The Rufford Foundation
Final Report

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

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other 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. 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. Please note that the information may be edited for clarity. 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	M. 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
RSG reference	17619-1
Reporting period	September 2015 to August 2016
Amount of grant	£5000
Your email address	urrutiaof@gmail.com
Date of this report	August 15th 2016

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
Establish the Bahia de los Angeles area cetacean baseline: abundance, diversity, seasonality and distribution			*	Twenty-one survey trips were carried out between November 2015 and July 2016, covering 143 hours of effort and 2,080 kilometres (Annex I). We registered 111 sightings and 227 individuals (Annex II): 176 fin whales (*Balaenoptera physalus*), four sperm whales (*Physeter macrocephalus*), 13 humpback whales (*Megaptera novaeangliae*), one Bryde's whale (*Balaenoptera edeni*) and five blue whales (*Balaenoptera musculus*). We registered more sightings from April to July. In addition, we mapped the sightings in order to identify their distribution trends.
Produce a unique catalogue with the identification of individuals			*	We now have the first catalogue of cetaceans for the Bahia de los Angeles area. We identified 187 fin whales, 10 humpback whales and five blue whales. We also Identified 41 fin whales that showed injuries caused by collisions with small skiffs or fishing nets (n=187).
Develop an environmental education campaign in Bahía de los Angeles to increase public interest in whale conservation		*		We visited the primary school of Bahia de los Angeles and we gave a class to the students about the resident population on fin whales in the area and its importance for the community. Although the original plan was to give talks and workshops to the whole community (children, fishermen, women, local stakeholders, teenagers, etc.), we decided that we would focus first on the children because the subject was brand new. The next step will be to give presentations to the rest of the community.

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

The main unforeseen difficulty was that we underestimated the cost of the boat surveys (Boat gas and driver expenses resulted in £160 per survey trip) so we could not afford to conduct the surveys each month in a 12-month period.

We conducted a 5-day survey in November 2015 and the number of sightings we had were very low. It is known that the weather conditions during fall-winter in Bahia de los Angeles are not always appropriate for surveys. In addition, previous studies reported low number of sightings during this time so we decided to conduct the remaining survey trips during the months of spring-summer 2016, we adjusted the budget and we conducted the remaining research from April to July 2016.

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

1. We established the cetacean base line in Bahia de los Angeles. The last cetacean research study conducted in the area was 10 years ago. After this, no research effort had been conducted until we started our research in 2015. We registered seven species, 111 sightings and 227 individuals. With 176 sightings in only 21 days, we highlighted the importance of the area as the main habitat and feeding ground for the resident population of fin whales. We had five unusual blue whale sightings; this species' seasonal feeding ground is in Loreto, about 500 km south of Bahia de los Angeles. In addition, the number of humpback sightings were higher than expected. These findings could indicate high levels of productivity in the Bahia de los Angeles area in anomalous years, such as 2016. All this could also indicate that the Bahia de los Angeles remains a highly productive area and an essential feeding ground for Gulf of California cetaceans. All this this information is crucial to present to the local community and MPA staff to take further conservation actions.
2. The project established the first fin whale, humpback whale and blue whale catalogue in Bahia de los Angeles. We have 187 fin whales, 10 humpback whales and five blue whales in the catalogue to date. In addition, we registered 35 re-sightings of fin whales and we identified 41 fin whales that showed injuries caused by collisions with small skiffs or fishing nets, which helped us identify the anthropogenic impact caused by the artisanal skiffs and to identify high-risk zones of collisions.
3. Our fin whale sightings represent the most valuable outcome of the project (176 sightings and 187 identified individuals). It is known that the Gulf of California is home to a resident population of fin whales and several studies suggest that fin whales move to the southern part of the Gulf. However, we have now evidence

that Bahia de los Angeles represents one of the main areas for this population and we suggest that the fin whales of Bahia de los Angeles represent a subpopulation of the resident population of the Gulf of California.

The data collected during our survey effort has become essential for the better understanding of the population of fin whales in the area. The marine mammal laboratory of the UABCS University in La Paz, directed by PhD. Jorge Urban has personally asked us to improve the fin whale estimates by providing the information needed (photographs and movements). In addition, the federal fin whale Endangered Species Conservation Program (PROCER), led by PhD. Mario Pardo of the Centre for Higher Education and Research of Ensenada (CICESE), has invited us to participate directly in the program in order to make robust estimations on the resident fin whale population.

