appropriate) for these species. These species should have SIOFA species specific fisheries summary reports compiled annually in years when no assessment is being undertaken.

b. Secondary species: All other species that comprise 5 per cent or more of the total catch (determined using a 3-5 year average) or, for 'less resilient' species (most sharks etc., based on ERA), 2 per cent or more of the total catch, or otherwise as designated by the Scientific Committee. The Scientific Committee would be expected to undertake periodic evaluations, to assess trends in catch and effort, for these species. Information on trends for these species could be included in a future general fishery summary report.

The MoP endorsed the definitions of primary and secondary species and noted the preliminary categorisation of species in Annex I .

Given the definitions the collection of adequate catch and biological data on of primary and secondary species should be a priority for the work of observers.

As a minimum requirement observers should be able to identify all of the primary species, regardless of the fishery in which they are working and should be able to identify the secondary species listed for the fishery in which they are working.

We have reviewed the list of species provided in and associated codes in SC 8 Annex I and provided some suggestions for minor changes to harmonise the three-alpha codes and nomenclature with those of the FAO. We note that the use of 'species' is consistent with the general description of the "FAO Species codes" although it refers to a range of taxonomic resolution.

| SIOFA 3A_CODE | SIOFA name               | FAO TAXOCODE | FAO Scientific_name       | FAO English_name               | Primary/Secondary | Comment                   |
|---------------|--------------------------|--------------|---------------------------|--------------------------------|-------------------|---------------------------|
| ALV           | Common thresher shark    | 1060600601   | Alopias vulpinus          | Thresher                       |                   | Spelling Diff             |
| ANT           | Violet cod               | 1480203001   | Antimora rostrata         | Blue antimora                  | Secondary         | Diff English name         |
| ARV           | Green jobfish            | 2280203102   | Aristeus varidens         | Striped red shrimp             |                   | Green Jobfish code is AVR |
| BAC           | Pickhandle barracuda     | 1771000103   | Sphyraena jello           | Pickhandle barracuda           |                   |                           |
| BBY           | White-ribbed toadfish    | 1930100701   | Batrachthys albofasciatus | White-ribbed toadfish          |                   |                           |
| BEO           | Crested sculpin          | 1783700101   | Blepsias bilobus          | Crested sculpin                |                   |                           |
| BIL           | Billfish*                | 17503XXXXX   | Istiophoridae             | Marlins,sailfishes,etc. nei    | Secondary         | Spelling Diff             |
| BIS           | Bigeye scad              | 1702329101   | Selar crumenophthalmus    | Bigeye scad                    | Secondary         |                           |
| BNS           | Smallfin lanternfish     | 1320802402   | Benthoosema suborbitale   | Smallfin lanternfish           |                   |                           |
| BOE           | Black oreo               | 1620400701   | Allocyttus niger          | Black oreo                     | Secondary         |                           |
| BOR           | Boarfishes nei.          | 16203XXXXX   | Caproidae                 | Boarfishes nei                 |                   |                           |
| BSF           | Black scabbard fish      | 1750601201   | Aphanopus carbo           | Black scabbardfish             |                   |                           |
| BSH           | blue shark               | 1080200401   | Prionace glauca           | Blue shark                     |                   |                           |
| BTH           | Bigeye thresher          | 1060600603   | Alopias superciliosus     | Bigeye thresher                |                   |                           |
| BWA           | Bluenose warehou         | 1760801502   | Hyperoglyphe antarctica   | Bluenose warehou               |                   |                           |
| BXD           | alfonsino                | 1610200301   | Beryx decadactylus        | Alfonsino                      |                   |                           |
| BYR           | Sandpaper skate          | 1100400212   | Bathyraja irrasa          | Kerguelen sandpaper skate      |                   | Spelling Diff             |
| BYS           | Splendid alfonsino       | 1610200302   | Beryx splendens           | Splendid alfonsino             | Primary           |                           |
| CCF           | Pigeeye shark            | 1080201007   | Carcharhinus amboinensis  | Pigeeye shark                  |                   |                           |
| CDL           | Cardinal fishes          | 17096373XX   | Epigonus spp              | Cardinal fishes nei            | Primary           |                           |
| COM           | Spanish mackerel         | 1750101503   | Scomberomorus commerson   | Narrow-barred Spanish mackerel |                   | Spelling Diff             |
| COX           | Congor eels              | 14313XXXXX   | Congridae                 | Conger eels, etc. nei          |                   | Spelling Diff             |
| CRS           | Swimming crabs?          | 23111004XX   | Portunus spp              | Portunus swimcrabs nei         |                   |                           |
| CUT           | Scabbard fishes          | 17506XXXXX   | Trichiuridae              | Hairtails, scabbardfishes nei  |                   | Spelling Diff             |
| CWZ           | Carcharhinus sharks nei. | 10802010XX   | Carcharhinus spp          | Carcharhinus sharks nei        |                   |                           |
| CYO           | Portuguese dogfish       | 1090101601   | Centroscymnus coelolepis  | Portuguese dogfish             | Primary           |                           |
| DCC           | Shortfin scad            | 1702304303   | Decapterus macrosoma      | Shortfin scad                  |                   |                           |



