



**Conservation Measure 25/12: On Reducing Incidental By-catch of Seabirds in the SEAFO Convention Area.**

**The Parties to the SEAFO Convention:**

RECOGNISING the need to strengthen mechanisms to protect seabirds in the South-East Atlantic Ocean;

TAKING INTO ACCOUNT the United Nations Food and Agriculture Organisation (FAO) International Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds);

ACKNOWLEDGING that to date some Contracting Parties have identified the need for, and have either completed or are near finalising their National Plan of Action on Seabirds;

RECOGNISING the concern that some species of seabirds, notably albatross and petrels, are threatened with global extinction;

NOTING that the Agreement on the Conservation of Albatrosses and Petrels, done at Canberra on 19 June 2001, has entered into force;

**Have agreed as follows:**

1. Contracting Parties shall collect and provide all available information to the Secretariat on interactions with seabirds, including incidental catches by fishing vessels, fishing for fisheries resources covered by the SEAFO Convention, flagged to these Contracting Parties.
2. Each Contracting Party shall seek to achieve reductions in levels of seabird by-catch across all fishing areas, seasons, and fisheries through the use of effective mitigation measures.

**Longlines**

3. All longline vessels fishing south of the parallel of latitude 30 degrees South shall carry and use bird-scaring lines (tori poles):
  - Tori poles shall be in accordance with agreed tori pole design and deployment guidelines (provided for in Appendix A);
  - Tori poles shall be deployed prior to longlines entering the water at all times south of the parallel of latitude 30 degrees South;
  - Where practical, vessels shall be encouraged to use a second tori pole and bird-scaring line at times of high bird abundance or activity;
  - Back-up tori lines shall be carried by all vessels and be ready for immediate use.
4. The Commission shall, upon receipt of information from the Scientific Committee, consider, and if necessary, refine, the area of application of the mitigation measures specified in paragraph 3.
5. Longlines shall be set at night only (i.e., during the hours of darkness between the times of nautical twilight (1)). During longline fishing at night, only the minimum ship's lights necessary for

safety shall be used. However, this shall not apply only if a vessel can demonstrate its ability to fully comply with one of the 3 protocols described in Appendix C. In case, vessels having caught a total of three (3) seabirds during one fishing trip shall revert to the night setting immediately and resume the day operations from the next trip or in 3 months period from the date of 3<sup>rd</sup> capture of seabird, whichever is longer, subject to fully comply with one of the 3 protocols.

6. The dumping of offal is prohibited while gear is being shot or set. The dumping of offal during the hauling of gear shall be avoided. Any such discharge shall take place, where possible, on the opposite side of the vessel to that where the gear is being hauled. For vessels or fisheries where there is not a requirement to retain offal on board the vessel, a system shall be implemented to remove fish hooks from offal and fish heads prior to discharge.
7. Contracting Party shall not authorise vessels to fish in the Convention Area which are so configured that they lack on-board processing facilities or adequate capacity to retain offal on-board, or the ability to discharge offal on the opposite side of the vessel to that where gear is being hauled.
8. Every effort shall be made to ensure that birds captured alive during fishing operations are released alive and that whenever possible hooks are removed without jeopardising the life of the bird concerned.

### **Trawl gear**

9. A streamer (or tori) line shall be deployed outside of both warp cables, the tori lines shall be attached to the stern at the maximum practical height above water line. Back-up tori lines shall be carried by all vessels and be ready for immediate use. Technical specifications for tori lines are given in Appendix B.
10. The dumping of offal is prohibited while gear is being shot or set. The dumping of offal during the hauling of gear shall be avoided.
11. Nets shall be cleaned prior to shooting to remove items that might attract seabirds.
12. Vessels shall adopt shooting and hauling procedures that minimise the time that the net is lying on the surface with the meshes slack. Net maintenance shall, to the extent possible, not be carried out with the net in the water.
13. Each Contracting Party shall encourage their vessels to develop gear configurations that will minimise the chance of birds encountering the part of the net to which they are most vulnerable. This could include increasing the weighting or decreasing the buoyancy of the net so that it sinks faster, or placing coloured streamer or other devices over particular areas of the net where the mesh sizes create a particular danger to birds.

