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	Micaela Camino
Project title	Designing a conservation landscape for key stone, umbrella and endangered endemic species in the semi-arid Argentinean chaco
RSG reference	11682-1
Reporting period	September 2012- September 2013
Amount of grant	£ 5527
Your email address	micaela.camino@gmail.com
Date of this report	October 4th 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
(1) Mapping sites occupied by target species[1]			X	We identified occupied areas and classified them as: all-year occupied sites, passing-through areas, breeding areas, conflictive locations and potential ecological traps
(2) Mapping environmental and social characteristics of the study area			X	We mapped characteristics that could be positively or negatively associated with target species´ presences (e.g. water ponds, force of local cultural institutions or structural connectivity of natural habitats). We worked at two different scales (local and landscape).
(3) Assess local inhabitant´s perceptions and attitudes towards wildlife and its conservation			X	Lack of understanding of the particular perception of nature indigenous wichis and mestizo-criollo people have was making their inclusion in conservation and management strategies difficult. Results of this research were used for new government and NGO plans that are being generated for the area.
(4) Identify and map conflicts between local inhabitants and wildlife species; and design feasible plans to solve the conflicts			X	Problem species were listed and sites where conflicts were high were mapped. Problems were mainly with carnivores, especially *Puma concolor,* though problems related to crop-damage and high hunting-pressure were also present. We generated a list of feasible plans for mitigating conflicts that include local opinions. Given the intensity and complexity of carnivore-local people conflicts, we suggest further work to improve our findings and apply efficient plans.
(5) Improving local capacities and commitment in conservation and territory management			X	We achieved this objective successfully, local participation in wildlife research and conservation activities increased. They learned field techniques (e.g. use of GPS) and transmitted their own knowledge to the scientific team.

[1] Target species: (1) keystone and umbrella (*Tayassu peccary, Tapirus terrestris*), game (*Pecari tajacu, Mazama guazoubira, Tolypeutes matacus*), endangered, endemic species and charismatic species (*Catagonus wagneri, Priodontes maximus, Myrmecophaga tridactyla*).

(6) Generating habitat suitability maps for target species		X		Occupancy models are being generated using the information gathered for objectives 1, 2 and 4. Maps will be generated based on best models
(7) Designing a conservation landscape		X		We are using 1-5 objective results to accomplish this objective. Although partially achieved, partial results of this study were and are being part of territory management decisions.
(8) Maximising new protected areas, wildlife corridors and buffer or transition zones efficiencies.		X		This objective will be completed using results of objectives 6 and 7. Partial results of this study are being used to plan local conservation strategies at a local and national level. Future buffer zones of a potential National Park: using results of objectives 3 and 4, and interacting with different stakeholders (e.g. government institutions), we proposed plans that include local inhabitants. These plans are feasible, locally legitimate and prevent future conflicts between local people and Protected Areas.

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

Our study area is located in the semiarid Argentinean chaco, where a marked seasonality exists and rain falls mainly during the summer. There is a strong drought going on since December 2012. This is very serious for local inhabitants and their cattle, and also for wildlife and natural habitats.
Consequences for this project:

1. One of the local coordinators had to quit his activities in April 2013.
2. Between March and May 2013 activities were not as intense as we expected for local participants were drilling water wells for themselves and their cattle and carrying water from other ponds to their houses. Project activities did not stop and the positive outcome of this situation was the demonstration local participants gave us of their interest in keep on participating in research and conservation actions of this territory.
3. After drilling water wells, most local participants kept working in this project with the planned intensity but some sites they used to walk looking after their cattle and registering wildlife species detections were not visited anymore because they are too dry. We solve this change of locations and sampled all the expected areas: some sites that were to be sampled by local participants during their daily activities were sampled by local o scientific participants that visited these areas designedly.
4. The drought combined with excessive logging and destroyed some of the roads we normally used. We talked this difficulty using a motorcycle or bikes but there were some interviews that could not be done even when most of the expected survey areas were visited

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

The three outcomes we considered the most important are our biggest contributions to the long-lasting and effective protection of many species and their habitats of this endangered and extraordinary region.

Outcome 1: *Local peoples' involvement in environment and wildlife conservation, and in the planning of natural resource sustainable-use planning and actions*
Local peoples' capacities were reinforced during this project while an honest interchange between scientific and local knowledge developed in very interesting results. These outcomes are being considered in management actions, and local indigenous and mestizo groups have now a stronger interaction with governmental and non-government organisations. They have more tools to better explain their needs and perceptions on natural resources, and actively participate in management plans. This contributes to diversify conservation concepts and actions, and enhances feasibility of natural resource conservation and sustainable-use for plans and actions are locally legitimate and understood instead of external impositions (e.g. a protected area may soon be created in part of the study area and people inhabiting surrounding areas are part of different projects that allow their involvement and participation in its creation and future success).

Local peoples' involvement in research, conservation planning and sustainable use of natural resources was higher than expected.

Outcome 2: *Design of an effective and feasible conservation landscape*
Based on spatial requirements of keystone and umbrella species, taking into account conflicts between local people and wildlife species, and respecting local opinions, a conservation landscape is being designed. Protected areas, wildlife corridors and buffer zones will be created and their spatial arrangement will maximise their efficiency.

