

Update on the neritic tuna fisheries of Pakistan

Muhammad Moazzam, Rab Nawaz and Saba Ayub
WWF-Pakistan, 46, PECHS Block 6, Karachi 75400, Pakistan

ABSTRACT

Neritic tuna is of immense importance for Pakistan as it contribute about 50 % in the total tuna landings. Five species of tuna are represented in catches in the neritic waters along Pakistan coast. Of these longtail tuna (*Thunnus tonggol*) and kawakawa (*Euthynnus affinis*) are main neritic tuna species whereas frigate tuna (*Auxis thazard thazard*), bullet tuna (*Auxis rochei rochei*) and striped bonitos (*Sarda orientalis*) are also found in the landings but their combined contribution is less than 1 % of the total landings of neritic tuna. Contribution of longtail tuna in the total landings of neritic tuna ranges between 67.40 % in 2008 and 79.10 % in 2003. Contribution of kawakawa was observed to be between 20.32 % in 2003 and 31.82 % in 2008. Data collected by observers deputed by WWF-Pakistan reveals that the contribution of neritic tuna species depends mainly on the area of operation of the fishing vessels. Tuna gillnets vessels operating on the eastern coast of Pakistan (Sindh and Sonmiani area) which has broader continental shelf show higher catches of neritic tuna as compared to vessels operating along Makran coast known for its narrower continental shelf.

INTRODUCTION

Nertic tuna is represented by five species in Pakistan including longtail tuna (*Thunnus tonggol*), kawakawa (*Euthynnus affinis*), frigate tuna (*Auxis thazard thazard*), bullet tuna (*Auxis rochei rochei*) and striped bonitos (*Sarda orientalis*). In addition, two oceanic species i.e. yellowfin (*Thunnus albacores*) and skipjack (*Katsuwonus pelamis*) are also important tuna species occurring in Pakistan. Pakistani fishing fleet operating in the Area Beyond National Jurisdiction (ABNJ) occasional catch bigeye tuna (*Thunnus obesus*).

Neritic tuna is being caught by fishing vessels based all along the coast, however, fleet based in Karachi (Sindh Province) and in Gwader (Balochistan Province) are main contributor to the landing of neritic tuna. In addition some fishing boats based in Ibrahim Hayderi and Kharo Chan (along Sindh coast) and Pasni and Jiwani (Balochistan coast) are also engaged in catching neritic tuna. Neritic tuna has been covered in the studies carried out on tuna fisheries of Pakistan including Ahmed (1989), Anonymous (1999), Imad (1988), Moazzam (2010; 2012a-c; 2014), Moazzam and Nawaz (2014); Moazzam and Ayub (2015). Inter-annual variability in the changes in the landings of neritic tuna was noticed in the last past decade which is mainly attributed to Somali piracy which compelled fishermen to restrict their activities to eastern part of the Pakistan coast and operate in the coastal waters (Moazzam, 2012c). Now that the situation has improved, Pakistani fishing tuna vessels have now started operation in comparatively deeper waters within Exclusive Economic Zone (EEZ) of Pakistan and in the Area Beyond National

Jurisdiction (ABNJ). In the present paper, an update on the status of neritic tuna fisheries of Pakistan is presented.

LANDINGS OF NERITIC TUNA

According to the official statistics tuna landings is increasing steadily in the past 14 years reaching a level of 22,892 m. tons whereas landings of neritic has also shown similar increase. (Fig. 1). The contribution of neritic tuna in the total tuna landings was observed to be ranged between 44.89 % in 2010 to 55.28 % in 2005 (Fig. 2). Since 2007 to 2015, the percentage contribution of neritic tuna remained almost static around 45 %. Among the three dominating species longtail tuna was observed to be dominating species contributing between 70 and 80 % during last 14 years whereas kawakawa is the next dominating species contributing about 20 and 30 % during the same period (Fig. 3). Frigate tuna was observed to contribute less than 1 % in the landings of neritic tuna. Official statistics does not include bullet tuna and striped bonitos.

