



Ninth Meeting of the Seabird Bycatch Working Group

Florianópolis, Brazil, 6 - 8 May 2019

Bycatch Mitigation Factsheets - New Designs and Updates

Nina da Rocha (BirdLife International) and Anton Wolfaardt

SUMMARY

At SBWG7, it was noted that there is considerable duplication in the content of the ACAP Review and Best Practice Advice documents on the one hand and the Mitigation Fact Sheets on the other. Rather than integrating these two products, the Seabird Bycatch Working Group (SBWG) and Advisory Committee (AC) recommended that they be retained as separate documents with appropriate links between them. Consequently, at SBWG8, three simplified designs were presented for the fact sheets on line weighting and hook shielding devices. Of the design options presented, the A4 format was agreed to be the most suitable for stakeholder outreach. Several suggestions were made at SBWG8 to improve aspects of the design, and these have been incorporated into the revised designs. The revised A4 designs for the new hook-shielding devices and updated line weighting factsheets are presented for final approval. These are currently only available in English. It is proposed that the next factsheet to be updated and re-designed be the bird scaring line factsheets for demersal and pelagic longline. The proposed content for these is also presented.

RECOMMENDATIONS

The Seabird Bycatch Working Group is asked to:

1. Approve the revised A4 **pilot designs** for the factsheets on hook shielding devices and line weighting;
2. Review the **content** of the revised hook shielding device factsheet;
3. Review the **content** of the simplified factsheet proposed for bird scaring lines;
4. Discuss and agree the next steps for the **redesign/conversion** of the remaining factsheets (in relation to phasing, translations and funding);

Hojas informativas sobre mitigación de la captura secundaria: nuevos diseños y actualizaciones

RESUMEN

En la GdTCS7, se advirtió que existía una duplicación considerable en el contenido de los documentos del ACAP sobre revisión y recomendaciones de mejores prácticas, por un lado, y de las Hojas informativas sobre mitigación, por el otro. En lugar de integrar esos dos productos, el Grupo de Trabajo sobre Captura Secundaria de Aves Marinas (GdTCS) y el Comité Asesor (CA) recomendaron mantenerlos como documentos independientes, con los enlaces adecuados entre ambos. En consecuencia, durante la GdTCS8, se presentaron tres diseños simplificados para las hojas informativas sobre lastrado de brazoladas y dispositivos de protección de anzuelos. De todas las opciones de diseño presentadas, se convino en que el formato A4 era el más adecuado para la divulgación a cargo de las partes interesadas. Durante la GdTCS8, se formularon varias sugerencias para mejorar los aspectos de diseño, las cuales se incorporaron en los diseños modificados. Los diseños modificados en A4 para los nuevos dispositivos de protección de anzuelos y las hojas informativas actualizadas sobre lastrado de brazoladas se presentaron para su aprobación final. En la actualidad, estas últimas solo están disponibles en inglés. Se propone que las próximas hojas informativas en ser actualizadas y rediseñadas sean las relativas a las líneas espantapájaros en pesquerías de palangre demersal y pelágico. También se presentó el contenido para esas hojas informativas.

RECOMENDACIONES

Se solicita al Grupo de Trabajo sobre Captura Secundaria de Aves Marinas que tenga a bien:

1. Aprobar los **diseños piloto** A4 correspondientes a las hojas informativas sobre dispositivos de protección de anzuelos y lastrado de brazoladas.
2. Revisar el **contenido** de la hoja informativa modificada sobre el dispositivo de protección de anzuelos.
3. Revisar el **contenido** de la hoja informativa simplificada propuesta para las líneas espantapájaros.
4. Debatir y acordar los próximos pasos para el **rediseño / la conversión** de las hojas informativas restantes (en lo referido a planificación por etapas, traducción y financiación).

