

Briefing: How can incidental catches of seabirds be eliminated?

The science to support the Technical Measures Regulation

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Seabirds forage in highly productive areas of the ocean, which are also targeted by commercial fishing vessels. This overlap can cause them to be accidentally caught on hooks, or entangled in nets. It is estimated that every year across Europe more than 200,000 seabirds die as bycatch in fishing gears.¹ Within the EU these seabirds are protected under the EU Birds Directive and for some, such as the endemic and Critically Endangered Balearic Shearwater, incidental catches are leading them to extinction. The bycatch of these species and the poor management of the fisheries in relation to this issue are an infringement of the Birds Directive.²

In 2012 the European Commission adopted a Plan of Action for reducing incidental catches of seabirds in fishing gears.³ The plan's objective is to minimize, and where possible, eliminate incidental catches of seabirds by implementing technical measures along with other actions. In 2016, the European commission proposed a new Technical Measures Regulation that would ensure baseline measures across sea basins to tackle the incidentally catching of seabirds. Technical solutions have been developed for some specific fishing gears⁴ and, having been scientifically tested in fisheries around the world, have been found to prevent or dramatically reduce the incidental catches of seabirds. Further research and development are currently underway to identify technical solutions for gillnets. Furthermore, spatial measures are also known to minimize incidental catches of seabirds.

Fishing Gear	Measures	Descriptions
All gears	Spatial measures: No-fishing Zone/ real time closures	No fishing zones remove the risk of species interacting with fishing gears within the specific area, they are effective where high concentration of sensitive species of seabirds regularly occur. Real-time scientific observations of seabird distribution enables setting precise temporal and real time closures for sites and periods with high concentrations of seabirds. ⁵⁶
Longline and trawl	Bird-scaring devices (e.g. streamer line, also known as tori line)	Streamers flap with the wind and scare birds away from the vessels. A bycatch reduction of 95% have been recorded by applying this technical solution. ⁷⁸
Longline (demersal)	Line weighting/integrated weight longlines	Changes in the position and mass of line weights increases the sink rate of the hook, giving seabirds less time and opportunity to dive for the baited hook.
Longline and trawl	Night-setting with minimum deck lighting	Some seabirds are predominantly active during the day and less active at night. Setting fishing gear at night minimizes the chances of bycatch.
Longline (pelagic)	Hook shielding	Hook shielding devices protect the barb of the hook until it sinks to a predetermined depth, which reduces the risk of seabird bycatch. Bycatch reductions of 95% have been recorded on vessels applying this technical solution. ⁹

¹ [Zydalis, R., Small, C., French, G., 2013](#). The incidental catch of seabirds in gillnet fisheries: A global review. *Biological Conservation*, 162, 76–88.

² Case 340/10 Commission vs Cyprus

³ [Communication from the Commission: Action Plan for reducing incidental catches of seabirds in fishing gears](#)

⁴ [Seabird bycatch mitigation factsheets- BirdLife International](#).

⁵ [Croxall, J.P., 2008](#). The role of science and advocacy in the conservation of Southern Ocean albatrosses at sea. *Bird Conservation International*, 18(S1), pp.S13-S29.

⁶ [Bull, L.S., 2007](#). Reducing seabird bycatch in longline, trawl and gillnet fisheries. *Fish and Fisheries*, 8(1), pp.31-56.

⁷ [ACAP and BirdLife International: Bycatch Mitigation Fact-sheet 7b \(September 2014\)](#)

⁸ [Maree, B., et al. 2014](#). Significant reductions in mortality of threatened seabirds in a South African trawl fishery. *Animal Conservation*, 17(6), pp.520-529.

