

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	Natalia Botero Acosta
Project title	Humpback whales off Tribugá's Gulf, Colombian Pacific, during the breeding season
RSG reference	13371-2
Reporting period	May 2013 to October 2013
Amount of grant	£6,000
Your email address	greenheart777@gmail.com
Date of this report	February 3rd, 2014

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
Describe the behaviour and social structure of humpback whales in Tribugá's Gulf		X		The 2013 humpback whale breeding season represented the most comprehensive sampling effort that Macuáticos Foundation has completed. A total of 318 whales of all age classes were sighted within 140 groups. Observations were conducted for a total of 337 hours travelling 3,137 km. This project marked the beginning of what we hope develops into a long-term research platform. However, due to insufficient funds, sampling efforts had to be concluded earlier than expected.
Examine the spatial distribution of humpback whales in Tribugá's Gulf, exploring the possibility of a spatial stratification of the area according to the age classes		X		Spatial data are available for all sightings, facilitating the description of the habitat use of humpback whales within their breeding grounds in Tribugá's Gulf. Results support the presumption of heterogeneous distribution according to age class. However, due to the early ending of the fieldwork we were not able to gather data at the end of the season. This period of time is important since the migration back to feeding grounds has started and mother and calf pairs keep segregating themselves to coastal areas. This pattern lacks representation in our data set.
Record acoustic behaviour of displaying males			X	Our team successfully recorded 12 hours 13 minutes and 39 seconds of song. On some occasions, singers were visually detected and recordings contained one predominant singer. Alternatively, other recordings contain songs from multiple singers. We consider this a very successful trial that will allow us to describe some of the properties of the acoustic behaviour of male humpback whales wintering off Tribugá's Gulf. Sounds were also used in environmental education activities and motivated a very enthusiastic response from guides,

				fishermen and young kids.
Evaluate the impact of whale watching tourism and boat traffic on the behaviour of humpback whales		X		A total of 37 interactions with whale watching or commercial vessels were registered during the fieldwork season. About 30% of those interactions elicited an evasive response from the whales. In half of those events, boats failed to adequately approach the whales or made inappropriate manoeuvres to follow the animals. There is a tremendous opportunity to collaborate with the local communities, promoting sustainable use of the local biodiversity while strengthening our efforts to reduce the negative impacts of human activity.
Evaluate the opportunity for developing whale watching tourism as a platform for scientific research			X	The current research strengthens our work philosophy, which aims to combine priorities delimited through scientific research with sustainable economic activities that benefit local communities. We believe, now more than ever, that integration with tourism is essential in order to create and sustain long-lasting research and management programs that benefit humpback whales, among other species.
Complement the photo ID catalogue initiated by Macuáticos Foundation in 2010			X	After the fieldwork season monitoring a portion of the breeding grounds of the G-stock humpback whales, our catalogue includes 144 identified whales, 129 of which were photographed during the breeding season of 2013. Sighting history includes nine re-sightings within the 2013 season and one re-sighting with a whale sighted in 2010.
Complete environmental education and cultural activities within the local communities			X	We were extremely fortunate to have a very positive and collaborative relationship with local communities, especially in Coquí, our main location. We devoted approximately 40% of the time budget to plan and develop educative activities that benefited locals. Activities covered a broad range of topics and supported the sustainable use of biodiversity in the zone. Also, considerable support was given to some

				civil organizations that work for the diversification of economic alternatives, like the local group of touristic guides.
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2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

Funding was our team’s biggest obstacle during the 2013 data collection season. As a result, we had to end data collection in early October, when we planned to stay at least through the end of the month. Our research team also secured research grants from Cetacean Society International and Idea Wild, but unfortunately they were not enough to cover all expenses associated with field work during the time periods we initially planned.

Additionally, on several occasions throughout the season, we had difficulties obtaining enough fuel in a timely manner to complete three boat trips per week. As an alternative to overcome some of these difficulties, on a few occasions we were able to join tourists on their whale watching tours, where we were able to collect behavioural, oceanographic and positional information, while educating visitors on the guidelines of safe whale watching. Our organisation is currently planning a strategy to better integrate with the whale watching activities developing in the area, in an effort to minimise the future need for funds and to optimise the grants obtained.

