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## STATE SHARK FIN BANS ARE UNDER THREAT - FROM NOAA

PLUS: SPERM WHALES AND DRIFT GILLNETS | OCEANA ON THE WATER | BYCATCH AND DISCARDS

Daniel Pauly is a Professor of Fisheries at the Fisheries Centre of the University of British Columbia, the Principal Investigator of the Sea Around Us Project, and a member of the Board of Oceana.

## ASK DR. PAULY

## What are bycatch and discards?

Bycatch and discards are two very technical terms which nevertheless are worth learning about, because they allow us to think clearly about what fisheries do. Besides, they allow us to deal with an often-ignored ethical dimension of fisheries.

Fisheries usually target a given species, or species group, which defines them, and for which the fishing gear that is deployed is optimized. Thus, we have a "tuna fishery" that deploys longlines, or a "shrimp fishery" using a bottom trawl, or a "swordfish fisher" using harpoons.

The targeted species or group, except when the gear is very selective (like harpoons), is usually caught together with other species that live in the same habitat or have similar habits—the reason why they are caught by the same gear. Thus, longlines, or the now-banned pelagic driftnets, catch, besides tuna, a wide array of animal sharing open waters with tuna (like sharks) in amounts often exceeding the catch of the targeted species. Similarly, "shrimp trawls" catch, besides shrimps, organisms that lives on or near the bottom of the sea, including corals, sponges and various species of fish, like sharks and rays. Shrimp trawls usually catch five to 10 pounds of other sea creatures for every pound of shrimp.

These non-target species are called "bycatch," a word proposed in the early 1950s by W.H. "Bertie" Allsopp, a fishery scientist from Guyana, to replace the misleading terms "trash" or "waste" fish.

Once bycatch is caught and piled up on deck of a fishing boat, the fishers can either: • Retain it, in which case it becomes part of the "landed catch," or "landings," or • Get rid of it by throwing it overboard, in which case it becomes "discards."

Marine fisheries worldwide generate huge amount of discards. In the mid-1990s discards were estimated at 26 million metric tons per year, or about one-quarter of the world catch at the time. In the 2000s global discards were estimated at 7-8 million metric tons, which is about one-tenth of current marine catches. The decline is thought to be due to more bycatch being retained to produce feed for use in fish farming, but this low estimate is contested.

Most people not connected with fisheries feel that discarding perfectly edible fish in our age of widespread hunger and scarcity is unethical, and they are right, even if it is *only* 7-8 million metric tons that are discarded. Moreover, some fishing countries, notably Norway, banned discarding altogether, and the European Union is poised to do so. If the European Union succeeds in banning discarding, it will force its fisheries to become more selective and generate "cleaner" catches, with fewer non-target species.

Oh, I almost forgot. There are an awful lot of marine mammals, seabirds, and sea turtles-many belonging to threatened species-among the bycatch and discards of the world's fisheries. But as I hope to have shown above, discards are not limited to cute or threatened animals. Discarding is crazy and immoral even when we are looking only at fish.