

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	Tun-Min Poh
Project title	Kinabatangan River Spirit Initiative: Contributing to Freshwater Conservation and Sustainable Livelihoods in the Lower Kinabatangan River
RSG reference	12957-1
Reporting period	February 8th 2013 through February 8th 2014
Amount of grant	£5990
Your email address	Tunmin.poh@gmail.com
Date of this report	March 24, 2014

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
Assess the status and threats to freshwater fish abundance and diversity, and critical habitat from local ecological knowledge (i.e. interview surveys and community mapping) in the Lower Kinabatangan		✓		A total of 110 local communities' members from six villages in the Lower Kinabatangan have participated in interview surveys evaluating the value, changes, and threats to the Lower Kinabatangan River and its fishes. Community mapping has been discussed with community leaders in four villages, and several different methods have been experimented with. However, to-date, we have not yet been able to conduct the mapping exercises due to time limitations when in the field (see question #2 below for elaboration).
Conduct regular monitoring of fish abundance and diversity		✓		We worked with several fishermen in Sukau village to learn about present practices, and to develop fish sampling methodology. This methodology was tested several times over the course of 6 months with the assistance of local community members (former fishermen). However, regular monitoring has not yet begun as we feel we need to first engage with a larger number of local fishermen. This would be to ensure there is a clear understanding of our objectives and encourage long-term participation and ownership of the findings/output.
Conduct regular monitoring of fish habitat health (i.e. water quality)			✓	Regular monitoring of water quality is being conducted by a team from the local community (members of HUTAN/KOCP) in Sukau (see question #3 below).
Improve local stakeholder awareness can capacity for participation in river conservation, relating fish health to river health and ecology		✓		16 community members from six villages were trained to conduct interview surveys in their home villages (11 other trained HUTAN/KOCP staff assisted in the interview process). Awareness about water quality and the effects of agricultural pollution on fish and local communities have been

				conducted with community members from the villages of Sukau, Abai, Batu Puteh, and Mengaris.
Identify opportunities for local-level participation in conservation action		✓		We have identified three community-based organisations which have strong interest in riverine conservation. We continue to work with local leaders in Sukau, Menanggol Abai, Batu Puteh and Mengaris to build their interest, and to encourage the role of local communities in conservation.

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

This first year of the project has shown us that we need more time in local communities, to build trust and understanding. To be able to focus on several key communities, we have reduced the scope of the activities. From the initially targeted eight villages, we have conducted interview surveys and consultations in six. Long-term monitoring and awareness activities are currently piloted in one village, while we have been working in two other communities to build awareness and identify opportunities for collaboration.

To facilitate our entry into local communities and garner trust within, we decided to work with existing institutional capacity. Our primary partners are HUTAN/Kinabatangan Orang-utan Conservation Programme (KOCP) and Community Ecotourism Cooperative in the Batu Puteh Community (KOPEL), two very established community-based organisations working in and around the villages of Sukau and Menanggol (HUTAN/KOCP), and Batu Puteh, Mengaris and Perpaduan (KOPEL). These organizations, as well Community Abai Project (CAP) in the village of Abai, were instrumental in our completion of interview surveys in six villages.

We were also unable to achieve our target funding for the first year. Therefore, we did not manage to hire the full-time staff or purchase a boat needed. Working with these existing organisations was invaluable in allowing us to carry out our work. HUTAN/KOCP and KOPEL contributed boats, fuel and manpower, and their cooperation and collaboration allowed us to have a successful project year.

Activities working directly with fisherfolk (i.e. community mapping; fish sampling) were the most time (i.e. time to build trust and recruit participants from the fishing community) and resource (i.e. requiring boats, fuel and manpower) intensive. These activities have not been completed as initially planned, although they have been tested with small focus groups.

In hindsight, the funding shortage has allowed us to focus our efforts and grow at a manageable pace. I believe that we have been able to be more successful in building relationships in local communities, and in ensuring future cooperation and collaboration with local communities and community-based organisations.

