

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. 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	Diane Gendron
Project title	Monitoring Blue Whale Behavior in the Gulf of California: A key Component to Encourage Responsible Whale Watching
RSG reference	12702-1
Reporting period	December 2012 to November 2013
Amount of grant	£5984
Your email address	dgendron@ipn.mx
Date of this report	December 23rd 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
Establish the blue whale baseline surface and diving behaviours, by using the focal animal sampling method and the TDR10-238F (MK-10) tag.		X		<p>We established the blue whale surface activity budget by using the behavioural data gathered since 2009 and completed the study by adding the data collected during the 2013 blue whale season within the Gulf of California (February – April).</p> <p>We partially achieved this objective because we were only able to tag two whales during the 2013 season but we determined that in the area these whales can dive to a depth of 176 m.</p> <p>The results of this objective are preliminary; we will continue to monitor the blue whale surface and diving behaviour for 2 more years. Until now we found a significant difference of both surface and diving time between males and females. The behavioural data has been very useful for our better understanding of the blue whale habitat use in the National Marine Park of Loreto Bay (NMPLB).</p>
Produce a preliminary analysis of the potential impact of whale watching (WW) activities on the blue whale in the NMPLB			X	<p>The behavioural data gathered to date allowed us do preliminary analysis of the short-term impact of WW activities on the blue whale in the NMPLB. We need more follows of the different sex and age categories with WW activities.</p> <p>We presented these results to the WW service providers and the NMPLB authorities in order to discuss with the WW providers of the activity in Loreto and the Marine Park staff to initiate a revision of the WW regulations.</p>
Promote responsible whale watching activities, establish appropriate WW regulations and help design a future comprehensive management plan for the species in the National Marine Park of Loreto Bay (NMPLB)			x	<p>We initially traveled on May 24th 2013 to Loreto to have our first meeting with 14 WW service providers, the director of the NMPLB, Everardo Mariana Meléndez, and his team. During this meeting we discussed ideas to establish appropriate blue whale WW regulations.</p> <p>Later, the Programa de Conservación de Especies en Riesgo (PROCER, Mexican Government) in which the blue whales were included, funded us through the programme titled: “promotion and strengthening of social</p>

				<p>participation in the Blue Whale Conservation in Baja California". By joining both Rufford and this fund we were able to organise a second meeting on September 26th and 27th 2013. The meeting was held at the local university of Loreto (Universidad Autónoma de Baja California Sur, extensión Loreto) and 40 WW service providers, the NMPLB authorities, two NGOs (Asociación de Investigación y Conservación de Mamíferos Marinos y su Hábitat – AICMMARH -; and Grupo Ecologista Antares, A.C.) and researchers from the CICIMAR-IPN assisted to the meeting. In this meeting, Dr Diane Gendron made a presentation on the biology and behaviour of the blue whale and also discussed the importance of responsible WW activities.</p> <p>We also gave a "Responsible WW theoretical and practical course" that was held in Loreto on November 13th and 14th 2013. Dr Diane Gendron developed this course based on the blue whale behavioural data gathered during focal follow sampling. The course included a lecture on 13th November to which 51 WW service providers assisted and on November 14th, two field trips at sea were organised to discuss better way of approaching whales, measure distance using a kayak as representative of a blue whale. 31 WW service providers assisted.</p>
Develop a network between the Centro Interdisciplinario de Ciencias Marinas-Instituto Politécnico Nacional (CICIMAR-IPN), the national NGOs, the NMPLB authorities and the WW service providers to encourage responsible WW activities			X	<p>We have successfully created a network between our institutions CICIMAR-IPN, the NMPLB, local NGOs and the blue whale WW service providers from Loreto.</p> <p>The WW service providers have created a WW Monitoring Group, formed by some of the WW service providers. Their goal is to monitor that the WW activities at the NMPLB are carried out with responsibility, and will report where the whales are seen, mother and calves and any violations to the WW guidelines through the season.</p>

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

We had two unforeseen difficulties. The first one was that due to import taxes the total cost of the TDR10-238F (MK-10) tag, the R410 Scanning Receiver and the 3 Element Folding Yagi Antenna was

higher than expected. We were able to adjust our budget (for fuel and food) because during 7 days the northern winds did not allow us to work at sea and we also had to get some extra funding from our institution.

