

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	Verónica Andrea Quiroga
Project title	Ecology and conservation of the Jaguar (<i>Panthera onca</i>) and the Puma (<i>Puma concolor</i>) in the Argentine semi-arid Chaco: influence of prey availability and human presence in the region.
RSG reference	27.02.08
Reporting period	Year 2008
Amount of grant	£5934
Your email address	veroquiroga@gmail.com or veroquiroga@hotmail.com
Date of this report	February 17, 2009.

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

For the first year of the project (2008) the specific aims were:

Objective	Not achieved	Partially achieved	Fully achieved	Comments
To determine the presence and density of jaguars and pumas in one of three sites with different levels and types of human interference, in the Argentine semi-arid Chaco.		X		<p>The objective was almost fully achieved, although we cannot estimate the density of jaguars in this site because we had no pictures of this species in the camera's traps. We obtained 46 photos of pumas (28 separate events) including a female and two cubs. We are working to confirm the number of individuals in the photos in order to estimate population density. We also obtained numerous photos of key prey species of jaguar and puma, as well as of other carnivores.</p> <p>We did obtain data from indirect observations of jaguars (tracks) in the trails, so we can confirm the presence of the species at this site.</p>
To determine variations in availability of potential prey species for jaguar and puma in the same site, relative to the presence and abundance of both big cats.			X	<p>The objective was fully achieved, as we obtained considerable information about the presence of different species of potential prey, both from photographs and from indirect observations. At this moment we are analysing data collected in the field to determine the relative abundance of these species in relation to the presence of both cats.</p>
To determine whether differences exist between jaguar and puma with respect to habitat use and spatial or temporal activity patterns, relative to the availability of prey and to the level and type of human interference in this site.		X		<p>For the Puma we obtained numerous photographs and records of sign, which will provide us with a first insight into the spatio-temporal patterns of activity of this species in the Chaco region. For the Jaguar, the first and limited data obtained indicate that this species is found in very low densities in the area. We are finishing data analysis to determine the relationship between patterns of activity of pumas versus those of puma prey species, and in comparison, to hunting and human productive activities in the area.</p>
To obtain current data on the distribution of the jaguar in the Argentine semi-arid Chaco region.		X		<p>We obtained several records of the species at this site, both indirect observations and data obtained from interviews with local people. This allows us to survey and map the distribution of the species in one of the sampling sites of the Chaco region. The distribution map will be completed after sampling and interviews at the other two sites.</p>

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

The only unforeseen difficulties had to do with a mechanical breakdown of the vehicle, and my severe case of dehydration requiring hospitalization. These difficulties delayed some of the field work, but by sharing responsibility with other team members and extending the field session we were able to complete the objectives.

As explained below, the lack of jaguar photographs meant that we could not perform certain analyses but was not an unexpected result for this area.

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

- I think the most important outcome was the absence of jaguar photographs in the camera traps. This is indicating that the density of the species at this site is very low, because the sampling effort was so large. This highlights the urgent need to take action in managing the species in the region much earlier than we expected. On the other hand, the fact that we obtained data on the species, from sightings by the local people as well as tracks that we recorded ourselves, is also an important result because it confirms that the species is still in the region despite the low density.
- The results about the density of pumas and their conflicts with settlers also gives us important information, since nothing was known of the status of this cat's populations in the Semiarid Chaco, nor about its problematic relation with local people. Apparently, the density of pumas is quite high despite the serious problems caused by livestock predation, which is why it is persecuted by the locals. Clearly the puma's survival strategy is more effective than the jaguar's, as in other regions of their distribution, or it may be pursued less than the jaguar.
- The results about the diversity of prey species of both cats confirmed the presence of species of high conservation value in the area, highlighting especially *Catagonus wagneri*, *Tayassu pecari* and *Myrmecophaga tridactyla*. However, the low density of some of these species, in particular all three peccary species, could be one of the explanations for the low density of jaguars, in addition to hunting. On the other hand, because we considered other mammalian species in the sample, we were able to record species that were not previously confirmed for the area, such as *Dasyus novemcinctus*, *Cerdocyon thous* and *Leopardus pardalis*.