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

1. After the 2013 Fieldwork season, Macuáticos Colombia Foundation has a considerable amount of data describing the social, acoustic and spatial behavior of humpback whales wintering around Tribugá’s Gulf. The analysis of recorded coordinates allowed a stratification of the spatial distribution according to the age classes, possibly linked to patterns with biological significance. This information is particularly important as traffic of large vessels is becoming frequent in the region and major infrastructure projects are part of the economic development plans. Also, the analysis of social and acoustic behavior, currently undergoing, will have a considerable impact on the development and application of management plans and other conservation efforts.
2. During the fieldwork season, our research team had the opportunity to share the findings of our previous inventory study as well as the current methodology with members of the community counsels, Coquí’s ecoguides, and the young kids in Coquí’s primary school. The community in Coquí requested several training workshops that would allow them to offer a better service to the tourists. Topics included identification of marine mammals, whale watching regulations, English, informatics, and agroecology. An alliance with a fellow non-profit, Bioredd+, allowed us to extend these activities to two other localities in Tribugá’s Gulf. All these events provided numerous opportunities to establish a positive relationship with the local communities, which will certainly benefit the development of a long-term research platform. The local context demands that scientific research integrates with the local communities, supporting alternative economic strategies, reducing negative effects of whale watching on the animals, and overcoming the information gaps that were previously associated with this area.
3. The photo identification catalogue of Macuáticos Colombia Foundation currently includes a total of 144 identified individuals, from which 87% correspond to photographs taken during the 2013 breeding season. Sighting history includes nine re-sightings within the 2013 season

and one re-sighting of a whale sighted in the 2010 sampling season. These are key outcomes from the scientific research activities developed during the breeding season of 2013, especially since comparison with other catalogues maintained by well-recognised researchers, including Fernando Félix from Ecuador and Kristin Rasmussen from Panamá, will provide valuable information on diverse ecological processes, including patterns of association and habitat use.

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

We involved the local communities in several aspects of our research. In the town of Coquí, which was our research base, we held classes for community members in English (both for adults and for children), cetacean education (for adults), environmental education (for children), proposal writing (for adults), agroecology (for adults), and computers (for adults). With the help of BioRedd+ we travelled to surrounding communities, both Joví and Termales, to teach English and cetacean education for both adults and children in the communities.

As a part of the proposal writing class, we worked with the community leaders and guides of Coquí to help them begin a project proposal for sea turtle and sea turtle egg conservation. Through this project they learned the steps not only of writing a proposal, but they were also given tasks of contacting outside resources for information and improved their knowledge of PDF and Word use on computers.

We also took community leaders and tourism guides with us for research boat trips, where they learned our data collection process, including how we record behavioural and environmental information. We also educated them on the appropriate ways of approaching not only the whales, but dolphins and other marine animals as well, and on safe boat-operating procedures for bringing tourists to see these animals.

5. Are there any plans to continue this work?

A truly long lasting effect can only be achieved when local communities, providers of touristic services and researchers work together. Our team definitely plans to continue working in this area, given the positive response obtained from the local communities and the effectiveness of the proposed methodology to collect data on the distribution, behavior, and social structure of humpback whales wintering off Tribugá's Gulf.

However, at this time we are missing an important component to achieve such integration. The most recent estimates of the touristic activity in the Colombian Pacific date back to the 1990s. An updated estimate of these parameters, in addition to the continuation of research activities focused on the behavior, distribution and social structure of humpback whales, is essential for an evaluation of the impact that whale watching has on the behavior and habitat use of the species. It is important to analyze these findings in collaboration with tourism agencies, boat drivers, hotel owners and tourists in general.

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

Our website has been updated with key findings, photographs and testimonials of volunteers and field assistants from the field season. We plan to share the results of our findings at national and international conferences. Specifically we plan to submit abstracts to the 2014 Research Symposium at the University of Southern Mississippi, the XVI Reunion of Specialist on Aquatic Mammals in South America occurring in Cartagena, Colombia in December of 2014, and the XXI Biennial Conference on the Biology of Marine Mammals to occur in San Francisco in December of 2015.

Additionally, one of the members of the research team, Natalia Botero, received a travel grant to attend the XX Biennial Conference in Dunedin, New Zealand, in December of 2013. In this event, she shared key findings of the inventory study, funded by a small grant from Rufford Small Grants for Nature Conservancy between 2009 and 2010. A PDF copy of the poster is included as an attachment with this final report.