### **Status of Conservation Measure xxx/12**

14. Conservation Measure 15/09 is herewith repealed.

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(1) The exact times of nautical twilight are set forth in the Nautical Almanac tables for the relevant latitude, local time and date. All times, whether for ship operations or observer reporting, shall be referenced to GMT

## **Appendix A**

### **Guidelines for Design and Deployment of Longline Tori Lines**

#### **Preamble**

These guidelines are designed to assist in the preparation and implementation of tori line regulations for longline fishing vessels. While these guidelines are relatively explicit, improvement in tori line effectiveness through experimentation is encouraged. The guidelines take into account environmental and operational variables such as weather conditions, setting speed and ship size, all of which influence tori line performance and design in protecting baits from birds. Tori line design and use may change to take account of these variables provided that line performance is not compromised. Ongoing improvement in tori line design is envisaged and consequently review of these guidelines should be undertaken in the future.

#### **Tori Line Design**

1. The streamer line should be a minimum of 150 m in total length, be attached to the vessel at a point >7 m above the sea surface (using a pole if necessary) and tow an object (such as a length of heavy rope) at its seaward end, which creates drag and stability. These specifications are critical to achieve the desired aerial extent (100 m), the active portion of the streamer line and minimize fouling with hooklines, floats and other fishing gear.
2. The above water section of the line should be sufficiently light that its movement is unpredictable to avoid habituation by birds and sufficiently heavy to avoid deflection of the line by wind.
3. Swivels positioned at the attachment point to the vessel, the towed object and where streamers join the backbone help to avoid twisting and wear. These can also incorporate breakaway points, in the event of snags with the hook line.
4. Each branch streamer should consist of two or more strands and should be constructed from brightly coloured, UV-protected rubber tubing. Streamers should be spaced at intervals of less than 5 m along the streamer line backbone. Branch streamers should be long enough to reach the sea surface in calm conditions.
5. Each streamer pair should be detachable by means of a clip so that line stowage is more efficient.
6. The in-water portion of the tori line (that creates tension on the streamer line and thereby holds the aerial portion aloft) should be adjusted (e.g. increasing the length of rope) to account for slower setting speeds and to ensure the minimum aerial coverage of 100 m is maintained consistently.

#### **Deployment of Tori Lines**

1. The line should be suspended from a pole affixed to the vessel. The tori pole should be set as high as possible so that the line protects bait a good distance astern of the vessel and will not tangle with the fishing gear. Greater pole height provides greater bait protection. For example, a height of around 6 m above the water line can give about 100 m of bait protection.
2. The tori line should be set so that streamers pass over baited hooks in the water.

3. Deployment of multiple tori lines is encouraged to provide even greater protections of baits from birds.
4. Because there is the potential for line breakage and tangling, spare tori lines should be carried on board to replace damaged lines and to ensure fishing operations can continue uninterrupted.
5. When fishers use a bait casting machine (BCM) they must ensure co-ordination of the tori line and machine by:
  - a. ensuring the BCM throws directly under the tori line protection and
  - b. when using a BCM that allows throwing to port and starboard, ensure that two tori lines are used.
6. Fishers are encouraged to install manual, electric or hydraulic winches to improve ease of deployment and retrieval of tori lines.

### **Line weighting**

1. Vessels using autoline systems should add weights to the hookline or use integrated weight hooklines while deploying longlines. Integrated weight (IW) longlines of a minimum of 50 g/m or attachment to non-IW longlines of 5 kg weights at 50 to 60 m intervals are recommended.
2. Vessels using the Spanish method of longline fishing should release weights before line tension occurs; weights of at least 8.5 kg mass shall be used, spaced at intervals of no more than 40 m, or weights of at least 6 kg mass shall be used, spaced at intervals of no more than 20 m.
3. Further, SEAFO recommends that longline fisheries consider the Chilean system (equivalent to CCAMLR Trotline system), which is designed to eliminate cetacean predation on demersal longlines, but simultaneously eliminates virtually all seabird bycatch. In this system, 4-10 kg weights are deployed per hookline.