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

The children looked very excited in the class we have them, this was the first time they heard about the subject and they showed great interest. We talked to them about the biology of fin whales and their role in the ecosystem of Bahia de los Angeles. We encouraged them to think as the fin whale population as their own. We believe that children can share their enthusiast about whale conservation with the older people of the community. In addition, our designated boat driver is a local fisherman. We also had a group of volunteers that helped us during the surveys collecting data, taking pictures and videos, helping with the equipment, etc.

5. Are there any plans to continue this work?

Yes, the project has raised great interest around the local and scientific community and we believe it should continue. I intend to apply for the 2nd Rufford Small Grant this year.

We want to keep the monitoring of the cetaceans in the area because we have become the only group conducting research there. As mentioned before, we are collaborating with the federal fin whale Endangered Species Conservation Program (PROCER) and it would be very useful to continue providing with the data needed to accomplish the objectives of such programme.

Another reason why we would like to continue the project is that we are now collaborating with Prescott College, located in Bahia Kino, Sonora, Mexico. We aim to compare our fin whale catalogues because we have the hypothesis that the fin whales located around the Midriff Islands of the Gulf of California (where our area of study is located) represent a subpopulation of the resident population of fin whales.

This finding would be crucial to the understanding of the specie in the Gulf and an innovative finding for the scientific community. We believe that our project is contributing to the knowledge on cetaceans in a remote location where information on the status of this species is needed for their management and conservation.

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

Until now, we have been sharing our results, videos and photos through our webpage www.procetus.org and our Facebook page www.facebook.com/procetus. The results of this research will be presented through oral presentations in scientific conferences. For example, we will submit an abstract to present at the next Meeting of Specialist on Aquatic Mammals in South America (Valparaiso, Chile) in November 2016. In addition, we will design and post infographic banners around the community's public spaces for them to see the importance of fin whales for the local community of Bahia de los Angeles.

Finally, we will work in a scientific paper on the photo-identification of fin whales and one in the seasonal movements of fin whales in the Midriff Island area of the Gulf of California

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

We used The Rufford Foundation Grant for 12 months. As mentioned before, because we underestimated the budget for the survey trips, we conducted the fieldwork from April to July and we definitely achieved more than we expected.

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. Exchange rate: £1 = $MXN 24

Item	Budgeted Amount	Actual Amount	Difference	Comments
Travel to Bahia de los Angeles from Ensenada	500	300	-200	Because we didn't survey every month in a 12 month period we adjusted the budget for travel, food and accommodation and used it for the boat fuel and driver expenses
Food expenses for crew	500	240	-260	
Accomodation in Bahia de los Angeles	1000	600	-400	
Boat fuel and driver expenses	2,500	3,360	+860	
Equipment:	500			When we sent the proposal for the Rufford Grant, we had not received any other funds from any foundation. In May 2015, PADI Foundation awarded us with a grant and we bought binoculars and a GPS. Therefore, the money we requested for equipment was used to buy two coolers, a go pro pole, an extra battery and filter, a thermometer and we paid someone to design us a PROCETUS logo and a webpage www.procetus.org. We also had made hats and shirts for the volunteers.
Coolers		50		
Go Pro pole, extra battery and filter		150		
PROCETUS hats and shirts		70		
Water Thermometer and case		30		
Logo and webpage		200		
Total	5,000	5,000		

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

The first step would be to continue the survey effort in 2017, we are applying for the 2nd Rufford Foundation Grant and we are waiting for the response of The Mohamed bin Zayed Species Conservation Fund. In addition, we will apply for more grants in

2017. Therefore, the second step would be to increase the number of survey days from April to July each year in order to make continuous monitoring of the cetaceans in Bahia de los Angeles. We need to have as much surveys trips conducted as possible to make more robust estimations and take conservations measures. This can only be achieved if we have sufficient funds to conduct the research.

As mentioned before, another next step will be compare the fin whale catalogues from PROCETUS and Prescott College and study if the population of fin whales around the Midriff Islands of the Gulf of California (where our area of study is located) represent a subpopulation of the resident population of the Gulf of California.

In the near future, we hope to involve the local community at a larger scale. For example, we want to implement whale watching programmes as an alternative sustainable socio-economic activity that would provide the community direct benefits.

Finally, we want to share what we do and want to achieve with this project to the local community. We will expand our audience and give talks and workshops to women, men, teenagers, fishermen, stakeholders and the local MPA staff. We will design and post infographic banners around the community's public spaces for them to see their contribution to the project.