Fiches pratiques sur l'atténuation des captures accessoires - Nouveaux modèles et mises à jour

RÉSUMÉ

Lors du GTCA7, il a été souligné que de nombreux doublons existaient dans le contenu des documents de révision et de conseils sur les bonnes pratiques de l'ACAP, d'une part, et des fiches pratiques sur la réduction des captures accessoires, d'autre part. Au lieu d'intégrer ces deux documents, le Groupe de travail sur la capture accessoire d'oiseaux de mer (GTCA) et le Comité consultatif (CC) ont recommandé de préserver les deux types de documents en établissant des liens appropriés entre eux. Partant, lors du GTCA8, trois modèles simplifiés de fiches pratiques sur le lestage des lignes et les dispositifs de protection des hameçons ont été présentés. Le format A4 a été choisi, parmi ces modèles, comme étant le plus adapté pour sensibiliser les parties prenantes. Plusieurs suggestions ont été émises lors du GTCA8 afin d'améliorer certains aspects du modèle, lesquelles ont été incorporées dans le modèle révisé. Les modèles A4 révisés pour les nouvelles fiches pratiques sur les dispositifs de protection des hameçons et les fiches pratiques révisées sur le lestage de lignes sont présentés afin d'être définitivement approuvés. Actuellement, ces documents sont uniquement disponibles en anglais. Il est proposé que les prochaines fiches pratiques qui doivent être actualisées et repensées soient les fiches pratiques sur les lignes d'effarouchement pour la palangre démersale et pélagique. Les contenus proposés pour celles-ci sont également présentés.

RECOMMANDATIONS

Il est demandé au Groupe de travail sur la capture accessoire des oiseaux marins :

1. d'approuver les **modèles pilotes** révisés A4 pour les fiches pratiques sur les dispositifs de protection des hameçons et sur le lestage de lignes ;
2. d'examiner le **contenu** de la fiche pratique sur les dispositifs de protection des hameçons ;
3. d'examiner le **contenu** de la fiche pratique simplifiée proposée pour les lignes d'effarouchement ;
4. de discuter et s'accorder sur les prochaines étapes de la **refonte/conversion** des fiches pratiques restantes (aspect progressif, traductions et financement).

1. OUTCOMES OF SBWG8 AND ADDITIONAL WORK

At SBWG7, it was noted that there is considerable duplication in the content of the ACAP Review and Best Practice Advice documents on the one hand and the Mitigation Fact Sheets on the other. Rather than integrating these two products, the SBWG and AC recommended that they be retained as separate documents with appropriate links between them. Consequently, at SBWG8, three simplified designs were presented for the fact sheets on line weighting and hook shielding devices. Of the design options presented, the A4 format was agreed to be the most suitable for stakeholder outreach. Several suggestions were made at

SBWG8 to improve aspects of the design, including the use of more realistic diagrams, bullet points, more colour, gender free language and imagery depicting albatrosses and petrels (rather than other species). These suggestions have been incorporated into the revised designs presented in Annex 1 and Annex 2.

At SBWG8 it was agreed that, subject to the availability of funding, the full suite of Mitigation Fact Sheets should be converted into the new simplified format. It was recommended that this be done in a phased manner, starting with the modifications to the two factsheets that have already been developed (line weighting and hook-shielding devices for pelagic longline fisheries), followed by the bird scaring line fact sheets for demersal and pelagic longline, other fact sheets of ACAP Best Practice Measures, and subsequently the remainder.

At SBWG8 it was proposed that the new designs be 'tested' using existing outreach programmes (i.e. BirdLife Albatross Task Force; Common Oceans Areas Beyond National Jurisdiction (ABNJ) Tuna Project) to determine which was the most effective and gather feedback from industry for further development. However, due to financial and time constraints, this has not been undertaken.

2. BYCATCH MITIGATION FACTSHEET RE-DESIGN

2.1. Pilot bycatch mitigation factsheet design

Updates to the recommended specifications for line weighting factsheet agreed at SBWG7 and AC9 were incorporated into the new simplified A4 pilot design for the line weighting factsheet. Moreover, comments put forward at SBWG8 on the content of the new hook shielding device factsheet were considered during the design processes.

In the meantime, the content of the hook-shielding device factsheet has been changed to reflect the fact that the Smart Tuna Hook is currently commercially unavailable. Further modifications to the factsheet text were made to include the Hook Pod mini, placing emphasis on the differences between this device and the Hook Pod and the fact that the Hook Pod mini has not yet been assessed by ACAP as a best practice measure.

The simplified A4 pilot designs for the hook shielding devices and line weighting factsheets, with the updated content and design modifications, are included in **Annexes 1 and 2**.

2.2. Remaining bycatch mitigation factsheet re-design

At SBWG8 it was recommended that following the completion of the process to re-design the pilot factsheets (for hook-shielding devices and line weighting), the remainder of the factsheets be updated to the simplified format in a phased manner. The sequence proposed was as follows:

- a) bird scaring lines for pelagic and demersal longline vessels,
- b) other fact sheets of ACAP Best Practice Measures, and
- c) the remainder.