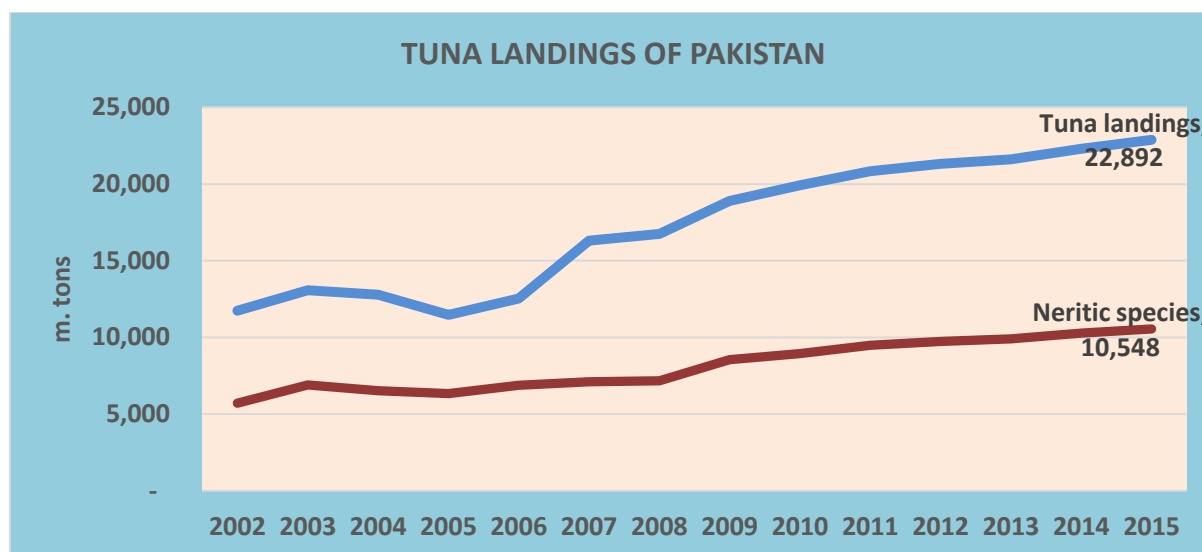


Fig. 1. Total tuna and neritic tuna landings of Pakistan

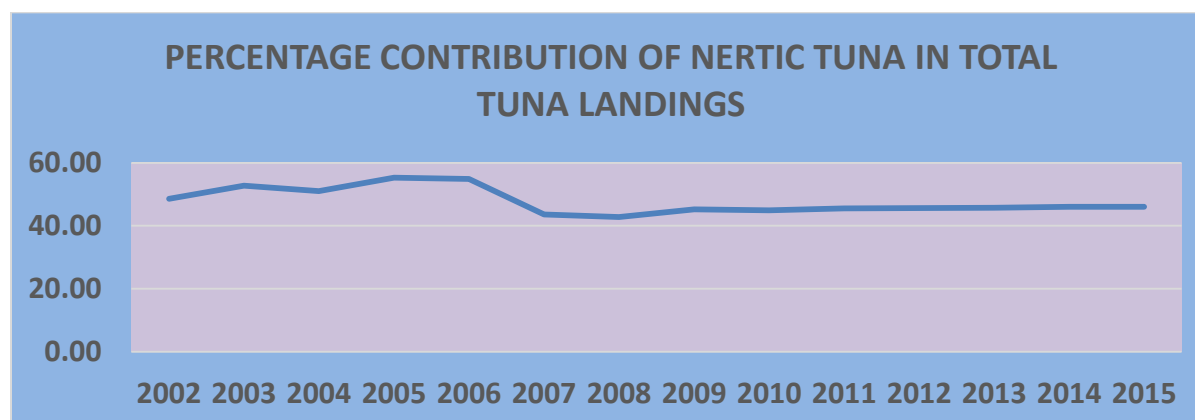


Fig. 2. Percentage contribution of neritic tuna landings in total tuna landings of Pakistan

