

**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	Alexander Alexiades
Project title	Understanding the impacts of hydroelectric dams on stream ecology and endemic fish species
RSG reference	16118-1
Reporting period	9/2014-9/2015
Amount of grant	£4127
Your email address	Ava29@cornell.edu
Date of this report	6-5-2015

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
Hydrological classification models			✓	
Relating native fish species to stream flows/environmental variables			✓	We were only able to sampling in smaller headwater streams because lower rivers were too difficult to sample with any level of statistical confidence. The headwater streams only contained one native genus- <i>Astroblepus</i> -but we provided some of the only information on their life histories.
Understanding effects of invasive rainbow trout on native species			✓	This was not part of the original grant application, but became an interesting project.
Understanding effects of <i>Astroblepus</i> (native species) vs. rainbow trout (invasive) on biogeochemical nutrient cycles			✓	This was not part of the original grant application, but became an interesting project.
Workshop in Tena		✓		Although we did not end up doing a workshop in Tena, the results will be shared in a series of three workshops in Quito by colleagues this summer. The workshops will involve local and national actors and stakeholders.

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

We were relegated to headwater streams because sampling in the larger rivers lower in the Napo Basin was impossible. We instead focused on mid to high elevation streams and were very successful, being the first to provide life history information on *Astroblepus vaillanti*.

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

- a. We were the first to classify the ecohydrology and physicochemistry of the entire Napo River basin.
- b. We were the first to provide life history information on the habitat preferences of *A. vaillanti* in the form of species-habitat models.

- c. We were the first to study the differential effects of invasive rainbow trout (which have displaced *A. vaillanti* in many streams) and *A. vaillanti* on nitrogen and phosphorus cycles in the Napo River and provide the first nutrient excretion rates for any *Astroblepus* species.

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

Our physicochemical and ecohydrological classifications will be used by Ecuadorian conservation agencies for management purposes. I also worked with several local students giving them valuable field and lab experience.

5. Are there any plans to continue this work?

Yes, dependent on more funding. We are also currently working on a series of four publications resulting from this work.

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

My colleagues in Ecuador are conducting three workshops to share our findings (and other findings associated with the project) with local and national government scientists in Ecuador this summer.

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

I was living in Ecuador doing this project for a year, but most of the Rufford Foundation grant was used in January-March 2015 when I conducted most of the fieldwork. It compared favourably to the anticipated length.

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
Transportation	2639	2000	-639	Transport was cheaper than anticipated.
Fuel	450	400	-50	
Food	500	600	+100	We spent more on food than expected.
Field Supplies	200	1000	+800	We ended up needing more supplies and equipment than expected.
Workshop expenses	338	0	-338	
Lab supplies	0	500	+500	We did more lab work than expected and had to purchase additional supplies and chemicals to complete the work, which wasn't anticipated.

Total	4127	4500	+500	The additional expenses were covered by my host lab and out of pocket.
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9. Looking ahead, what do you feel are the important next steps?

In the near term, I think it is very important that we publish our results on *A. vaillanti* since there is almost no published information on the species. We will continue to publish other papers from the project over the coming years and try to secure more funding. I will also present at upcoming Fisheries Society meetings.

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, I used the logo in several talks I gave, on my blog, and through other social media in relation to the project. I also provided some field pictures of my work to Rufford earlier this year.

11. Any other comments?

This was a very productive project that surpassed expectations in every way and was an excellent experience. I think our results will be useful for species and habitat conservation in Ecuador and provide information for the scientific community on a rarely studied species.