

Final Evaluation Report

Your Details	
Full Name	Khaled Echwikhi
Project Title	Interaction of loggerhead turtle with gillnet fishery in Djerba island
Application ID	32851-1
Date of this Report	29-08-2023

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Assessment of the state of knowledge for traditional fisheries and their impacts on sea turtles.				A bibliographical study was carried out, and various studies on the impact of accidental captures of marine turtles by gillnets in Tunisia and the Mediterranean were researched. The observers and the project leader attempted to collect the necessary information and documents from research and higher education institutes (Sfax Faculty of Science, Gabès Faculty of Science, National Institute of Marine Sciences and Technologies).
Preparation of the sampling plan through information meetings with local authorities and professionals in sampled ports.				Different types of forms have been filled in: Port survey form On-board survey form Observers were trained on how to fill in the forms. Difficulties were sometimes encountered when embarking with fishermen and also when taking some GPS positions.
Evaluation of the interaction of gillnets with sea turtles and target species.				The assessment was carried out, and parameters linked to the interaction of turtles with gillnets were determined: Catch rate: Turtle / fishing operation Total catch Mortality rate Catch size class distribution Geographical distribution of turtles caught
Raising public awareness of the impact of these fishing activities on these vulnerable species. - Proposal for measures to reduce bycatch of sea turtles.				Awareness-raising days for fishermen were organised, as well as information days for students at the Institute of Applied Biology in Medenine and two schools in Djerba.

2. Describe the three most important outcomes of your project.

a). During the 60 moorings carried out (32 in the first year and 28 in the second), a total of 20 *Caretta caretta* loggerhead turtles (11 in 2021 and 09 in 2022) were reported in the "Kallebia" gillnet catches. Capture rates are estimated at 0.4 ind/ trip and 0.32 per trip in the 2nd year.

b). The specimens caught were all juveniles. The curved carapace lengths of the turtles captured ranged from 48 to 69 cm.

c). Of the nine *Caretta caretta* turtles caught, four were dead and five alive. Of 11 *Caretta caretta* turtles, in the 2nd year only two were alive, the other nine were dead.

d). These accidental captures were recorded at shallow depths not exceeding 40 m.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

The obstacles encountered in working on the island of Jerba are essentially linked to changes in the fishing methods used in the region. Indeed, many fishermen who used gillnets directed at elasmobranchs have converted to fishing for *Portunis segnis* blue crab using creels, especially in August and early September.

Quantifying fishing effort is also made difficult by the existence of pleasure boats that catch elasmobranchs. These boats do not necessarily bring back the products of their catches to the region's sales outlets, and do not necessarily declare the results of their fishing.

During sampling, the fishermen who agreed to take the observers on board did not, in some cases, agree to give their catch points. Despite the fact that many catches were accidental, these fishermen were not reassured, especially when it came to the accidental fishing of endangered species such as sea turtles.

4. Describe the involvement of local communities and how they have benefited from the project.

The close cooperation of the local community greatly contributed to the success of this project. At the same time, we set up training and awareness-raising sessions, targeting fishermen as well as students and schoolchildren.

What's more, to share the results obtained, we organised a day dedicated to presenting our progress. The day brought together a wide range of players from civil society in Djerba. Representatives of organisations involved in the Tunisian fishing sector, such as the DGPA, INSTM, GIPP, AVFA and APAL, were also present. The meeting provided an opportunity for fruitful exchanges between the various stakeholders, fostering a better understanding of the results and implications of the project.

5. Are there any plans to continue this work?

We plan to continue this study by addressing the following aspects in the near future:

- Extend the study area to encompass the whole of southern Tunisia, including regions such as Gabès, Zarzis and El Kef.
- Analyse the impact of other fishing methods, such as the use of trammel nets, which is widespread in south-eastern Tunisia.
- Formulate proposals for mitigation measures, or even suggest alternative activities to replace gillnet fishing practices that result in turtle by-catches.

6. How do you plan to share the results of your work with others?

I will try to share the results obtained in posters in national and international conferences and also in different workshops and seminars organised by Instm. Also results could be published in journals like Marine Turtle Newsletter and Herpetological Review.

7. Looking ahead, what do you feel are the important next steps?

Next steps are to complete the monitoring of turtle by catch with gillnets also to involve the problem of ghost net and traps that are encountered in many times by local fishers. In addition, we planify to evaluate the impact of recreational fisheries targeting many species in Djerba on sea turtles.

8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

We use the Rufford foundation logo in roll up in training session for students, awareness campaign for fishers also for a journée destinée aux différents intervenants to sensibilate them on the importance of dealing with the problem of bycatch of sea turtles in the gulf of Gabès.

9. Provide a full list of all the members of your team and their role in the project.

Observers:

Nidhal trabelsi
Malika Zatra

Fishers:

Fethi bergueb
Aymen Ben Ali

10. Any other comments?

I extend my heartfelt gratitude to The Rufford Foundation for their invaluable assistance and unwavering support, which has been instrumental in ensuring the triumphant accomplishment of this study. Undertaking such research endeavours in the prevailing Tunisian circumstances has posed its challenges, yet the foundation's aid has been pivotal. I am optimistic that the sense of contentment derived from this collaboration is mutual, and personally, I have garnered a wealth of knowledge from this endeavour. With optimism, I anticipate that the insights gained will significantly enrich my forthcoming projects and endeavours.







Science Kerkennah

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Interaction of loggerhead turtle with gillnet fishery in Djerba island

 Name of leader:
Khaled Echwikhi

Project site

- * Djerba Island; Gulf of Gabès; South of Tunisia
- * Neritic foraging area for Mediterranean and Atlantic loggerhead sea turtle
- * Presence of bycatch of several species



TUNISIA

Gulf of Gabès



Project Activities

- Activity 1-** Preliminary assessment of the state of knowledge for traditional fisheries (mainly «garracia» and «kallabia») and their impacts on marine turtles in study area.
- Activity 2-** Development of a sampling strategy
- Activity 3-** Sampling at sea with fishermen on gillnet boats
- Activity 4-** Treatment of collected data and analysis bycatch (CPUE, Distribution of the capture...)
- Activity 5-** Information and awareness of fishermen

Conservation outputs

- * The importance of Gulf of Gabès for sea turtles at the Mediterranean scale;
- * The abundance and density of sea turtles in the Gulf of Gabès;
- * The distribution of the different captures and different habitats;
- * Development of mitigation measures, techniques and assessment of the impact of bycatch mitigation measures.





