

Status of Neritic Tuna Fisheries of Pakistan

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ABSTRACT

Five species of neritic tuna are reported from Pakistan; of these longtail tuna (*Thunnus tonggol*) contributes 19,143 m. tons during 2017. Landings of frigate tuna (*Auxis thazard thazard*) during 2017 was recorded to be 13,187 m. tons which is followed by kawakawa (*Euthynnus affinis*) as 4,199 m. tons. Other two species i.e. bullet tuna (*Auxis rochei*) and striped bonito (*Sarda orientalis*) contributed insignificantly in the total tuna landings of Pakistan. During 2017, a major part of the fleet mainly operated in the offshore deeper waters; therefore, landings of neritic tunas were comparatively lesser than previous year.

INTRODUCTION

Gillnetting for neritic tuna is an important component of the coastal fisheries of Pakistan as a major part of the artisanal fleet is engaged in this fishing. Gillnets consisting of monofilament and multifilament are used for catching neritic tunas. Monofilament net is mainly used for catching frigate (*Auxis thazard thazard*) and bullet tunas (*Auxis rochei*) whereas multifilament nylon nets are used for catching longtail tuna (*Thunnus tonggol*), kawakawa (*Euthynnus affinis*) and striped bonito (*Sarda orientalis*).

Information about neritic tuna fisheries of Pakistan is known through the work of Moazzam (2011, 2012a-c, 2014), Moazzam and Ayub (2015, 2017), Moazzam *et al.*, (2016) and Nawaz and Moazzam (2014). These studies were based mainly on the fisheries statistical data being published by Marine Fisheries Department, Government of Pakistan and also some information collected through the Crew-based Observer Programme initiated by WWF-Pakistan in 2012.

Based on the information generated through this WWF-Pakistan's Crew-based Observer Programme, data of tuna and tuna like species was reconciled with the landings data available with Marine Fisheries Department, Government of Pakistan. An exercise for reconstruction of landing data for IOTC species since 1987 to 2017 was also carried out. These data sets were provided to IOTC by Marine Fisheries Department, Government of Pakistan and a part of it was presented in WPNT07 (Moazzam and Ayub, 2017).

NERITIC TUNA LANDINGS

Neritic tuna landings during 2017 was observed to be comparatively lower than previous years (Table-I). An overall decrease of 9.40 % in the landings neritic tuna was observed during 2017 as compared to 2016. Major decrease was noticed in case of kawakawa where a decrease of 22.13 % was noticed during the same period. In case of longtail and frigate tuna this decrease was observed to be 9.05 and 5.01 % respectively.

Table-I: Landings of Neritic Tuna Landings during 2016 and 2017

Species	Scientific Names	2016	2017	% Increase/Decrease
Longtail tuna	<i>Thunnus tonggol</i>	21,047	19,143	(9.05)
Kawakawa	<i>Euthynnus affinis</i>	5,392	4,199	(22.13)
Frigate tuna	<i>Auxis thazard</i>	13,882	13,187	(5.01)
Bullet tuna	<i>Auxis rochei</i>	2	2	-
Striped Bonito	<i>Sarda orientalis</i>	2	2	-
TOTAL		40,325	36,533	(9.40)

Source: Marine Fisheries Department, Government of Pakistan

The decrease in the landings of neritic tuna during 2017 may be attributed mainly to the operation of large tuna gillnetters in comparatively offshore waters as compared to previous years. This is because of unprecedented increase of the prices of yellowfin and skipjack in the Pakistani tuna market during 2017. The average prices of these two species were about US\$ 1.95-1.85/kg during 2017 as compared to 2016 when prices were US\$ 1.25-1.35/kg. The fishing fleet consisting of smaller gillnetters continued to operate on the coastal and continental shelf along Pakistan coast during 2017, therefore, resulting in reasonable landings of neritic species. It is worth mentioning that longtail, yellowfin and skipjack tunas are traded with neighbouring country whereas kawakawa and frigate tuna are mainly exported to Sri Lanka in salted-dried form whereas small quantities of these species are locally consumed.

