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. 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. 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	Edwin Tambara
Project title	An applied ecological assessment of the drivers in decline, distribution and conservation of five endangered frog species in the Eastern Highlands (Zimbabwe)
RSG reference	11050-1
Reporting period	Final
Amount of grant	5680.00
Your email address	edytambara@gmail.com
Date of this report	28/01/2013

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
To locate and determine distribution of the five endemic frog species		✓		We managed to locate two species from the targeted five species, *Strongylopus rhodesianus* and *Vandijkophrynus inyangae*. The *S. rhodesianus* we found on Mount Inyangani was more interesting because of its colour pattern which had never been seen before.
To assess habitat conditions			✓	Our major finding concerning habitats in which these species have been located before is that, the greatest threat is shifting of rainfall seasons due to climate change. The areas are becoming drier than normal.
Determine main threats to population of each species		✓		The main threats to the two species we located were climate change, fire, invasive tree species (wattle) and plantations.
Awareness on conservation of amphibians		✓		Our awareness was mainly targeted at National parks management in Nyanga and university students. Most of the research officers and biological science students at the University of Zimbabwe now have an appreciation of amphibians because of our research. A lot remains to be done with regards to this objective but our work has put amphibian research and conservation on the map in Zimbabwe. This has resulted in seasoned researchers and conservationists from other countries contacting us so that we could work together on amphibian conservation in Zimbabwe. Our project gave birth to another bigger project "Rapid assessment of the herpetofauna of the Chimanimani-Nyanga Mountains Corridor". We will be working in collaboration with Hendrik Mueller (Principal investigator: Germany), Simon Loader (UK), James Harvey (South Africa), Edwin Tambara (Zimbabwe). Our main

				drive now will be to increase awareness among local scientists and students.
Training and involvement of local team members				Six students from the university of Zimbabwe were directly involved in the project and were trained on how to carry out amphibian surveys.

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

Identification of some of our specimens was problematic due to inexperience on our part however, we managed to contact experienced herpetologists (among them, Alan Charning, James Harvey, Don Broadley and Rob Hopkins) who provided invaluable help.

Initially, we had planned our field surveys to start beginning of November because the area is known to receive rainfall from the beginning of November to May. Our target species start to breed with the first rains therefore high chances of locating them. To our surprise the area had not received any rain by mid-November and was very dry, therefore we had to change our sampling schedule. This showed the need for reliable rainfall and seasons data in Zimbabwe, since most of the information we are using concerning rainfall patterns is based on observation that were made in 1965.

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

1. Scientific outcome. The major outcome from our project indicated the intensity of threats to habitats not only to amphibians but to different animals in the two parks and surrounding communal areas. The main threat is climate change and there is need to upgrade the information concerning rainfall patterns in the area. The effect of fire that mostly emanates from pine plantations in the parks is reaching to some of the pristine sensitive habitats. Due to the increasing dryness in the area fire frequency is increasing in the park. Invasive species such as the wattle tree continue to extend their distribution especially along the water courses and rivers in the area. These areas also happen to provide the ideal habitat conditions for amphibians in the park. Thus our project highlighted the threats to habitats and organisms therein that are posed by continued invasion by invasive species. To this effect the parks management has begun a project aimed at eradication the wattle tree in some sections of the park, however this project is still at the initial stages and the method being used are yet to be verified if they will be effective.

2. Awareness and Enthusiasm. The most important outcome from this project has been the awareness that it has raised concerning amphibian conservation in Zimbabwe. In recent years, there has been no ecological research of any sort directed at amphibians let alone conservation work. Therefore our project highlighted the need for such work and has created a lot of interest among scientist and parks management. Due to this awareness other conservation projects are now coming up focused on amphibian conservation, herpetology and invasive species ecology. The level of enthusiasm of all the people involved in the project has been amazing. Team members took responsibility for the project especially in training national park officials and university students. We also attracted the attention of international amphibian conservationists and biologists who want to collaborate with us on several upcoming projects.

3. Innovative monitoring. With the support of the national parks management we are establishing an amphibian monitoring platform in the eastern highlands, called "Frogging Along the Way". We have layed out the ground work for this work but more still needs to be done. Since there are no trained ecologists in Nyanga and Chimanimani National Parks there are not any monitoring programmes in place, especially for small taxa animals such as amphibians, however, tourism is the dominant activity in these parks. We realised that most of the tourist who visit these areas have interests in these organisms some of them take pictures and record information that is valuable. Some of the habitats were these frogs have been located before are frequented by visiting tourists, such as Inyangani Mountain, Mtarazi Falls, Pungwe Falls, Mare River and Pungwe Gorge. What we have done is to come up with information leaflets with pictures and information concerning these frog species. These leaflets will be given to tourists on arrival as part of their information packages. The leaflets detail the aim of this platform and inform the reader on how they can participate. Those willing to help will do so by taking pictures of frogs they encounter during their tours in the park and filling information concerning location and habitat conditions in the spaces provided. We out a pilot survey with a few tourist and they were willing to participate and come up with interesting results and suggestions to improve operation of this platform. We are still working on how to effectively implement this platform, eventually we want develop a website where information gathered will be uploaded and be accessible for other uses. The parks management has welcomed this platform since its use can be developed to cover other animal groups found in the park.

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

The main thrust of the first phase of this project was not to work with local communities but our field work presented several opportunities for direct interaction with local people. In all the communities we worked that were adjacent the national parks we first had to ask for permission from the head of the village and in each instance we had to brief them on our work. This raised a lot of interest from them and most of them were surprised that people would come all the way from Harare for the sake of frogs. After explaining to the importance of frogs and their conservation most of them appreciated the need to conserve frogs and the habitats. On a few occasions some school children were willing to assist in our surveys and they enjoyed working with us. However, since most of our work was conducted in the parks, the people we influenced the most are those from the park's community. Initially most of them had no appreciation of our project but after interacting with them and involving them in the project's activities they developed an enthusiasm which was very encouraging to our team. They benefited from the project and developed skills, abilities and knowledge that could be critical in conservation of these endemic frog species in these national parks. These people have now become our agents on the ground, some of them are helping us in implementing the Frogging Along the Way monitoring plan.