The second difficulty was that due to the logistics involved during the tagging of whales we only tagged two blue whales, and the tags only stayed 15 minutes on the whale's body. The main problem was that the tag's suction cup was not working properly and that we had a very short pole to get near the whale. We have now modified our method by purchasing new silicon suction cups, a 6 m long pole and we build a small platform in the front of the boat. We believe these modifications will help tagging more individual whales during our next blue whale season (January-April 2014).

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

(1) We were able to determine the superficial activity budget of females accompanied by a calf, adult female and male blue whales and were able to tag two blue whales. This information is crucial to present our general results to the WW service providers about blue whale behaviour and habitat use. During the meetings with the National Marine Park of Loreto Bay (NMPLB) authorities, the WW service providers and the local NGOs we used this information to explain the blue whale general budget in the NMPLB and we focussed on the females with calves. The WW service providers were very interested in this information and by sharing this information we were able to increase consciousness in relation to the blue whale responsible WW activities.

(2) We established a working network between researchers, the local NGOs, the NMPLB authorities and the WW service providers. This is a key element to enhance responsible WW activities and to inform local people about the importance of the blue whale and the conservation of its habitat. This link between different groups is of great importance since it will guarantee a sustainable development in this area by increasing the interest in blue whale conservation of the local providers who now understand the importance of protecting the blue whale. We also were able to interact with local students, a group of women interested in our blue whale conservation group of Loreto. Through our knowledge we were able to encourage them to consider the blue whale as their own resource that has to be protected and respected. We have now achieved an important step by forming a local group call group of blue whale conservation in Loreto. We also achieved a consensus agreement among all the providers to refrain following female blue whales with calves.

(3) We developed a blue whale general biology and WW guidelines brochures. These brochure was also modified as posters that will be exhibited in the Marinas in Loreto and Puerto Escondido so that tourists and locals can have access to this information. A more complete brochure was written in Spanish and English, and will be handed to the tourists that will go out to blue whale WW during 2014. To guarantee that WW activities are correctly made a small version of the guidelines poster we be given to all the providers to encourage the tourists to learn about the WW guidelines.

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

The WW service providers have been very interested in all the meetings that we have organised and want to keep working in collaboration with us in order to do responsible WW activities. Through the

lectures and meetings they have acquired information on the blue whale biology and protection status. They believe this benefits them because now they have a better knowledge to share with the tourists. Many WW service providers did not have any information on blue whales; now they don't only have information on the general biology but also of the research that has been made on the species for almost 25 years in this region.

By developing this working network we were able to interact with local students that seek for a degree on alternative tourism, at the Universidad Autónoma de Baja California Sur – Campus Loreto (UABCS-Loreto; http://www.uabcs.mx/sdifusion/noticia_p/1638). We encouraged them to volunteer and help WW service providers so they learn about the WW activities and maybe in the future work with as WW guides together with the WW service providers.

We also encouraged the WW service provider's wives to get involved in the business, by either selling food or crafts to the tourists. AICMMARH, one of the NGOs involved in our network, organised a meeting with local women that were interested in learning how to interact with tourists and the possible business they could start during the WW season.

5. Are there any plans to continue this work?

Yes, in fact this project has raised great interest and should continue. The providers asked for a pre-season meeting. We will organise a meeting in January 2014 with the entire working network (researchers, NGOs, NMPLB authorities and WW service providers) before the WW season starts. During this meeting we will plan the working schedule for the blue whale 2014 season (January-April).

In a long term we want to keep the working network together in order to enhance the conservation of the blue whale and its habitat. This project was the first step. In the future we hope to achieve that the local community learns to work together and that they themselves enhance responsible WW activities by regulation each other.

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

Until now we have shared all our knowledge with the WW service providers and the local community in Loreto. By developing the brochure and posters we guarantee that tourists that visit Loreto will have the proper WW information. We will continue to share our research results on blue whales each year with the locals, through meetings and courses.

