

## 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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<b>Grant Recipient Details</b>	
<b>Your name</b>	Ricardo Romero
<b>Project title</b>	Management of Secondary Cloud Forest
<b>RSG reference</b>	18346-1
<b>Reporting period</b>	April 2016 to March 2017
<b>Amount of grant</b>	£5000
<b>Your email address</b>	bosquedeniebla@prodigy.net.mx
<b>Date of this report</b>	31st March 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
Determine the sustainable harvesting rates of six TCMF tree species, securing the maintenance of their populations.				The tree species with highest potential for timber harvesting were defined based in their timber quality and abundance. The distribution of diametric categories for all tree species was calculated. The Rufford grant was used to purchase the materials required for the dendrometric bands. However, the bands will be install in selected trees after the first harvesting (planned for the second semester of 2017).
Develop the first integrative management plan for secondary TCMF				The management programme was completed and will be submitted to the Mexican Secretary of the Environment (SEMARNAT) in April 2017.
Elaborate a training course to develop management plans for TCMF for local communities and technicians.				We designed a field course with the participation of members of the cooperative and guest speakers (see information attached). We would like to offer this curse at the end of 2017.
Elaborate guidelines for secondary TCMF management targeted to federal programs.				We have prepared a series of recommendations for secondary cloud forest management but in order to complete the guidelines we need to implement the management program and monitor the effects on the forest to support our recommendation before deliver. Based on the preliminary results we will be able to produce a set of recommendations targeted to different stakeholders. In the next phase we would like to prepare dissemination materials to increase the outreach of the project.
Establish permanent plots for monitoring the effects				We established a total of 65 permanent plots along four

of harvesting on TCMF regeneration dynamics.				conditions. We will monitor seedling survival in these plots after one year (April 2017). The information about tree regeneration will be used to support management recommendations.
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

Due to the required work the forestry consultant fee was higher than planned. In order to compensate the budget we had the support from another research project (focused on the analysis of cloud forest restoration initiatives) which paid the fuel expenses and a field technician salary. We then use part of the Rufford funding for these activities to cover the forestry consultant fee.

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

We completed the forest inventory, identified the tree species present, determine harvesting volumes, and produced maps with stands and roads.

We have for the first time in México a forest management plan for secondary cloud forest based on selection cuttings.

To launch a monitoring system, we established 65 permanent plots that will provide us with very valuable information for the future adjustment of this cloud forest management plan. These plots were established in four different conditions and will produced useful information about the recovery capacity of this forest to different management strategies, in terms of forest structure, composition and regeneration. These plots will be the baseline to evaluate the effects of timber harvesting on forest attributes.

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

During this stage, three members of the cooperative have been working very close with the advisors, and together we plan to organise a 1-week training course to other members of the cooperative at the end of 2017.

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

Thanks to the support from RSG we managed to develop the first phase of the project. In the next phase, we plan to implement the forest management programme. We will harvest timber of 13 species in stand 1 in order to obtain economic benefits for the cooperative, and would like to implement applied research to generate information to adjust the silviculture system. The management program cover a 7-year cutting cycle and will give us the opportunity to assess the

effects of the interventions on the growth rates of remnant trees, as well as on tree regeneration.

To determine growth rates of the five most important tree species, 50 dendrometric bands will be installed, for each species, on trees > 10 cm dbh in August-September 2017.

The results from the sampling plots showed that the density of seedlings and saplings is relatively low in some conditions. This means that in order to guarantee future recruitment of the most valuable species enrichment plantations might be necessary. For this purpose, we have collected and sown a total of 800 seeds of threatened cloud forest trees in a nursery (400 seeds of *Juglans pyriformis* and 400 seeds of *Quercus insignis*). We plan to continue seed collection in the following months for other desirable species in order to secure their establishment. Seedlings will be transplanted after the first harvesting in stand 1 at the start of rainy season next year (June 2018).

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

We are writing a popular science article with the main findings of this project, to be submitted to an online Mexican journal.

We are also writing a scientific paper about the recovery of cloud forest after 20 years of active and passive restoration interventions, we plan to submit this manuscript in November-December 2017 to the journal Restoration Ecology.

**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 grant was used over a period of 12 months. This phase of the project included the management plan, which was accomplished. Next phases will be focussed on the actual implementation of this plan, and monitoring its effects on this type of forest.

**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
Field assistant salary £ 10 x 80 days	800	100	700	Dr Tarin Toledo (INECOL) absorb some of this expense in order to use part of programmed budget to cover the consultant fee.
Forestry agency	3000	4500	-1500	The forest consultant fee was higher

consultant fee				than originally planned. The Cooperative Las Cañadas contributed with part of this expense.
Fuel £ 20 x 30 days	300	100	200	Dr Tarin Toledo (INECOL) covered part of the fuel expenses. The grant paid only the fuel used by the field technician.
Equipment (densiometer, compass, 50 m and 10 m measuring tape, dendrometer bands, GPS, labels)	900	1012	-12	Dr Tarin Toledo provided materials and equipment to carry out the forest study in the permanent plots. The cost of the materials for the dendrometric bands was higher due to variations in the exchange rate (1 USA dollar = 20 Mexican pesos) to import the materials from USA.
<b>Total</b>	5,000	5,712	-712	The cooperative Las Cañadas and Dr Tarin Toledo contributed to cover the deficit.

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

In the short term, we are going to implement the harvesting plan to obtain financial resources that will give us self-sufficiency and to acquire experience in this activity. A central component of the project is to increase the capacities of our cooperative members for the whole forest management activities that will be implemented in the next years. We plan to develop a proposal looking for funding to support the implementation of studies that will help us to adjust the silvicultural system and to generate data on forest responses to different harvesting intensities. This information is essential to develop best management practices that will be the base to spread this experience to other forest owners in the region. We are analysing the potential to include the production of honey from native bees to diversify the forest production.

**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?**

We have not used the logo from The Rufford Foundation but we will include the Rufford Foundation in acknowledgements in all publications resulting from this project, and will include the logo in presentations of the field course we are planning to offer.

**11. Any other comments?**

We want to thank your support to accomplish this phase of the project. This grant has help us to go a step forward in the goals we established some decades ago, when we started the cloud forest restoration mission of this cooperative. Now we will pursue the venture to develop a cloud forest management scheme adequate to the conditions we have in Veracruz.