

## 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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

Grant Recipient Details	
<b>Your name</b>	Emiliano Donadio
<b>Project title</b>	Where the wild things are: conserving puma-camelid-condor interactions in the high Andes of South America
<b>RSG reference</b>	1060-C
<b>Reporting period</b>	April 2014 – June 2015
<b>Amount of grant</b>	£ 15,000
<b>Your email address</b>	<a href="mailto:emiliano9donadio@gmail.com">emiliano9donadio@gmail.com</a>
<b>Date of this report</b>	September 1 <sup>st</sup> 2015

**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
1. To estimate survival and fecundity rates of adult female vicuñas		x		All radio collars needed to estimate survival and fecundity have been successfully deployed. Data collection is currently underway. Estimates of survival and fecundity will be in place when we recover the collars in April 2017.
2. To evaluate vicuña spatial ecology and its relationship with forage		x		All radio collars needed to evaluate vicuña spatial ecology have been successfully deployed. Data collection is currently underway. Data on vicuña spatial ecology will be in place when we recover the collars in April 2017.
3. To evaluate condor dependency on puma-vicuña interactions			x	Data collection and analysis were successfully conducted. Reports were submitted to state and federal agencies. A manuscript for publication is in preparation. One workshop to communicate preliminary results took place at San Guillermo National Park headquarters. A second workshop, presenting final results, will be held in November.
5. Outreach and dissemination of results		x		A non-technical documentary, a powerpoint with high quality photography, and a web page, for both educational and outreach purposes, are currently being developed. Preliminary reports to state and federal agencies (in charge of managing SGNP and the surrounding provincial reserve) have been submitted. Two talks have been presented before personnel of the Argentine Park Service. Three more talks will be held in November 2015.  Two manuscripts, which will be submitted to peer-reviewed journals, are under preparation.

6. Training			x	<p>Ten state and federal rangers were trained in different monitoring techniques during the duration of this work.</p> <p>Seven students have participated of the project; two student conducted work for their Master's thesis (one student already defended her Masters successfully) and one for her PhD dissertation; one student presented preliminary results in a professional meeting.</p>
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

There was one major unexpected problem at the beginning of the project. Briefly, reported techniques used to chemically immobilize captive vicuñas were ineffective when used on free-ranging animals. Thus, we had a rough first month trying to figure it out how to safely immobilize free-ranging vicuñas to deploy the GPS collars. We overcame this problem by bringing a veterinarian who specialised on chemical immobilization of wild animals. He helped us to develop a new immobilization protocol, which worked perfectly. As a result of this experience we are currently writing a manuscript describing our experience capturing free-ranging vicuñas. We predict this manuscript will become a critical tool for professionals working on the conservation and management of wild vicuña populations in South America.

Other unforeseen problems were related to the fast development of other project components. Basically, we were able to deploy transmitters with satellite technology on vicuñas, pumas and condors simultaneously. All these activities left us short-handed when it came to volunteers and vehicles. They also deviated some of our efforts from communicating our work to the public and managers to spending long periods of time in the field. We solved this problem by incorporating more volunteers, students and a second truck to the project. As a result, we have now more time available to invest on generating materials to create public support for the conservation and sound management of the areas where we work.

Finally, we have not been as successful as we expected reaching the media and informing the general public of our work and the importance of conserving ecological interactions. It is somehow difficult to connect with the media in Argentina but we expect that the development of a web page plus all the audio-visual materials that we are working on would help us to overcome this issue.

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

Undoubtedly, the most important achievement of this project has been the implementation of a long-term conservation programme aiming to: A) highlight the importance of preserving ecological

interactions; and B) advocate for conservation action based on conserving such ecological interactions. Our work is based on a strong scientific basis combined with the use, unique to Latin America, of cutting edge technology, which includes the simultaneous deployment of transmitters with satellite and GPS capabilities on three different species that represent three different trophic levels: herbivores (vicuñas), predators (pumas) and scavengers (Andean condors).

In addition, it is important to highlight that the project is being strongly supported by the Argentine Park Service and the Department of Protected Areas of San Juan province, where the park is located, with rangers participating in most of the field activities, and monitoring marked animals when we are not in the field. Training opportunities have gone beyond rangers, and three graduate students are now part of our team. These students are developing their thesis and dissertations under the umbrella of the program supported by RFSG.

Our tight collaboration with the park service resulted in San Guillermo National Park's staff making management decisions based on our preliminary data on vicuña and puma movement. We predict having stronger impacts on the conservation measures implemented in both the park and surrounding provincial reserve as more collars provide with additional data. Ultimately, we expect to influence conservation and management decisions in other areas, where the developing of mining large-scale mining operations is threatening some of the key the processes (i.e. ecological interactions) that are responsible for biological diversity.

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

We work in a very isolated area, where local communities are not present. However, we have involved local rangers in our work. These rangers, natives to the area where we work, have been trained in several monitoring techniques, which are currently being applied by the rangers. They have also participated in most aspects of our research and have become excellent venues to communicate locals that live in nearby cities about our work and the importance of conserving native wildlife.

**5. Are there any plans to continue this work?**

This project will definitely extend beyond the original length that we stated in the proposal. Of course, the duration of the project depends heavily on available funds, but we plan to extend our work at least until middle 2017 and envision a unique, field-based, conservation project that should extend for another 7 years. Basically, we are planning to set a long-term project with strong presence in San Guillermo National Park, where we will develop a long-term conservation strategy that should allow us to influence not only the landscape in the park and neighbouring areas but also other protected areas in the region, especially those that are currently under heavy mining pressure.

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

We will share information with colleagues, governmental officers, NGOs and mining companies through peer-reviewed publications, technical reports and formal presentations. Indeed, preliminary reports have been already submitted to governmental officers and information shared with a special mission sent by the UN to evaluate the impacts of mining in San Juan Province, where we conduct our work.