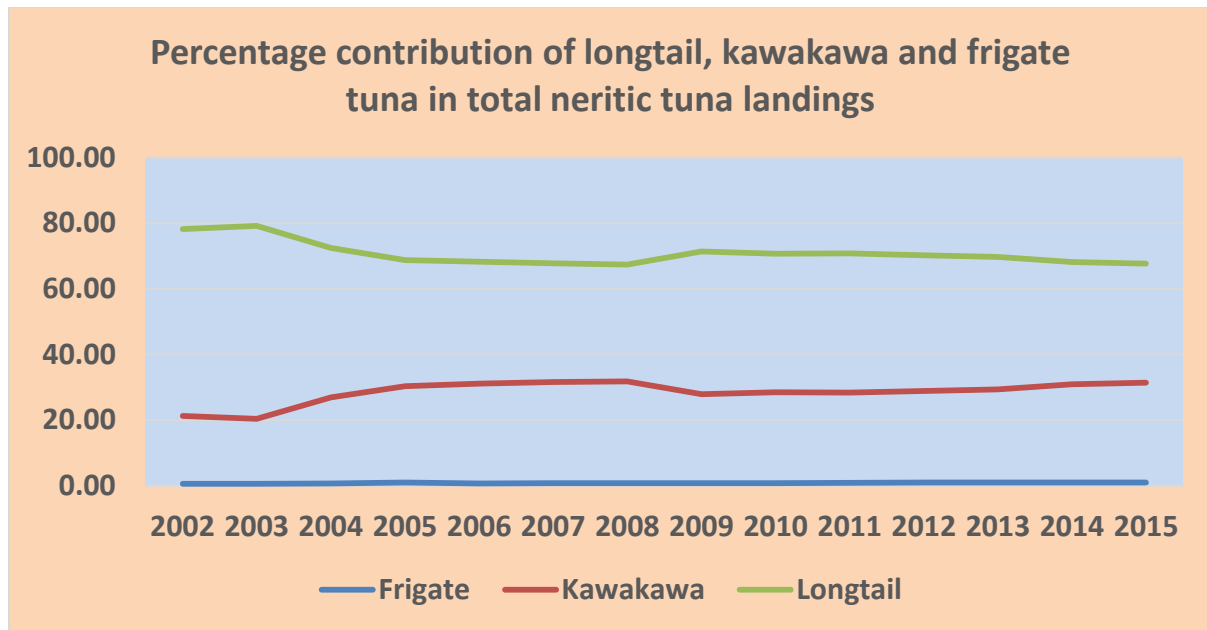


Fig. 3. Percentage contribution of landings of species in total tuna landings of Pakistan

INFORMATION GENERATED THROUGH OBSERVER PROGRAMME

WWF-Pakistan has initiated a crew based observer programme which has helped in collection of information about neritic tuna fisheries as well. The study revealed that on average three species including longtail, kawakawa and frigate tuna contribute to 43, 36, 21 % respectively whereas contribution of bullet and striped bonitos is less than 1 % (Fig. 4).

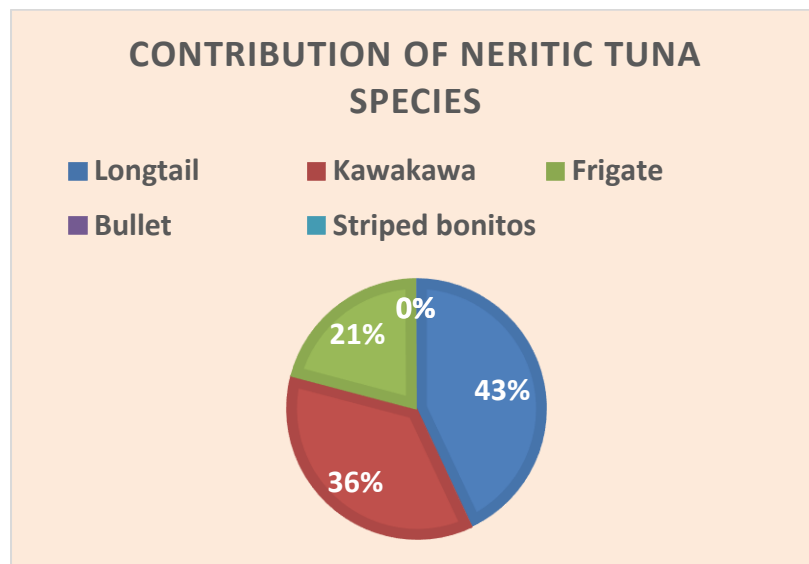


Fig. 4. Percentage contribution of neritic tuna species based on data collected through WWF-Pakistan's crew based observer programme.

