

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. Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Maria Flavia Caruso
Project title	The impact of local people's attitudes and perceptions of Protected Areas on the conservation of jaguar <i>Panthera onca</i> , in Midwest and Northeast Argentina
RSG reference	19210-2
Reporting period	June 2016 – June 2017
Amount of grant	£5000
Your email address	flavici@hotmail.com
Date of this report	May 24 th , 2017

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- Assess the perceptions of local towards PA and jaguar in Central and north-western Argentina and south of Bolivia				We identified positive and negative perceptions of local people towards the PAs and the jaguar
2- Compare how the level of integration of the local population in the management of PA influences their attitudes and perceptions				We classified the PAs as more participatory and less participatory management based on several factors: 1. Human settlements before the creation of the PA; 2. PA creation process; 3. Reasons of the conflict; 4. Current presence of settlers; 5. Initial ratio PA-residents; 6. Current ratio PA- residents; 7. Reasons for amendments; 8. Settler's perception of the PA; 9. Settler's level of participation; 10. Environmental education level; 11. Management Plan implementation.

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

After completing the first stage of this study conducted between 2014-2015 in the provinces of Salta and Jujuy in north western Argentina and covering eight Protected Natural Areas, testing the hypothesis that the presence of protected areas and the type of protected areas influences / affects the perceptions and attitudes of the local population towards the conservation of jaguars in the northwest of Argentina, our results showed the need to extend the work area to the central and northeast Argentina Chaco and Atlantic Forest to understand and compare results.

In the second phase, carried out between 2015-2016 after the completion of the field work in an AP of the centre and an AP of the Argentine Chaco, we found that there was not enough variation in the type of management of the protected areas in

Argentina. That is to say, they all have a management system with little participation; therefore, it was not possible to test the hypothesis really.

To resolve this difficulty we determined we needed to include an AP that met the following criteria: i) presence of species for study, jaguar and ii) partner-participatory integrated management plan.

Therefore, we think it would be very interesting to make the comparison of our study in the neighbouring country of Bolivia, replacing the Argentine Northeast AP by two AP in Bolivia located in the south of Bolivia, almost to the border with Argentina, of key importance as binational ecological corridors for jaguar and featuring an integral-socio participatory management plan.

We have arranged necessary and permits research with the national service for Protected Areas of Bolivia (SERNAP) in the Nature Reserve of Fauna and Flora (belonging to the ecoregion of Yungas) Tariquía National Park and Area of Management Integrated Aguara Güe (belonging to the Bolivian Chaco ecoregion).

Finally, our goals were carried out successfully and happen to be the first study that compares the attitudes and social perceptions towards the jaguar and the AP, and how this impacts on the conservation of nature the participation of local people in the management plans of the AP in two countries in South America.

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

We analysed 952 interviews. For Argentina 810, in 10 PA distributed in two provinces of the northwest: Salta 332 (six APs); Jujuy 179 (two PAs) and two provinces of the centre of the country: Santiago del Estero 242 (one PA) and Chaco 59 (one PAs). For Bolivia, 142 interviews were analysed in two PAs distributed in two provinces: Yacuiba 106 (one PA) and Tarija 36 (one PA), both located in the south of the country.

1- We found significant differences between the knowledge of the local people about what is a protected area and its relationship with the type of management ($\chi^2 = 39.89$, $df = 1$, $p < 0.0001$). Twenty-five percent of the people living in protected areas with more participatory management were able to respond to what the PAs were, unlike (9%) with less participatory management (Figure 1).

