

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. 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. 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	Ricardo Enrique Alvarez Pacheco
Project title	Population Density, Distribution and Conservation Status of Marine Otter (<i>Lontra felina</i>) in the Archipelago de las Guaitecas and Corcovado Gulf
RSG reference	09/08/07
Reporting period	October 2007 – April 2009
Amount of grant	£4,970
Your email address	ralvarez@cmarina.org
Date of this report	July 2009

Preface

The Rufford Small Grants Foundation supported the project Population Density, Distribution and Conservation Status of Marine Otter (*Lontra felina*) in The Archipelago de las Guaitecas and Corcovado Gulf (REF: 09.08.07) during 2007. The project was implemented by the non-profit non-governmental organization *Conservación Marina*, whose objective is promoting marine biodiversity conservation and the sustainable use of marine resources.

One of the organization's lines of action is conducting research on threatened species in order to gather the scientific information needed to implement measures to protect these species. Since 2004, *Conservación Marina* has undertaken an initiative aiming to improve the understanding of *Lontra felina* in southern Chile.

The Rufford Small Grants Foundation supported this initiative through a project focusing on Archipelago de las Guaitecas, where no scientific studies have been conducted on this species. The results obtained in this research are of the highest importance because they have shown the low concentration of marine otter population. Therefore, the status of conservation of marine otters has to be reconsidered. In this report I will show the principal results obtained during project execution.

Ricardo E. Alvarez P.
Marine Biologist
Project Coordinator
NGO Conservación Marina

1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objectives	Not achieved	Partially Achieved	Fully achieved	Comments
Determine the population density of the marine otter			x	This objective was achieved with project activities
Determine the distribution of the marine otter			x	This objective was achieved with project activities
Activities Realized				Activities carried out in the project and level achievement
General project planning			x	The project team ran planning activities every two months
Fieldwork planning (GIS, map elaboration, table print, etc)			x	Our organization has put together a set of study area maps generated with GIS information from previous studies and government agencies
Coordinator meeting (authorities, NGO, public services and rent of boat)			x	During the project coordination meetings were carried out with: -Navigation authorities (navigation permit) -NGO Blue Whale Center (coordination of field activities) -The first results of the project were presented in a meeting with public services in order to create a marine conservation area (these results were shown together with the NGO BWC)
Expedition planning (quadrants)			x	With these activities the expedition schedule was put together: selection of visit sites, points of otter observation and rest points
Coordinator meeting (authorities, NGO, public services and rent of boat)			x	Meetings for presentation of the project with support from the Tantauco foundation. Navigation permits were obtained from sea authorities. To carry out the surveys a boat was rented from a local company. The preliminary results of these studies (first stage) were included in a baseline report given to the local government and with the aim of elaborating a proposal to develop marine protected areas (MPA).

First stage: Archipelago de las Guaitecas survey quadrants			x	The surveys were realized between October 24th – November 9th
Second stage: Corcovado Gulf survey quadrants				The surveys were realized between February 24th – March 4th
Final results analysis				The data obtained has been analysed and the scientific papers are being prepared for publication.
Meeting for the diffusion of results (authorities, NGOs, public services, conferences and meetings, etc)			x	During 2009 data were used in the preparation of final reports to develop a proposal of marine protected areas, financed by local governments and executed by the Austral Universidad of Chile. Moreover, these data will be used by a technical group of NGOs (Blue Whale Center, Conservación Marina, The Nature Conservancy and World Wildlife Fund) to elaborate a Conservation Area Plan for the Chiloense Ecoregion.

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

The greatest difficulty during the project was the high cost of renting a vessel. Environmental problems and diseases caused by the poor management of salmon aquaculture have forced salmon farming to move to another zone with fewer problems. This situation has increased the cost of ship rent and caused the delay of expeditions by several months.

This problem was tackled with the help co-funding from the Blue Whale Centre, (BWC, a Chilean NGO) to diminish costs. During the execution of the marine otter project the BWC had rented a boat for surveys of cetaceans and marine birds in the same study area. Therefore, the fieldwork was executed as a whole. The results obtained from these expeditions were very relevant to both initiatives and allowed the application of a new partnership between two organizations with similar conservation targets.

Another difficulty was the poor weather conditions, the archipelago, channels and fjords are dangerous and exceptional conditions are needed in order to navigate safely. Both expeditions were delayed for a week until there were optimal weather conditions. Therefore, in this project the work team can survey 55% of all quadrants estimated along the project.

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

Overall the fjords and channels of southern Chile are considered highly relevant for both otter populations (marine otter and southern river otter) as shown by studies in austral zones over the past twenty years. Therefore, the Archipelago de las Guaitecas was included as some of the most important

areas for marine otter populations. This is supported by the isolation of the area and the habitat available to marine otters. There has been a proposed overestimation of the marine otter population produced by inadequate survey methods for the study area¹. According to our results the population of marine otter is less abundant than previously thought - certain islands displayed no presence of individuals. Therefore, it is possible to propose that marine otters in the area are Endangered and it is a high priority to evaluate the population in all of the islands of the archipelago.