## **Appendix B**

### **Guidelines for Design and Deployment of Trawl Tori Lines**

1. The main line should consist of 50 m of 9 mm line.
2. Streamers should be attached at 5 m intervals and be long enough to reach the water in calm conditions.
3. It is essential that streamers are made from semi-flexible tubing of high visibility. The commended material is UV-protected fluorescent red polythene tubing and alternatives such as fire hose; old waterproofs and dark coloured tubing are not acceptable.
4. The lines should be mounted two metres outboard of the trawl blocks on both the port and starboard sides. It may be necessary to weld short extension arms to the handrail in order to achieve this distance.
5. Streamer lines should be deployed once the trawl doors are submerged and retrieved as net hauling commences. It is important to retrieve the streamer lines before hauling as vessels often go astern during this process, which can suck the tori lines underwater and lead to problems.
6. A spare streamer line should be carried and deployed in the event of loss or damage of a line.
7. The tori lines should be deployed after shooting and retrieved prior to hauling to minimize entanglement, but should be flown during trawling.

### Appendix C

Protocol A (for vessels monitoring longline sink rate with Time-Depth Recorders (TDRs) and using longlines to which weights are manually attached):

- A1. Prior to entry into force of the licence for this fishery and once per fishing season, either prior to entering the Convention Area or at the first opportunity after entering the Convention Area and before commencing fishing, the vessel shall, under observation by a scientific observer:
- (i) set a minimum of two longlines, unbaited if set in the Convention Area, with a minimum of four TDRs on the middle one-third of each longline, where:
    - (a) for vessels using the auto longline system, each longline shall be at least 6 000 m in length;
    - (b) for vessels using the Spanish longline system, each longline shall be at least 16 000 m in length;
    - (c) for vessels using the Spanish longline system, with longlines less than 16 000 m in length, each longline shall be of the maximum length to be used by the vessel in the Convention Area;
    - (d) for vessels using a longline system other than an autoline or Spanish longline system, each longline shall be of the maximum length to be used by the vessel in the Convention Area;
  - (ii) randomise TDR placement on the longline, noting that, except for trotlines, all tests should be applied midway between weights. In the case of trotlines TDRs should be placed on droppers less than 1 m from the attachment position of the uppermost cluster of hooks (i.e. hooks most distant from line weight);
  - (iii) calculate an individual sink rate for each TDR when returned to the vessel, where:
    - (a) the sink rate shall be measured based on an average of the time taken for the longline
    - (b) to sink from the surface (0 m) to 15 m;
    - (c) this sink rate shall be at a minimum rate of 0.3 m/s;
  - (iv) if the minimum sink rate is not achieved at all eight sample points (four tests on two longlines),
  - (v) continue the testing until such time as a total of eight tests with a minimum sink rate of 0.3 m/s are recorded;
  - (vi) all equipment and fishing gear used in the tests is to be to the same specifications as that to be used in the Convention Area.
- A2. During fishing, for a vessel to be allowed to maintain the exemption from night-time setting requirements (Paragraph 5), regular longline sink monitoring shall be undertaken by the scientific observer. The vessel shall cooperate with the observer who shall:
- (i) attempt to conduct a TDR test on one longline set every twenty-four hour period;
  - (ii) every seven days place at least four TDRs on a single longline to determine any sink rate variation along the longline;
  - (iii) randomise TDR placement on the longline, noting that all tests should be applied halfway between weights;
  - (iv) calculate an individual longline sink rate for each TDR when returned to the vessel;
  - (v) measure the longline sink rate based on an average of the time taken for the longline to sink from the surface (0 m) to 15 m.
- A3. The vessel shall:
- (i) ensure that all longlines are weighted to achieve a minimum longline sink rate of 0.3 m/s at all times whilst operating under this exemption;
  - (ii) report daily to its national agency on the achievement of this target whilst operating under this exemption;
  - (iii) ensure that data collected from longline sink rate tests and longline sink rate monitoring during fishing are recorded in the SEAFO-approved format<sup>1</sup> and submitted to the relevant national agency and SEAFO Executive Secretary within two months of the vessel departing a fishery to which this measure applies.