The proposed content (text) for the simplified factsheet on bird-scaring lines (a) is included in **Annex 3**.

Preventing Seabird Bycatch in Pelagic Longline Fisheries

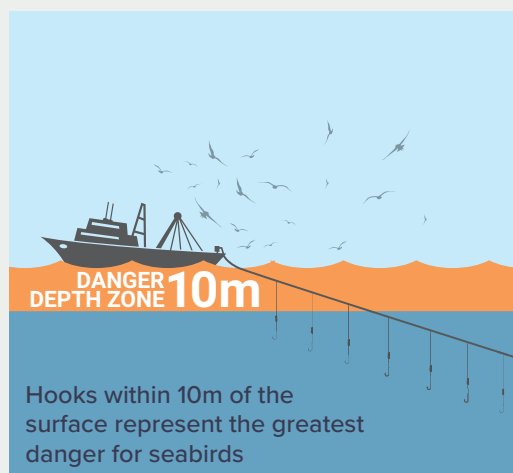
LINE WEIGHTING

ACAP and BirdLife Best Practice Factsheet

Updated May 2019

What is it and how does it work?

Seabirds are vulnerable to being caught during the short period between when the hooks leave the vessel and when they sink below their diving ranges. Line weighting helps sink hooks beyond the dive depths of surface- and shallow-foraging seabirds and thus helps reduce the likelihood of birds accessing baited hooks. Because most seabird dives occur in the upper reaches of the water column (down to 10 m), effective line weighting should sink hooks rapidly beyond this depth.

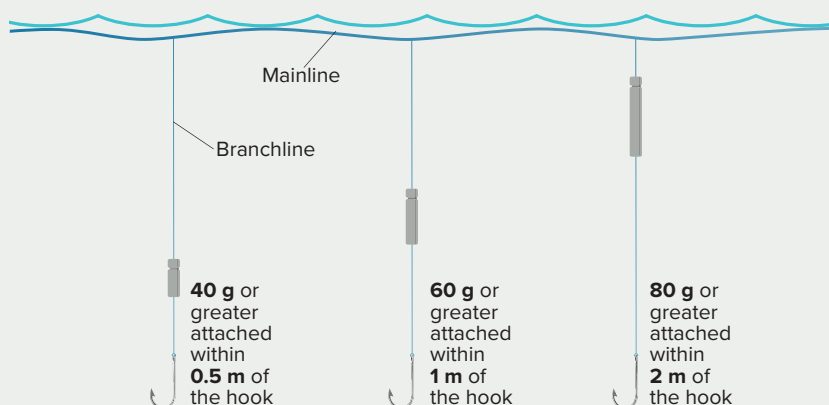


The sink rate of a hook primarily depends on:

- The mass of the weight attached to it
- The distance between the weight and the hook

Heavier weights closer to the hook are the most effective at sinking baited hooks quickly and therefore reducing seabird bycatch; lighter weights further from the hook can result in the hook remaining close to the surface for a period before sinking beyond the danger zone for seabirds.

To counteract this effect, weights placed further from the hook need to be heavier. ACAP recommends that the following minimum line-weighting standards represent best practice:



A number of research projects have shown that adding weights to branch lines **does not affect the catch rates of the fish that are being targeted and reduces the loss of bait to birds.**

