

The Rufford Small Grants Foundation

Final Report

Congratulations on the completion of your project that was supported by The Rufford Small Grants Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to jane@rufford.org.

Thank you for your help.

Josh Cole, Grants Director

| Grant Recipient Details | |
|----------------------------|--|
| Your name | Erick Cristóbal Oñate González |
| Project title | Identification of aggregation sites of juvenile white sharks and their relationship with adult sharks in the Eastern North Pacific |
| RSG reference | 10774-1 |
| Reporting period | Final |
| Amount of grant | £5,800 |
| Your email address | eonate@cicese.edu.mx |
| Date of this report | 1 st October 2013 |

1. Please 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 |
|---------------------|--------------|--------------------|----------------|--|
| White shark tagging | X | | | During white sharks' season, it was imposed a national banning for all shark species. This generated a nuisance of the fishermen that asked us to not visit the fishing camps. |
| DNA Analysis | | | X | Primers and kits were bought, and the data analysis is almost done. |
| Fishermen's talks | | X | | We keep in touch with them and planning the next work to do. |
| Samples for DNA | | | X | Collected from fishing landings and received samples from other colleagues, from white sharks of Isla Guadalupe and Farallon Islands |
| Bycatch paper | | | X | In peer-review process |
| DNA paper | | X | | Writing in process |

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

The sampling was done between January and May 2012 and August and December 2012. In June 2012 (when the tagging had to be done), it was implemented a Shark Fishery Banned Season. This generated a nuisance for the fishermen that didn't allow us to tag the sharks during this season. However, we used the tissue samples obtained during the year to make the genetic analysis and set four acoustic receivers at Bahia Vizcaino, Baja California, to detect the white sharks that were tagged on California, USA, and assess the habitat distribution of this specie

3. Briefly describe the three most important outcomes of your project.

- 1) The main outcome was to involve the fishermen community on the development of this project. We made important contacts with them and they have been accessible to help us and to understand why and how we are doing our research. But most important is that they share with us their "natural" knowledge on the white shark behaviour and distribution.
- 2) The genetic analysis imply that the white sharks from Mexican and Californian waters are from the same population.
- 3) Along with the ones from North-eastern Pacific (Mexico and USA) share the same genetic group differentiated from those from Australia, New Zealand, Japan and the Mediterranean Sea

4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).

First, the fishermen community accepted to work with us, helping us in the search of the white sharks, allowing us to use their boats and giving us their opinion in the best way to find a shark or how to keep it alive after tagging or sampling.

They become “experts” in the conservation and ecology of the white sharks because they always ask us for information and they involve in the process of tagging or sampling. This behaviour of the fishermen is good because they spread all the information that we share with them to the community and therefore the community is able to understand why they have to worry about the white shark population status and why they have to make efforts to the conservation of this species and his habitat.

The community have benefitted because we use all their services paying for them. Almost all our infrastructure has been gotten whit their help. When we were sampling or tagging, and we caught other shark species, they were used by the fishermen for local consumption or to commercialise it.

5. Are there any plans to continue this work?

Yes, we are planning to continue the sampling of white sharks for genetic and isotopic analysis to understand the population status of white sharks in Mexican waters and understand the effect over the population of anthropocentric and natural process like fisheries and climate change.

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

We finished a paper focused on incidental catch of white shark that is in review.

We are working on a genetic paper focused on relatedness of white sharks from Mexican waters to white sharks from other regions.

We shared the results with local radio and newspaper, and in a National White Shark meeting.

7. Timescale: Over what period was the RSG used? How does this compare to the anticipated or actual length of the project?

RSG was used from February-2012 to August-2013. This period was 6 months more than expected, but this was because of the ban season.

8. Budget: Please provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used.

| Item | Budgeted Amount | Actual Amount | Difference | Comments |
|---------------|-----------------|---------------|------------|--|
| Field surveys | 4205 | 1000 | 3205 | Field work to get sample for DNA analysis from fisheries landings and for the analysis |

| | | | | |
|--|------|-------------|------|---|
| Fishermen/boat services | 1383 | 550 | 833 | No tagging, but sampling and receivers settings |
| White shark primers (for DNA Analysis) | 117 | 0 | 117 | |
| Sequencing Kit (for DNA Analysis) | 95 | 0 | 95 | |
| TOTAL | 5800 | 1550 | 4250 | |

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

The most important step is to tag the white sharks, this tagging process is expected to be done in November 2013 and all of 2014.

Other step is to use the tissue samples to isotopic analysis to understand how white sharks are using the different habitats where they are.

10. Did you use the RSGF logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

Yes, all the presentations that we did and we will do, has or will have the RSGF logo. We mention that part of the budget used in any research related with this project, was from RSGF

11. Any other comments?

As we mentioned before, white shark tagging was not possible. However, we'll keep trying to understand how they are using Mexican waters and how to show the community to make effort in the conservation of this species.