

Final Project Evaluation Report

We ask all grant recipients to complete a project evaluation that helps us to gauge the success of your project. This must be sent in **MS Word and not PDF format**. 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 – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Complete the form in English and be as concise as you can. Note that the information may be edited before posting on our website.

Please email this report to jane@rufford.org.

Your Details	
Full Name	Maria Fernanda Urrutia-Osorio
Project Title	Photo- identification, abundance and distribution of cetaceans in the Gulf of California: providing information needed for informed management and conservation
Application ID	21253-2
Grant Amount	£5,000
Email Address	urrutiaof@gmail.com
Date of this Report	22 th March 2018

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
Monitor the cetacean populations around Bahia de los Angeles (BLA) in order to continue establishing the area's cetacean baseline.				From 18 th April to 21 st July 2017, we conducted 17 days of monitoring. We spent 112 hours at sea, covering about 1,600 km. We registered 57 sightings along BLA area and we sighted 60 individuals (not including dolphins): 36 fin whales (<i>Balaenoptera physalus</i>), 12 humpback whales (<i>Megaptera novaeangliae</i>), 10 Bryde's whale (<i>Balaenoptera edeni</i>), around 200 common dolphins (<i>Delphinus capensis</i>) and 200 bottlenose dolphins (<i>Tursiops truncatus</i>).
Continue producing a cetacean catalogue with the identification of individuals and develop distribution maps with the location of the sightings.				We have a catalogue of 174 fin whales, 15 humpback whales, five blue whales and four Bryde's whales. In addition, we made maps with the location of the sightings for future distribution trends.
Continue evaluating the injuries present in photo-identified whales.				In our survey season, 25% of the photo-identified fin whales showed signs of injuries, probably caused by collisions with small boats or fishing gear.
Continue developing an environmental education campaign in Bahia de los Angeles to increase public interest in whale conservation				We visited the primary school of BLA three times, gave them a small talk, and conducted some drawing activities. We also invited a small group of children to join one of our surveys and it was very successful, some of them had their first "hands on" experience. In addition, we had the opportunity to talk to a small group of fishermen about our project.

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

Our skiff driver and local fisherman Jose Arce had a family emergency during our study period and we couldn't go out to conduct surveys for 3 days.

Cetacean abundance in the area was lower than in previous years, therefore, we had to cover longer distances, which required more fuel. In addition, fuel cost increased considerably from the moment the application was sent to the survey season; boat fuel expenses were higher than expected. We were able to adjust the budget with the 3 days that we did not conduct any trips.

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

We have continued establishing the cetacean base line in Bahia de los Angeles. After 3 years, we have covered more than 5,000 km and spent more than 300 hours at sea. We have registered 283 sightings and 501 individuals (not including dolphins): 421 fin whales (*Balaenoptera physalus*), 28 humpback whales (*Megaptera novaeangliae*), six blue whales (*Balaenoptera musculus*), four sperm whales (*Physeter macrocephalus*), 11 Bryde's whale (*Balaenoptera edeni*), around 4,000 common dolphins (*Delphinus capensis*) and around 500 bottlenose dolphins (*Tursiops truncatus*).

The project continued establishing the area's first cetacean catalogue of fin whales, humpback whales, blue whales and Bryde's whales. In addition, we continued the evaluation if injuries present in fin whales. We identified that 30% of the photo-identified whales showed signs of injuries caused by collisions with boats or fishing gear. However, almost all of the whale's injuries did not look recent and during our surveys, we did not encounter many boats around the area. We assume that these injuries are caused in another part of the Gulf of California where the fishing pressure is bigger. Nevertheless, we will continue to evaluate injuries present in whales and try to identify high risk zones for cetaceans around the area of study.

We have become an important research programme in the area and we have raised the interest of the major cetacean groups of the Gulf of California. One student from the Centre for Higher Education and Research of Ensenada (CICESE), in collaboration with Prescott College in Kino Bay (Sonora, Mexico) is currently using our photographs to conduct his master's thesis on capture- recapture abundance estimation of fin whales in the Midriff Islands of the Gulf of California. In addition, we were part of the Mexican Fin Whale Endangered Species Program (PROCER), which ended in 2017.

We are collaborating with the Bahia de los Angeles Biosphere Reserve by sharing our results. The MPA has a very limited biodiversity monitoring programme and we are helping them expand their database, which will help engage future conservation measures in the area.

Finally, PhD Mario Pardo, from CICESE, invited us to collaborate in the development of a sustainable whale-watching programme for local fishermen funded by the

Mexican Fund for the Conservation of Nature (FMCN). In July 2017, we conducted the first workshop where we informed the fishermen about the project and the response was successful. PROCETUS participation was important because we informed the stakeholders involved in the programme about the distribution of whales during the season and the different species of cetaceans they might sight.

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

We visited the primary school of BLA three times. Children always show great interest and they are always very participative. We talked to them about the whales around the area and its importance and we conducted some drawing activities in order to keep them interested. We encouraged them to think as the fin whale population as their own. We believe that children can share their enthusiasm about whale conservation with the older people of the community.

