

SHARK BYCATCH IN TUNA FISHERIES

Kobe 2 Bycatch Workshop

June 23-25, 2010 Brisbane, Australia



Bycatch is one of the most vexing issues confronting the global fishing industry. It poses significant ecological, social and economic challenges. The Pew Environment Group is deeply concerned about the ramifications of this unwanted catch and the resulting discards of vulnerable species, particularly sharks, juvenile and undersize tuna, and other animals such as marine turtles and seabirds.



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Participants of the Second Joint Tuna Regional Fisheries Management Organizations (RFMOs) meeting in San Sebastian, Spain, from June 29 to July 3, 2009, (known as the "Kobe 2" meeting) agreed to call on their respective RFMOs to take several actions consistent with the U.N. Food and Agriculture Organization's (FAO's) International Plan of Action for Sharks (IPOA-Sharks), including, as appropriate:

1. "Measures to improve the enforcement of existing finning bans;
2. Prohibitions on retention of particularly vulnerable or depleted shark species, based on advice from scientists and experts;
3. Concrete management measures in line with best available scientific advice with priority given to overfished populations;
4. Precautionary fishing controls on a provisional basis for shark species for which there is no scientific advice; and
5. Measures to improve the provision of data on sharks in all fisheries and by all gears."ⁱ

Shark populations worldwide have declined dramatically in recent decades because of historical, ongoing and increasing levels of commercial fishing and a lack of international management. According to the International Union for Conservation of Nature (IUCN), sharks are among the most threatened marine vertebrates. The creatures, similar to marine turtles

BYCATCH: *The part of a fishery catch that is not a legal target of the fishery. Bycatch may be retained and landed but is usually discarded (released or returned to the sea, dead or alive.*

and cetaceans, are biologically highly vulnerable to overfishing because they grow slowly, become sexually mature relatively late and produce few offspring. These characteristics result in very low capacity to recover once populations are depleted by overexploitation.

According to the IUCN, bycatch is one of the most devastating threats facing sharks.¹ Although some RFMOs have prohibited the taking of a small number of threatened species, the problem of shark bycatch has been largely ignored, and no meaningful or effective action has been taken to adequately address the issue. In the late 1980s and early 1990s, it was estimated that 300,000 metric tons (t) of shark catch, nearly a third of the global total, were the result of unregulated bycatch landings.² Sharks are caught in different fisheries such as trawls and gill nets, but pelagic longline fishing is considered the most significant source of the bycatch problem. Longline vessels that fish with wire leadersⁱⁱ or use squid for bait in a shallow-set manner have the highest levels of shark bycatch. In pelagic longline fisheries, sharks often make up more than a quarter of the total catch (target and bycatch).³

ⁱ From the Report of the Second Joint Meeting of Tuna RFMOs

ⁱⁱ In pelagic longline fisheries, wire leaders are often used for a proportion of the branchlines—lines on which hooks are attached to the mainline.³

Discard mortality presents another very serious problem: Recent research on blue sharks estimated an annual average of more than 20,000 t of dead discards in the North Atlantic solely from pelagic longline fisheries, a number equal to the nominal catch reported to the International Commission for the Conservation of Atlantic Tunas by these fisheries.⁴

Sound, precautionary management of bycatch species is required to prevent population collapse, allow species recovery and maintain ecosystem function. It is vital that the tuna RFMOs take meaningful action to address this issue. However, current understanding of the impact of bycatch is profoundly inadequate because catch statistics are scarce and rarely include discards. This undermines effective conservation and management of high seas fisheries, particularly shark species. Shark catches are often unreported, underreported or recorded in generic species categories, contrary to Article 5(j) of the U.N. Fish Stocks Agreement (UNFSA).ⁱⁱⁱ In essence, shark fishing on the high seas is illegal, unreported and unregulated. It is estimated that actual shark landings are three to four times higher than the catches reported to the FAO.⁵ In 2007, only 20 percent of those shark-catch data were provided at species level.⁶ As a result, the status and stock assessments of individual shark species are very difficult to determine.

The Kobe 2 Bycatch Workshop provides a timely opportunity to improve the management of tuna fisheries on a global scale. The Pew Environment Group calls on participants to agree to concrete actions to minimize bycatch and discards and their impact on vulnerable species, and particularly to stop the overfishing of sharks by agreeing to strong actions that will address current problems on the high seas.

iii Article 5(j): “[C]oastal States and States fishing on the high seas shall ... collect and share, in a timely manner, complete and accurate data concerning fishing activities on, inter alia, vessel position, catch of target and non-target species and fishing effort, as set out in Annex I, as well as information from national and international research programmes.”

