

Science for Environment Policy

Sea turtle bycatch: Atlantic at-risk areas located

Nine areas in the Atlantic where leatherback turtles are at higher risk of bycatch have been identified in a recent study. To help protect this important species less damaging fishing practices could be used in these areas, the study concludes, and some could be candidates for marine protected status.

Large migratory marine species, such as the leatherback turtle (*Dermochelys coriacea*), play an important role in [ecosystems](#), but many populations are threatened and accidental capture by fisheries contributes to their decline. The leatherback turtle migrates thousands of kilometres to feeding areas at sea, before swimming to nesting beaches to mate and lay eggs. The significant distances they travel greatly increase the chances of encountering fishing gear.

This iconic species is of conservation concern. While it has been reported that Atlantic populations are now stabilising in numbers, or even growing, there is concern that bycatch could undo these positive changes.

This study compared data on turtles' movements in the Atlantic with data on fishing activity, to map where these overlap. Data on migration routes and feeding areas were taken from previous studies that used satellites to track 106 turtles between 1995 and 2010.

The researchers focused on bycatch in pelagic longline fishing. In this method of fishing, thousands of baited hooks hang from a suspended line, many kilometres long. Turtles can be accidentally entangled and even hooked in these longlines. In a collaborative effort to address this issue, data on the location and intensity of this fishing activity between 1995 and 2010 were provided by the International Commission for the Conservation of Atlantic Tuna.

Nine high-risk areas emerged, which were used intensively by both turtles and longliners. Two areas were in waters that affect EU Member States: one was offshore Spain's Canary Islands, and the other was near Ascension Island. This remote southern Atlantic island falls within the UK's Exclusive Economic Zone (EEZ).

Five areas fell within, or partially within, the EEZs of another 10 countries and territories: Angola, Brazil, Cape Verde, Gambia, Guinea-Bissau, Mauritania, Namibia, Senegal, the US and Western Sahara. The last two areas were located exclusively in 'international waters', for which no single country has direct responsibility.

These results highlight the need for a multinational, coordinated effort to design and monitor protective measures for leatherback turtles, the researchers say. This includes efforts from nations who fish in the affected areas, as well as from those in charge of the EEZs.

The best protection measures depend on the area. The researchers suggest that small at-risk areas, such as that around the Canaries, could be considered for marine protected status, or temporarily closed to fishing. Changes to gear and fishing practices may be more effective in larger areas, such as those in the Guinea and Angola basins.

The study did not measure actual cases of bycatch in the identified areas. However, there have been separate reports of turtle bycatch in eight of the identified areas, which support its findings. The researchers point out that other forms of fishing also cause turtle bycatch. These include gillnet and trawl fishing, as well as illegal fishing, but the data to assess these were not available.



28 May 2014
Issue 374

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Source: Fossette, S., Witt, M. J., Miller, P. *et al.* (2014). Pan-Atlantic analysis of the overlap of a highly migratory species, the leatherback turtle, with pelagic longline fisheries. *Proceedings of the Royal Society B*. 281(1780): 20133065.

DOI:10.1098/rspb.2013.3065. This study is free to view at:

<http://rspb.royalsocietypublishing.org/content/281/1780/20133065.full>

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To cite this article/service: "[Science for Environment Policy](#)".

European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.