| <b>SIOFA<br/>3A_CODE</b> | <b>SIOFA name</b>              | <b>FAO<br/>TAXOCODE</b> | <b>FAO Scientific_name</b>   | <b>FAO English_name</b>        | <b>Primary/<br/>Secondary</b> | <b>Comment</b>        |
|--------------------------|--------------------------------|-------------------------|------------------------------|--------------------------------|-------------------------------|-----------------------|
| DOL                      | Mahi mahi                      | 1702807101              | Coryphaena hippurus          | Common dolphinfish             |                               | Spelling Diff         |
| EDR                      | Pelagic armourhead             | 1705700701              | Pseudopentaceros richardsoni | Pelagic armourhead             |                               |                       |
| EEP                      | Comet grouper                  | 1700204235              | Epinephelus morrhua          | Comet grouper                  |                               |                       |
| EMM                      | Cape bonnetmouth               | 1703001001              | Emmelichthys nitidus         | Cape bonnetmouth               |                               |                       |
| EMN                      | Marbled coral groper           | 1700220806              | Plectropomus punctatus       | Marbled coral grouper          | Secondary                     |                       |
| EPI                      | Black cardinal fish            | 1709637301              | Epigonus telescopus          | Black cardinal fish            |                               |                       |
| ETA                      | Deepwater longtail red snapper | 1703214002              | Etelis carbunculus           | Deep-water red snapper         |                               | Swap ETC and ETA      |
| ETC                      | Deepwater red snapper          | 1703214004              | Etelis coruscans             | Deepwater longtail red snapper |                               | Swap ETC and ETA      |
| FAL                      | Silky shark                    | 1080201017              | Carcharhinus falciformis     | Silky shark                    |                               |                       |
| FIP                      | Red cornetfish                 | 1510200105              | Fistularia petimba           | Red cornetfish                 |                               |                       |
| GES                      | Snake mackerel                 | 1750502001              | Gempylus serpens             | Snake mackerel                 |                               |                       |
| GRV                      | macrourids                     | 14806001XX              | Macrourus spp                | Grenadiers nei                 | Secondary                     | Spelling Diff         |
| HYD                      | Ratfishes nei.                 | 11201004XX              | Hydrolagus spp               | Ratfishes nei                  |                               |                       |
| KAW                      | Kawakawa                       | 1750102406              | Euthynnus affinis            | Kawakawa                       |                               |                       |
| KZJ                      | Thredfin bream                 | 1703318417              | Nemipterus bipunctatus       | Delagoa threadfin bream        | Primary                       | Spelling Diff         |
| LAG                      | Opah                           | 1520100102              | Lampris guttatus             | Opah                           |                               |                       |
| LEC                      | Escolar                        | 1750500501              | Lepidocybium flavobrunneum   | Escolar                        | Primary                       |                       |
| LHB                      | Spotcheak emperor              | 1703817220              | Lethrinus rubrioperculatus   | Spotcheek emperor              |                               |                       |
| LHN                      | Spangled emperor               | 1703817202              | Lethrinus nebulosus          | Spangled emperor               |                               |                       |
| LIB                      | Brushtooth lizardfish          | 1311606804              | Saurida undosquamis          | Brushtooth lizardfish          | Primary                       |                       |
| LJB                      | Two-spot red snapper           | 1703202742              | Lutjanus bohar               | Two-spot red snapper           | Secondary                     |                       |
| LTQ                      | Sky emperor                    | 1703817207              | Lethrinus mahsena            | Sky emperor                    | Secondary                     |                       |
| LUB                      | Emperor red snapper            | 1703202714              | Lutjanus sebae               | Emperor red snapper            | Secondary                     |                       |
| LWA                      | Goldflag jobfish               | 1703221708              | Pristipomoides auricilla     | Goldflag jobfish               |                               |                       |
| MAK                      | Mako sharks                    | 10608002XX              | Isurus spp                   | Mako sharks                    |                               |                       |
| MTM                      | Eagle ray                      | 1080400717              | Mustelus mosis               | Arabian smooth-hound           |                               | Eagle ray code is MYD |
| NGU                      | Yellow spotted trevally        | 1702311408              | Carangoides fulvoguttatus    | Yellowspotted trevally         | Primary                       |                       |

