

# **Billfish Fishery of Maldives**

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## **Abstract**

A small billfish fishery existed in Maldives for a long time. Fishermen have been selling their catch at the Malé fish market for local consumption for several decades. With the expansion of tourism industry in Maldives billfish fishermen found a new market to sell their catch and it also initiated big game fishing in Maldives. This resulted in higher exploitation of billfish in the Maldives. Today, due to reduction in tuna catches, a number of tuna fishermen from several islands are targeting billfish for their local consumption too. In addition, billfish are also caught by large yellowfin fishermen (bycatch) and longliners. Ministry of Fisheries and Agriculture (MOFA) has been keeping records of the billfish landings at Malé fish market which reached a peaked in 2006 at 950 tons but since then it has declined to about 530 tons in 2010. Billfish are exploited throughout Maldives but to date no proper records of landings have been maintained. Like any other fishery, where fish are landed at a number of ports, it has been a challenge for MOFA to obtain accurate catch statistics for the fishery.

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## **Background**

Maldives has been a tuna fishing nation for centuries. Tuna has been the main source of protein and export from Maldives. Tuna are caught with pole-and-line, and handline using livebait and trolling. Until the tourism industry started in the early 1970s Maldivian did not harvest other species of fish like today. Reef fish and other large pelagic species were not very popular among the locals then. The tourism industry opened new markets for the fishermen to sell their catch and locals gradually got exposed to consuming other species of fish other than tuna. This resulted in the increase in harvesting of other reef fish species and pelagics that are now more available in the local fish markets. The billfish species are often sliced into small chunks and sold at the market thus it is more affordable and people do not have to buy the whole fish.

## **Billfish fishery**

In the Maldives billfish are exploited by three groups of fishermen.

1. The local fishermen on the islands for local community consumption and for export market (smoked and salted dried products).
2. The local fishermen who sell their catch at the Malé market for local consumption and to resorts.
3. The recreational fishermen often operating their boats from the resorts.

### ***Fishing method and gear***

The local fishermen catch billfish by trolling and driftlines. Troll lines are operated from boats ranging from 20 to 40 feet in length with a crew of 2 to 4 persons. The fish are caught on the outer edge of the reef. Small varieties of fish or belly cuttings of tuna are attached on locally made artificial lures to attract the billfish. Monofilament lines (about 150lb) with a wire leader of one meter is attached to a barbed hook, is common. Once the fish is hooked it is quickly pulled on to the boat and is killed with a hard blow to its head.

The drift lines are laid on the outside of the atoll along the reef. The drift line consists of a float (often brightly coloured plastic containers), 30m monofilament line (150 – 200lb), swivel, a wire lead and a barbed hook. Livebait is attached to the hook. Round scad (*Decapterus punctatus*) and bigeye scad (*Selar crumenophthalmus*) are used as bait. A boat may lay about 10 to 15 drift lines along the reef.

### ***Billfish Species***

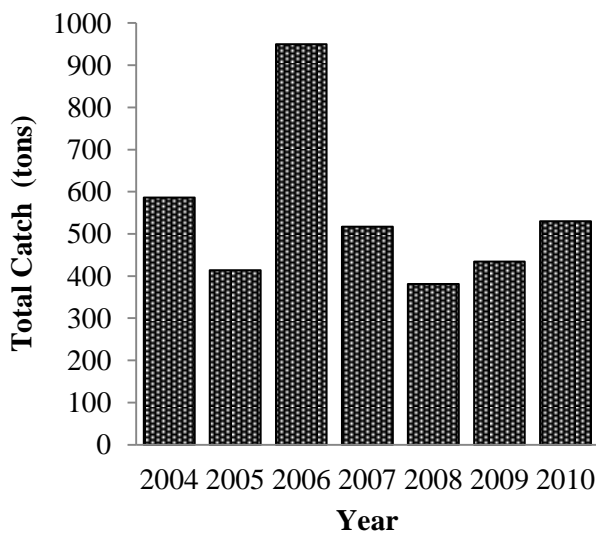
The most common billfish species caught in the Maldives is the Sailfish (*Istiophorus platypterus*). In addition some amount of Marlin (*Makaira indica* and *Makaira mazara*) and Swordfish (*Xiphias gladius*).

### ***Bycatch species***

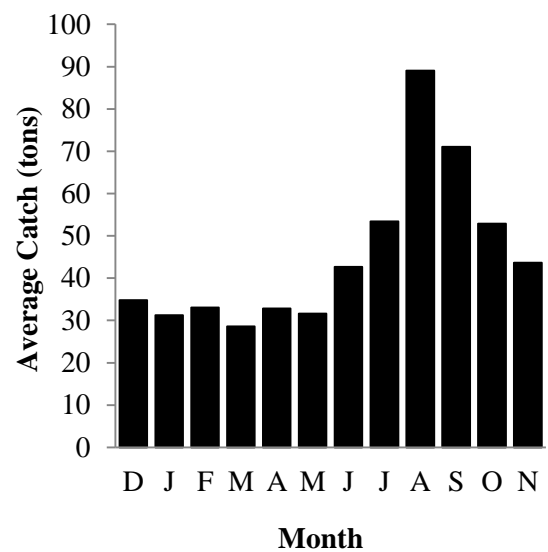
As the fishing is done on the outer edge of the reef a number of other species of fish are caught. These include dolphin fish, barracuda, jobfish, dogtooth tuna, wahoo and other reef fish varieties. None of the bycatch species are discarded as they are valued food fish and can be sold at the local fish markets.