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

The contact with local communities was limited to informal interviews, school visits and participation of local inhabitants in some field trips, especially in the initial stages. The greatest benefit that these people can obtain from this study will be if these data help us to convince the government to implement a management plan for the problem of livestock predation by large cats.

5. Are there any plans to continue this work?

This work is part of my doctoral research project for the National University of Córdoba, Argentina, where I have a scholarship until April 2011, with possibility of renewal for two years more. So, I have planned at least two years more of sampling in two more sites of the Chaco region, with varying degrees and types of human interference and protection. For 2009 I expect to continue this research in the area north of Copo National Park, Santiago del Estero Province, which is the only national park within the arid Chaco region of Argentina.

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

I expect to present parts of the results obtained in 2008 at the International Mammalogy Congress to be held in Argentina in August 2009. Technical reports will be delivered, accompanied by oral presentations, to the institutions responsible for making decisions about the management of both species of cat in the region. I will also prepare informative bulletins to distribute at ranches and schools when I conduct interviews. Finally, this information will be used for a doctoral thesis in biology, from which we will prepare scientific publications and presentations at conferences or workshops, when the analyses are completed, and outcomes are obtained.

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

The RSG was used from May 2008 until February 2009. It was sufficient to reach the completion of the first sampling at the first site. I began planning and organizing in May 2008 and finished field work in October 2008. I have continued with data processing during the following months, with other expenses such as developing of the films. At this moment we are planning the second year of field work and need money to manage this next phase, which will begin in May.

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
Camera-traps	1371.12	501,83	869.29	I spent less money here because the Jaguar Conservation Program from WCS gave me on loan most of the camera traps required for the study period, therefore it was not necessary to buy them.
Photographic film and Batteries	-	626,2	- 626.2	Since WCS did not give me money for this in exchange for providing the camera equipment, I used the RSG funds budgeted for the camera purchase instead to cover these expenses.
Film processing	-	63,9	- 63.9	Same as above.
Rent of vehicle	2818.43	2875,4	- 56.97	While car rental is inexpensive, the costs in Argentina have risen greatly in the last year, and the budget last year was insufficient.
Maintenance of the vehicle	1015.65	750,7	264.95	
Office and Pharmacy supplies	-	52	- 52	Same as for the item film processing.
Food	-	374,6	- 374.6	Same as for the item film processing.

Hotel	169.27	40,73	128.54	Most of the time our accommodation was in a field tent, the hotel was used only for emergencies that required us to spend a few days in town.
Bus tickets	406.26	550	- 143.74	Costs in Argentina have risen greatly in the past year, especially those related to transportation and food, so the budget last year was insufficient.
Accident insurance policy	152.35	100	52.35	We obtained a less expensive insurance policy.
Metal security boxes and others	-	-	-	These expenses were provided by the Jaguar Conservation Program of WCS (£ 158.3)
Gasoline	-	-	-	These expenses were provided by the Jaguar Conservation Program of WCS (£ 657.8)
TOTAL	5933.08	5935.36	- 2.28	

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

Given the lack of records of jaguars in the first place of the Chaco green corridor, I consider extremely important for this year and next to survey the other two sites where we believe the species may be. In this way we could confirm which are the priority areas to conserve or to change the patterns of use.

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 logo was used in a power point presentation prepared to present the project and preliminary results in the course "Ecology and Conservation of Subtropical Ecosystem: an integrative view" that was given in northern Argentina for postgraduate students of Latin America. It was also used in the written reports made to present the project to the provincial and national wildlife departments and relevant NGO's. It was also used in a power point about the research project, presented in December at the Chaco meeting of the subcommittee for the conservation of the jaguar in the Argentine Chaco.

11. Any other comments?

Since my project's field samples are meant to be performed annually and field campaigns are carried out in winter (late May to early September), at this point I am already planning the next campaign, which requires new funding. While the RSG's web site indicates that preferably we should wait a year and a half to request a 2nd RSG, I need to consult with you whether it is possible to apply prior to that date.

As the first results indicate a low density of the jaguar in the area, surveys are urgently needed in other areas with different degrees of protection and human interference in order to determine as soon as possible the actual status of the species in the region.