



Practical information on measures to mitigate seabird bycatch in fisheries

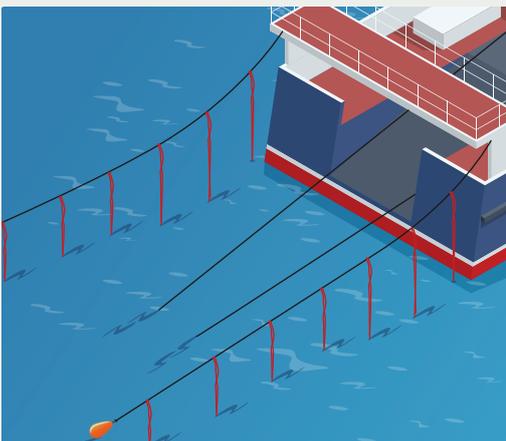
INTRODUCTION

Factsheet

August 2021

This series of Seabird Bycatch Mitigation Factsheets describes the range of potential mitigation measures available to reduce seabird bycatch in longline and trawl fisheries. Each Factsheet describes how the mitigation measure works, its effectiveness in reducing bycatch, outlines problems and troubleshooting associated with the measure, and provides recommendations on best practice use. They are designed to help facilitate practical use of the most effective measures to reduce seabird bycatch.

The Factsheets are in the process of being updated and modified into a simpler design format. This process is being progressed in a phased manner, starting with those bycatch mitigation measures that are considered by ACAP to represent best practice. The Factsheets currently available in the new simplified design format are listed in the table below. The Factsheets currently cover seabird bycatch mitigation measures for longline and trawl fisheries, but will be extended to other gear types, such as purse-seine fisheries, in due course.



The threat to seabirds

Fisheries bycatch is the single greatest threat facing many seabird populations. Albatrosses, in particular, are under extreme pressure from this threat. Seabird bycatch is unnecessary and preventable. In fact, it not only has disastrous consequences for the birds, but also renders fishing operations less efficient and in some cases less profitable. Fortunately, there are simple and effective solutions that can help prevent seabird bycatch.

Seabird bycatch in fisheries

Seabirds interact with fishing vessels, particularly as they forage for bait, discards or offal. Longline, trawl, purse-seine and gillnet fishing operations can all lead to seabird mortalities.

Incidental capture, or bycatch, in longline fisheries occurs when birds attack baited hooks, mostly during the setting of the line, become hooked and drown as the line sinks to fishing depth.

In trawl fisheries, birds foraging on discards behind the vessel may collide with net-monitoring cables, warp cables and paravanes, and become injured, or in the case of collisions with warp cables, be dragged underwater when their wings become entangled around the warp; birds can also become entangled in nets during shooting and hauling.

Incidental capture in purse-seine and gillnet fisheries is due mostly to birds becoming entangled in nets when they dive for prey.

Mitigation Measures

There is a range of effective mitigation measures that have been developed that, when used conscientiously, can reduce the number of seabirds killed. These are most advanced and well established in longline and trawl fisheries, with more recent developments in purse-seine fisheries. Research into options for mitigating seabird bycatch in gillnet fisheries is underway.

A mitigation measure is generally a modification to gear design or fishing operation that reduces the likelihood of catching and killing seabirds. Each fishery, and gear type, has different operational characteristics, and overlaps with different assemblages of seabirds, which may vary in their susceptibility to capture. Consequently, mitigation measures need to be carefully tailored to each fishery and gear type.

In longline and trawl fisheries, mitigation measures are designed to reduce the attractiveness of vessels for scavenging seabirds and to deter any birds that do attend the vessel away from the danger areas. In most cases, it is necessary to use multiple mitigation measures in combination to minimise seabird bycatch. For example, in pelagic longline fisheries, the combined use of night setting, fast sinking weighted branch lines and bird scaring lines provides an effective approach to reduce seabird bycatch.

ACAP routinely reviews the efficacy of seabird bycatch mitigation measures and provides advice appropriate to each gear type. The updated advice and detailed technical specifications of mitigation measures are provided in review and summary advice documents available at:

www.acap.aq/resources/bycatch-mitigation/mitigation-advice

The Seabird Bycatch Mitigation Factsheets use a simplified illustration-based format to provide practical information on their use. The Factsheets are reviewed regularly and will be updated in the light of any new scientific or technical findings.

The mitigation measures recommended by ACAP are those that have been evaluated to meet the criteria of:

1. reduce the rate of seabird incidental mortality to the lowest achievable levels.
2. Have clear and proven specifications and minimum performance standards for their deployment and use.
3. Be demonstrated to be practical, including aspects concerning safe fishing practices, cost effective and widely available.
4. Maintain catch rates of target species
5. Not increase the bycatch of other animals, such as sea turtles, sharks and marine mammals.
6. Have minimum performance standards and methods of ensuring compliance

ACAP-BirdLife Seabird Bycatch Mitigation Factsheets available:

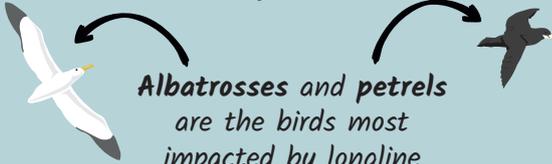
| TARGET FISHERIES | MITIGATION MEASURES |
|-------------------------------|---|
| Demersal longline | Streamer lines |
| Demersal longline | Line weighting – external weights |
| Demersal longline | Integrated weight longlines |
| Demersal longline | Line weighting – Chilean system |
| Demersal and pelagic longline | Night-setting |
| Demersal longline | Underwater setting chute |
| Pelagic longline | Streamer lines (vessels ≥ 35 m) |
| Pelagic longline | Streamer lines (vessels < 35 m) |
| Pelagic longline | Line weighting |
| Pelagic longline | Side-setting |
| Pelagic longline | Blue-dyed bait (squid) |
| Pelagic longline | Bait caster and line shooter |
| Pelagic longline | Hook-shielding devices |
| Demersal and pelagic longline | Haul mitigation |
| Trawl | Warp strike |
| Trawl | Net entanglement |
| Pelagic longline | Improving safety when hauling branchlines |

Highlighted rows indicate Factsheets in the revised format

www.acap.aq/link/mtgfs



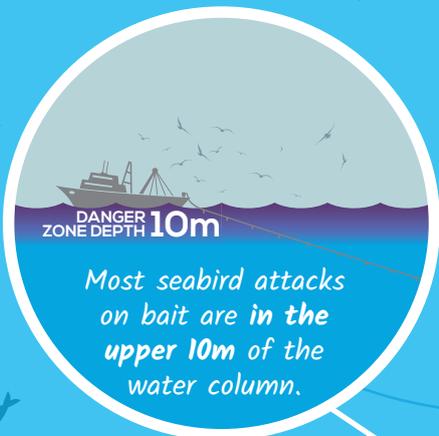
Night setting helps to limit bycatch as there are fewer birds around.



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.



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.