RECOMMENDATIONS

Accurately assess bycatch and discards.

- RFMOs should adopt “No Data—No Fishing” requirements, so that any member nation failing to provide credible required information/data should be prohibited from fishing, particularly with regard to sharks.
- In addition to reporting species-specific data on catches, effort by gear type, landings and trade, member states should report complete bycatch and discard (both dead and alive) information at the species level, particularly for all shark species.

Immediately adopt precautionary management measures.

- **No retention of species at risk:** When conservation and management plans are not in place, retention should be prohibited for species at risk, including target species and bycatch such as sharks. Additionally, RFMOs should agree to prohibit retention of any species listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) or on the IUCN Red List of Threatened Species as Critically Endangered, Endangered or Vulnerable (the “Threatened” category).
- **Implement precautionary management measures:** RFMOs should fully implement the precautionary approach by requiring and heeding advice from their scientific committees to include “limit” and “target” reference points that ultimately include dead discards for all species, including non-target species, especially shark species. When this advice is not available, no fishing should take place.
- **Adopt a “fins naturally attached” policy:** In line with the Kobe 2 recommendation on improving the enforcement of finning bans, all tuna RFMOs should adopt “fins naturally attached” policies, because this method prevents circumvention of the law and

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provides the optimum conditions for monitoring and enforcement.

- **Implement marine protected areas (MPAs) and time-area closures:** RFMOs should implement MPAs and time-area closures for fisheries management purposes in accordance with the best available scientific advice to protect ecologically or biologically significant areas, particularly to shark species.
- **Develop national plans of action for the conservation and management of sharks (NPOA-Shark):** Consistent with FAO's IPOA-Sharks, States should develop an NPOA-Shark if their vessels conduct directed fisheries for sharks or if their vessels routinely catch sharks in non-directed fisheries.

Immediately implement bycatch mitigation methods

- **Mandatory gear modifications on pelagic longlines.**
 - **Ban on wire leader:** Wire leaders are typically used in pelagic longline fisheries to maximize shark retention.³ Use of this gear creates a de facto targeted fishery for sharks. In fisheries where a large proportion of caught sharks are killed either for retention or discarding, a ban on wire leaders would probably reduce shark fishing mortality because sharks would be more likely to escape before being hauled in.
 - **Circle hooks:** For marine turtles, tuna and several billfish and shark species, the use of circle hooks has been associated with lower rates of deep-hooking and subsequent serious injury, hence increasing post-release survival rates. Estimates suggest that several target and common bycatch species are two to five times more likely to survive capture on circle hooks than on J hooks.⁷
 - **Fish bait:** Experimental trials and interviews with fishermen confirmed that using fish instead of squid as bait results in a significant decrease in shark catch rates (on the order of 30 to 40 percent), particularly of blue sharks.³
- **Mandatory gear modifications in other fisheries.**
 - **Turtle excluder devices (TED) in trawl fisheries:** TEDs are a very effective gear modification to mitigate marine turtle bycatch that can also substantially reduce (by more than 85 percent) the numbers of large sharks and rays (longer than 1 meter) caught.⁸

Establish greater cooperation across tuna RFMOs.

- **Undertake research:** Member nations should expeditiously undertake fishing trials to determine the feasibility and effectiveness of appropriate combinations of other gear specifications, fishing practices and measures in reducing the bycatch, injury and mortality of sharks. Assessments should be conducted on the effects on the catch of

target species, especially juvenile tunas and other bycatch species, and results shared with all RFMOs.

Specifically research should focus on:

- Shark deterrents—including magnetic, electropositive rare earth metals and electrical deterrents—that hold promise but require significantly more investigation and large-scale trials.
 - Other fishing methods, such as gill nets and trawls, tend to have high shark capture mortality; new gear designs such as increasing the gill net's tension, bycatch reduction devices and spatial and temporal management should be further tested as effective and commercially viable shark avoidance methods.
- **Establish a joint RFMOs bycatch task force:** To ensure greater cooperation, coordinated data sharing and collection among RFMOs, a joint task force focused on key bycatch species should be convened annually. This would assist with harmonizing the conservation and management measures and sharing research advances in a timely manner by each of the five tuna RFMOs.

For more information: Matt Rand, Director, Global Shark Conservation, Pew Environment Group
mrand@pewtrusts.org

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