

Final Project Evaluation Report

Your Details	
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Project Title	Characterization of the habitat of cetaceans in the Puerto Peñasco-Puerto Lobos Biological-Fishing Corridor
Application ID	22375-1
Grant Amount	£ 4911.11
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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
<p>Generate baseline species of cetaceans present in the region of Puerto Peñasco-Puerto Lobos.</p>				<p>We recorded a total of three species in our monitoring in the area of the biological corridor during the cold season: fin whale (<i>Balaenoptera physalus</i>), blue whale (<i>Balaenoptera musculus</i>) and bottlenose dolphin (<i>Tursiops truncatus</i>). However, we have an additional database with existing records since 1984 in the Gulf of California, with sporadic visits in the Upper Gulf of California area; we also conducted a search platform in the Oceanic Biogeographic Information System from the Internet (OBIS). We found three more species that have been recorded in the area: the tropical whale (<i>Balaenoptera edeni</i>), the common dolphin (<i>Delphinus</i> sp.) and the killer whales (<i>Orcinus orca</i>).</p>
<p>Identify spatial and temporal patterns of distribution, as well as the cetacean's use of the area.</p>				<p>We conducted 44 sightings in total during the temperate season and only three during the warm season. These results were compared with the responses of 41 people surveyed: 66% of them were fishermen and mentioned that during the summer months there are very few or even no whale sightings in the area, mainly for Mysticetes, which are recurrent during the cold months. We made maps with the distribution of sightings, where we can see that the main areas were north and south of the corridor.</p> <p>During the cold season, we observed the behaviour and use given to the area by the cetaceans, mainly Mysticetes, were foraging, (clear images of the behavior are attached); yet we could not</p>

			<p>determine any other use, such as of the reproduction, since the weather conditions allowed us a maximum of 5 hours in the area and we dedicated it to taking photographic records. However, we counted up to 30 whales in the same area of approximately 40 m². Most were fin whales, but some blue whales were also seen sharing the same feeding area. With the work of later identification we made a catalog of fin and blue whales (see the annex). In the catalogue, a total of 24 fin whales and three blue whales were identified.</p>
Disseminate the results of this project to CEDO staff.			<p>We wrote a detailed report with the results of this work and it was delivered to the leaders of CEDO in Puerto Peñasco.</p> <p>I am currently working on distribution models (GLM) with the historical data that our research programme has. This is expected to be published at the beginning of 2019, which also helps determine the probability of presence and the distribution of these species in the area of the corridor.</p>
Disseminate the results and benefits of the study to the community of Puerto Peñasco.			<p>Concurrently, the members of the CEDO team will be in charge of disseminating the results, due to a small movement that arose after the actions taken by the Mexican government for the protection of the vaquita in the Upper Gulf of California. Some fishermen from the community of Puerto Peñasco feared that the study of our team would be part of the Mexican Government to find more vaquitas in the area and restrict fishing to 100%, hence for the moment we did not carry out the workshops to share the results.</p> <p>A disclosure note was made about the start of the investigation in the corridor area, it was published on the CEDO website, which is responsible for disclosing to the general public</p>

			about all the things the CEDO team is doing in the corridor. http://cedo.org/es/estudiando-cetaceos-en-el-corredor-penasco-lobos/
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2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

a) There were difficulties carrying out the monitoring due to the climatic conditions, which were changing constantly and little consistency during the winter months in the Upper Gulf of California. We tried to visit the area to conduct as many monitoring sessions as possible, with the help of weather forecasts as well as the experiences of the fishermen who accompanied us during the monitoring and who were also present in the workshops. It was taken into account that work days could be lost due to the sudden change in climate. As suspected, we did less monitoring days than planned. Another measure considered was to make longer outings, in time and distance during days with good environmental conditions and thus be able to cover more area in less time.

b) There were some critical problems in the Upper Gulf area, such as the actual condition of the vaquita. The workshops for the communities were designed in two phases, the first with an introduction to the subject of cetaceans, and during this phase the interest of the communities was measured, we also learned about the interest and interactions that fishermen have had with the cetaceans; the fishermen understood the benefits that the corridor proposal would have if we knew more about the cetaceans in the area. The second phase of the workshops was carried out at the end of the monitoring in the second visit to the corridor, where the presentation of the results and more specific scope in whale watching activity would be given.

The first phase was successfully achieved. However, at the end of 2017 and the beginning of 2018, the Mexican Government took the last steps in the matter of extinction of the vaquita, which fostered fear in one of the communities of the corridor, specifically in the community of Puerto Peñasco. Some people started to rumor that the Mexican government wanted the corridor to close all the fishing activities and we are working with the government to enforce the closure of the fishing in the Upper Gulf. In addition, in January 2018, CEDO and the fishermen formalised the first delivery of the corridor proposal to the government offices. That is why it was decided that it was best to stop the workshops until the communities see the proposal of the corridor with the Mexican Government. Instead we decided to deliver material (such as posters and identification guides) to the rest of the fishing communities and CEDO members so that they could continue disseminating the work according to their criteria.