TREND OF NERITIC TUNA LANDINGS

Neritic tuna has always been very important component of large pelagic fisheries in Pakistan. Landings data reconstructed by Marine Fisheries Department, Government of Pakistan and WWF-Pakistan (Moazzam *et al.*, 2017) indicates that landings of neritic tuna remained less than 10,000 during 1987 and 1998. It showed an increasing trend in 1999 and gradually increased to about 29,000 m. tons in 2015 (Fig. 1). Unprecedented increase in neritic tuna was noticed in 2016 when it reached to a level of 40,321 m. tons but slightly decreased in 2017 to a level of 36,529 m. tons.

Analysis of the reconstructed landing data also indicates that longtail tuna (*Thunnus tonggol*) is the most dominating species and its landings remain stable rather declining trend till 1998 and then steadily increasing till 2015 (Fig.2). An unprecedented increase was noticeable in 2016 when landings of longtail touches a level of 21,047 m. tons. It decreased to a level of 19,143 m. tons in 2017. A similar trend is observed in case of two other species i.e. kawakawa (*Euthynnus affinis*) and frigate tuna (*Auxis thazard thazard*). However, insignificant quantities of frigate tuna was reported during 1987 and 1996.

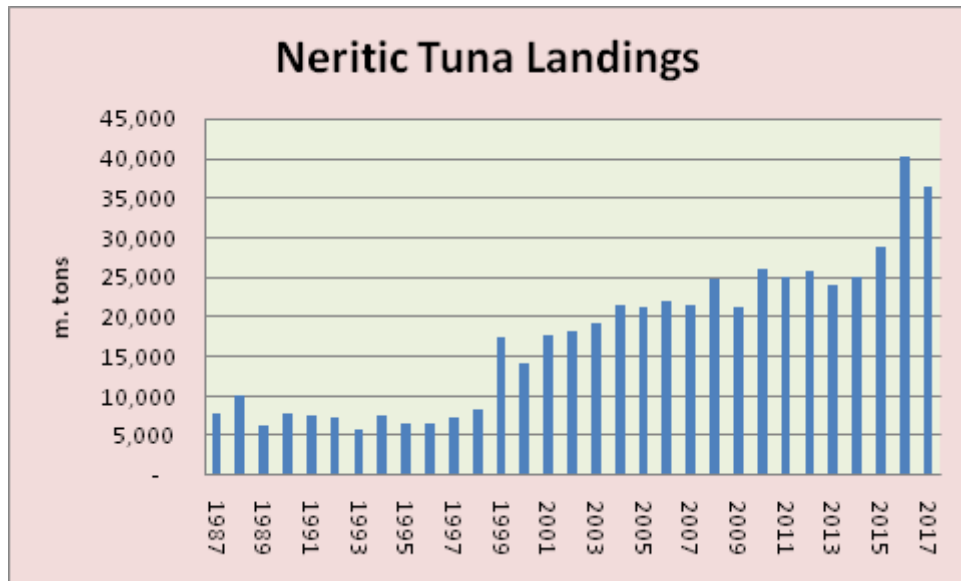


Fig. 1: Trend of landings of neritic tuna.