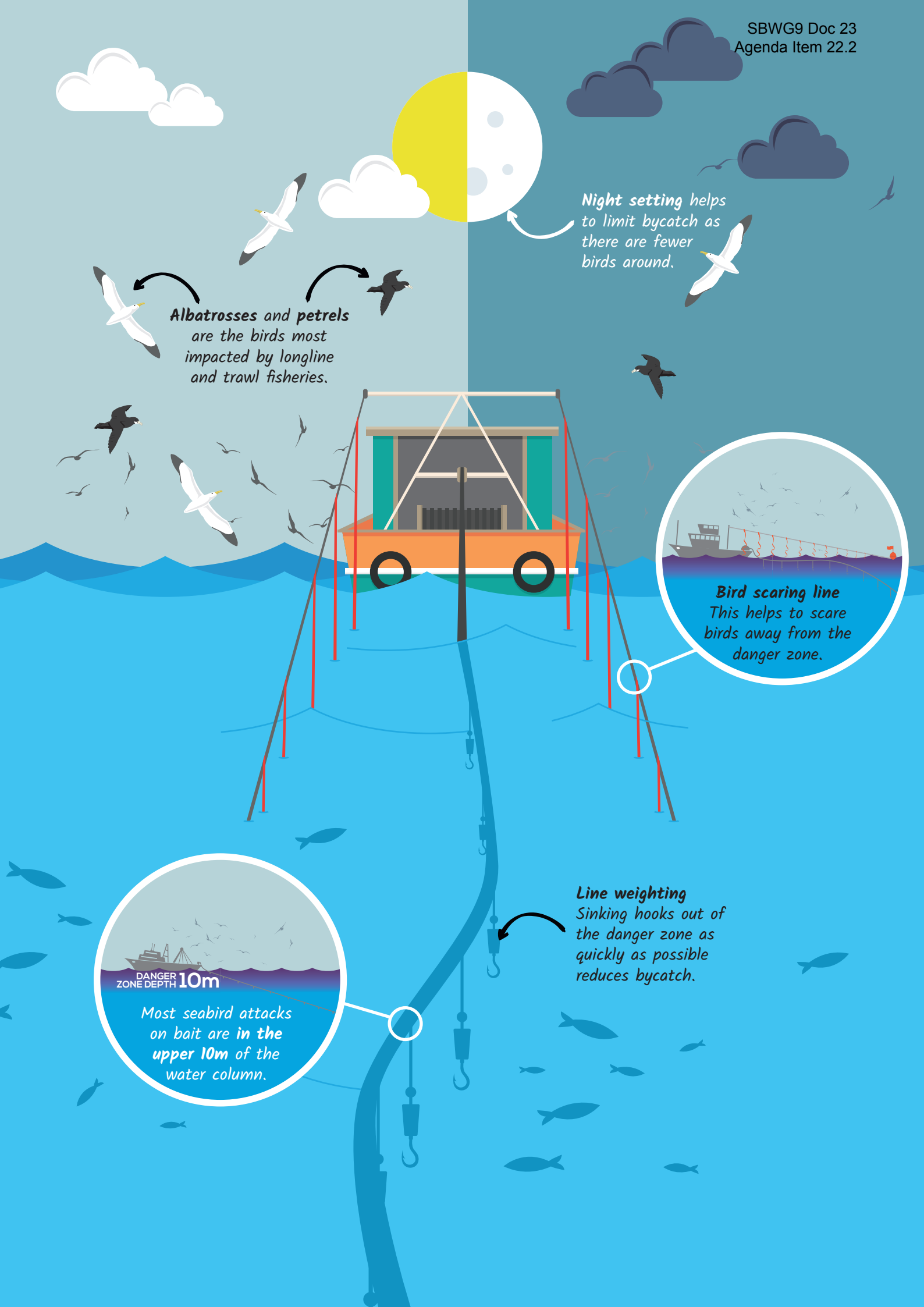
Problems and troubleshooting

Crew safety: 'fly-backs' (weights flying back towards the vessel after bite-offs or line breaks) are a concern when line weighting is used. Sliding leads that slide down the branch line during bite-offs greatly reduce the incidence of fly-backs. In the USA, fishers address fly-backs by altering the angle at which lines are retrieved so that crew members are not directly in the path of the weight should the line break. Personal safety equipment, such as helmets and face screens, and ensuring safe hauling practices, can help to minimise risks.

Propeller wash: to ensure that hooks sink quickly, they should be cast beyond the propeller wash, but still under the protection of bird-scaring lines.

Combination with other measures

Line weighting is considered to be one of the most important mitigation measures, but to maximise its effectiveness, it should be combined with **bird-scaring lines** and **night setting**. When used in combination, bird-scaring lines protect the area behind the vessel in which the baited hooks are still accessible to seabirds (up to 10-m depth), while the line weighting shrinks the extent of the area that the bird-scaring lines need to protect.



Night setting helps to limit bycatch as there are fewer birds around.

Albatrosses and petrels are the birds most impacted by longline and trawl fisheries.

Bird scaring line
This helps to scare birds away from the danger zone.

DANGER ZONE DEPTH 10m

Most seabird attacks on bait are in the upper 10m of the water column.

Line weighting
Sinking hooks out of the danger zone as quickly as possible reduces bycatch.