⁹ [ACAP: Seventh Meeting of the Seabird Bycatch Working Group \(May 2016\)](#)

Gillnets	Net Lights ¹⁰ and other visual cues ¹¹	Further tests should be carried out with net lights and other visual cues acting to alert diving seabirds to the presence of the fishing nets.
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Regional perspective

Region	Summary analysis
Baltic Sea	Gillnets are the main cause of bycatch for seabirds in the Baltic Sea. An estimated 76,000 birds per year are killed in gillnets in the Baltic Sea. ^{12,13} Birds that are particularly susceptible to this gear in this region include the Steller's and Common Eider, Long-tailed Duck, and Velvet Scoter, all of which have vulnerable and declining populations.
North Sea	Seabirds are bycaught in gillnets and to a lesser extent on longlines. In the Netherlands, annual estimates ranged from 12,000-50,000 ¹⁴ . Species such as Greater Scaup, Northern Fulmar, Razorbills and Black Guillemot are all known to be caught. ¹⁵
North Western Waters	Estimated 56,000 seabirds drown in the Gran Sol, offshore of western Ireland from the Spanish demersal longline fleet alone. ¹⁶ Records of bycatch are also known in Western Scotland, Ireland and France. Northern Fulmar and Great Shearwater bycatch is the largest.
South Western Waters	Estimates in Portuguese waters suggest 30,000 birds caught per year, including from purse seine, demersal longline, gillnets and polyvalent gears. The critically endangered Balearic shearwater is one of the species caught. ¹⁷
Mediterranean	The critically endangered Balearic shearwater, the vulnerable Yelkouan Shearwater and Scopoli's shearwater, all of them endemic breeders to the sea basin, are known to be regularly caught in pelagic and demersal longline fishery in the Western Mediterranean with thousands of them likely dying every year. ^{18,19,20}

Recommendations for the Technical Measures Regulation:

- Member States need to financially commit to scientific research to evaluate bycatch occurrence in different gears and regions, including identifying the overlap of susceptible seabird species with fishing gears and fishing effort and to trial the most appropriate suite of technical solutions for fishing gears to minimise seabird bycatch.
- Member States should roll out a combination of scientifically tested technical solutions for longline fisheries, such as: tori lines, changes to line weights, hook shielding, and night-setting. The combinations should be determined on the basis of gear configurations and the susceptible species likely to be caught by fleets. Specification should comply with the minimum standards as set out in international agreed guidelines.
- In a given fishery, should no such technical solutions be known to minimise seabird bycatch, and where there is compelling conservation need, spatial and temporal measures should be applied until alternative technical solutions can be implemented.

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¹⁰ [ACAP: Sixth Meeting of the Seabird Bycatch Working Group \(September 2014\)](#)

¹¹ [Martin, G.R., Crawford, R., 2015](#). Reducing bycatch in gillnets: A sensory ecology perspective. *Global Ecology and Conservation* 3, 28–50.

¹² [Zydels, R., et al. 2009](#). Bycatch in gillnet fisheries – An overlooked threat to waterbird populations. *Biological Conservation* 142, 1269–1281.

¹³ [Zydels, R., et al. 2013](#) (see footnote 1)

¹⁴ [Zydels, R., et al. 2009](#) (see footnote 8)

¹⁵ [Fangel, K., et al. 2015](#). Assessing incidental bycatch of seabirds in Norwegian coastal commercial fisheries: Empirical and methodological lessons. *Global Ecology and Conservation*, 4, pp.127-136.

¹⁶ [Anderson, et al. 2011](#). A review of global seabird bycatch in longline fisheries. *Endangered Species Res.* 14, 91–106.

¹⁷ [Oliveria et al. 2015](#). Seabird bycatch in Portuguese mainland coastal fisheries: an assessment through on-board observations and fishermen interviews. *Global Ecol. Conserv.*, 3 (2015), pp. 51–61.

¹⁸ [Barcelona, S., et al. 2010](#). Seabird bycatch in Spanish Mediterranean large pelagic longline fisheries, 2000-2008. *Aquat. Living Resour.* 23, 363–371.

¹⁹ [FAO: The state of Mediterranean and Black Sea Fisheries \(2016\)](#)

²⁰ [Cortés, V., Arcos, J.M. and González-Solís, J., 2017](#). Seabirds and demersal longliners in the northwestern Mediterranean: factors driving their interactions and bycatch rates. *Marine Ecology Progress Series*, 565, pp.1-16.