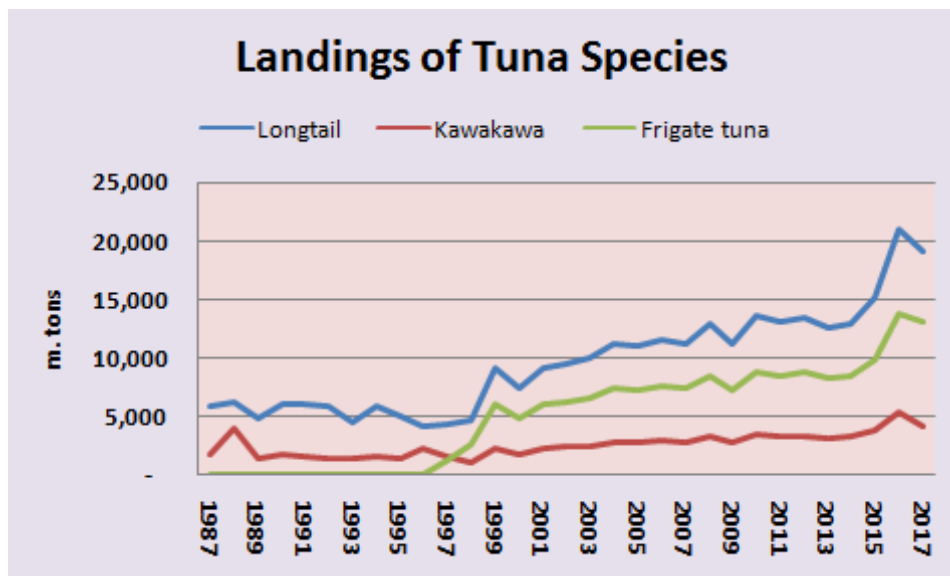


Fig.2: Trend of landings of neritic tuna species.

Insignificant quantities of bullet tuna (*Auxis rochei*) and striped bonito (*Sarda orientalis*) were recorded from Pakistan. Striped bonitos is usually consumed locally whereas bullet tuna is probably the only tuna species which is discarded by the tuna gillnet boats. According to fishermen, bullet tuna has small size and soft tissues which get macerated if placed with other tuna species. The prices of bullet tuna is very low, therefore, it is not economical for fishermen to keep them in with ice. Bullet tuna, if landed ends up as raw material for production of fish meal.

SEASONAL CATCHES OF NERITIC TUNA

Data collected through WWF-Pakistan's Crew-based Observer Programme revealed a marked seasonality in the catches of neritic tuna. Peak catches of neritic tuna was observed during September and November with maxima in September whereas a smaller peak was observed during April and May (Fig. 3).

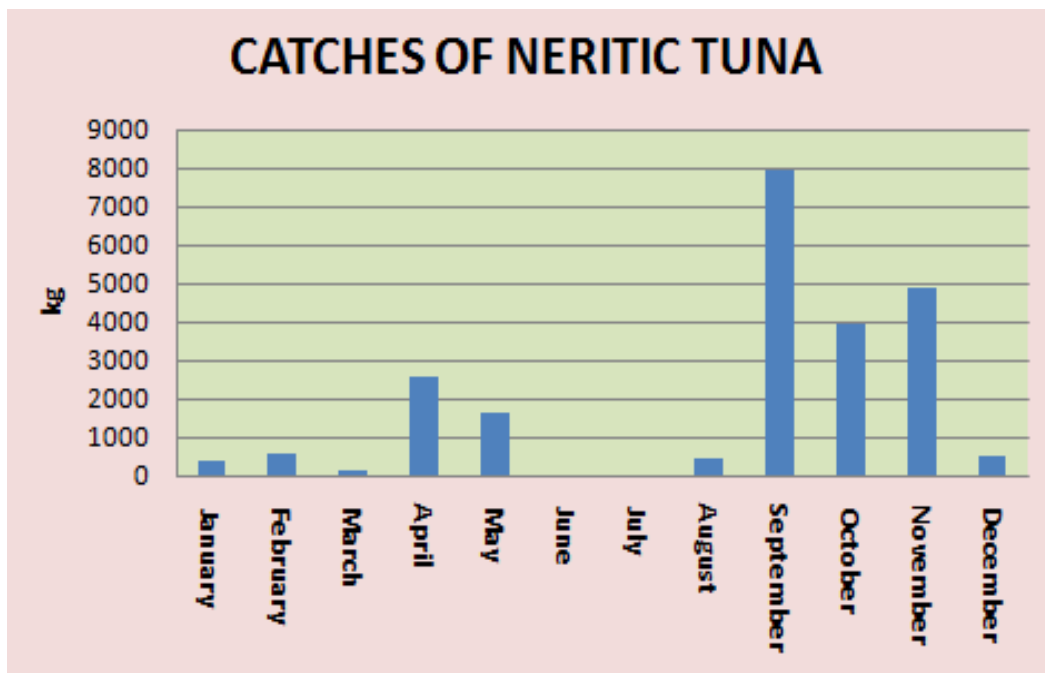


Fig. 3: Seasonal changes in catches of neritic tuna.