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

The three most important outcomes of our project are the a) workshops, b) monitoring of the cetaceans in the corridor, and c) the impact evaluation of community involvement.

1. Workshops were given to a total of 41 people in three communities that make up the corridor, and to these same people a survey was conducted at the beginning and end of the workshop (attached in supplementary material) with the purpose of evaluating the participants' knowledge and interest in the topic. The following are what we've obtained in the surveys before and after assisting a workshop: participants were people between 16 and 87 years of age, 66% of them were fishermen; from the surveys before the workshop, 90% of the participants have already seen cetaceans within the corridor area and 72% of those participants have seen cetaceans trapped in a fishing gear. After the workshop, 66% of the participants have an interest in whale watching as a tourist activity; however 68% of them do not know the guidelines and regulations for whale watching and almost 20% did not know that there are standards. Of the total number of participants, 87.2% expressed an interest in learning the regulations of the tourist activity, 98% rated highly the quality of the workshop and 93% of the participants demanded more workshops of the present work.
2. Monitoring was carried out in two different climatic seasons: warm and temperate seasons. The first monitoring in warm season, from September 16th to 30th 2017, in all areas previously designed for work. In more than 30 effective hours of effort, only three dolphin sightings (*Tursiops truncatus*) were obtained, which consisted of a total of 40 dolphins. However, during the temperate season between January 15th and February 1st 2018, a total of 44 sightings of 3 species of cetaceans were obtained: 35 fin whale sightings, five blue whale sightings and two bottlenose dolphins. Fin whales and blue whales were observed in four of the five landing areas of the corridor communities. In three of the four areas where these species were sighted, more than 30 fin whales and three blue whale organisms were counted; both species were always foraging, with a swimming pattern in circles around an area of approximately 40 km². After carrying out 40 whale sightings in the study area, the photo-identification technique was performed and of the total photographs taken, 24 different fin whale and three blue whale individuals were identified. The best photographs of the right back of the fin whale and the right and left back of the blue whale were selected for a catalogue of the temperate season was made in the area.
3. With the results of the present work, a report was made to the CEDO team which is being evaluated for the prompt incorporation to the proposal of the corridor. Together with the team, we published a note on the CEDO website in regards of the work we are doing in the area *. The purpose of the note is to disseminate the field work and the workshops, as well as to help raise

awareness among the fishing communities and encourage greater interest in the communities of the corridor.

*<http://cedo.org/es/estudiando-cetaceos-en-el-corredor-penasco-lobos/>

So far, we have been receiving positive responses from the communities we've worked with and some showed interest to conduct more monitoring in the field. They've been sending us photographs of living cetaceans including the stranded organisms that they observed in the area while they carry out their fishing activities. This is impelling us to continue with this project, apart from the fact that there are few fishermen from one of the localities that foment fear to the members of community, but the rest of the communities expect more information and want to continue participating actively in more monitoring.

I am currently completing the research paper for my Master's degree with the models of presence and distribution of cetaceans in the Gulf of California (mainly whales, tropical whale and fin whale), to determine the probability of these species' presence in the study area and compare it with the rest of the Gulf of California. The research will bring prompt publications that support future studies in the area.

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

41 people from the different communities that make up the corridor met at three sites along the corridor to receive a workshop, where they learned about general aspects of cetaceans, identified the species that can be found in their work area, and understood the benefits that can be obtained by integrating the results of this work with the proposal of the biological-fishing corridor. The majority of the participants were interested in further participating in a continuous record of the species found in their area of work. In addition, we also discussed about the activity of whale watching as a possible alternative work. We also provided an identification guide with the visual images of species that are most likely found in the corridor area (attached), as well as a poster of the cetaceans of Mexico (donated by the Mexican Society of the Study of Marine Mammals, or SOMMEMA in Spanish). As for the monitoring, the fishermen helped us choose the best dates for monitoring in accordance of their past experiences and select two people per community who were trained in field monitoring (eight people in total) to report them the information. Those trained in the field are constituted by the captain and one more person in each community, and were employed and were paid for the use of the vessel.

We hope that the results obtained will be added soon to the corridor proposal and help consolidate it.

5. Are there any plans to continue this work?

We have plans to continue with the workshops in the communities once the CEDO staff considers that the fishermen approve of our research activity. We are greatly concerned to continue investigating the pattern of movements in the Upper Gulf of California area of species such as blue whale and the fin whale in the current state. We hope to continue carrying out these monitoring as soon as another opportunity arises.