Another important outcome was the presence of the Southern River Otter (*Lontra provocax*) in the study area; moreover, it was possible to determine the presence on sandy beaches (a habitat not considered important for this species) close to rivers and zones with vegetation.

The presence of Vison (*Mustela vison*) was detected during the studies. This species was introduced by humans 40 years ago and has survived the conditions of southern Chile. The effects of *M. vison* on flora and fauna in this zone has not been determined but they eat crustaceans, birds and rodents, and can compete with otter food and habitat.

Scientific outcomes

Some of the most important outcomes obtained in the project were:

- The scientific objectives of the project were achieved.
- The marine otter density obtained in the quadrants was 0.5 Individuals/km.
- Southern River Otter (*Lontra provocax*) in 2 quadrants were observed the feeding on sea urchins.
- A total of 60 faeces of mustelids (*Mustela vison*, *Lontra felina* and *L. provocax*) were collected in six quadrants of the study area

Methodological approach

- Due to the good results of this methodology I propose its use to evaluate the population of marine otter in southern Chile.
- The expedition's design had the advantage of obtaining multiple and important results. It was possible to obtain important data about marine birds, cetaceans, pinnipeds and otters.

Conservation implications

- It was possible to synchronize the scientific work of two NGOs in Chile; this experience allowed planning of new activities and expeditions and sharing costs.
- The results obtained in the project (both project support by TRF) have been used to improve the data to develop a proposal for a marine protected area in the southern Chile. The expedition's design had the advantage of obtaining multiple and important results. It was possible to obtain important data about marine bird, cetaceans, pinnipeds and otters.

1 More detail about survey methods for marine otters are found in the report of first project support by TRF.

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

The results obtained during the expeditions gave way to various activities carried out in the zone and involving local communities in the planning in a big zone of southern Chile of a Marine Protected Area. The goal of this planning is to ensure the conservation of marine biodiversity, to apply measures of sustainability to productive activities realized by different stakeholders in the area and to promote the development of local communities in the area.

5. Are there any plans to continue this work?

The Marine otter Conservation Initiative (MOCI) has been carried out since 2004 and every stage has obtained relevant results. Studies about otters in southern Chile are very scarce and old therefore each stage has raised many doubts regarding the adequate knowledge of the species. In this case, the status of the southern populations is uncertain, therefore, I think the researcher should cover in the future all the zones of fjords, islands and channels up to the limit of southern distribution.

As mentioned above, the Archipelago de Las Guaitecas is considered highly relevant to marine otter population. However, the results obtained in this project indicated a low density of marine otter (0.5 individuals/km), under the average obtained in Chiloé Island (1.4 individuals/km) which indicate a null growth of this specie in 35 years of legal protection.

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

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

Rufford Small Grants was used between October 2008 (the original schedule was March 2008) and February 2009.

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
Transport (expeditions, travels of researcher, travels to logistic meeting)	£3,120.00	£3,720.00	£500.00	Change to transport item
Field equipment	£150.00	£150.00	0	
Research equipment	£550.00	£400.00	£150.00	Changed to transport item
Office	£150.00	£100.00	£50.00	Not including fees for transfer of funds
Feeding	£1,000.00	£500.00	£500.00	Changed to transport item
TOTAL	£4,970.00	£4,870.00		<ul style="list-style-type: none"> • £1= \$940 (Chilean pesos)

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

The results obtained with support of The Rufford Small Grants Foundation lead to the conclusion that marine otter populations are lower than estimates from 20 years ago. This implies that the conservation status of marine otter is Endangered with null growth of populations over the last 20 years².

For this reason, we will continue the marine otter conservation initiative evaluating zones of the southern Archipelago de las Guaitecas and developing a campaign of marine otter education for children. It is important to evaluate the presence of the southern river otter and mink (*Mustela vison*), both co-habit with marine otter (only in these areas). It is important to evaluate the hunting of individuals in the area and the effects of productive activities (that produces the low densities). Moreover, a campaign presenting the results obtained up until now is necessary, principally for children in local schools.

These data will be very important principally in the design of marine protected areas and in the arrangement of productive activities in the area and in determining the status of conservation in marine otters. Moreover, results can be included in the management of salmon farming, which has sanitary problem since 2008.

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?

The RSGF logo has been used in all activities carried out about the marine otter initiative, including:

- Presenting of marine otter initiative results in meetings, conferences and congress (Since 2007).

² This conclusion is inferred from previous researcher, in the area do not carry out monitoring or studies of otter populations (only the studies realized in this project)

- Project's divulgation in activities of organizations related to marine biodiversity conservation and government agencies.
- Environmental education activities organized by team of *Environmental Education Program* from NGO Conservación Marina (talks, environmental carnivals, etc)
- The RSGF logo is included in our web page (www.conservacionmarina.org) and is mentioned as an organization that supports our initiative. This web is continually visited by students and colleagues from Chile.

11. Any other comments?

During the expeditions the team was composed by a filmmaker who will develop alongside the scientists of our organization, a video documentary about otters and marine ecosystems. The team project had prepared a photography gallery with the most important images of the five expeditions³. Moreover, we have upload videos that show the expeditions and present first images of the video documentary.

³ Five expeditions including the three executed on 2007 since The Rufford Small Grants Foundation supported the first marine otter initiative.