This adds in solving one of the main threats for the region: the unplanned, inefficient, use of natural resources. Thus, this is a main contribution for the long-term conservation of many different species and habitats.

Other future conservation policies or scientific resear will be able to use this project´s results.

Outcome 3*: Available information about medium- sized and large species of an endangered, almost unstudied region*
The Gran Chaco is the second largest ecoregion after Amazonia. It is a biodiversity-rich region, inhabited by extraordinary species, including several endemic and endangered ones, and holds a vast diversity of ecosystems, species, cultures and ecological processes, some of which are unique (e.g. the sympatric interaction between the three peccary species). This project was developed in the semi-arid portion, the driest and more isolated part of the region, where water deficiency during cold months and extremely high temperatures in the summer combine with a low, mainly rural, population density and the lowest quality-of-life indices of the country. The region is endangered and there is an unsustainable use of its natural resources, plans at a landscape and local level are urgent.

The lack of information about local species diversity, ecology and habitat requirements made difficult the long-term conservation planning of the region. This project provides data regarding

ecological needs of target species[2] and, as important as that, shares results with decision and policy-makers, scientists, media, local and non-local society (more information in "6. How do you plan to share the results of your work with others?").

The relevance of this information exceeds local boundaries: the knowledge about the studied species in an almost unstudied environment provides a better understanding of their ecological plasticity, which facilitates their protection in their whole distribution range.

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

Involvement of local communities

This was a participatory research, local participants of different portions of the study area and cultures learned, practiced and applied field research methods. Indigenous wichí hunters and mestizo (criollos) were active participants by gathering information about surrounding wildlife during their daily activities. They filled a form indicating detected species (direct observation or tracks) and habitat where they found them. They also informed location by marking each presence with GPS; participants with difficulties in GPS use registered location using a local map or descriptions previously established with the rest of scientific and local participants.

Participants who could not write shared the activities with their children, who wrote the information their fathers provided. This was very positive because different actors of local societies were involved in the project. When possible, number of observed individuals was also detailed in the forms. Participants were people who already spent at least 3 days a week in the field, and walked at least 2 km away from their houses. Monthly meetings for sharing experiences, doubts and ideas were performed. Additionally, open to the society training workshops were locally performed. Local inhabitants learned how to fill a form, use tools like GPS or cameras, and interchange local and scientific criteria for habitat description, or wildlife species classification and ecology. Local involvement was higher than expected with 46 ongoing local participants.

Benefits for involved local communities

By working together and horizontally with local inhabitants we learned a lot about their needs, perceptions and attitudes towards nature. This is a local benefit for we are spreading our findings, and thus local cultures´ view comes out of the forest. But much more important is that local capacities were strengthened by reappraising local traditional knowledge and providing new tools for local people to transmit their knowledge, needs and opinions. They learned communication and research techniques and tools used by our western-society without losing or look down on their own knowledge. This facilitates their integration in territory planning and management, and diminishes the tension and passive-violence that entails the ignorance our society, including decision makers, have on small human group´s perceptions and needs. Some participants and other local inhabitants are now included in debates and stake-holders networks regarding territory management and conservation – these debates include the creation of a new protected area.

[2] Target species: (1) keystone and umbrella (*Tayassu peccary, Tapirus terrestris*), game (*Pecari tajacu, Mazama guazoubira, Tolypeutes matacus*), endangered, endemic species and charismatic species (*Catagonus wagneri, Priodontes maximus, Myrmecophaga tridactyla*).

5. Are there any plans to continue this work?

Yes, many. This is ongoing work, part of combined, interdisciplinary, efforts towards the long-term conservation of the semiarid Argentinean chaco, its habitats and species. This extraordinary and endangered region still needs lot of research, debate of different stakeholders and actions.

Now we have to finish the design of the conservation landscape, and keep interacting with government and non-government institutions for the results of this and other researches to be applied. We also have to keep on spreading our findings.

In the field, local participants are still gathering data, a participatory monitoring system has been established in the area after this work and keeps working. To sustain field data gathering was a local initiative and it is great for an endangered, almost unstudied region, to have constant information about its biodiversity and habitats. Scientifics, technicians and local people keep on working together for this monitoring system to continue.

Additionally, the scientific team together with local participants of certain areas are planning sustainable wildlife use plans. For other regions we are thinking about local courses about: (1) tracking, (2) tourism guides and (3) park security.

Meanwhile training to improve GPS and cameras use and to learn how to use computers are planned for the rest of the year and the beginning of 2014.

A photograph exposition, with pictures taken by local participants and that will be on many cities and towns of Argentina, is also planned for next year.

Personally, my PhD thesis ends 2 years from now and I hope I will deepen acquired knowledge about target species, particularly on the three sympatric peccary species interaction. Different scientific hypothesis are being tested. After my PhD is over I hope I can stay in the study area and keep our ongoing conservation actions while researching peccary metapopulations.