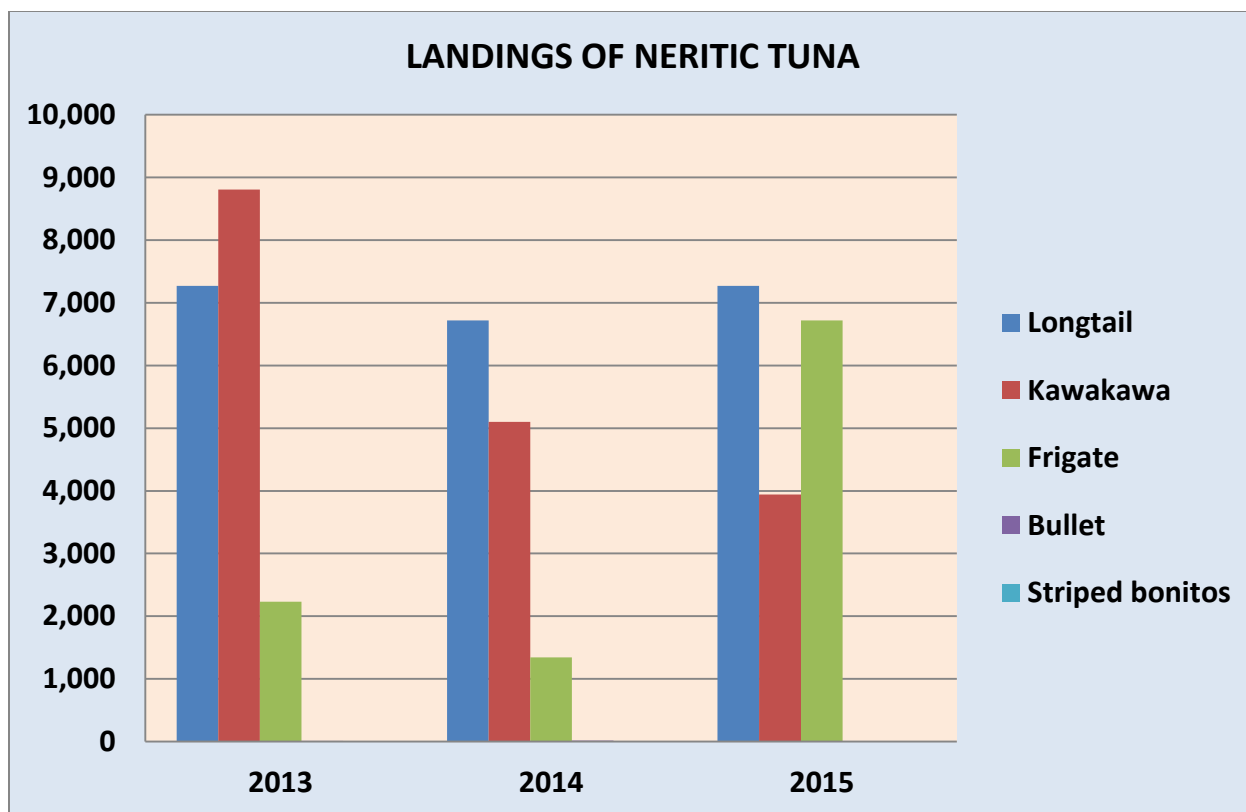


Fig. 5. Annual fluctuation in the catches of neritic tuna species (in kg) based on data collected through WWF-Pakistan's crew based observer programme.

The programme also revealed that there is fluctuation in the catches of various neritic tuna species during different year (Fig. 5). Data collected by one observer during 2013 and 2015 reveals that although there is no significant changes in the catches of longtail but landings of kawakawa decreased substantially. It was observed to be 8,800 kg in 2013 which gradually decreased to 3,900 kg in 2015. Data of catches showed opposite trend. In 2013 the catches were about 2,200 kg which decreased to 1,300 kg in 2014 but increased to 6,700 in 2015.

The catches of neritic tuna also depicts marked seasonality. Average data of three observers reveals that major period of catches of neritic tuna is between August and December with a peak October. April and May are also two months during which neritic tuna species were found in good quantities. Poor landings of neritic tuna were observed during January and March. Voluntary three month closed season is observed by tuna gillnet fishermen during Mid May to Mid-August. The study further revealed that frigate tuna was caught throughout the year with peak catches in March and April. Peak catches of kawakawa were noticed during September and November with a peak in October. In case of longtail tuna, maximum catch was observed in the months of May and September. Striped bonitos were represented in the catch in September whereas bullet tuna was noticed in April.