We will share information with the general public through articles in newspapers, magazines and public presentations. Indeed, one team member has already written several brief articles about our work (see <http://voices.nationalgeographic.com/2014/04/09/pumas-in-the-rocks-pumas-in-the-grass/>, <http://voices.nationalgeographic.com/2014/04/16/on-the-trail-of-a-puma/>, <http://voices.nationalgeographic.com/2014/04/01/life-as-the-worlds-smallest-camel/>, and <http://voices.nationalgeographic.com/2015/02/02/csi-puma-country/>) and Nat Geo published an on-line article on our research (see <http://news.nationalgeographic.com/news/2014/12/141205-puma-cougar-argentina-vicuna-animals-environment/>).

Finally, we are currently developing a web page and a short documentary to inform the general public about the importance of conserving the arid Andes and the wildlife that inhabits this harsh environment. Achieving this goal is critical as large tracks of land in the arid Andes are currently being explored by mining companies, which expect to launch several large-scale open-pit mining operations.

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

This project had been scheduled to begin in October 2013. Because obtaining all the needed permits and funding took longer than expected, we launched the project 7 months later in April 2014 (RSGF was informed about this delay). Thus, funds granted by RSGF were used from April 2014 until July 2015. This period of time represented the anticipated length of the project. However, the fact that we began 7 months later than planned resulted in the project extending until February 2016. Furthermore, due to the nature of some of the collars that we deployed, the project will most likely extend until April 2017.

## **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.**

**NOTE:** In my original application I requested £25,000, of which Rufford granted £15,000. The money was routed through the Wildlife Conservation Society in New York. At the time the money was transferred £15,000 equalled US\$ 23,757.5 (Exchange rate £1 = US\$ 1.5838333). Of this £15,000, £14,206.0 was spent in the US to purchase radio-collars. The remaining £794.0 was transferred from

the US to Argentina (rate of exchange U\$ 1 = 8.13 Argentine \$ or £1 = 12.8 Argentine \$). This £794.0 was used to support field activities related to the deployment of the collars.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Vicuña collars (15 GPS store-on-board)	14,990.0	14,206.0	+ 784.0	Difference was the result of a discount we obtained when purchasing the equipment.
Food in the field	4,467.0	162.3	- 4,304.7	Because we were granted £10,000 less than the total requested, we felt short in this item. We covered the difference with a grant from National Geographic.
Vehicle maintenance	2,978.0	100.5	- 2,877.5	Because we were granted £10,000 less than the total requested, we felt short in this item. We covered the difference with a grant from National Geographic.
Plant nutritional analyses (360 samples)	1,072.0	0	- 1072.0	Because we were granted £10,000 less than the total requested, we felt short in this item. This cost will be covered with funds provided by the University of Wisconsin.
Bus Tickets for Volunteers	1,096.0	0	- 1,096.0	Because we were granted £10,000 less than the total requested, we felt short in this item. We covered the difference with a grant from National Geographic.
Volunteers Insurance	397.0	0	- 397.0	Because we were granted £10,000 less than the total requested, we felt short in this item. We covered this issue with a grant provided by the Northern Rockies Conservation Cooperative

Vehicle fuel	0	524.5	+ 525.5	As we covered food and vehicle maintenance costs with a grant from the Nat Geo, we realized that the money requested to Nat Geo to cover fuel was not enough; thus, we used some Rufford funds to cover fuel costs.
Bank fees	0	6.6	+ 6.6	Cost of transferring the money from the US to Argentina.
<b>Total</b>	25,000.0	15,000		

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

Our work in San Guillermo National park developed into one of the most ambitious conservation and research programmes of Latin America. Indeed, this project is unique on its vision, which focuses on the conservation of ecological interactions, and therefore the conservation of ecologically functional populations, rather than the conservation of specific populations or communities. Furthermore, our work focuses on evaluating the strength of several ecological interactions among several charismatic species (vicuñas, pumas and Andean condors, among others) to highlight their intrinsic value as well as advocate for conservation measures. Finally, we aim to produce high quality audio-visual material that we will use for educational, conservation and outreach activities.

Thus, next important steps include:

- 1 – To maintain the project running for at least another 2 years, while looking for opportunities to support the project for a maximum of 7 years.
- 2 – To finish and present to the general public all the audio-visual materials that we are currently developing; in this way, we expect to build up enough public support for the conservation of the arid Andes.
- 3 – To submit our final results, as soon as they become available, to mining companies and governmental agencies; use these results to advocate for better conservation measures, especially in areas affected by mining.
- 4 – To incorporate more graduate and undergraduate students into our project as they will be the ones, no doubts, who would carry our conservation efforts into the future.

**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?**

Yes, I did use the logo, and publicised RSGF support, in several talks (n = 4) I gave about our work. These talks were presented at the Universities of Wisconsin and Wyoming (USA) and La Plata (Argentina) as well as before the personnel belonging to the Conservation Land Trust (Argentina).

I also explicitly mentioned the support provided by RSGF in a press released published by the Argentine Park Service (<http://www.parquesnacionales.gob.ar/2014/04/parque-nacional-san-guillermo-investigacion-de-la-relacion-predador-presa-en-los-pumas/>).

**11. Any other comments?**

The RSGF is providing support for hundreds of individuals, who are concerned about the conservation of our wild places, all over the world. Therefore, the impact that RSGF has on the conservation of the world's natural heritage is remarkably large. However, I wonder if it would be possible to RSGF to teach and help grantees to reach more effectively the general public to build up support when it comes to advocate for conservation measures. Maybe RSGF could either educate, through workshops, grantees to become more effective when attempting to communicate their findings or providing venues to reach as many persons as possible.