Preventing Seabird Bycatch in Pelagic Longline Fisheries

LINE WEIGHTING Factsheet

Updated May 2019

What is it and how does it work?

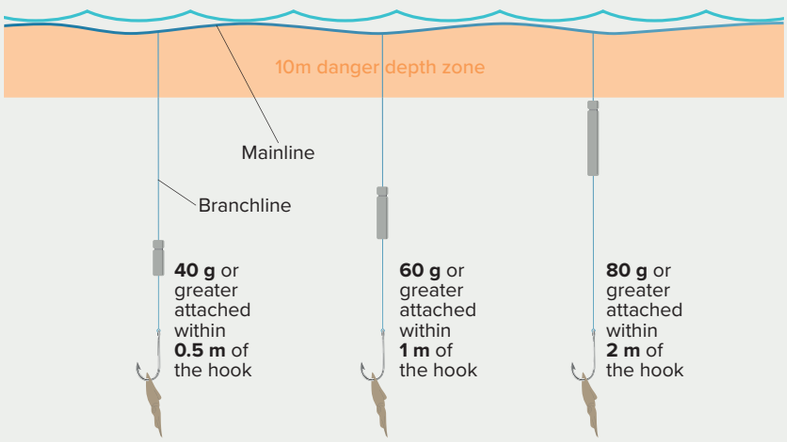
Seabirds are vulnerable to being caught during the short period between when the hooks leave the vessel and when they sink below their diving ranges. Line weighting helps sink hooks beyond the dive depths of surface- and shallow-foraging seabirds and thus helps reduce the likelihood of birds accessing 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.

CONTACTS

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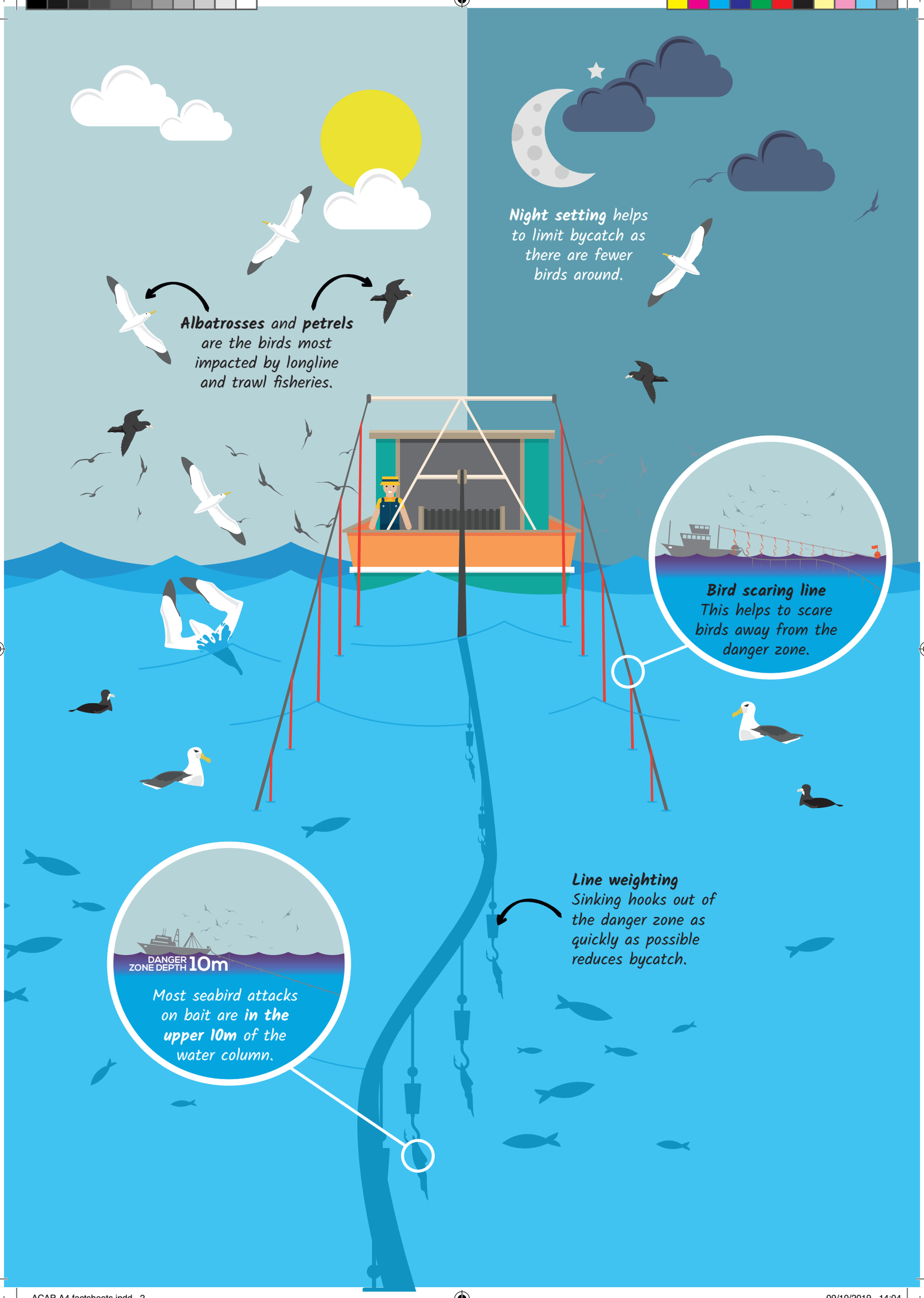
Night setting helps to limit bycatch as there are fewer birds around.
Albatrosses and **petrels** are the birds most impacted by longline and trawl fisheries.
Bird scaring line
This helps to scare birds away from the danger zone.
Line weighting
Sinking hooks out of the danger zone as quickly as possible reduces bycatch.
DANGER ZONE DEPTH 10m
Most seabird attacks on bait are **in the upper 10m** of the water column.