The expansion of current water quality monitoring is currently restricted by the availability of sampling gear. We realise now that although long-term data needs to be collected on physical and

chemical water quality parameters (which we are conducting in Sukau village), to empower more communities, a more practical way of monitoring needs to be developed.

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

In the first year of this long-term project, our main accomplishments are as follows:

1. Water quality monitoring

In collaboration with HUTAN/KOCP, long-term monitoring of water quality in Sukau village commenced in November 2012. A team of four staff from HUTAN/KOCP have been trained to monitor five physical and two chemical water quality parameters at 21 sampling sites (in both protected areas, oxbow lakes, and oil palm plantations), twice monthly. Several workshops were carried out to train this team, and this team presented preliminary results to village leadership in January 2014.

The project is working closely with KOPEL's existing water quality monitoring in Batu Puteh/Mengaris as well, and we have conducted a joint workshop with them to build awareness and understanding within the community about water quality monitoring and implications of preliminary results to the community.

A preliminary assessment of water quality was conducted in the village of Abai with CAP members to estimate the contribution of palm oil plantations to the area. This assessment found that the oil palm mills and plantation drains were affecting both the physical (i.e. turbidity) and chemical (i.e. phosphate and nitrate from processing activities, pesticides/herbicides, fertilisers) quality of the river and estuary, including several protected areas and Malaysia's biggest Ramsar site.

2. Involving local communities in gathering local ecological knowledge through Interview Surveys

16 community members from six villages were trained to conduct interview surveys in their home villages (11 other trained HUTAN/KOCP staff assisted in the interview process). A total of 110 local communities' members from six villages in the Lower Kinabatangan have participated in interview surveys evaluating the value, changes, and threats to the Lower Kinabatangan River and its fishes. While data analysis has yet to be completed, preliminary results suggest the following:

- Respondents from four of the six villages are still heavily dependent on the river as a source of food.
- Respondents from two of the six villages are still heavily dependent on the river as a source of water (i.e. for drinking, cooking and washing).
- The most noticeable changes in the river are: increased levels of sedimentation, decline in the cleanliness of water, and decline in fish and prawn abundance.
- The primary threats to aquatic life and overall river health is palm oil plantations and mills.

3. Research

99 samples collected of giant freshwater prawn, *Macrobrachium rosenbergii* over four villages for population genetics study (in collaboration with Danau Girang Field Center/Cardiff

University) as part of a broader effort to identify spawning grounds for this important source of food and income for local communities.

Preliminary findings from interviews and surveys relating to sharks and rays were submitted to the Department of Fisheries Sabah, Malaysia in 2013, contributing to their participation in a national conference relating to the Coral Triangle Initiative and the exploitation of endangered species.

Cooperation and collaboration from six local communities in the Lower Kinabatangan (i.e. Abai, Sukau, Menaggol, Bilit, Batu Puteh, Mengaris), six local government agencies (i.e. Department of Fisheries Sabah, Malaysia, Sabah Wildlife Department, Sabah Forestry Department, Department of Drainage and Irrigation, Environment Protection Department), three community-based organisations operating in the Lower Kinabatangan (i.e. HUTAN/KOCP, CAP, KOPEL), and three research institutions (i.e. Danau Girang Field Center/Cardiff University, University Malaysia Sabah, Rakuno Gakuen University).

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

All activities conducted have involved local community members, and the results have and will continue to be shared. The project evolves based on the results of activities as well as input from the local community. We are working with local academic institutions for heavy metal and pesticide testing of fish and prawns based on the needs identified by the local community. We have and continue to focus our work on bringing the benefits of conservation and sustainable practices back to the local communities because we see this as the only way to engage them in the long-term.

5. Are there any plans to continue this work?

Yes, this project was designed as a long-term project, and we are continuing our work there currently. Working with local communities requires long-term commitment, and we continue to build interest among the communities, and build capacity to continue the work for years to come. Even when we achieve our target funding levels, we will continue to work with local community-based organisations because we respect the relationships that they facilitate. Our hope is that they will continue to champion the goals and objectives of this project and facilitate long-term continuity for the project.