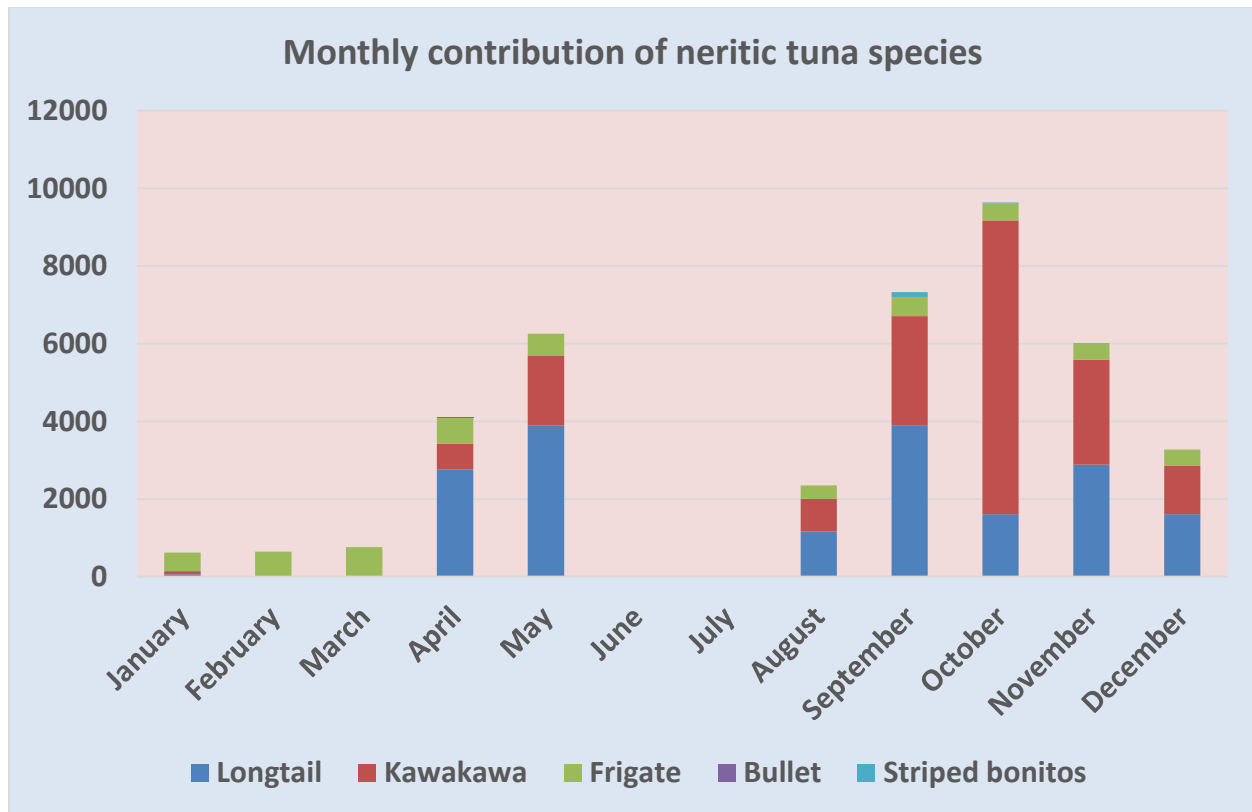


Fig. 6. Monthly fluctuation in the catches of neritic tuna species (in kg) based on data collected through WWF-Pakistan's crew based observer programme.

DISCUSSIONS

Neritic tuna contribute substantially to the total tuna landings of Pakistan. Longtail tuna and kawakawa are transported to canneries in the neighbouring country through either land route or by sea whereas smaller tuna including frigate and bullet tuna are exported to Sri Lanka in salted dried form. There is only an insignificant local market for tuna in Pakistan. Because of high prices offered for the neritic tunas, some fishermen especially those who have smaller fishing vessels (less than 15 m) opt for neritic tuna fisheries mainly along the coast of Balochistan.

Marked seasonality observed in the catches of neritic tuna, however, it worth mentioning that this seasonality is also on account of change in fishing ground with seasons. Like in the months of January through March, fishermen prefer to operate in offshore waters and in the ABNJ, therefore, a marked reduction in the catches of neritic tuna is noticeable. It is also pointed out that for a very long period between 2005 and 2014, fishermen were reluctant to operate in the offshore waters of the EEZ of Pakistan and in the ABNJ because of Somali piracy. Now that the piracy has subsided, fishermen have extended their area of operation especially during January and March, they operate in deeper oceanic waters.

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