During the field season, our team was joined by a reporter affiliated with a regional TV company (photo attached in the email) and filming crew affiliated with the University of Antioquia in Medellín. This media exposure is part of our efforts to share the results of our investigation with the general public, increasing public awareness for the conservation of humpback whales and their habitat in the Colombian Pacific.

Finally, we are currently working on a comprehensive report for the local counsels and environmental authorities working in the area to give them detailed information on the behaviour, distribution, and social structure of humpback whales wintering off Tribugá's Gulf. This information will hopefully be implemented in local conservation and management actions.

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

The sampling period defined for the current research project planned to execute both, fieldwork and environmental education activities, during the entire breeding season of humpback whales off Tribugá's Gulf in the Colombian Pacific; that is, from June through October. Due to limited funds, our research team was only able to complete those activities between the middle of May and the first week of October. Funds from the Second Small Rufford Grant were used throughout this entire time.

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
Boat trip equipment (Hydrophone, Video Camera, Water resistant pens and paper, SLR Digital Camera, 70-300mm lenses, UV Filter, SD Memory card, Lithium	320.00	320.00	0.00	All equipment was previously owned by Macuáticos Colombia Foundation or facilitated by the Marine Mammal Behavior and Cognition Laboratory at USMG. Values represent a symbolic 10% of original value.

battery, AA battery charger and batteries, pH meter, YSI, Pelican case)				
Travel expenses (Plane tickets and local transportation)	750.00	660.00	90.00	Price difference was due to normal fluctuation of plane tickets.
Boat renting and maintenance	1,345.00	936.00	409.00	Budgeted amount was calculated for 75 boat trips. The expenses reflect the decreased number of boat trips due to the early termination of the field work season.
Boat Operator	1,345.00	936.00	409.00	Budgeted amount was calculated for 75 boat trips. The expenses reflect the decreased number of boat trips due to the early termination of the field work season.
Boat helper	672.00	465.00	207.00	Budgeted amount was calculated for 75 boat trips. The expenses reflect the decreased number of boat trips due to the early termination of the field work season.
Fuel	6,450.00	4,472.00	1,978.00	Budgeted amount was calculated for 75 boat trips. The expenses reflect the decreased number of boat trips due to the early termination of the field work season.
Meals	1,256.00	1,113.21	142.79	Budgeted amount was calculated for 150 days of field work. The expenses reflect the reduced number of days that the research team stayed in the study area.
Housing	2,152.00	1,908.55	243.45	Budgeted amount was calculated for 150 days of field work. The expenses reflect the reduced number of days that the research team stayed in the study area.
Total	14,290.00	10,810.76	3,479.24	

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

During the 2014 breeding season members of the research team will return to Chocó to continue this work. We plan to implement a tourism project that integrates all members of the local communities. We would like to be observers on the tourist boats so we can see how they are following management guidelines. This will benefit both us, the communities and the tourists, because we can give feedback to the guides to improve both the quality and safety of their trips. We also plan to give back to the communities by giving talks to tourists to promote responsible whale watching.

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?

At the beginning of the field season we had the opportunity to meet with the representatives of Riscales General Council, the highest civil authority in the area. We printed and distributed fliers, that include the Rufford Foundation logo, to summarise the main findings of our previous research study in the area (a PDF copy is attached). Also, all the power point presentations used in the workshops and meetings with fishermen, guides and members of the local communities also acknowledge the role of the Rufford Foundation in the two projects that we have completed so far. Finally, our website has been updated with key findings, photographs and testimonials of volunteers and field assistants. The logo of the Rufford Foundation is displayed in this section as well.

11. Any other comments?

We believe the two projects we have completed in this area have been a truly learning experience and we truly appreciate the support and trust you have given us in the process. Our research team has had an amazing opportunity studying humpback whales and other cetacean species that inhabit this zone either permanently or seasonally. For both projects we have had similar difficulties securing enough funds to successfully complete the fieldwork schedule. These circumstances motivate us to keep working hard and hopefully achieve greater success by cooperating with the whale watching tourism. In this way, a long-term study platform would be facilitated by eliminating some of the operative expenses that have limited us in the past; at the time that we could have a greater impact on tourism operators and visitors, promoting a sustainable use of biodiversity and supporting economic development for the local communities.