For the first time, we had the opportunity to talk to a small group of fishermen about PROCETUS. This group of fishermen is the one collaborating with us and other institutions to develop a sustainable whale-watching programme in BLA. We also gave a workshop and conducted a survey trip with them in order to teach them responsible whale-watching activities. They showed great interest on the whale-watching project, we believe that this project will benefit the area by providing another source of income and will reduce fishing effort in the area by having an alternative activity.

5. Are there any plans to continue this work?

Yes. As mentioned before, we have become an important research project for the local and scientific community. I intend to apply for the Booster Grant. I would like to establish PROCETUS as a long-term project. We aim increase the monitor effort in the area by surveying the area and if possible, its surroundings, more frequently and for several years.

For example, the number of sightings this year was lower than the ones on previous years (2015 and 2016). We support the hypothesis that the Bahia de los Angeles area represents a refuge and remains a high productive area during El Niño years (2015-2016). 2017 represented a neutral year and this could explain the relatively low numbers of this year's effort. All this has raised our interest regarding the effect of El Niño and La Niña in the cetacean populations of BLA, therefore, long time series are necessary to better understand the variation in the abundance and distribution of cetacean in the area.

Finally, this year, we had the opportunity to take aerial videos and pictures using a drone. A relative of our primary researcher took the footage and the images are stunning! In the near future, we plan to incorporate unmanned aerial vehicles into the project; we would like to conduct morphometrics to study size and body condition of the fin whales of the area. This study will represent the first in its type for fin whales and for Mexico.

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

We have been sharing results, videos and pictures from our surveys through our website www.procetus.org and our Facebook page www.facebook.com/procetus. In addition, we have shared our results with the MPA staff with a written report. We plan to present our work in marine mammal related conferences and hopefully publish the results of the project in peer-reviewed journals such as: Marine Mammal Science, the Journal of Cetacean Research and Management, the Journal of Marine Animals and their Ecology, Aquatic Mammals Journal and the Endangered Species Research.

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

We used The Rufford Foundation 2nd Grant from April to December 2017 to conduct fieldwork and data analysis.

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.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Travel to Bahia de los Angeles from Ensenada	300	300		
Food expenses for crew in Bahia de los Angeles	600	400	+200	The spare money from food expenses was used to cover accommodation expenses at local hotel.
Accommodation in Bahia de los Angeles	700	900	-200	Local NGO Pronatura Noroeste's house was not available this year due to renovations, so we stayed at a local hotel when we were at Bahia de los Angeles. Each night was £50 and we stayed there 18 nights in total.
Skiff fuel	1200	1650	-450	Instead of needing £60 per day of fuel, we required about £100 of boat fuel per day.

Driver expenses	2000	1700	+300	The remaining funds were used to cover boat fuel expenses.
Equipment	200	50	+150	We bought a pair of polarized glasses for volunteers. The purchase of 7x50 binoculars as we required was not necessary at the moment of the survey season. The remaining funds were used for boat fuel.
Total	5000	5000		

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

We would like to establish ourselves as a long-term monitoring project. We would like to have more research effort in the area. The success of the project depends greatly on the days we are able to conduct surveys. Therefore, we need to secure more funding for the project, as mentioned before, I plan to apply for the Booster Grant and I will look for other sources of funding through foundations such as PADI Foundation, National Geographic Grants, etc.

We will continue collaborating on the sustainable whale-watching project. In addition, we will incorporate unmanned aerial vehicles into our project to estimate size and body condition of fin whales. We also plan to incorporate biopsy sampling and tracking methodologies to strengthen our project.

We want to improve our communality outreach by increasing the number of talks and activities. In addition, we will strengthen our relationship with the MPA by providing them with new information, updating and expanding their database.

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?

Yes. We have been using the Rufford logo in our presentations every time we talk to the local community of Bahia de los Angeles. The logo is also on our webpage www.procetus.org and on our Facebook page www.facebook.com/procetus, where we acknowledge the grants awarded 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.

Rafael Ramirez: research assistant. He helped with logistics and during the field surveys he demonstrated his species identification knowledge and survey techniques. Rafa is currently a Ph.D. Student working with abundance and distribution of cetaceans in the Gulf of Mexico.

Maria Emilia Rechimont: research assistant. Emi helped with logistics and fieldwork during surveys. She has plenty of experience working with Geographical Information Systems.

Antonio Gomez: research assistant. Anto was crucial to this year's research because he joined almost all trips. He helped with logistics and fieldwork, especially with the registration of data into our database.

Marta Urrutia, Pablo Osorio, Sharla Sugierski, Alex Wilson, Maddie Frye, Brianna Smart, Paula Sgarlatta, Laura Rowland, Aideé Egremy, & Ruben Rodriguez: volunteers. Each one of the volunteers was essential to our surveys. Volunteers helped by taking photographs, registering data, taking GPS points, looking for whales with binoculars, organizing the equipment, preparing for the surveys, among others.

Jose Arce-Smith: designated skiff driver. Born and raised in Bahia de los Angeles, he is a local fisherman that has worked in the marine environment for more than 30 years.

PhD. Mario Pardo: scientific advisor. Mario has helped the project with his research and analytical experience. He is a cetacean research of CICESE that will assist PROCETUS in writing peer-reviewed paper or scientific notes.

12. Any other comments?

I would like to thank once again the Rufford Foundation for the support. The grants awarded by the Rufford Foundation constitute the main source of funding for the project and I am very grateful for the support given by the foundation.