Protocol B (for vessels monitoring longline sink rate with bottle tests and using longlines to which weights are manually attached):

B1. Prior to entry into force of the licence for this fishery and once per fishing season either prior to entering the Convention Area or at the first opportunity after entering the Convention Area and before commencing fishing, the vessel shall, under observation by a scientific observer:

- (i) set a minimum of two longlines, unbaited if set in the Convention Area, with a minimum of four bottle tests (see paragraphs B5 to B9) on the middle one-third of each longline, where:
  - (a) for vessels using the auto longline system, each longline shall be at least 6 000 m in length;
  - (b) for vessels using the Spanish longline system, each longline shall be at least 16 000 m in length;
  - (c) for vessels using the Spanish longline system, with longlines less than 16 000 m in length, each longline shall be of the maximum length to be used by the vessel in the Convention Area;
  - (d) for vessels using a longline system other than an autoline or Spanish longline system, each longline shall be of the maximum length to be used by the vessel in the Convention Area;
- (ii) randomise bottle test placement on the longline, noting that, except for trotlines, all tests should be applied midway between weights. In the case of trotlines TDRs, bottles should be placed on droppers less than 1 m from the attachment position of the uppermost cluster of hooks (i.e. hooks most distant from line weight);
- (iii) calculate an individual sink rate for each bottle test at the time of the test, where:
  - (a) the sink rate shall be measured based on the time taken for the longline to sink from the surface (0 m) to 10 m;
  - (b) this sink rate shall be at a minimum rate of 0.3 m/s;
- (iv) if the minimum sink rate is not achieved at all eight sample points (four tests on two longlines), continue the testing until such time as a total of eight tests with a minimum sink rate of 0.3 m/s are recorded;
- (v) all equipment and fishing gear used in the tests is to be to the same specifications as that to be used in the Convention Area.

B2. During fishing, for a vessel to be allowed to maintain the exemption from night-time setting requirements (Paragraph 5), regular longline sink rate monitoring shall be undertaken by the scientific observer. The vessel shall cooperate with the observer who shall:

- (i) attempt to conduct a bottle test on one longline set every twenty-four hour period;
- (ii) every seven days conduct at least four bottle tests on a single longline to determine any sink rate variation along the longline;
- (iii) randomise bottle test placement on the longline, noting that all tests should be applied halfway between weights;
- (iv) calculate an individual longline sink rate for each bottle test at the time of the test;
- (v) measure the longline sink rate as the time taken for the longline to sink from the surface (0 m) to 10 m.

B3. The vessel shall:

- (i) ensure that all longlines are weighted to achieve a minimum longline sink rate of 0.3 m/s at all times whilst operating under this exemption;
- (ii) report daily to its national agency on the achievement of this target whilst operating under this exemption;
- (iii) ensure that data collected from longline sink rate tests and longline sink rate monitoring during fishing are recorded in the SEAFO-approved format<sup>1</sup> and submitted to the relevant national agency and SEAFO Executive Secretary within two months of the vessel departing a fishery to which this measure applies.

B4. A bottle test is to be conducted as described below

Bottle Set Up

- (i) 10 m of 2 mm multifilament nylon snood twine, or equivalent, is securely attached to the neck of a 500-1 000 ml plastic bottle<sup>ii</sup> with a longline clip attached to the other end. The length measurement is taken from the attachment point (terminal end of the clip) to the neck of the bottle, and should be checked by the observer every few days.
- (ii) Reflective tape should be wrapped around the bottle to allow it to be observed in low light conditions and at night.

Test

- (iii) The bottle is emptied of water, the stopper is left open and the twine is wrapped around the body of the bottle for setting. The bottle with the encircled twine is attached to the longline<sup>iii</sup>, midway between weights (the attachment point).
- (iv) The observer records the time at which the attachment point enters the water as  $t_1$  in seconds. The time at which the bottle is observed to be pulled completely under is recorded as  $t_2$  in seconds<sup>iv</sup>. The result of the test is calculated as follows: Longline sink rate =  $10 / (t_2 - t_1)$ .
- (v) The result should be equal to or greater than 0.3 m/s. These data are to be recorded in the space provided in the electronic observer logbook.

