

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	Luis Roberto González Torres
Project title	Fires in Cuban serpentine thickets: impact evaluation and conservation planning
RSG reference	10866-2
Reporting period	January 2012 – June 2013
Amount of grant	£6000
Your email address	lrgonzaleztorres@gmail.com
Date of this report	June 25, 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) evaluate the role of fires in the composition, structure and dynamic of Cuban serpentine thickets			X	
(2) determine primary vegetation areas for protection and the amount of fire damaged areas			X	
(3) identifying the environmental (e.g. soil, slope, aspect, climate) and human (e.g. distance to town, railways, roads) factors related to fire occurrence,		X		This objective was not achieved with the accuracy we planned because we could not access to high-resolution satellite images, but local field data was gathered and analysed instead.
(4) classify and map areas by risk of fire according to the fire-prone factors identified,		X		This objective was not achieved with the accuracy we planned because we could not access to high-resolution satellite images, but local field data was gathered and analysed instead.
(5) design an action plan for the conservation and management of lowland serpentine thickets,		X		This objective was not achieved with the accuracy we planned because we could not access to high-resolution satellite images, but local field data was gathered and analysed instead.
(6) set up a baseline and a system for monitoring fires in these plant communities and the response of both non-burned and burned vegetation		X		This objective was not achieved with the accuracy we planned because we could not access to high-resolution satellite images, but local field data was gathered and analysed instead.

to climate change,				
(7) training local conservationists in plant identification and monitoring methodologies,			X	
(8) provide local and regional institutions with accurate data for planning and developing local initiatives to manage and preserve serpentine plant communities,			X	
(9) raise awareness of local conservationists, managers and local technicians about the effect of fires on their serpentine plant communities			X	
(10) provide data, charts and images about the effect of fires in Cuban serpentine plant communities to support the work of local and regional environmental education activists and groups			X	

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

The major limitation we faced during the implementation of the project was the lack of access to satellite images that were the base for the GIS analysis required for developing in deep the objectives 3, 4 and 5. Instead, we focussed our work on gathering data in the field for achieving the objectives 1 and 2, and in some extent the objectives 3, 4 and 5.

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

The understanding of the effect of fires in the natural history of Cuban serpentine plant thickets is the most significant contribution of this project. The results may be summarised the following three conclusions: (1) wildfires are not necessary for the maintenance of Cuban serpentine thickets; (2) wildfires have changed the composition, structure and dynamic of these ecosystems into a poor in species and endemism, simple structured and fire-prone ensemble; and (3) fires decrease the resilience of Cuban serpentine thickets.

All these finding have changed the vision and precepts about the Cuban serpentine communities we had and have a substantial impact for conservation and management planning. After this project, fires should not longer be considered a management tool for these communities but a threat. In fact, our project results show fires decrease the numbers of native plants but also facilitate the entrance of invasive species to these ecosystems rather than control their populations. Moreover, we found that fires are changing Cuban serpentine thickets into fire-prone grasslands by leading to a reallocation of community biomass.

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

Although members of the local communities, especially local leaders participated in onsite planning and surveys, the involvement of local communities was not strong enough at this stage. It was limited to people to people talks about better practices for land manage emphasising the negative impact of fires for agriculture, grazing and for wild surrounding areas. Afterwards, we did realise the little appeal of local communities for these ecosystems – the richest plant communities in Cuba – and the strong negative impact their lack of concern has had in serpentine ecosystem conservation. Then we started an intense advertising campaign to develop the pride of Cuban people for native plants and ecosystems. This part of the project did involve more local people but also was extended to urban areas for create a pressure at every level.

5. Are there any plans to continue this work?

Our team is already working on following-up the main conservation issues that came to light during the implementation of the RSG project. According to our scientific findings, we are prioritising fires ecology studies in the serpentine region of Holguin that was identified by the RSG project as the one with the larger primary vegetation cover. The on-going research aim promoting natural regeneration of the damaged areas by (1) managing the recruitment of natural plants, especially of those ones that facilitate the establishment of other species, and (2) controlling the invasive ones. They also involve lobbying for the protection of primary vegetation areas.

In addition to the scientific findings, the RSG project also pointed out to the lack of awareness about the value of serpentine plant diversity between the public and the decision makers plus the poor information exchange between the conservationist community. In order to address these issues our team is developing a media campaign and leading a plant conservation initiative both with national scope.

Further plans include (1) developing a children-focussed pride campaign, (2) researching the potentialities of the free satellite data for fire management– its low resolution attempts against the

accuracy of the results, (3) and write a review of Cuban serpentine plant communities focussing in conservation topics.

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

The result of this RSG project have been shared with the “Rural Fire Specialist Group – Grupo de Expertos en Incendios Rurales” and used in the report on “Threat, vulnerability and disaster risks in Cuba – Estudios de peligros vulnerabilidad y riesgos de desastres en Cuba”. Also, they were presented in three scientific meetings in Cuba (Annual Meeting of the Cuban Botanical Society, Cuban Biodiversity Conservation and Symposium “Bisse in Memoriam”) and in the 2012 Annual Meeting of the Cuban Plant Specialist Group. Also, our project results were presented in the 2012 Annual Meeting of the Ecological Society of America. Additionally, they were presented in working meetings of protected areas (e.g., Reserve “Lomas de la Coca” and reserve “Sabanas de Santa Clara”. Additionally, some of them were published in the newsletter of the National Botanic Garden, Cuba as a short note or in the special issue – the TOP 50 Cuban threatened plants (in press).

The results will be also shared via the website we are developing for the Cuban Plant Conservation Initiative (www.iniciativaplanta.org), in scientific publications we are preparing.

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 received the grant in November 2011, and we started the project in January 2012. In general, the implementation of the project followed the proposed schedule.

Month 1st (January 2012) to 8th (August 2012): field sampling.

Month 9th (September 2012) to 15th (April 2013): data analysis

Month 16th (Mayo 2013) - 17th (Junio 2013). Final report production and submission.

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
Communications	340	340	0	
Laptop	950	800	150	We found a cheaper computer that fit our needs
Fibreglass tape	40	40	0	
Backpack	0	150	-150	This money comes from the remaining fund we had for laptop
GPS	300	300	0	

Nylon bags	25	25	0	
Accommodation	1200	1000	200	We saved money here to compensate the increased price of the gasoline.
Transportation	3000	3345	-345	The price of the gasoline increased during the execution of the project so we expended more to complete the sampling. These funds come from the ones we saved in accommodation and project report.
Report production	145	0	-145	We saved money here to compensate the increased price of the gasoline.
Total	6000	6000		

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

The next steps should include (1) increasing public awareness on the value of serpentine communities and the Cuban flora in general, as a tool to multiply the number of persons concerned for their conservation. Also, it is important (2) to promote and develop local conservation initiatives with practical conservation targets and scientifically supported.

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?

The Rufford Foundation logo was used in every lecture we spoke and the support of the Foundation thru the RSGF was recognized and acknowledged. We will continue doing so in the upcoming publications and presentations.