We are also currently comparing the photographs of the individuals identified in the area with the photographs that our research program has obtained from the rest of the Gulf of California.

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

We consider sharing these results in the next meeting of the SOMMEMA at the beginning of next year. We also plan to make another disclosure note with the results, and publish it on the CEDO webpage as well as of our research programme.

We will publish the results of the presence and distribution models, with emphasis on the comparison between the corridor area and the rest of the Gulf of California.

We also hope to participate in The Conference Rufford Small Grants 2019- Guatemala.

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

The funds of the grant were used from September 14th to October 1st 2017 and from January 14th to February 2nd 2018. This project, in writing, began a year ago, along with the preparation of the material for the workshops and surveyed started 3 months ago.

8. Budget: 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. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Items	Budgeted Amount	Actual Amount	Difference	Comments
Boat Operator	1889	1202	-687	We conducted fewer days of navigation due to bad weather conditions, 6 days during summer and 8 days in winter. From 22

				planned days, it was 14 days of monitoring.
Gasoline boat	1606	1023	-584	We conducted fewer days of navigation due to bad weather conditions, 6 days during summer and 8 days in winter. From 22 planned days, it was 14 days of monitoring.
Gasoline car		444	444	With a rental car, we commuted to each community for the workshop and disembarked in the different monitoring areas. the above reason led to the additional cost of gasoline
Food	472	472		We carried out less days of monitoring due to the presence of strong wind (Beaufort greater than 3), however, we stayed at the study area and used the rest of the days to communicate with the fishermen. The purchase of food was adjusted to be sufficient for two to three researchers
Airplane	859	1073	215	From our first visit with two researchers, we decided to include one more researcher in our second visit to optimize the (this was before they informed us of the cancellation of the workshops in the second visit). At the time of monitoring, one researcher was in charge of explaining to the operator and the other fishermen the procedures and reasons behind the activity under certain rules. Meanwhile, the other two researchers focused more on the work of recording data and taking photographs.
Ground transportation	86	687	601	We used rental cars because of the malfunction in the transportation that was going to be provided by CEDO and the lack of public transport that reaches the different communities where the workshops were held, which were also the exit areas for monitoring.

Total	4911	4900	-11	<p>Other expenses that were not included in the requested budget were the printing and purchase of materials for the workshops (guides and identification surveys) and for monitoring (maintenance of cameras, purchase of batteries for GPS and cameras, etc.). These activities were already programmed before asking for support but the materials for both activities were not taken into account, thus we paid those expenses with some savings from the research program. We are willing to refund the difference in expenses.</p>
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9. Looking ahead, what do you feel are the important next steps?

The following two steps are the important next steps: the future support from CEDO and the communities, and improved workshops. The first is the incorporation of the results to the proposal of the corridor by CEDO and the fishermen, which includes working the sensibility of the topic to have a better acceptance by all communities. This is followed by more specialised workshops so that fishermen begin to be hired to perform efficiently the monitoring and whale activity. We need to continue monitoring during the cold season to better understand the movements of species, such as the fin whale and the blue whale, to identify priority areas for the conservation of cetaceans in the Gulf of California.

10. 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 place the logo on all the presentations (power point) and on the material, such as identification guides and surveys. In addition, we always mentioned that the project was funded by The Rufford foundation.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

Dr. Jorge Urbán Ramírez: Participated in writing the project, reviewed the materials, and followed up on the results.

Dr. Alejandro Gómez Gallardo: Participated in writing the project, co-authored the dissemination note, and participated in the review of the materials and in the follow-up of the results.

Dr. Lorena Viloría Gomora: Participated in writing the project and reviewing the materials.

M.C. María Esther Jiménez López: Participated in the fieldwork, was a workshop trainer, participated in the photo-identification, is a co-author of the disclosure note and participated in the administration of resources.

M.C. Jorge Acevedo Ramírez: Participated in field work and photo-identification

B.M. Omar García Castañeda: Participated in writing and directing the project, designing workshops and complementary material, worked in the field, was a trainer in workshops, participated in the photo-identification and evaluation of results.

CEDO-Puerto Peñasco Work Team: They provided lodging to the researchers, helped to make the calls for the workshops, lent material for the workshops, such as projectors, coffee makers, blackboards, etc. They are co-authors of the dissemination note and are analyzing the results of the project for their incorporation into the proposal of the Corridor.

12. Any other comments?

We want to thank once again the Rufford Foundation for its important contribution to this project. This project was made thanks to its funds. We look forward to working again with the Rufford Foundation in the future.

