

## The Rufford Foundation Final Report

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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**

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Grant Recipient Details	
<b>Your name</b>	Natalia Mesa-Sierra
<b>Project title</b>	Natural Capital of the tropical dry region of Veracruz
<b>RSG reference</b>	206761
<b>Reporting period</b>	10-10-16 to 10-10-17
<b>Amount of grant</b>	£4972
<b>Your email address</b>	nmesasierra@gmail.com
<b>Date of this report</b>	17-10-17

**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
Vegetation inventory				
Recording of GPS points				
Database creation				
Analysis of satellite imagery				
Collection of wood samples				
Laboratory analysis of wood samples				
Scientific manuscript				As I specify in the initial proposal, the manuscript will be ready by January 2018. I'm already working on its analyses and writing.
Workshops with the community				

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

Due to security issues prevalent in Veracruz, I wasn't able to sample the vegetation of the initial sampling design. Some of the original sites selected for sampling were too risky to visit. However, I relocated some of the polygons and at the end I was able to obtain an excellent sample of the region's vegetation.

Due to the cloudy climate of the region it was difficult to obtain clean imagery (without clouds and/or fog), but this was fixed by making atmospheric correction of the satellite images.

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

- Recognition of how the diversity of woody plants and tropical dry forest are distributed in the region: With the vegetation sampling and mapping I was able to obtain detailed and current information on where are the most important spots of diversity and their conservation status in the lowlands of central Veracruz. My results show that even though the majority of forested vegetation patches in the region are secondary forest, they are still highly important refugees of tree diversity.

- One of the most important outcomes of my results is the corroboration in the field that the region is not being pushed into a process of biotic homogenization, in which only a few tree species will prevail in the future. The latter, in spite of the intensive human activities prevalent in the region; to date this region still harbours remarkably high beta diversity.
- Another important outcome was the interaction with and the guidance of the local farmers through the environment problems and needs they face nowadays; I met and worked with eight different communities, each with different social backgrounds. In collaboration with key actors in each community I was able to remark the importance of conserving the high forested diversity that still prevails in the region and explained to local inhabitants how this will provide benefits.

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

Local communities were involved and benefited in different ways:

- During the vegetation inventories I hired local workers to help me and while doing so, I was able to teach them vegetation sampling techniques. It was also very profitable to me because I had the opportunity of learning common knowledge of the region's plants and their uses.
- In one of my sampling spots I was fortunate to work with a group of nine farmers with a strong concern about forest conservation. They have created a private reserve named "UMA Amelco". They were having conflicts within their own community due to logging interest of other inhabitants. In this locality I worked with the primary school in a couple of workshops as well as with the parents of the school kids in order to explain the environmental issues the planet is going through and to give basic ideas on how to help, protect and be committed with the planet's wellbeing. The workshops also helped to open communication channels between the farmers and the community.

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

This work is in its developing phase; there are some pending activities such as:

- Assessment and mapping of environmental services (biodiversity, pollination and carbon sequestration).
- Further activities to strengthen the relationships between farmers from "UMA Amelco" and their community.
- Workshops with other communities of my sampling sites.
- Satellite imagery analyses of the landscape variables that could be related with the spatial biodiversity patterns that I found.
- The project's team will have meetings with the officers of the secretary of environment of the state of Veracruz to show the results of how the forested

diversity is distributed in the region, as well as to work with them on management policies.

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

There will be different ways I will share the results:

Scientific papers, the first one will be submitted by January 2018.

Scientific disclosure: an article for a general public of the state of forests in the region will be published on 2018, including an approach of the services they provide.

A guide of the medical uses of the plants of "UMA Amelco". This will be a result of teamwork with the farmers that own the reserve and have the traditional knowledge of the plants.

Participation on different congress and conferences on forest conservation and its uses. In July 2017, I attended the Mexican Ecology Congress where I shared my preliminary results and received valuable feedback that helped me to improve my methodology of analysis. In March 2018 I am planning to attend the annual meeting of the Natural Capital Project to share my results and improve my knowledge and skills on the ecosystem services assessment.

Finally as I stated in the previous point, I will also communicate my results directly to the decision makers of Veracruz State working in the agency SEDEMA, which is in charge of the environmental policy of the State.

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

The Rufford Foundation small grant was used from October 2016 to October 2017. The actual length of the project is four years, of which the first two years have being already completed.

**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.**

1 £ sterling = 4.44 Nuevo Sol  
**Local exchange rate:** 1 £ sterling = 24.76 Mexican Peso

Item	Budgeted Amount	Actual Amount	Difference	Comments
GPS Trimble Juno 3B	773	0		Dr Javier Laborde provided a GPS, and this saving allowed me to cover other expenses of the project.

Forestry Suppliers Metric Fabric Diameter Tape	64	64		
Nikon® Coolpix® AW130 Digital Camera	250	250		
Alcohol 70% to preserve the samples	54	54		
Plastic bags to collect the samples	70	70		
Rite in the Rain® Field- Flex Notebooks	214	214		
Field assistant	1702	1912	210	I increased the number of sample plots, so the amount of fieldwork was increased and more help was required.
Diesel	1080	1521	441	On 2017 Mexico went through an increase of the diesel fare.
Laboratory analyses	533	533		
Institutional car rent 162 Nissan 4×4 (0.058 per kilometre × ~ 2800 kilometres)	232	232		
Workshop materials	0	122		In order to involve the community a set of workshops were organized. The Rufford grant covered the material expenses to provide the community a complete experience of learning.

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

There are numerous steps forward; among the most important ones are:

- To complete the assessment and mapping of the ecosystem services of the region, through GIS analysis using my field data.
- To contact and work with the decision makers of the State of Veracruz on a forest management program to preserve and to enrich the region's diversity.
- To improve the understanding of the environmental issues by local inhabitants that live close to the forest remnant vegetation of the region, in order to ensure their maintenance and protection, as well as to help them to find alternative profitable activities without destroying the forest.
- To obtain my PhD degree in order to start a professional path that allows me to continue with the conservation interests I have.

### 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?

I used the Rufford Foundation logo in two opportunities:

- For an oral presentation in the Mexican Ecology Congress (León, Guanajuato 2017).
- For the workshops (Primary school and parents) with one of the communities I worked with.

Additionally I have presented four semestral evaluations of my advances with my PhD thesis in INECOL and in each occasion I have mentioned the grant from The Rufford Foundation and used the logo in my Power Point presentations with my postgraduate committee.

### 11. Any other comments?

Vegetation inventory process and the laboratory analyses of wood samples.



Workshop with a primary school of one of the communities I worked with.

