Tangled and drowned: penguins threatened by fishing nets, new study

Researchers from across the world have collaborated to produce the first global review of penguin bycatch, published in the scientific journal *Endangered Species Research*.

Penguins are among the world’s most loved birds, in spite of the fact most people will never get to see one in the wild. Indeed, the opportunities to do so are diminishing, with 10 of the 18 penguin species threatened with extinction. After albatrosses, they are the most threatened group of seabirds, and like albatrosses, bycatch is thought to be a serious threat to some species.

Bycatch, or the accidental capture of non-target animals in fisheries, is a threat to an array of marine life, including dolphins, turtles and seabirds. To date, however, there has been no global assessment of this threat to penguins. This first global review of penguin bycatch highlights that 14 penguin species have been recorded as bycatch in fisheries, and that gillnets - and to a lesser extent trawls - are the fishing gears of most concern for penguins. Both are widespread fishing gears, and gillnets in particular - walls of fine nylon mesh used to catch fish by the gills - are the gear of choice for many small-scale fishers the world over.

Diving birds like penguins, unable to see the fine mesh underwater, are particularly vulnerable to gillnets, becoming entangled as they dive. The effect of bycatch is of greatest concern for three species: Humboldt and Magellanic Penguins, both found in South America, and Yellow-eyed Penguins, an endangered species found only in New Zealand.

“This work provides a clear focus for reducing the impact of bycatch on penguins - across the Pacific and Atlantic coasts of South America, and perhaps most urgently, in New Zealand for the endemic Yellow-eyed Penguin,” said Rory Crawford, Gillnet Programme Manager for BirdLife International, and co-ordinator of the review. “This has been a major collaborative effort from the penguin research community, but the hard work starts now. There needs to be direct engagement with the fishing industry and management authorities to tackle this problem.”

“In the past 20 years, Yellow-eyed Penguins have declined by 76% at previous population strongholds. Preventing their deaths in New Zealand inshore gillnet fisheries is a major priority to save them”, added Ursula Ellenberg, the New Zealand Penguin scientist who initiated the global review.

The impact of penguin bycatch across South America will require collaboration across international borders: “Magellanic penguins are being caught along their migratory route - from trawl fisheries next to their Argentinian breeding grounds to gillnet fisheries off southern Brazil in the non-breeding period,” said Esteban Frere, South America Coordinator for the BirdLife Marine Programme, who first conducted research into the bycatch of this species 20 years ago.
“Further studies on-board vessels are required to assess the severity of the problem and identify solutions.”

The review recommends a number of actions to tackle the problem, including the presence of fisheries observers or video monitoring on vessels to monitor bycatch, as well as research into mitigation measures to make nets more visible to penguins. While this research is conducted, spatial and temporal management of fisheries will need to be considered to reduce the impact on the most threatened populations.

While much work is still to be done to reduce penguin bycatch, inspiration can be taken from other fisheries. The BirdLife Albatross Task Force, a team of instructors working directly on fishing vessels to implement simple measures to reduce albatross bycatch, has succeeded in reducing bycatch in a South African trawl fishery by over 90%. It is hoped that similar success can be achieved for penguins.

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NOTES
Species and threat statuses (listed by BirdLife International for the IUCN Red List) of three species most threatened by bycatch:
- Yellow-eyed Penguin Megadyptes antipodes (Endangered).
- Humboldt Penguin Spheniscus humboldti (Vulnerable).

Link to research: http://www.int-res.com/prepress/n00869.html


The review represents the collaborative work of 29 co-authors from across the globe, drawing in expertise from environmental NGOs, academia and government fisheries departments.

More information about BirdLife and the Albatross Task Force can be found:
http://www.birdlife.org/marine
At-sea distribution of the three penguin species for which bycatch is currently of most concern, and the fishing gear types that birds interact with most. These ranges represent priority sites for conservation action on penguin bycatch. For yellow-eyed penguin, dark red areas denote foraging range in a ‘normal’ breeding season, with the lighter shade representing expanded range for breeding birds when food supply is poorer. The pink shading denotes the non-breeding foraging range, limited by the 150m depth contour. Source: BirdLife International and Eudyptes Ecoconsulting

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