Preventing Seabird Bycatch in Pelagic Longline Fisheries

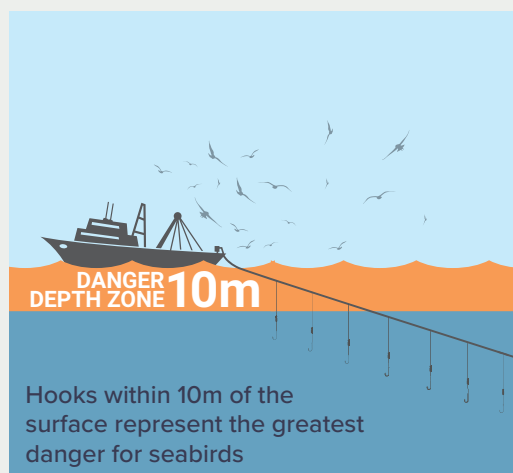
HOOK SHIELDING

ACAP and BirdLife Best Practice Factsheet

Updated May 2019

What is it and how does it work?

Hook-shielding devices encase the point and barb of longline hooks during line setting, and thus prevent seabirds from being hooked during this period. Seabirds primarily attack baited hooks in the upper reaches of the water column. Effective hook-shielding devices should therefore release hooks from their protective encasements at a depth of at least 10 m or after an immersion time of at least 10 minutes, to ensure that the baited hooks are released beyond the foraging depth of most seabirds.



Hook Pod

The Hook Pod is a hook-shielding device that is considered to meet ACAP 'best practice' criteria based on its hook shielding attributes, weight and sink rate, and the minimum depth at which the hook is released.

This device weighs 68-g and when deployed is attached directly to the hook (thus complying with ACAP minimum branch line-weighting requirements), and encases the barb and point of the hook in a plastic housing. A pressure release mechanism opens the housing at a depth of at least 10 m to release the baited hook. The Hook Pod incorporates a light emitting diode (LED) light source that is triggered by a magnetic switch when the device opens at depth. The LED is incorporated as an alternative to disposable chemical light sticks (reducing marine debris) and electric fishing lights.



Hook Pod - mini

The Hook Pod mini is a smaller hook-shielding device which has not yet been formally assessed by ACAP, and is therefore not currently on the list of ACAP Best Practice measures. It operates in the same way as the Hook Pod, protecting the baited hooks until they are released at a minimum depth of 10 m. The main differences between the two devices are that the Hook Pod mini weighs 45g and does not include an LED light source. Like the Hook Pod, it is also attached to the hook on deployment.

Problems and troubleshooting

The configuration of the Hook Pod and Hook Pod mini creates a loop of branch line during setting, in which birds could become entangled. It is partly for this reason that the devices need to meet the ACAP line weighting and sink rate requirements. The length of the loop can however be manipulated by changing the point at which the device is attached to the branch line.