The analysis further revealed that longtail tuna dominates the catches almost throughout the year (Fig. 4). Its catches were observed to be high during September and November with maxima in September. Another smaller peak was observed during April and May. Kawakawa was also observed to be found throughout the year with peak in September. Its catches started decreasing and insignificant catches were during March and April. Frigate tuna was found during December and May with a peak in April whereas insignificant catches were observed during August and November.

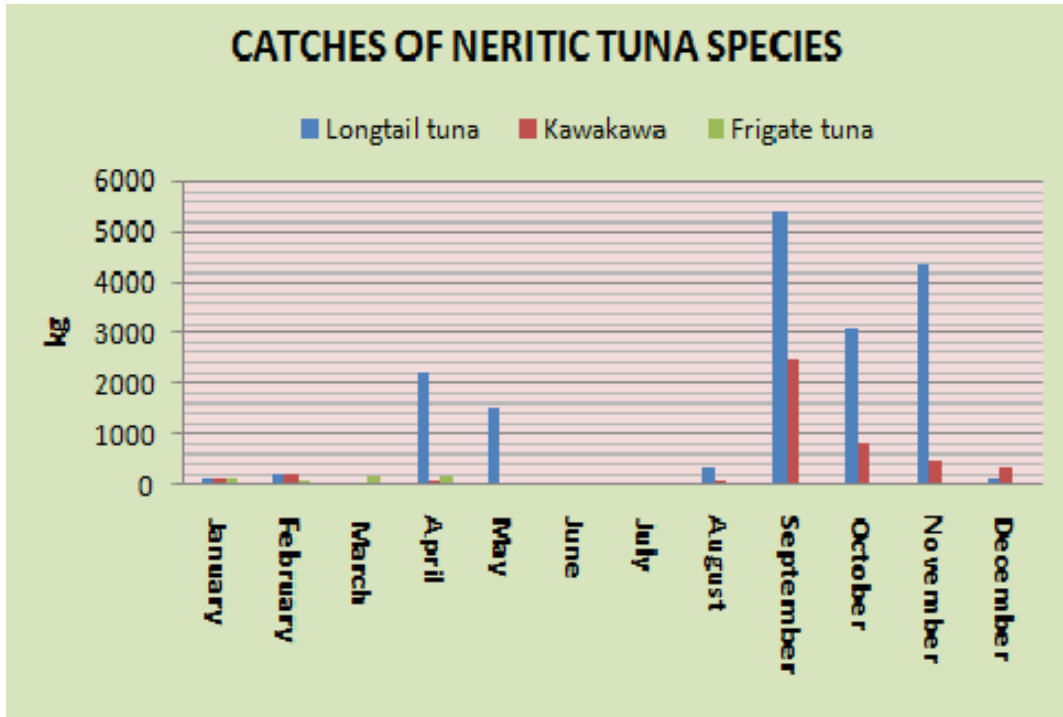


Fig. 4: Seasonal changes in catches of neritic tuna species.

CONCLUSION

Neritic species forms an important part of the tuna fisheries in Pakistan as these species contribute about 52 % of the total tuna landings. Dominated by longtail tuna (*Thunnus tonggol*) neritic tunas are caught by gillnet vessels which operate in coastal waters and on the continental shelf area. A marked seasonality in the neritic tuna landings was noticed with a peak in September. There is a voluntary two month close season observed during June and July by the tuna gillnet fishermen mainly because of extremely rough weather and intensive wave action due to summer monsoon.

During 2017, neritic tuna landings was observed to be about 9.5 % lower than 2016 which is mainly due to operation of large gillnet vessels in comparatively offshore waters to target skipjack and yellowfin tuna. The demand and prices of these two species were much higher during 2017 as compare to 2016. Marketing forces, therefore, control area of operation of tuna vessels in Pakistan which is reflected in change in species composition.

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