



## **Agreement on the Conservation of Albatrosses and Petrels**

### **Fourth Meeting of Seabird Bycatch Working Group**

*Guayaquil, 22 – 24 August 2011*

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### **AC5 Report: Annex 11 — Summary advice statement for reducing impact of demersal longlines on seabirds**

**Secretariat**

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## **ANNEX 11: SUMMARY ADVICE STATEMENT FOR REDUCING IMPACT OF DEMERSAL LONGLINES ON SEABIRDS**

### **Summary**

The most effective measures to reduce incidental take of seabirds in demersal longline fisheries are:

- use of an appropriate line weighting regime to reduce the time baited hooks are near or on the surface and thus available to birds,
- actively deterring birds from baited hooks by means of bird scaring lines, and
- setting by night.

Further measures include bird deterrent curtains at the hauling bay, responsible offal management and avoiding peak areas and periods of seabird foraging activity. It is important to note that there is no single solution to reduce or avoid incidental mortality of seabirds in demersal longline fisheries, and that the most effective approach is to use the measures listed above in combination.

### **Introduction**

The incidental mortality of seabirds, mostly albatrosses and petrels, in longline fisheries has been of growing global concern. This was a major reason for the establishment of the Agreement on the Conservation of Albatrosses and Petrels (ACAP). A large number of mitigation methods to reduce and eliminate seabird bycatch has been developed and tested over the last 10 to 15 years, especially for demersal longline fisheries. Within demersal longlining, there are different systems – the autoline system, the Spanish double line system, and more recently the Chilean system. Although most mitigation measures will be broadly applicable, the feasibility, design and effectiveness of some measures will be influenced by the type of longlining method and gear configuration used. In particular it should be noted that most scientific literature relates to fleets of larger vessels, with longline usage from artisanal fleets receiving less attention. Some of this advice may need to be modified for smaller vessels. ACAP has comprehensively reviewed the scientific literature dealing with seabird bycatch mitigation in demersal fisheries and this document is a distillation of the review (available from the ACAP website).

Best practice mitigation measures for demersal longline fisheries are listed below; the first recommendation is a general measure followed by those for line setting and line hauling.

### **Best practice measures - general**

#### **Area and seasonal closures**

- The temporary closure of important foraging areas (e.g. areas adjacent to important seabird colonies during the breeding season when large numbers of aggressively feeding seabirds are present) has been a very effective way to reduce incidental mortality of seabirds in fisheries in those areas.

### **Best practice measures - line setting**

#### **Line weighting**

- Lines should be weighted to get the baited hooks rapidly out of the range of feeding seabirds. Weights should be deployed before line tension occurs to ensure that the line sinks rapidly out of reach of seabirds.

### **Weighted lines for Spanish gear**

- Steel weights are considered best practice. The mass should be a minimum of 5kg at 40m intervals.
- Where steel weights are not used, longlines should be set with a minimum of 8.5kg at 40m intervals when using rocks, and a minimum of 6kg at 20m intervals when using concrete weights.

### **Weighted lines for autoline gear**

- Integrated weight longlines (IWL) are designed with lead core of 50g/m. Their key characteristic is that they sink with a near-linear profile from the surface (minimal lofting in propeller turbulence) and are effective at sinking quickly out of reach of foraging seabirds. IWL should average  $\geq 0.24$  to 10 m depth.
- Where it is practical to use IWL gear in a fishery, IWL is preferred over externally weighted alternatives because of its linear sink profile from the surface and consistent ability to achieve the minimum sink rate.
- When using external weights on non-IWL autoline gear, the minimum average sink rate should be 0.3 m/s to 10 m depth. A faster sink rate is necessary with this configuration to minimise the lofting of sections of line between line weights in propeller turbulence. The sink rate can be achieved with a minimum of 5kg at no more than 40m intervals.

### **Night setting**

- Setting longlines at night, between the times of the end of nautical twilight and before nautical dawn) is effective at reducing incidental mortality of seabirds because the majority of vulnerable seabirds are diurnal foragers.

### **Bird scaring lines**

- Bird scaring lines are designed to provide a physical deterrent over the area where baited hooks are sinking.
- Two bird scaring lines should be used.
- The design of the bird scaring lines should include the following specifications:
- The attachment height should be at least 7m above sea level.
- The lines should be at least 150m long to ensure the maximum possible aerial extent.
- Streamers should be brightly coloured and reach the sea-surface in calm conditions, and placed at intervals of no more than 5m.
- A suitable towed device should be used to provide drag, maximise aerial extent and maintain the line directly behind the vessel during crosswinds.

### **Offal and discard discharge management**

- Seabirds are attracted to offal that is discharged from vessels. Ideally offal should be retained onboard but if that is not possible, offal and discards should not be discharged while setting lines.

### **Best practice measures - line hauling**

#### **Bird exclusion device (BED)/Brickle curtain**

- During hauling operations birds can accidentally become hooked as gear is retrieved. A BED consists of a horizontal support several metres above the water that encircles the entire line hauling bay. Vertical streamers are positioned between the support and water

surface. The seabird deterrent effectiveness of this streamer line configuration can be increased by deploying a line of floats on the water surface and connecting this line of floats to the support with downlines. This configuration is the most effective method to prevent birds entering the area around the hauling bay, either by swimming or by flying.

#### **Offal and discard discharge management**

- Ideally offal should be retained onboard, but if that is not possible offal and discards should be either, preferably, retained on board during hauling or released on the opposite side of the vessel to the hauling bay.
- All hooks should be removed and retained on board before discards are discharged from the vessel.

#### **Further options**

##### **Chilean method**

- The Chilean method of longline fishing was designed to prevent toothed whale depredations of fish. Because weights are deployed directly below the hooks, and because hook-bearing lines sink with a vertical profile in the seabird foraging depths (not horizontally, as in the traditional Spanish method), lines sink rapidly, making it an effective method for avoiding bycatch of foraging seabirds.
- To eliminate the ingestion of hooks by seabirds during line hauling operations, care must be taken to retain all hooks onboard and not discard them overboard, either as unwanted hooks or as hooks embedded in discarded fish.

The following mitigation options are **not** recommended best practice:

**Hook design, olfactory deterrents, and underwater setting chutes** have been insufficiently researched. **Side setting** has been insufficiently researched and there have been operational difficulties. **Blue-dyed bait, thawed bait** and the **use of a line setter** are not relevant in demersal longline gear.