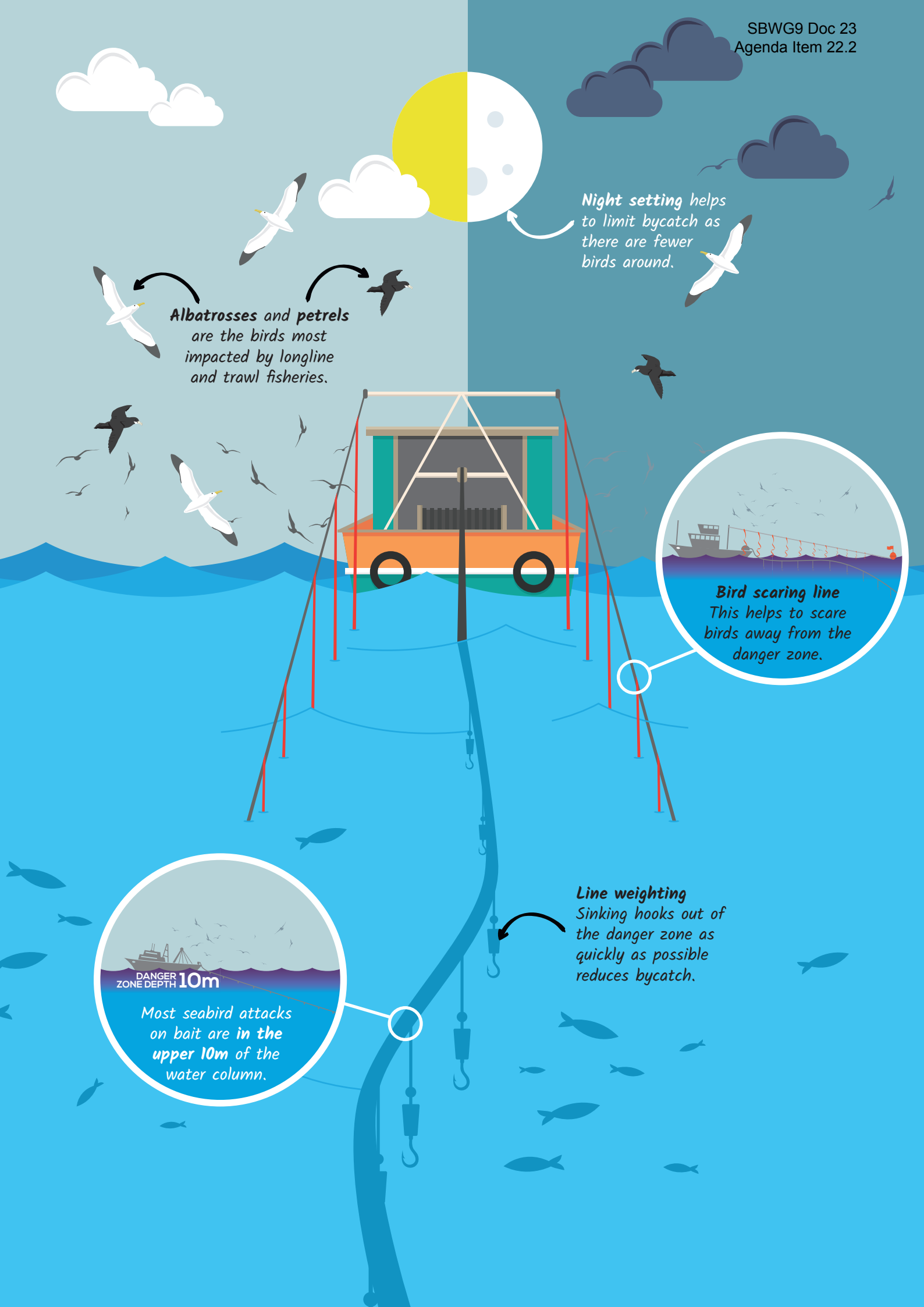
Combination with other measures

These devices integrate two key performance requirements:

- Shielding baited hooks until they are released beyond the foraging depth of most seabirds
- Weighting branch lines to ensure rapid sink rates.

Hook-shielding devices can be used as stand-alone measures or with other measures, such as **bird-scaring lines** and **night setting**.

The Smart Tuna Hook is another hook-shielding device that meets ACAP 'best practice' criteria. This device weighs a minimum of 40-g and encases the barb and point of the hook in a metal housing. After a minimum period of 10 minutes soak time the alloy link that keeps the shield attached corrodes, causing the hook to be released. It is currently reported to be commercially unavailable.



Night setting helps to limit bycatch as there are fewer birds around.

Albatrosses and petrels are the birds most impacted by longline and trawl fisheries.

Bird scaring line
This helps to scare birds away from the danger zone.

DANGER ZONE DEPTH 10m

Most seabird attacks on bait are in the upper 10m of the water column.

Line weighting
Sinking hooks out of the danger zone as quickly as possible reduces bycatch.

ANNEX 3



Preventing Seabird Bycatch in Pelagic Longline Fisheries Bird Scaring Lines



ACAP and BirdLife Best Practice Factsheet – Draft text

Proposed text for the simplified Mitigation Fact Sheet(s) on bird scaring lines

At SBWG8 it was recommended that the re-design of the factsheets into the new simplified format be done in a phased manner, and that following the completion of the A4 pilot designs for hook shielding devices and line weighting, the bird scaring line fact sheets for pelagic and demersal longline fisheries should be the next sheet converted. The draft text provided below follows the structure of the A4 pilot designs for hook-shielding devices and line weighting. The text is taken from the current ACAP review and best practice advice documents.

Inputs are sought from the SBWG on the content provided, and whether a single fact sheet should be developed for all size classes of both demersal and pelagic longline vessels, as is proposed here, or whether separate fact sheets should be developed for each of the gear types and size classes.