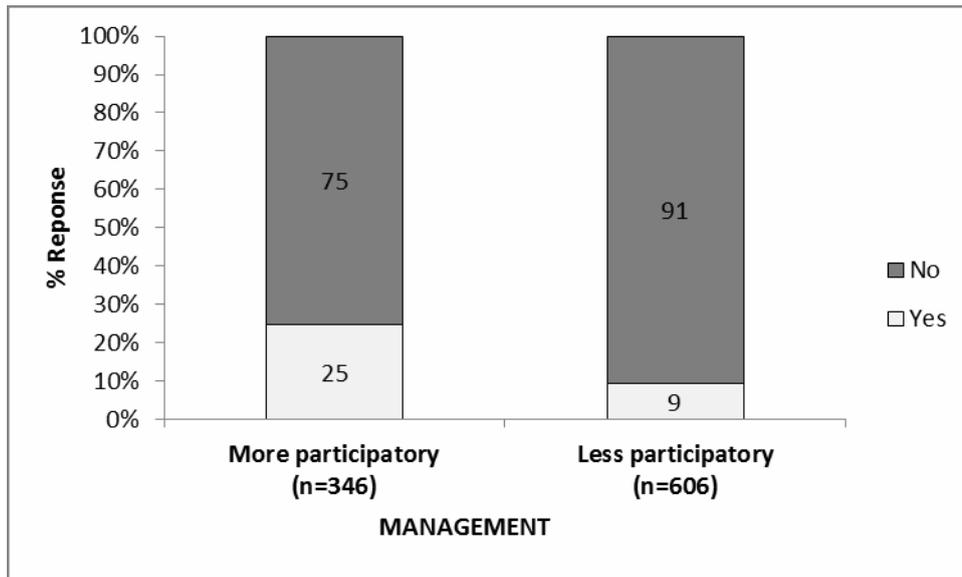


Fig. 1. Percentage of respondents who understand what is a protected area according to the type of management.

2- More respondents related with protected areas of more participatory management were able to identify the objectives of the PA ($\chi^2 = 7.32$, $df = 1$, $p < 0.0068$) (Fig. 2).

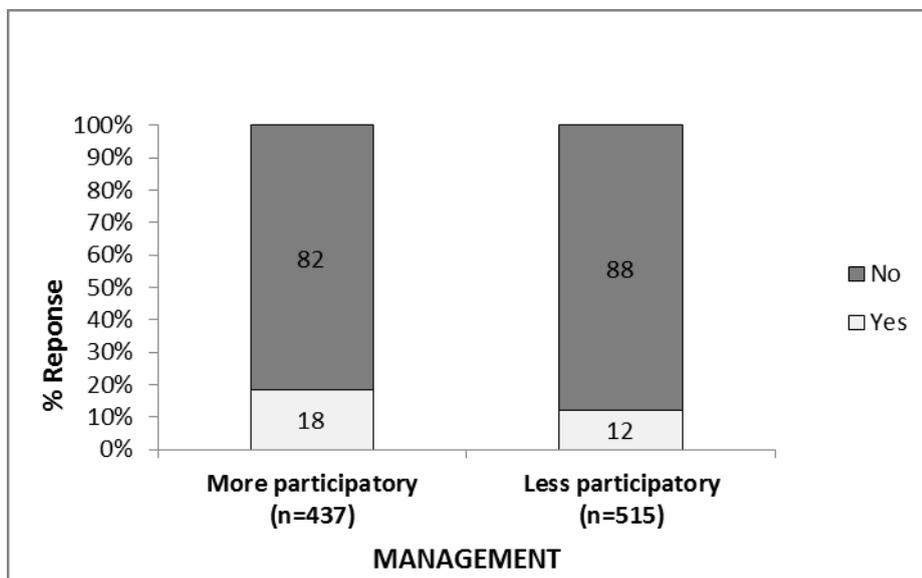


Fig. 2. Percentage of respondents who could identify the objectives of protected area according to the type of management.

3- More than half of the interviewees related to protected areas of less participatory management expressed their support for the protection of the species ($\chi^2 = 32.72$, $df = 2$, $p < 0.0001$) whereas 37% of respondents related to more participatory protected areas of management expressed their support for the protection of the Jaguar (Fig. 3).

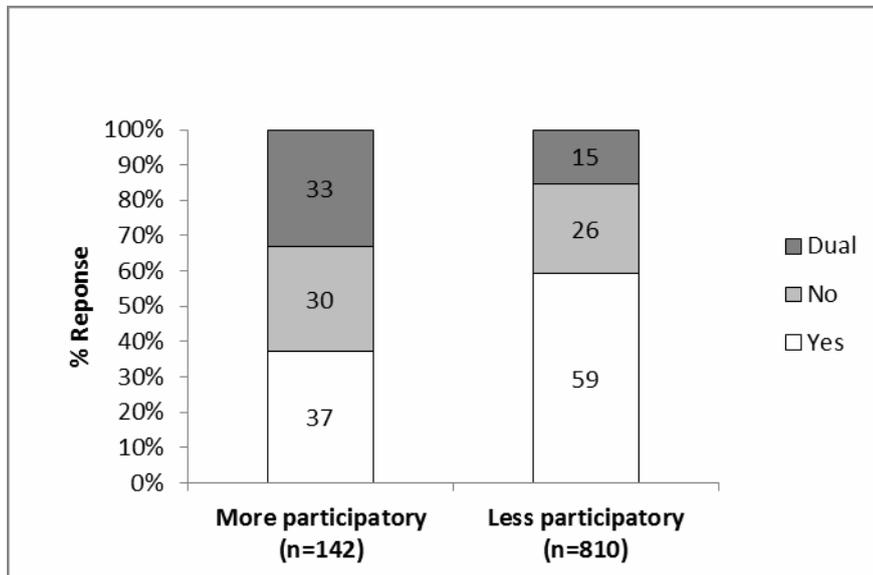


Fig. 3. Percentage of respondents who responded in favour and against of jaguar protection with respect to the type of management.

