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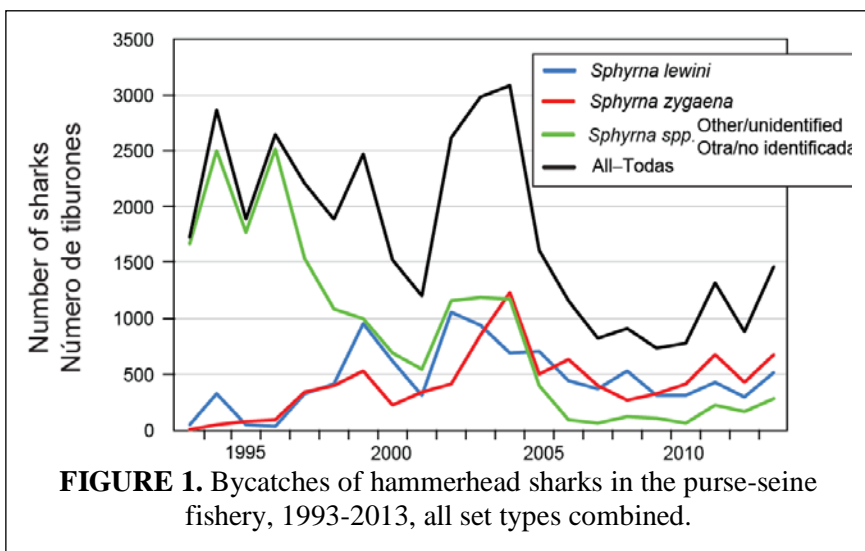
**UPDATED SUMMARY REGARDING HAMMERHEAD SHARKS CAUGHT  
IN THE TUNA FISHERIES IN THE EASTERN PACIFIC OCEAN**

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**PURSE-SEINE FISHERIES**

Several species of the genus *Sphyrna* are caught incidentally in the purse-seine fisheries of the eastern Pacific Ocean (EPO), primarily the scalloped (*S. lewini*) and smooth (*S. zygaena*) hammerhead sharks.

The average annual bycatch of hammerhead sharks by purse-seine vessels recorded by observers<sup>1</sup> in the EPO during 1993-2013 was about 1,750 individuals, of which about 1,200 were discarded dead. Approximately 6% of these bycatches occur in dolphin sets, 22% in unassociated sets, and the remaining 72% in sets on floating objects (Hall and Roman 2013) (Figure 1). After a considerable spike to over 3,000 animals in 2004, and a subsequent sudden fall, the annual observed bycatches have fluctuated between about 750 and 1,400 animals since 2006.



**FIGURE 1.** Bycatches of hammerhead sharks in the purse-seine fishery, 1993-2013, all set types combined.

Hammerheads as a group are easy to distinguish from other species, but species identification is difficult unless the animals can be observed up close. In particular, species identifications prior to 2004, when improved species-identification materials and training for observers were introduced, are not always reliable. The numbers of unidentified sharks have also decreased since then.

Hammerheads are most common in coastal waters, and

so some of the decreases in catches in recent years may be due in part to the purse-seine fishery moving further offshore, but it is also possible that the populations may be in decline.

**ARTISANAL FISHERIES**

Hammerhead sharks sometimes aggregate in large groups (Wakabayashi and Iwamoto 1981; IOTC 2007),

<sup>1</sup> Predominantly from class 6 purse-seine vessels (>363 metric tons carrying capacity), for which 100% observer coverage is mandated, but also includes limited data from class-5 vessels (273-363 metric tons carrying capacity) carrying observers.

and their pupping grounds are sometimes coastal. Both adult and juvenile hammerheads are targeted by many small-scale coastal artisanal fisheries in the EPO, using different gear types. They are sought for their highly valued fins, but the meat is also frequently retained for local utilization (Hall and Roman 2013).

The catch statistics available for the artisanal fleets are incomplete, often unreliable, and lacking in detail; for example, they may be grouped into poorly-defined aggregate categories (e.g. 'kg of fins'), so it is difficult to assess their impact. However, given the low fecundities and slow growth rates of these sharks, the potential impacts of these fisheries, which could exceed that of the purse-seine tuna fishery, are cause for concern.

## **LOGLINE FISHERIES**

Data on bycatches of hammerheads in the industrial longline fisheries are scarce. Some studies show bycatches of hammerhead sharks of from none to a very low proportion in some industrial longline fisheries targeting bigeye tunas in the Pacific (Okamoto and Bayliff 2003; Xiaojie *et al.* 2006), but estimating the total bycatches is difficult. In the past, observer coverage of the industrial longline fleets has been inadequate or non-existent, but the implementation of Resolution [C-11-08](#), which requires a minimum 5% observer coverage of longline vessels, should improve both the quantity and quality of the data on bycatches of hammerheads by these fleets.

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