Protocol C (for vessels monitoring longline sink rate with either (TDR) or bottle tests, and using internally weighted longlines with integrated weight of at least 50 g/m and designed to sink instantly with a linear profile at greater than 0.2 m/s with no external weights attached):

C1. Prior to entry into force of the licence for this fishery and once per fishing season either prior to entering the Convention Area or at the first opportunity after entering the Convention Area and before commencing fishing, the vessel shall, under observation by a scientific observer:

- (i) set a minimum of two longlines, unbaited if set in the Convention Area, with either a minimum of four TDRs, or a minimum of four bottle tests (see paragraphs B5 to B9) on the middle one-third of each longline, where:
- (ii) set a minimum of two longlines, unbaited if set in the Convention Area, with either a minimum of four TDRs, or a minimum of four bottle tests (see paragraphs B5 to B9) on the middle one-third of each longline, where:
  - (a) for vessels using the auto longline system, each longline shall be at least 6 000 m in length;
  - (b) for vessels using the Spanish longline system, each longline shall be at least 16 000 m in length;
  - (c) for vessels using the Spanish longline system, with longlines less than 16 000 m in length, each longline shall be of the maximum length to be used by the vessel in the Convention Area;
  - (d) for vessels using a longline system other than an autoline or Spanish longline system, each longline shall be of the maximum length to be used by the vessel in the Convention Area;
- (iii) randomise TDR or bottle test placement on the longline;
- (iv) calculate an individual sink rate for each TDR when returned to the vessel, or for each bottle test at the time of the test, where:
  - (a) the sink rate shall be measured based on an average of the time taken for the longline to sink from the surface (0 m) to 15 m for TDRs and the time taken for the longline to sink from the surface (0 m) to 10 m for bottle tests;
  - (b) this sink rate shall be at a minimum rate of 0.2 m/s;
- (v) if the minimum sink rate is not achieved at all eight sample points (four tests on two longlines), continue the testing until such time as a total of eight tests with a minimum sink rate of 0.2 m/s are recorded;
- (vi) all equipment and fishing gear used in the tests is to be to the same specifications as that to be used in the Convention Area.

C2. During fishing, for a vessel to be allowed to maintain the exemption from night-time setting requirements (paragraph 5), regular longline sink rate monitoring shall be undertaken by the scientific observer. The vessel shall cooperate with the observer who shall:



- (i) attempt to conduct a TDR or bottle test on one longline set every twenty-four hour period;
- (ii) every seven days conduct at least four TDR or bottle tests on a single longline to determine any sink rate variation along the longline;
- (iii) randomise TDR or bottle test placement on the longline;
- (iv) calculate an individual longline sink rate for each TDR when returned to the vessel or each bottle test at the time of the test;
- (v) measure the longline sink rate for bottle tests as based on the time taken for the longline to sink from the surface (0 m) to 10 m, or for TDRs the average of the time taken for the longline to sink from the surface (0 m) to 15 m.

C3. The vessel shall:

- (i) ensure that all longlines are set so as to achieve a minimum longline sink rate of 0.2 m/s at all times whilst operating under this exemption;
- (ii) report daily to its national agency on the achievement of this target whilst operating under this exemption;
- (iii) ensure that data collected from longline sink rate tests and longline sink rate monitoring during fishing are recorded in the SEAFO-approved format<sup>1</sup> and submitted to the relevant national agency and SEAFO Executive Secretary within two months of the vessel departing a fishery to which this measure applies.

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*Footnotes*

<sup>i</sup> *Included in the scientific observer electronic logbook.*

<sup>ii</sup> *A plastic water bottle that has a 'stopper' is needed. The stopper of the bottle is left open so that the bottle will fill with water after being pulled under water. This allows the plastic bottle to be re-used rather than being crushed by water pressure.*

<sup>iii</sup> *On autolines attach to the backbone; on the Spanish longline system attach to the hookline.*

<sup>iv</sup> *Binoculars will make this process easier to view, especially in foul weather.*