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

Involvement of local residents

In the 1970s and 1980s, the creation of the protected areas (PA) and the imposition of the rules of use of natural resources (including hunting, firewood, poles, wood, etc.) in the protected areas were imposed to local communities without environmental education and without offering economic alternatives. Currently, in Argentina these processes are changing. Adults have had for the first time, the opportunity to explain, in our fluid and informal interviews (more like a visit than a survey), how their life have changed since the creation of the neighbouring protected area (with more participatory or less participatory management), how they feel about the presence of the PA and what their current needs are.

Benefits received by locals

For the first time in north Argentina, we are investigating the causes of the attitudes and perceptions of the people towards the neighbouring PA and its impacts on the jaguar conservation. We learned about their needs, perceptions and attitudes towards nature. This work is allowing us to recognise key patterns of management of both environment and species. We consider that these understanding is currently absent and that using our findings in PA management could directly benefit local communities, especially if they are considered before planning and managing, as they could determine a complete success or failure of the project.

5. Are there any plans to continue this work?

Yes. Education and communication. Using natural protected areas and the jaguar as a starting point, educational activities will be carried out in local schools and community centres.

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

1- Partial and final results of this study have been submitted to the authorities of the Ministry Environment of the provinces of Santiago del Estero and Chaco (Argentina), and Tarija and Yacuiba (Bolivia) and to the authorities of the National Parks Administration, Regional Delegation Northwest Argentina during 2016 and 2017.

2- The results will be published in local environmental NGOs' bulletins and newsletters and as a scientific paper in an international peer conservation journal.

3- We intend to continue to share our findings with society, politic authorities and local people trough different types of reports.

4- Scientific Papers: An article is being writing now and we expect to publish it before December 2017.

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

We spread out the use of funds over the full duration of the project.

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.

Important Note: Budgeted amount was £ 5,000; we received from RSGF £ 5,000.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Gasoline	1,500	3,200	-1,700	We covered this difference with another grant
Field assistant	500	0	0	-
Field expenses	500	0	0	-

Rental vehicle	2,000	2,700	-700	We covered this difference with another grant
Vehicle maintenance	400	0	0	
Total	5,000	5,900	-	-

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

1- The results of this study could be used as a starting point for the creation of future protected areas and the development of their management which indirectly would impact on the conservation of jaguar.

2- To start an environmental education campaign, aimed at AP neighbouring residents, to explain them the importance of PAs, and to transmit information on ecological importance of wildlife in general and the jaguar in particular.

3- To go on disseminating this project's results in different spheres: radio, TV, local newspapers, etc., and to interact with different stakeholders for our findings to be applied.

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, every material produced in this investigation had the RSGF logo. The logo was displayed on every public presentation and written material and I intend to continue to do this in future works. I also promoted the RSGF logo at the presentations at the presentations I had to perform at my university as part of my PhD.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

FULL LIST OF ALL THE MEMBERS OF OUR TEAM AND THEIR ROLE IN THE PROJECT	
The multinational team of researchers and conservationists	Role in the project
Jaguar in the fringe	To provide assistance in carrying out this project, providing technical and field assistance
The National Parks Administration	This administration has particular interest in this project because they are designing management plans for protected areas and want to incorporate local actors as partners in planning and implementation

<p>Ph.D. Mariana Altrichter Professor of Environmental and Regional and Cultural Studies, Prescott College, AZ, USA. Co-Leader of the International Union for Conservation of Nature (IUCN)</p>	<p>Research advisor</p>
<p>Ph.D. Pablo G. Perovic Regional Coordinator for the Jaguar National Natural Monument, National Parks Administration. His researched focused on jaguars in a Landscape with Human Influence. He specializes in conflicts between wildlife and human activities. He is a member of two scientific societies:</p>	<p>Research advisor</p>
<p>Leonidas Lizarraga</p>	<p>GIS support</p>
<p>Pamela Cruz (Salta-Argentina) Wili Ale (Salta-Argentina) Joaquín Sanchez (Rosario-Argentina) Mercedes López (Salta- Argentina) Zulma Algañaraz (Chaco- Argentina) Willy Montaña (Santa Cruz- Bolivia) Enrique Tercero (Santa Cruz- Bolivia) Carola Vaca (Santa Cruz- Bolivia)</p>	<p>Young researchers and field assistants conservationists</p>

12. Any other comments?

We thank the Rufford Foundation for the support received