

COMISIÓN INTERAMERICANA DEL ATÚN TROPICAL
INTER-AMERICAN TROPICAL TUNA COMMISSION

WORKING GROUP ON BYCATCH

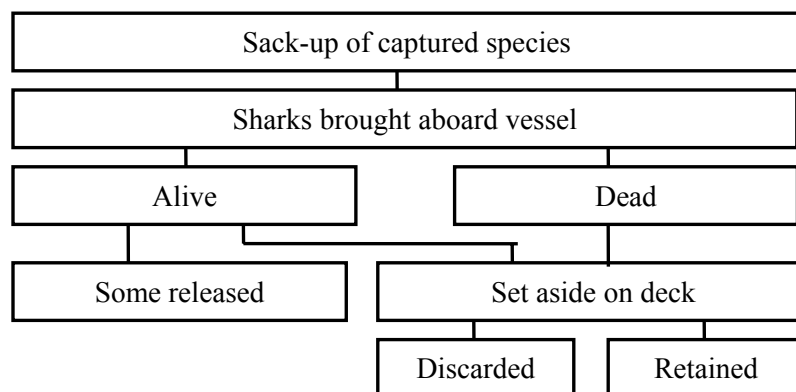
4TH MEETING

KOBE (JAPAN)
14-16 JANUARY 2004

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HANDLING OF SHARKS CAUGHT BY THE TUNA PURSE-SEINE FLEET

The 4th meeting of the Permanent Working Group on Compliance recommended that the Working Group on Bycatch consider the matter of handling of shark bycatch in the purse-seine fishery. In order to establish a basis for such evaluations, the staff investigated the handling of sharks caught incidentally in this fishery, from the time they are encircled in the net until whatever end they meet at the hands of the vessel crew:



Observers collect data on the number of sharks caught in the fishery (table), but data on survival and release rates are both harder to obtain and more subjective. Commission staff interviewed 44 observers, with varied levels of experience, and asked them for their assessment on this subject. The experience of 31 of those observers predates the resolution on bycatch of June 2000, and that of the other 13 is subsequent to that date.

	Total observed sets	Sets with shark bycatch	No. of sharks caught
1993	11,810	1,452	26,989
1994	11,632	2,895	36,620
1995	12,261	3,775	40,526
1996	13,135	3,970	44,257
1997	14,834	5,110	60,777
1998	16,581	4,896	60,894
1999	15,693	3,679	50,928
2000	13,714	2,401	27,043
2001	12,189	2,948	24,984
2002	14,474	2,753	22,883

These observers estimated that 43 % of sharks caught arrive on deck alive. They estimated that the principal causes of death were adverse conditions in the net resulting from the concentration of the catch, oxygen deprivation, stress, and the pressure to which the species are subjected in the brailer. Experience at sea has led to the observation that certain species are more resistant than others to adverse conditions in the net, and are therefore more likely to survive being sacked up and the pressure in the brailer; an

example is the oceanic whitetip shark (*Carcharhinus longimanus*).

Once aboard the vessel, both live and dead sharks are set aside by the crew on the deck to be dealt with later, once the tuna is loaded and the net stacked; some, a small fraction, are released alive when they arrive on deck. Of sharks that reached the deck alive, before June 2000 4 % were released alive and about 2 % were discarded dead, without utilization; after June 2000, about 3 % were released alive, and about 26 % were discarded without utilization. Of these, those that were neither released nor discarded were retained by the crew; in most cases, they retained only the fins. Of the sharks that arrived on deck dead, 2 % were discarded without utilization before the resolution, compared to nearly 40 % afterwards. In most cases in which sharks were retained, only the fins were utilized, and the rest of the animal was discarded.

Efforts to rescue sharks should initially concentrate on the estimated 43% of sharks caught that arrive on deck alive, and these efforts should result in some sharks surviving, although it is also unknown whether any sharks that are returned to the sea alive survive. Any such efforts may not only be complicated by the dangers of handling live sharks, but also be delayed, because at that time the crew is occupied loading the catch of tuna. Under the current provisions of the Consolidated Resolution on Bycatch, rescue may also be hindered by the crew having to determine whether a shark is alive or dead before deciding what to do with it; therefore sharks, like almost all non-target species, have little chance of surviving once aboard the vessel. One step forward would be to expand and strengthen paragraph 2 of the resolution, dealing with the release of sharks, and require the prompt return of all sharks to the sea, thus avoiding the difficulty of the crew having to decide whether a shark is alive or dead. Other more concrete steps would be the development of equipment, such as chutes, that would allow sharks to be safely separated from the tuna and returned to the sea from the deck, and of techniques or instruments that may help release the sharks from the net prior to sack-up.

Summary of handling of captured sharks

		Pre-June 2000	Post-June 2000
Brought on deck alive (43%)	Released alive	4 %	3 %
	Discarded dead	2 %	26 %
	Retained	94 %	71 %
	(Retained whole)	44 %	23 %
	(Retained fins)	56 %	77 %
Brought on deck dead (57%)	Discarded	2 %	38 %
	Retained	98 %	62 %
	(Retained whole)	45 %	8 %
	(Retained fins)	55 %	92 %