### **Catch statistics**

The catch statistics have been poorly maintained, as traditionally non-tuna species are lumped to three groups, with billfish and marlins falling into the largest group. It is not clearly known how many tons of billfish are caught throughout Maldives as they are landed in local islands, resorts and Malé fish market (main fish market in the country). Large portion of all the billfish landed are consumed in the country but some are smoked or salted dried and exported to Sri Lanka.



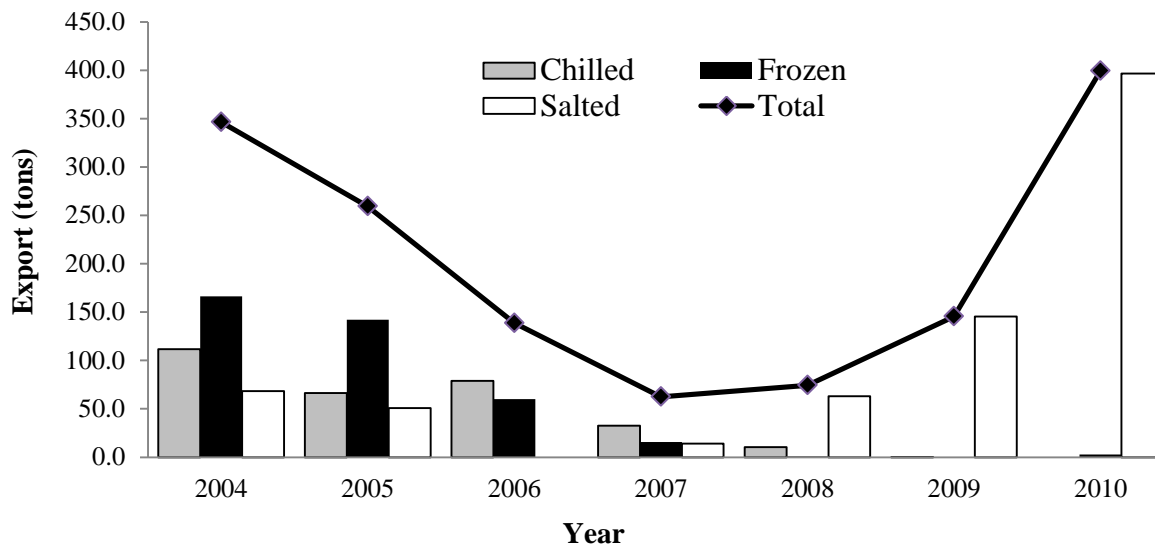
**Figure 1: Billfish landings in the country peaked in 2006.**



**Figure 2: Billfish landings are higher in the southwest monsoon – May to November**

Ministry of Fisheries and Agriculture have been recording the landings in the Malé fish market for several years. Most of the landings at this market are Sailfish with an occasional Marlin. The billfish landings at the Malé fish market peaked in 2006 at 950 tons (Figure 1) while the lowest was in 2008 at 381 tons. Over the last seven years the billfish landing at the Malé fish market have been at around 550 tons per year. The landings are more during the southwest monsoon – May to November (Figure 2). A large portion of the catch is taken around the atolls near the capital where most of the resorts concentrate and the main fish market are located. The fish sold at the Malé market is consumed locally and are not processed for export.

The processed products (smoked and salted dried) exported to mainly Sri Lanka are prepared in the local islands. Prior to 2007 a large portion of the catch was exported as fresh or frozen billfish but since 2008 majority of the billfish is exported as salted dried fish (figure 2).



**Figure 2: At present salted dried billfish (Sailfish and Marlin) constitute to almost all the billfish exported from Maldives.**

Combining the export data and the landing at the Malé fish market showed that an excess of 1000 tons of billfish were caught in Maldives in 2006. These catch values do not include those that are consumed on the local islands (except Malé) and resort hotels. In addition to the Sailfish and Marlin, 11.93 tons (2008) and 4.65 tons (2010) of Swordfish were exported.

## Recommendations

To fully understand the scale of billfish fishery in the Maldives:

1. Government needs to establish a better mechanism for collecting data
2. Ensure bycatch in the tuna handline and longline fishery is accounted for properly
3. Resort operators (recreational fishermen) report their catch regularly

At present government is working with the stakeholders to establish an efficient data collection mechanism throughout the country using logbooks in the tuna, longline and reef fishery. It is also important to establish such a system to gather data from the recreational fishermen since the number of resorts are increasing and spreading to all parts of the country.

## Reference

MOFA (2011). Fisheries Statistics. Fisheries Management Agency, Ministry of Fisheries and Agriculture, Maldives.