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	M. Laura Guichón
Project title	Management of wild guanacos in Patagonia: does it really help to conserve their populations?
RSG reference	11.02.08
Reporting period	2008-2009
Amount of grant	£4460
Your email address	mlguichon@unlu.edu.ar
Date of this report	May 2010

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
Evaluate the effects of shearing wild guanacos on survival.			X	Main objective of 1st and 2nd RSG.
Evaluate the effects of shearing wild guanacos on reproduction.			X	Main objective of 1st and 2nd RSG.
Evaluate the effects of shearing wild guanacos on social structure.		X		Main objective of 1st and 2nd RSG, difficulties in group identification.
Evaluate the effects of extracting guanacos (for a reintroduction programme) from a guanaco population under management since 2003.			X	Objective of 2nd RSG since extraction of guanacos for translocation to a National Park started in 2007.
Evaluate the combined effects of management and environmental adverse conditions on population trends of wild guanacos.			X	Objective of 2nd RSG since a serious drought started in 2007.
Evaluate the impact of mortality associated with wire fences in a wild guanaco population.			X	Outcome of fieldwork funded by 1st and 2nd RSG. This source of mortality had not been previously evaluated on this species.

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

Our project focused on the effects of management practices on a free-ranging guanaco population. Management actions (live shearing and extraction for reintroduction) were decided by the owner of the ranch and authorised by the Wildlife Agency of the province of Rio Negro. For various reasons, the owner of the ranch decided not to capture guanacos (neither for shearing or extraction) after October 2007. This cancellation of projected management practices impeded evaluation of new events but gave an opportunity to detect population response after cessation of captures and shearing that had been started in 2003.

Unforeseen difficulties regarding timing and completion of fieldwork must be acknowledged. The 1st RSG funded fieldwork until October 2007 and then we continued fieldwork using personal funds in December 2007, February 2008 and May 2008 to collect key data during reproduction season of guanacos. After September 2008, when the 2nd RSG was awarded, the main field biologist of the

project, Lic. Andrés Rey, conducted fieldwork in January and March 2009, to analyse the following reproductive season. His good relationship with the ranch personnel, allowed us to count with historical data of management practices conducted since 2003 (recorded by Lic. Mercedes Sahores before the beginning of our study). This project funded by RSGs generated key data that constituted the PhD thesis of Andrés Rey, approved with honours in April 2010. Analysis of the data and preparation of the manuscript, plus personal problems, made it unfeasible to conduct all projected campaigns. However, the two campaigns conducted in 2009 were particularly relevant to determine population trend and recruitment, and discriminate the effects of drought and management.

We acknowledge that we were not able to accomplish all proposed activities, however, it is important to note that all objectives were achieved and even new ones (e.g. study of mortality associated to wire fences) were also fulfilled. The completion of the PhD Thesis of Andrés Rey was highlighted by the jury for achieving important results for conservation and management of guanacos in Patagonia, and for the challenge of developing a research project coupled with real management practices. This was only accomplished thanks to the support of Rufford Small Grants Foundation.

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

Abundance and survival of a repetitively managed population (seven management events) was estimated between January 2003 and March 2009, and its reproduction and population trend was compared with a guanaco population coexisting with livestock, during normal climatic conditions and a drought (since December 2006). No movement of guanacos outside the managed area was observed and in only one occasion abundance decreased immediately after shearing, related to evasive behaviour. Survival of the managed population was similar between sexes and ages, was constant throughout the study period, and was lower than survival in non-managed populations. Reproduction in the managed population did not differ with reproduction in the population coexisting with livestock and other non-managed populations. Population trend was similar between the managed population and the one coexisting with livestock, being stable during normal climatic conditions but declining during a drought. Mortality due to fences had a higher impact on juveniles than on adults. Juveniles died mainly on sheep fences (93 cm) while adults mainly died when trying to jump on cattle fences (113 cm).

Results suggest that repeated management caused no movements outside the area (guanacos remained in the area under management at high densities), nor high mortality or reduction in reproduction that could generate declining population trends during normal climatic conditions. However, we recommend not authorising shearing events during post-partum periods (summer) and adverse climatic conditions (e.g. drought). Also, in order to reduce mortality associated with wire fences, we recommend simple and economic modifications to wire fences in trails frequently used by guanacos to lower mortality (e.g. lower upper wires in specific points and add visual contrast to adjacent wires).