5. Are there any plans to continue this work?

As highlighted before this project has helped to bring attention to the conservation and research needs of amphibians in the Eastern Highlands of Zimbabwe, therefore the project will continue. This project has been an eye opener not only to the team involved but to all the stakeholders who were directly or indirectly involved in the project. Most of our objectives were partially fulfilled which means there still a lot of work to be done. It is clear that a there is need for more ecological research aimed at providing information needed to initiate informed conservation activities for the endemic frog species. Continuity of our project will revolve around the Frogging Along the Way platform. Our

vision is to see this platform grow into other activities that will include awareness, initiating and advocating for conservation of amphibians and other organisms. We will also be involved in another project that has similar objectives which will be looking at assessment of the herpetofauna of the Chimanimani and Nyanga Corridor. This project will use most of the information we have generated in the amphibian project.

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

We have already started to share our results with colleagues in the scientific community. Our findings have generated a lot of interest from researchers who have previously worked in the Eastern Highlands of Zimbabwe. We have also shared our findings with experts from the Bulawayo National Museum and Monuments and we have donated most the frog pictures for display in the museum. We hope to get some of our findings published in scientific journals in this regard we have developed a manuscript for publication concerning threats and habitat conditions in Nyanga and Chimanimani National Parks. There are also other species of frogs we found which have not been identified, the experts we are working with have highlighted that they could be new species to be described, therefore we also hope to have more scientific papers from description of these. We have carried out awareness campaigns and through these campaigns we have been able to share some of our findings. We have also presented our work during seminars organised by different organisations such as the World Wetlands Day by Mukuvisi Woodlands on 2nd February 2012, conservation seminar by the Research Platform-Production Conservation in Partnership (RP-PCP/CIRAD) on 8th November 2012, and Wetlands Conservation and Policy Discussion Seminar by Humanitarian Information Facilitation Centre (HIFC). Thus the most efficient way of sharing our results has been through presentation at seminars hosted by different organisations involved in conservation. We have also provided valuable information to some colleagues in the African Amphibian Working Group. Most this information concerning distribution of some of the species we located in during our surveys. We also participated in the IUCN, Eastern Afromontane Amphibian Assessment meeting that was held in Trento: Italy, 2nd – 4th June 2012. In this meeting were assisted in the assessment of amphibian species in the Eastern Highlands of Zimbabwe in updating the IUCN red list status. Since this is a continuous process we hope to continue assisting in this regard as our project continues and as we gather new data about our frog species.

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

The funds were used over a 1-year period (January, 2012-January 2013), as anticipated. The overall project continues.

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
Travel from Nyanga to Harare	1400	2470	1200	We had under estimated the cost of hiring a 4X4 vehicle that was suitable for travelling the terrain in Nyanga and Chimanimani. Thus, the cost of hiring the 4x4 truck

				and fuel stretched our budget.
Accommodation	3200	1800	1400	The two national parks are very safe areas to camp, thus, instead of staying in the expensive chalets in Nyanga we were able to camp during all our field trips.
Equipment	730	1220	490	Apart from the GPS, camera, stationery, amphibian guides and torches we had budgeted for, we had to include camping materials, such as tents and a gas cylinder and cooker and instead of one amphibian guide we had to buy four because of the need to identify several species we came across
Research permit and Park entry fee	350	40	310	When we applied for the permit we were informed that since we were all local researchers we were only liable to pay £30 for the permit and £10 for the park entry fee. We had to use some of the money to buy more equipment.
Unforeseen	0	150	150	This money was used to pay some of the people who assisted us during our field surveys. We also used some of it to buy maps and for the trip to Bulawayo National Museum for the meeting with Don Broadley and Rob Hopkins
TOTAL	**5680.00**	**5680.00**		

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

The Eastern Highlands of Zimbabwe are a special place with unique flora and fauna, therefore there is need for urgent efforts to initiate habitat conservation in this area. The effects of climate change are often difficult to counter at a local scale, therefore in the immediate future not much can be done, however, some of the steps that need to be taken to save frogs in this area include, eradication of invasive tree species (e.g. wattle tree) in the two national parks especially along river channels, removal of pine plantations from some sections of the parks, restricted access to some of the sensitive habitats by tourists (tourists can reach and access any area in the park without any restrictions, this is creating pressure on some of the areas that are hotspots and are frequently visited). Another critical factor is the need for a permanent ecologist in the Park to coordinate research in this area. Concerning our endemic frog species, there is need for longer-term and broader-scale funding that will enable adequate surveying of the area to establish weather some of the species still exist or they have gone extinct which will be a tragedy.

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, the support RSGF was duly acknowledged an all our presentations and seminars. We always highlighted were the funding for our project was coming from and since we are one of the first team young scientist to be funded from the University of Zimbabwe, it was very encouraging to our colleagues. The RSGF logo is displayed on our Frogging Along the Way information pack and all our posters.

11. Any other comments?

The positive implications of this project are not only limited to conservation of the five endemic species in the Eastern Highlands of Zimbabwe, but this project has helped to ignite research focused on small animal taxa, which are often ignored in favour of big emblem animals. The local and international attention that has been drawn towards amphibians in Zimbabwe will usher in a new era of conservation research that is needed in this country. Our deepest gratitude goes to RSGF for giving us an opportunity and the capacity to do this project.