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. 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	Cecilia Smith Ramírez
Project title	Removal of exotics plants in threatened forests of Juan Fernandez Archipelago, Chile
RSG reference	8970-1
Reporting period	December 2010 to November 2011
Amount of grant	£6,000
Your email address	csmith@willnet.cl
Date of this report	16th December 2011

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
Objective 1. - Remove mechanically *Aristotelia* and *Rubus* in different essays along a slope, in the border of the forest.			X	15 treated gap areas were created by the community in the ecotone of the invasive shrubs with the native forests. Each area was of 6x6 to 10x10 m^2. These gaps are in slopes of 20° to 40° and distributed in two sub-areas with different exposure. During January 2011 this gaps will be increase 5 m in size by the park rangers, in order to create a buffer area.
Objective 2. - To plant endemic ferns and cover the soil to prevent new seed invation.			X	We planted native ferns of three species in each one of the gaps. This is the first time that ferns are used as soil cover; we did not know which species are most successful to transplant and to cover the soil. Six ferns by each species were planted in the border of the gaps and six in the centre of the gaps. These essays are experimental, then we used the minimum ferns possible, in order to not destroy the maternal plant of ferns. The species more resistant to transplant until now has bee *Rumohra berteroana*.
Objective 3. - Stop the erotion in areas where *Aristotelia* and *Rubus* are removed.			X	We are measured the soil erosion after the gaps were created by the community. In one sub-area the erosion in the invasive shrubland was statistically similar that in new bare soil; in the other sub-area the erosion was statistically smaller in the invasive shrubland than in the new bare soil discover. In average, in the two areas, we found moderate soil erosion (in average 30 mm) during the first three months (middle July to middle October), and moderate erosion during middle October to middle December (average 32 mm), but statically more erosion in area with more slope. Then, we conclude that the design and size of the gap areas in slope sites were adequate (during this austral winter). We hope in the next years cover the soil with the fern species that we planted, and to translate these results massively to other areas.

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

To remove invasive species in slope areas is very slow and dangerous. Sometimes the workers needed to be bounded and hanging to a tree in order to cut with chainsaw or flail cutter the invasive shrub that was slope down. By this reason was not possible to create more than 15 experimental

treated gaps. But this number is enough to have succesfull results of the different essays that we are doing.

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

1. To work with the community in a common objective, to have the confidence of them, which is absolutely neccessary in a restoration forest work.
2. To know the response of the most common cover ferns to transplantation. Additionally, we are doing essays to reproduce of them by spores. With spores we can have hundred of ferns to use in restoration cover soil.
3. To know the optimal size of the gaps in areas with different slopes were we can found moderate soil erosion during the first winter after the soil will be bare.

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

I think that probably this was the most relevant part of the project. The fernandezian community is complex, they have high distrust of the scientists. In this project the community designed the major part of the areas to remove of invasive species, they understood the objective of the project and are very anxious to know the results. The major part of the money expenditure was destined to salary to them.

5. Are there any plans to continue this work?

Yes. We have planning a new essay in "experimental Rufford gaps" to cover the soil and to preclude the establishment of seedlings of invasive species. Furthermore, we included in this project a new objectives that was: to have germination ferns of spores and germination of *Gunnera* species (giant herb), in order to be used as cover soil. During January 2012 the park rangers will establish new essays in "Rufford gaps" with "nest kill-weed", which permit to us to increase the gap area, due to, this method preclude erosion problems. The total area covered by invasive species on Robinson Crusoe island are 927 ha, most of them in strong slope, then we planned to continue looking for different methods to obtain the best results to control the invasive species and stop the erosion.

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

We prepared a report by National Forestry Committee; one copy will be delivery to regional office and other to park rangers on Juan Fernandez Islands. Other copy will be delivery to environmental leader of the community that worked in the creation of Rufford gaps.

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

We received the money on December 2010, but we began the project on May 2011 due to the community workers were busy in the re-building of its cementery and green areas after the tsunami of late February 2010 destroyed part of their town. Now, we are working still in Rufford gaps, but if we will be more time to prepare this report, we would have had more results to show. It will be better by us to prepare this report in April 2012, in order to show the new essays and results with "nets kill-weeds" as cover soil.

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
Honoraries community	4200	4,068.87	-131.13	We paid 13 salaries during two months, 288,000 chilean pesos/month (392.9 pounds/month). The difference was due to had more material costs.
Materials	800	1,223.56	423.56	It was neccesary to buy a flail cutter
Travels	1000	665.01	-334.99	The difference was cover to other project of the main researcher, we decide to put more money in to buy the falil cutter.
Total	6000	5957.44		
Tax		42.56		
Total		**60000**	**Local exchange used: 1 chilean peso = 733 pounds**	

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

I feel very satisfied with the results, in spite of with two species of ferns we don't have successfully in the transplant. Probably this negative result with these species was a mistake of us in the method used to plant it. In this winter we will be trying with other method and we will include a new fern species. The most difficult by us was to create the gaps. Since this experimental area was created the park rangers are very curious to try new methods to help to the native forest cover the bare soil after weeds are removed. We began with Rufford, now continue will be easier.

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. I am attaching you the document.

11. Any other comments?

Thanks to trust in us.