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

i. *Public Presentations* were performed presenting partial results and will continue during 2013 and 2014. Presentations were done in different spheres: scientific meetings; meetings with decision and policy-makers from government institutions and non-government organisations. For the society, a presentation in Resistencia´s Natural Sciences Museum is planned for this month and we expect to publicly present the results inside the study area, again in Resistencia and also in Formosa, Corrientes and Buenos Aires cities.

ii. *Media and Social Networks*: two local-radio interviews occurred. Radio is the most popular media in the study area. We expect at least two more local-radio visits. Another talk about our work was given in Resistencia City´s Planeta Radio, and two other interviews are already planned in this city. For the whole Province, a publication in the newspaper is also expected. Next year we plan to present the results at a National level. Members of our group are beginning to use social networks to disseminate the information gathered. Additionally, we are participating as assessors in a documentary movie that is starting to be shot in February 2014 and is expecting to show habitats, biodiversity and local cultures.

iii. *Expositions*: two photograph expositions are planned. One with pictures taken by local participants. It will be presented locally and then exposed in four other cities, at least, including Resistencia. Final presentation will be done in Buenos Aires City.

iv. *Written Publications*:
Reports: the purpose of reports is sharing results and proposing ideas and options for changing specific situations related to conservation or natural resource use. We presented three written reports to local inhabitants; two to provincial government and two to national government institutions. Another report was presented to a NGO that works in the territory. Finally, a report for general public interested in knowing about this area was spread out two months ago.

We plan to continue sharing our findings with society, policy-makers and local inhabitants with different types of reports.

Scientific Papers: Two papers are now being written, and two others are planned before March 2014.

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

Although the funds were paid during October 2012, we started our working period in September using my personal funds for we had planned to start in July. Project length was as expected, one year.

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.

Local exchange rate (average of exchange rates between the beginning and the end of the project):
1 Argentinean Peso = 0.12 Pounds Sterling

Important Note: Budgeted amount was £6680, we received from RSGF £5527. Items not funded by this organization were covered using other funding sources.

Item	Budgeted Amount	Actual Amount	Difference	Comments
8 long distance travel bus tickets	443	473.2	-30.2	prices and costs of many items raised during the project period
Fuel for local travel within the area	1370	1701.28	-331.28	prices and costs of many items raised during the project period
Drinkable water and a snack or meal during field survey and meetings	1159	652.05	506.95	we covered this difference with another grant for RSGF funding was of GBP 5527. We had requested 6680 GBP.
Library Materials	1805	948.43	856.57	we covered this difference with another grant for RSGF funding was of GBP 5527. We had requested 6680 GBP.
Batteries	28	53.35	-25.35	For solar panels were installed in many sites we preferred to invest in

				rechargeable batteries which cost more than budgeted
Printing	704	711.32	-7.32	prices and costs of many items raised during the project period
Local Coordinators	880	640.3	239.7	One local coordinator could not finish his activities due a strong drought in the area.
Lodging	291	110	181	We passed more nights than expected at local people´s houses and thus use of lodging was lower than expected
Unexpected	0	237	-237	The car broke five times during field work and this amount of money was used to cover part of the last reparation
TOTAL	**6680**	**5529.93**	1153.07	Budgeted amount was £6680, we received from RSGF £5527. Budgeted items not funded by this organization were covered using other funding sources.

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

1. Keep on working on strengthening local capacities and reappraising local traditional knowledge. Indigenous´ and Criollos´ knowledge is very valuable; their capacities to participate in our society without losing their identity need to be considered and strengthened. We feel it is important to keep working for a better understanding with these human groups for them to actively participate in conservation efforts and territory management. We will continue with training workshops for them to learn GPS, camera and computer use, and to be able to transmit their knowledge, ideas, opinions and needs without external assistance. As our work is part of the interdisciplinary effort of different groups that look for a long term conservation of this area, we recommended for the region more training courses (guides, small business, rangers, etc.). More research on local appreciation of nature is recommended.

2. Keep monitoring medium-sized and large wildlife species with the locally based Participatory Monitoring System.

3. Keep disseminating this project´s results in different spheres, and interacting with different stakeholders for our findings to be applied.

4. To start a local awareness campaign for local inhabitants of this isolated region to understand our reasons to be worried about species disappearance, expansion of agricultural frontier or logging and to transmit information about ecological functions, importance of wildlife and natural habitats, what connectivity means, etc. Hunting normative should also be disseminated and we are meeting with government institutions for them to carry this responsibility out.

5. We participate of a network of different stakeholders working for the creation of a new national park. Its creation is very important for the region, and a very important step is the correct administration of its buffer areas.

6. Research in many fields is needed in this area. It is important to acquire a better understanding on keystone population trends: (i) functional connectivity of the landscape, (ii) community ecology studies, and (iii) ecological functions, among many others.

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, every produced material had RSGF logo. Public presentations and written material that were and will be produced showed the logo. For this is part of my PhD thesis, during the course of this project I had to take some classes and during them I made presentations of my work. In these presentations, Rufford Small Grant´s logo was also shown.

11. Any other comments?

We feel an enormous gratitude and want to thank very much Rufford Small Grants´ support. Results set basis for further work, actions and research and add in the long-term conservation of chaco and its biodiversity; and these results would not have been possible without this organisation´s support.