It is important to note that the new simplified format focusses heavily on illustrations, reducing the length of the text to a minimum. The design process, including illustrations, will be progressed once the text for the fact sheet has been agreed.

What is it and how does it work?

Seabirds are vulnerable to being caught by longline vessels during the period between when the baited hooks leave the vessel and when they sink below their diving depth ranges. A bird scaring line (also called a tori or streamer line) is a line with brightly coloured streamers that is towed from a high point near the stern as baited hooks are deployed. As the vessel moves forward, drag on the line creates an aerial component (extent) from which streamers are suspended at regular intervals. This helps to scare birds away from the danger zone. The aerial extent is critical when attempting to scare birds away from baited hooks. A towed object or component is used to create additional drag to maximise the aerial extent. The goal is to maintain the bird scaring line over the sinking baited hooks in such a way that the streamers prevent seabirds from attacking the bait and becoming hooked.

The key factors affecting the performance of bird scaring lines are its aerial extent, the position of streamers in relation to sinking baited hooks, and the strength and position of the attachment point to the vessel. The use of two (paired) bird scaring lines provides better protection of baited hooks than single lines. Sufficient drag must be created to maximise their aerial extent and maintain the lines directly behind the vessel during crosswinds. To avoid tangling, this is best achieved using a long in-water section of rope or monofilament.

Bird scaring lines can be used as seabird bycatch mitigation measures on both demersal and pelagic longline vessels. For all vessels, two (paired) bird scaring lines should be used simultaneously, as this is more effective at deterring birds than a single line. Baited hooks should be deployed within the area bounded by the two bird scaring lines. If using bait-casting machines, they should be adjusted to land baits within this area. If using a single bird scaring line, it should be deployed windward of the sinking baits.

ACAP recommends the following specifications [*in the final design(s), these could perhaps be placed in a summary table; the main elements will also be shown in the illustrations*]:

Demersal longline vessels (≥ 24 m in length):

- Attachment height at least 7m above sea level.
- 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, or in-water section, should be used to provide drag, maximise aerial extent and maintain the line directly behind the vessel during crosswind.

Demersal longline vessels (≤ 24 m in length)

- The attachment height should be at least 6m above sea level
- The lines should achieve an aerial extent of at least 75 m when setting at ≥ 4 knots, or 50 m if setting at speeds < 4 knots.
- Streamers should be brightly coloured and reach the sea-surface in calm conditions, and placed at intervals of no more than 5m. Streamers may be modified over the first 15 m to avoid tangling.

Pelagic longline vessels (≥ 35 m in length)

- The attachment height should be at least 8m above sea level
- Lines should be at least 150m long to ensure a minimum recommended aerial extent of 100 m.
- Lines should have a mix of brightly coloured long and short streamers, placed at intervals of no more than 5 m. Long streamers should reach the sea-surface in calm conditions and should be attached to the line with swivels to prevent them from wrapping around the line.

Pelagic longline vessels (< 35 m in length)

- The attachment height should be at least 6m above sea level.
- The lines should achieve an aerial extent of at least 75 m.
- Streamers should be brightly coloured.
- There are two design options: i) one that includes a mix of long and short streamers, with long streamers placed at 5 m intervals over at least the first 55 m of the bird scaring line; streamers may be modified over the first 15 m to avoid tangling, OR, ii) a design that includes only short streamers (no less than 1 m in length) that should be placed at 1 m intervals along the length of the aerial section of the line.

Problems and troubleshooting

Tangling with the hook line. Bird scaring lines may become tangled with the hook line. This risk can be reduced by ensuring the correct attachment height above sea level, and aerial extent and drag. It is recommended that a weak link is used to allow the bird scaring line to break-away from the vessel in the event of a tangle with the main line, and, a secondary attachment between the bird scaring line and the vessel to allow the tangled bird scaring line to be subsequently attached to mainline and recovered during the haul.

Reduced protection during strong crosswinds. In strong crosswinds, bird scaring lines can be blown away from the hook line, thus reducing the protection provided. An effective towed device, or in-water section of the bird scaring line helps create sufficient drag to maintain the aerial extent of the bird scaring line, and reduce the likelihood of tangling.

Combination with other measures

Bird Scaring Lines should be combined with line weighting and night setting. When used in combination, bird-scaring lines protect the area behind the vessel in which the baited hooks are still accessible to seabirds (up to 10-m depth), while the line weighting shrinks the extent of the area that the bird-scaring lines need to protect.