



Reducing bycatch will not damage fishing industry profits

Bycatch (species caught unintentionally in fisheries) in some commercial marine fisheries is the main cause of death in some populations of seabirds, sea turtles, marine mammals, sharks and fish. New research has revealed that bycatch from tuna fishing can be reduced by using better equipment, without compromising industry profits. However, significant policy efforts are needed to monitor bycatch and enforce more sustainable fishing practices.

Overfishing is the single biggest contributor to declining marine biodiversity. As an indirect result of fishing, bycatch is also the primary source of death among some populations of sea turtles, seabirds and sharks, which are accidentally caught in tuna fishing gear. Despite international obligation under the UN Fish Stocks Agreement¹ to reduce the ecosystem impact of fishing, there has been insufficient political will to adopt 'best practice' techniques to minimise tuna bycatch.

The research highlights ways in which the two main tuna fishing techniques, longline and purse-seine, could be improved to reduce bycatch. The 'longline' tuna fishing technique uses thousands of baited hooks attached to a line several tens of kilometres long. The bait can attract other marine animals, which then get hooked or entangled. By changing the hook and bait type and depth in the water, 55 to 90 per cent of sea turtle catches, according to the research. Equipment to encapsulate the hook so that it is not accessible to larger marine animals is currently in development and could potentially reduce the capture of cetaceans (dolphins and whales).

In purse-seine fishing, a large net is used to surround schools of tuna. Problems with this technique include entrapping turtles, dolphins and sharks within the nets. 'Ghost fishing', in which sea turtles become entangled and trapped in lost or abandoned fish aggregating devices deployed by purse seiners to attract tuna schools, is another problem. Restricting setting of the devices, biodegradable aggregating devices and techniques to repel sharks from fishing areas, or using dolphin safety/rescue equipment are all potential approaches to reducing bycatch, although these are largely in the early stages of development.

The researcher suggests that, with proper investment in research and development, commercially viable approaches to fishing which reduce bycatch are very likely. However, to make a proper assessment of which methods are likely to have the biggest effect on bycatch, significant improvements need to be made to existing bycatch monitoring practices. For example, since reporting bycatch is not explicitly enforced by current legislation, just 15 out of 40 nations engaged in longline tuna fishing have bycatch observer programmes in place.

The researcher recommends greater international cooperation on many fronts to address these issues, including legally binding agreements on best-practice standards and limits for bycatch, on a fishery-by-fishery basis. Compulsory surveillance measures to ensure fishing fleets comply with requirements, should be put in place and bycatch monitoring procedures should be standardised, in terms of how the data are recorded and in establishing 'performance standards' to evaluate the efficiency of mitigation measures.

Additionally, bycatch data held by regional organisations do not currently have to be made public, but should be published internationally to allow open access for all.

1. See: United Nations Fish Stocks Agreement

http://www.un.org/Depts/los/convention_agreements/convention_overview_fish_stocks.htm

Source: Gilman, E. (2011). Bycatch governance and best practice mitigation technology in global tuna fisheries. *Marine Policy*. 35: 590-609.

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