

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	Andrés Rey
Project title	Assessing interactions among native and exotic ungulates in Patagonia: is guanaco threatened by red deer?
RSG reference	9370.1
Reporting period	2010-2012
Amount of grant	£ 5888
Your email address	fitzrey@gmail.com
Date of this report	Mar 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
To obtain evidence of a negative impact of introduced red deer on native guanaco in Patagonia.		X		We have found expected guanaco and red deer complementary abundances but in a broader spatial scale than proposed and in an unusual circumstance (after a persistent volcano ash rain).
To obtain an updated status of guanaco, red deer and sheep in north-western Patagonia.			X	This became in our main objective after the volcano eruption.
To identify most susceptible areas of red deer invasion and, in a scenario of red deer negative interaction with guanaco, most threatened guanaco populations.	X			Abnormal conditions produced by volcano ashes prevented us from identifying those areas and populations.
To develop a basic methodological framework to achieve comparable results for both species surveyed.			X	We developed and carried out this methodological framework.

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

At the beginning of our project, north-western Patagonia was affected by an unforeseen Puyehue volcano eruption. Ash emissions continued for months depositing several amount of ashes on our work area affecting wild ungulate distribution and causing high livestock mortality. This phenomenon forced us to delay our fieldwork activities due to logistical and biological causes (result validity would be questioned). Almost 1 year later, in a post-ash rain scenario, we had to restart our ranches contacts, discarding the more affected ones and proposing our work to alternatives ones, adjusting our fieldwork to them (hunting seasons, livestock management, owners presence) and starting fieldwork in spring 2013.

Ash depositions, up to 10 cm height in some initially proposed areas, modified guanacos and red deer access to food and changed their abundance and distribution, preventing us from obtaining evidence of a negative impact of red deer on guanacos. Therefore our main objective changed from evaluating a possible negative impact of red deer on guanaco to obtaining an updated status of the abundance and distribution of both species, which will allow us to return to our initial objective in the future. However, we were able to develop a basic methodological framework to achieve comparable results between both wild species and we advanced in the recognition of places where a

new non-exclusive hypothesis of regulation of guanaco populations (by high guanaco predation from red deer subsidised puma populations) could be tested.

Since we finished fieldwork in late February 2013, we are still analysing results to do ranches and wild-life agencies reports.

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

We have obtained valuable information on guanaco and red deer current abundance and distribution in the region. This information will allow us to continue our original work in the new scenario.

We were able to develop a fieldwork design that has allowed us to do guanacos surveys (during day hours) and red deer surveys (during night hours) obtaining comparable data.

We have noticed that puma predation was more important than we previously believed and we were able to detect places where pumas had left cues and faeces that could be used to determinate their diet and estimate puma selection.

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

Owners and ranches personnel collaborated on this study. Owners are very interested in our estimations because in many cases this will be the first scientific wild ungulate survey on their ranches. We were also able to talk with ranch owners and personnel about their experiences and observations on wild fauna, which improved our field designs and contributed to elaborating new questions and research lines. Finally, we worked with several field assistants, who learned about distance sampling methods. One of these assistants was a red deer hunting guide with whom we had a very fruitful exchange of experiences on red deer behaviour that improved our surveys.

5. Are there any plans to continue this work?

I am planning to continue working in at least three of the six ranches surveyed. In these ranches I will select small areas in which I will return to the original objective of this work and incorporate puma predation as a non-exclusive guanaco population regulation hypothesis.

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

After finishing data analysis we will start making individual ranch reports and a global report for the local wildlife agency. We also expect to present our results in workshops with local wildlife managers and congresses for the researchers' community.

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

Planned equipment purchase was made immediately after receiving the money and before the volcano eruption delayed our fieldwork. Fieldwork was delayed for more than 1 year due to the unforeseen change on environmental conditions and their incidence on surveys and data validity. The initial delay and the change of environmental conditions forced us to make new contacts with

ranches and to adjust our work to their schedules. Intense fieldwork also delayed data analysis, which is being done at the moment.

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
2 Spotlights	68	439	-371	Manual spotlights had insufficient scope and battery, so we bought and conditioned two used off-road auxiliary lights.
Thermal clothing	250	250	0	
1 Swarovski Laser Guide Rangefinder	670	637	33	
Pick up fuel	2000	966	1034	We had budgeted fieldwork for a petrol pick up but we did it on a diesel pick up.
Pick up maintenance	500	974	-500	Very hard work needed higher budgeted maintenance. We also bought a non-budgeted battery.
Volunteer's payment	1800	1800	0	
Team food and accommodation.	600	600	0	
Bank taxes	0	222	-222	Non-budgeted bank taxes
Total	5888	5906	-18	Local exchange rate at the moment of bank deposit: 1 £ sterling = 6.55 \$ arg.

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

Results of this work will update a necessary baseline of environmental conditions that will allow us to resume our original design. However, our fieldwork experience suggests that we could work with a puma predation hypothesis simultaneously. I feel that the next step of this project is to work in parallel with both hypotheses in a smaller spatial scale.

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?

No.

11. Any other comments?

I would like to express our gratitude with RSGF for funding our study; it would not have been possible without your support. Although environmental conditions forced us to change our schedule, job design and objectives, we generated a necessary baseline to go back to our main and new additional hypotheses.