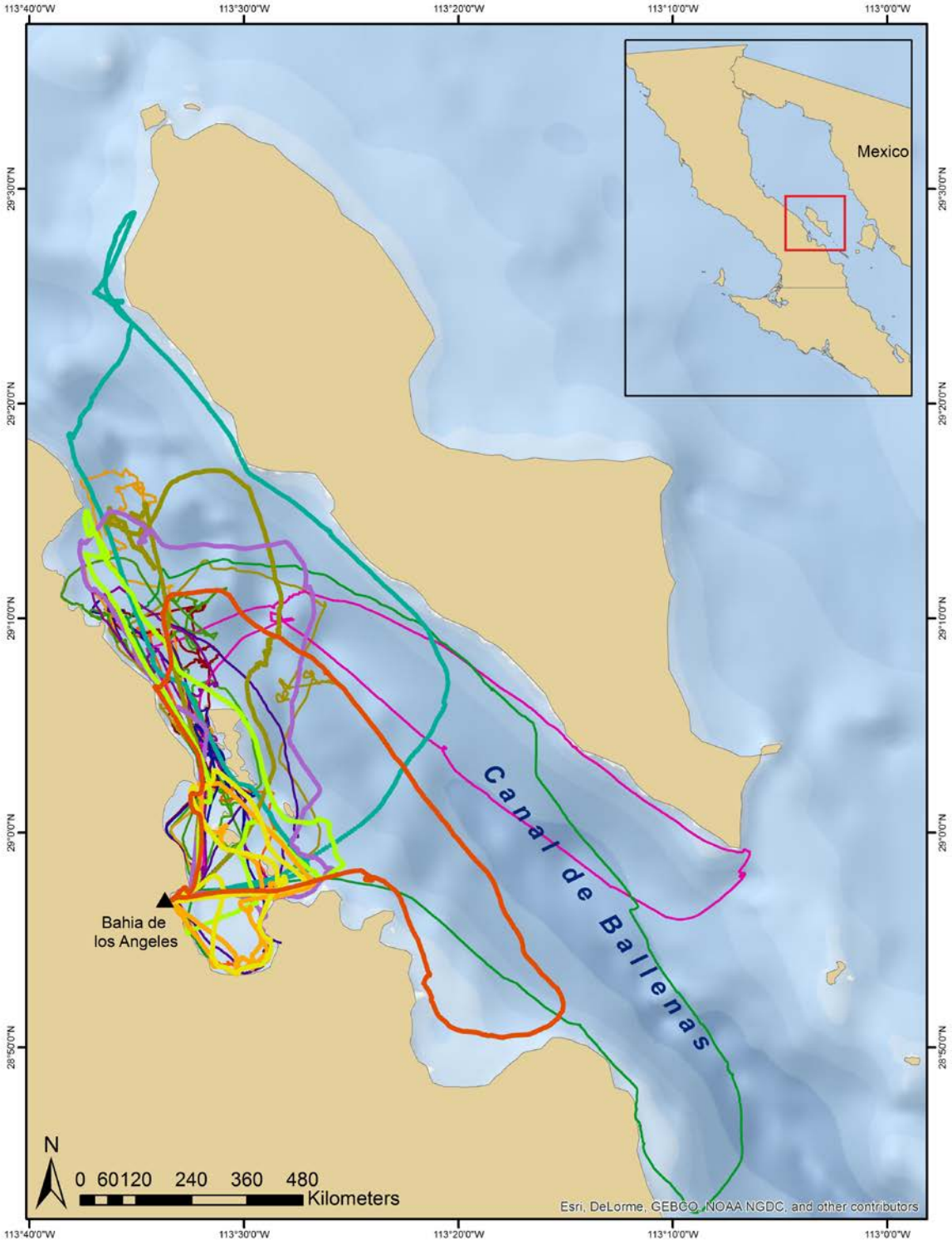
10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

Yes. We used The Rufford Foundation logo in the class we gave to the Bahia de los Angeles children. The logo is also on our brand new webpage www.procetus.org and on our Facebook page www.facebook.com/procetus where we acknowledge the grant awarded by The Rufford Foundation.

11. Any other comments?

I would like to personally thank the The Rufford Foundation for the grant. The grant awarded constituted the main source of income of the project and as a pilot project, it achieved far more than expected. I really look forward to continue with this project, I am very grateful for the confidence and the support given by the foundation.

Annex I: Survey effort, each line represents one day of survey.



Annex II: Geographical distribution of the sightings in the Canal de Ballenas and the Bahia de los Angeles Bay from April to July 2016. Each colour represents one specie: green for fin whales, purple for pilot whales, red for humpback whales, blue for blue whales, brown for sperm whales, pink for Bryde's whales and orange for dolphins.