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

Local people working at the ranch and also people from nearby towns that were temporarily hired to work during management events knew about our research project analysing the impact of management

practices and would collaborate if needed and, most importantly, they shared their experience on management of wild guanacos.

Several students of biology and related careers (>7) worked as field assistants during this project, learning specific field techniques and the relevance of the conservation problem under study.

The outcomes of the project were presented to the Wildlife Agency of the province and the owner of the ranch so that recommendations could be put into practice.

5. Are there any plans to continue this work?

We are not planning to continue this same project as we have achieved most of our objectives. Our efforts now are concentrated in publishing and communicating these results.

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

We have already presented two communications at Scientific Meetings, and will present a third one in August 2010:

Rey A, LR Leggieri, PD Carmanchahi & ML Guichón. Comportamiento social de guanacos (*Lama guanicoe*) silvestres bajo manejo en Río Negro. XXI Jornadas Argentinas de Mastozoología, Argentina, 2007.

Rey A, AJ Novaro, L Martinek, L Leggieri, F Cabezas, M Apellaniz, G Leyh, M Sahores & ML Guichón. Mortalidad de guanacos (*Lama guanicoe*) silvestres por enganches en alambrados. XXIII Reunión Argentina de Ecología, Argentina, 2008.

Rey A, A Novaro, M Sahores, L Martinek, L Leggieri, F Cabezas, G Leyh, M Apellaniz, M Peyrás & ML Guichón. Supervivencia y tendencia de una población de guanacos silvestres sometida a esquilas reiteradas. I Reunión Binacional de Ecología y VXXIV Reunión Argentina de Ecología, Argentina, 2010.
A report was given to the Wildlife Agency of the province of Rio Negro and to the owner of the ranch (president of one of the most important rural organisations in Argentina). Also, they received the manuscript of the PhD Thesis by Andrés Rey entitled “Effects of management on population dynamics of wild guanacos (*Lama guanicoe*) and mortality associated with wire fences in livestock ranches in Northern Patagonia, Argentina”. This manuscript was also given to the National Wildlife Agency and other researchers working on camelids (conservation and management of *Vicugna vicugna*). We will also contact other producers of the region to communicate these results and make recommendations on management practices.

We are now preparing the manuscripts to submit to scientific journals (Biological Conservation and Journal of Wildlife Management).

We will also communicate our results to media groups.

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

As explained before, fieldwork projected for one year was not entirely conducted. Given that this was the 2nd RSG and that we continued fieldwork during the gap between the 1st and 2nd RSG and also obtained data collected by the ranch since 2003, we were able to achieve our objectives. We are wiling to reimburse part of the grant that was due to campaigns that had to be cancelled.

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
Fieldwork	1800	524	+1276	As explained above, we were able to conduct two campaigns after this 2nd RSG was awarded.
Consumables	540	545	-5	
Field assistants	1800	900	+900	Three field assistants, £10 per day for two campaigns lasting 15 days.
Equipment (GPS, binoculars, tags)	320	227	+93	We bought a GPS and a pair of binoculars but no tags as no live shearing event took place in this period.
Vehicles		587	+587	We needed to repair the pick up and motorbike used for fieldwork.
Total	4460	**2783**	1677	**Exchange rate: £1=$5.8 (Argentinean pesos)**

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

The same core group (Biologists Andrés Rey, Andrés Novaro and me) are now initiating a new project studying the impact of introduced red deer (*Cervus elaphus*) on native guanacos in Northern Patagonia, which has not been studied yet and could put on evidence a growing threat for guanacos (and other native fauna) that is usually ignored. This is the postdoctoral project of Dr Andrés Rey.

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?

Yes, we acknowledged the funding received by RSGF in communications in scientific meetings, PhD thesis presentation, and in all written material that was presented and that is now in preparation.

11. Any other comments?

I would like to express our gratitude with RSGF for funding our study; it would have not been possible without your support. Though it was extremely concerning for us not to complete the projected schedule, we were able to achieve our main objectives and also some new ones that arose as new key issues to evaluate during this study (e.g. mortality due to wire fences, extraction for reintroduction programme, combination of management and adverse environmental conditions).