We are currently working in a scientific paper of the blue whale natural behaviour in the NMPLB in order to share the results of our studies with the scientific community.

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

We used the RSG in a period of 12 months as we planned. Due to the high acceptance of our first meeting by the providers and marine park team and the PROCER funding we were able to achieve much 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.

Local exchange rate: £1 = \$MXN 21.11155. This project's total estimated cost was £7093, but the final total cost was £7783.51. The Rufford Small Grants foundations supported the project with £5984. The rest of the funding (£1799.51) was donated by other institutions and projects.

Item	Budgeted Amount	Actual Amount	Difference	Comments
TDR10-238F tag with float included	£2351	£3173.85	+822.85	The tag cost was higher than expected due to the importing taxes, but we adjusted our budget for food and fuel because of the weather conditions and we also obtained some extra funds from our institution.
R410 Scanning Receiver and 3 Element Folding Yagi Antenna	£721	£973.35	+252.35	The scanning receiver and antenna cost was higher than expected for the same reason. We adjusted our budget for food and fuel because of the weather conditions and we also obtained some extra funds from our institution.
Fuel for 45 days at sea (15 Jan-15Apr) & motor oil	£1170	£988	-182	We were not able to work during 7 days due to bad weather.
Food expenses for all participants	£1303	£1100.31	-202.68	We were not able to work during 7 days due to bad weather.
Printing cost of brochure	£75	£75		
Fuel & perdiem (meeting in Loreto)	£222	£222		
Envirude motor annual revision & parts	£142	£142		
4 ink color for hp laser printer (printing whale photographs)	£270	£270		

Material for biological sampling (jars, ethanol, vials, batteries)	£217	£217		
Cost for Buoy rent Marina Fonatur (£160/month)	£477	£477		
Fuel (transportation of equipment and personal to Loreto and back)	£145	£145		
Total	£7093	£7783.51		This project's total estimated cost was £7093, but the final total cost was £7783.51. The Rufford Small Grants foundations supported the project with £5984. The rest of the funding (£1799.51) was donated by other institutions and projects.

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

The next step is to start working during the blue whale season with the working network that we have created between researchers, WW service providers, the WW monitoring group, the NMPLB authorities and local NGOs. We want to evaluate the short and long term effects of WW on the blue whale behaviour, especially now that the WW service providers are aware of the WW guidelines. This information together with our preliminary results of WW boat interactions with blue whales during 2009-2013 will provide us with essential information to assure that our impact on the species behaviour is minimal. We also need to start monitoring the blue whale individuals in other areas where there are no WW activities in the Gulf of California, so that we can compare between areas and learn how the species use different habitats within this enclosed sea. We have completed an analysis of steroid hormones in blue whales faeces in collaboration with University of Alaska Fairbank and presented the results at this moment at the Biennial Conference on the Biology of Marina Mammals in New Zealand from 9 to 13 December 2013. We now have references parameters for progesterone and corticosterone (stress) for pregnant, lactating and resting females, thus comparison with next seasons will be possible.

We also want to increase the habitat conservation action so that the future coastal development in the area is regulated by local authorities together with the community. By sharing all the information we gather on the blue whale biology and its habitat with locals we want to encourage them to get more involved with their environment and to learn about the resources they have and the importance of preserving them. Another future goal is to repeat this blue whale conservation effort in the La Paz city area where blue whales are also observed.

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?

We used the RSGF logo in all the presentations that we gave during our meetings with the working network and the logo is also included in the brochure and poster on blue whale biology that we have printed and that will be distributed to the WW service providers and local community in January. The attached power point file has the brochure that we have developed with the logos.



11. Any other comments?

The Rufford Small Grants Foundation was essential to start this pilot project with the community of Loreto. It has been a very productive project and we look forward to continue this project and perhaps extend it to La Paz city. Sharing the knowledge that we have obtained during 25 years of the blue whale with the community from Loreto has been a unique experience. We want to thank the RSGF for supporting this project.