| SIOFA<br>3A_CODE | SIOFA name             | FAO<br>TAXOCODE | FAO Scientific_name         | FAO English_name               | Primary/<br>Secondary | Comment                 |
|------------------|------------------------|-----------------|-----------------------------|--------------------------------|-----------------------|-------------------------|
| NGX              | Carangoides species    | 17023114XX      | Carangoides spp             | NA                             | Primary               |                         |
|                  |                        |                 |                             |                                |                       |                         |
| NGY              | Bludger                | 1702311409      | Carangoides gymnostethus    | Bludger                        | Primary               |                         |
| OCS              | Oceanic whitetip shark | 1080201011      | Carcharhinus longimanus     | Oceanic whitetip shark         |                       |                         |
| OEO              | Oreos nei.             | 1705905119      | Oreochromis karongae        | NA                             | Secondary             | ORD - Orseos Dories nei |
| OIL              | Oilfish                | 1750500701      | Ruvettus pretiosus          | Oilfish                        | Primary               |                         |
| ONV              | Spiky oreo             | 1620400102      | Neocyttus rhomboidalis      | Spiky oreo                     |                       |                         |
| ORY              | Orange roughy          | 1610500202      | Hoplostethus atlanticus     | Orange roughy                  | Primary               |                         |
| OXR              | Frenchman seabream     | 1431501001      | Xyrias revulsus             | NA                             |                       |                         |
| PFM              | Crimson jobfish        | 1703221702      | Pristipomoides filamentosus | Crimson jobfish                |                       |                         |
| PLM              | Spotted coral grouper  | 1700220801      | Plectropomus maculatus      | Spotted coral grouper          |                       |                         |
| PRP              | Roudi escolar          | 1750501701      | Promethichthys prometheus   | Roudi escolar                  |                       |                         |
| PTH              | Pelagic thresher       | 1060600602      | Alopias pelagicus           | Pelagic thresher               |                       |                         |
| RFA              | Whiteleg skate         | 1100400433      | Amblyraja taaf              | Whiteleg skate                 |                       |                         |
| RGY              | Narrowbanded sole      | 1830302903      | Aseraggodes macleayanus     | Narrowbanded sole              |                       |                         |
| RIB              | Common mora            | 1480201001      | Mora moro                   | Common mora                    |                       |                         |
| RMB              | Giant manta            | 1100801013      | Mobula birostris            | Giant manta                    |                       |                         |
| RMV              | Mobula spp.            | 11008010XX      | Mobula spp                  | Mobula nei                     |                       |                         |
| RUS              | Indian scad            | 1702304308      | Decapterus russelli         | Indian scad                    | Primary               |                         |
| SCO              | Scorpion fish          | 17801XXXXXX     | Scorpaenidae                | Scorpionfishes, redfishes nei  |                       | Spelling Diff           |
| SDV              | Mustelus species       | 10804007XX      | Mustelus spp                | Smooth-hounds nei              |                       | Spelling Diff           |
| SEY              | Violet warehou         | 1760800309      | Schedophilus velaini        | Violet warehou                 |                       |                         |
| SFS              | Silver scabbardfish    | 1750600601      | Lepidopus caudatus          | Silver scabbardfish            |                       |                         |
| SKX              | skates                 | 199XXXXXXXX054  | Elasmobranchii              | Sharks, rays, skates, etc. nei |                       |                         |
| SQU              | Squid                  | 32105XXXXX036   | Loliginidae, Ommastrephidae | Various squids nei             |                       |                         |
| SSO              | Smooth oreo dory       | 1620400201      | Pseudocyttus maculatus      | Smooth oreo dory               | Secondary             |                         |
| SUN              | Angel shark            | 1090300413      | Squatina tergocellatoides   | Ocellated angelshark           |                       | Spelling Diff           |

| <b>SIOFA<br/>3A_CODE</b> | <b>SIOFA name</b>     | <b>FAO<br/>TAXOCODE</b> | <b>FAO Scientific_name</b> | <b>FAO English_name</b> | <b>Primary/<br/>Secondary</b> | <b>Comment</b>                    |
|--------------------------|-----------------------|-------------------------|----------------------------|-------------------------|-------------------------------|-----------------------------------|
| THR                      | Thresher sharks       | 10606006XX              | Alopias spp                | Thresher sharks nei     |                               |                                   |
| TOP                      | Toothfish             | 1709201502              | Dissostichus eleginoides   | Patagonian toothfish    | Primary                       | Spelling Diff Toothfish spp = TOT |
| TUN                      | Tuna *                | 17501XXXXX043           | Thunnini                   | Tunas nei               | Secondary                     | Spelling Diff                     |
| UPM                      | Goldfin goatfish      | 1704125102              | Upeneus moluccensis        | Goldband goatfish       | Primary                       | Spelling Diff                     |
| VRL                      | Yellow edged lyretail | 1700255701              | Variola louti              | Yellow-edged lyretail   |                               |                                   |
| WAH                      | Wahoo                 | 1750101001              | Acanthocybium solandri     | Wahoo                   |                               |                                   |
| WHA                      | Hapuku wreckfish      | 1700505802              | Polyprion oxygeneios       | Hapuku wreckfish        | Primary                       |                                   |
| WRF                      | Wreckfish             | 1700505801              | Polyprion americanus       | Wreckfish               |                               |                                   |
| YBS                      | bigeye barracuda      | 1771000119              | Sphyaena forsteri          | Bigeye barracuda        | Secondary                     |                                   |
| YFT                      | yellowfin tuna        | 1750102610              | Thunnus albacares          | Yellowfin tuna          | Secondary                     | Check IOTC species                |