INTERACTION OF SEA TURTLES WITH FISHERIES IN TUNISIA BASED ON INTERVIEWS WITH FISHERMEN

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Introduction

Nowadays, the by-catch is considered one of the important threats to sea turtles and other threatened mega fauna. In Tunisia, many studies have been done on mainly trawls (Jribi et al.,2007), loglines (Jribi et al.,2008; Echwikhi et al., 2012 and 2014) and gillnets (Echwikhi et al.,2010). This study aims estimate the interactions of sea turtles with fisheries, Estimation of by-catch rate for various fishing practices will allow for ranking for the most impacting fisheries. This work will be completed with fishermen to propose mitigation measures.

Material and Methods

According to available literature, turtle by-catch in the Mediterranean Sea seems to be likely high: approx. 150,000 per year, with a high number of deaths, probably than 50,000 yearly (Casale, 2011). In the present study, sea turtle by-catch level in Tunisian waters was evaluated by collecting fishermen's knowledge on turtle by-catch through an interview-based approach (Figure1).
The interviews allow for gathering information about fishing gears and practices, fishing effort and interaction level with sea turtles and others endangered megafauna species.
This work will be completed by onboard observations.

Figure 1 : Trammel nets at Zarzis port

Results and discussion

In This study, 300 interviews were conducted in 17 ports along the coast stretching from Monastir (Centre of Tunisia) to the Libyan border. The blue dots represent the fishing ports where interviews were carried out (Figure 2).
Fishermen interviewed are distributed as follows: 29 using trawls, 115 using different types of nets, 60 using encircling gears , 87 both nets and longlines, 4 using only longlines and 4 using nets and mini trawl(Figure 3).

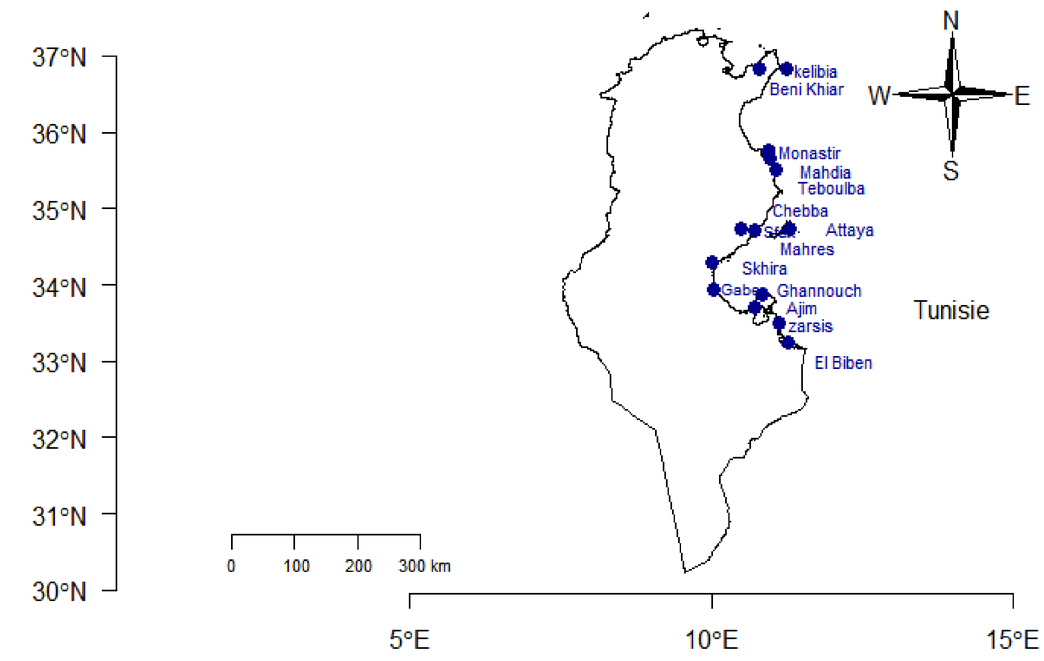

Figure 2 : Map of study area; streaches from Cap bon to Lybian border

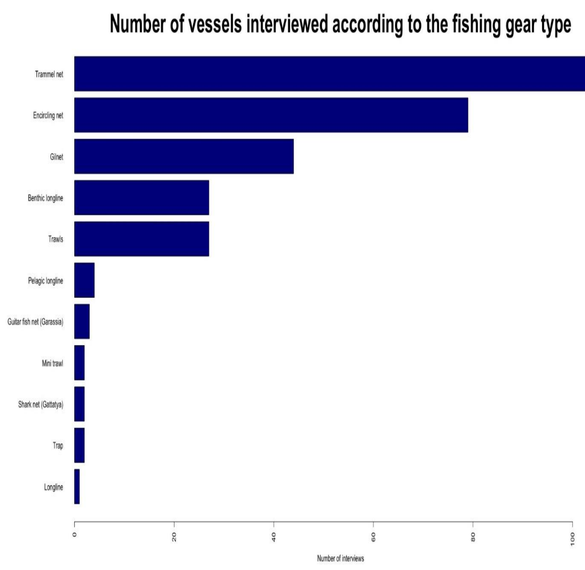

Figure 3: Number of vessels interviewed according to their main fishing practices

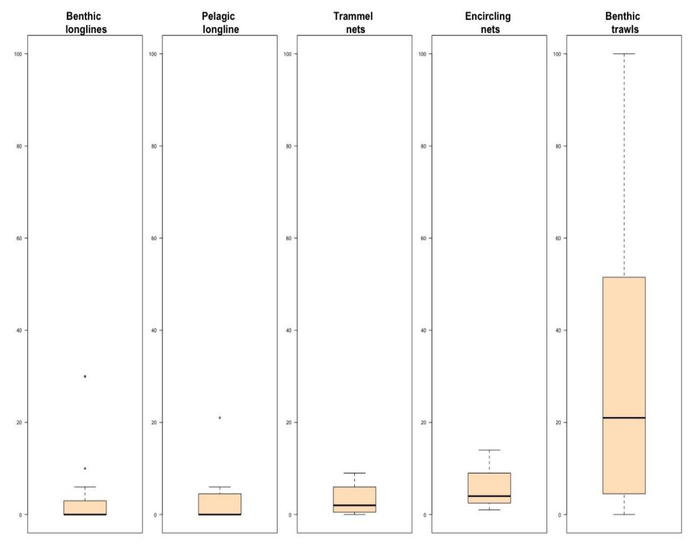

Figure 4 :Estimation of annual catch of Caretta caretta for eachfishing gear based on interviews results

Preliminary interview results analysis showed that many types of fishing gears are causing incidental catch of loggerhead turtle : bottom and surface longlines, trammel nets, sharks nets and trawls. The fishing gears which show the highest sea turtle catch rate are longlines, trawls and Shark nets (Figure 4).
Incidental catch for green turtle and Leatherback turtle are almost null.
Different Types of gears shows an interaction with other threatened mega fauna species like Common guitarfish (*Rhinobatos rhinabatos*, Endangered), Sandbar Shark (*Charcharhinus plumbeus*, Vulnerable) and Blue shark (*Prionace glauca*, Vulnerable).
The work shows that in case of poor data from other sources, direct questioning of fishermen represents an approach capable of providing useful data to identify the most impacting gears.
At a second stage, we will refine the impact assessment by on board observations focusing on the most impacting gears.

Conclusion

Results generated by interviews with fishermen and onboard observations will allow us to propose mitigation measures for the most impacting gears. At a third stage, we plan to create fishing gears prototypes susceptible to reduce sea turtles by-catch.

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