In 2014, in addition to continuing existing water quality monitoring in Sukau, we plan to complete community mapping in at least five villages, pilot fish abundance and diversity monitoring in Sukau, and develop and test macro invertebrate monitoring methodology as a long-term, inexpensive and practical way to monitor fish and habitat health.

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

We will continue to hold village forums to discuss the project and its results in the Lower Kinabatangan. We will work closely with HUTAN/KOCP and KOPEL's education and awareness groups to develop freshwater ecology modules. These groups work with local schools in the Lower Kinabatangan as well as throughout the state. We will submit reports on water quality monitoring to

relevant state departments (e.g. Environment Protection Department) and continue to update these government agencies of our work and findings.

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

RSG funding was used over the entire February 2013 through February 2014 period, which represents the first year of this long-term project. It is anticipated that the project will continue in its current form (with Kinabatangan River Spirit Initiative) for at least another 5 years.

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. T

Item	Budgeted Amount	Actual Amount	Difference	Comments
Waterproof digital 550 cameras (i.e. 3 units @ £183/unit)	550.00	271.33	278.67	The project only had to purchase two units instead of three, and at a reduced price (£135/unit). The remaining unit was funded by IDEA WILD.
Water sampler (i.e. YSI1970 Professional Series Professional Plus with Quatro Cable Assembly £924; probes and calibration solutions, etc. £1,046)	1,970.00	2,610.23	-640.23	The project purchased Hanna HI 9829 instead of the YSI sampler. The HI 2989 was highly recommended for ease of use. Furthermore, a Hanna Instruments store and servicing centre exists in Kota Kinabalu, which has made the maintenance and servicing of this unit more practical. The amount spent over budget was offset by savings in ground transportation (see below).
Field equipment (e.g. fish rulers, identification guides, clipboards, stationary, data sheets, etc.)	210.00	387.37	-177.37	In addition, the project purchased a digital scale for fish sampling, a depth sounder, batteries and two turbidity tubes.
Fish sampling equipment (e.g. gill nets, scoop nets, prawn traps)	160.00	232.02	-11.79	The project purchased two cast nets, three gill nets (varying mesh sizes), hook, line, weights and buckets.
Ground transportation (£32.80/day @ 120 days)	1,970.00	1,266.64	703.36	A big cost saving was made here because we acquired cheaper transportation to and from Kota Kinabalu to the field site, costing us £65/roundtrip versus £120/roundtrip, leading to a total

				savings of approximately £600. In addition, the project could not buy a boat as initially planned (ref. budget in original proposal). Some activities conducted required additional transportation via boat (these sites could not be accessed by road) so several instances of boat rental costs were also included here.
Survey costs: Materials (e.g. questionnaires, maps, brochures)	100.00	417.26	-317.26	In addition to the questionnaires and brochures, experience during early trial interview surveys proved that we needed to provide respondents with a gift of appreciation. Therefore, we had t-shirts made and distributed them to interview respondents. These t-shirts were also given to fishermen and other villagers who helped in conducting the interview, fish and water sampling.
Survey and Community Consultation costs: Room and board (3 persons in 8 villages, 2 night @ £10.25/person/night) ** originally 2 items in original proposal, each £250	500.00	352.78	147.22	In most villages, surveys and community consultations were conducted simultaneously, especially because the consultations we conducted in 2013 were mainly to introduce the project to the communities. Therefore, this room and board budget items for community consultations and surveys have been combined. We decided to focus on six communities instead of eight (explained above in question 2). Interview surveys were conducted by training local community members, which took additional time and effort, lengthening our stay in some villages, but in the end, the reduced number of villages involved led to budget savings.
Community consultation costs: Materials (e.g. brochures, posters, meeting hall rental and	530.00	455.52	74.48	Savings were made because we focused on fewer communities. We also produced some t-shirts with these funds which were given as

light refreshments in 8 villages				gifts of appreciation to village leaders during community consultation events.
Total	5,990.00	5,993.17	-3.17	

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

Given what we have learned from 2013, going forward, there is a need for local representation of the project. This will mean full time presence through at least one full-time person committed to the project in the field. We will do this in collaboration with our partners in the field to help identify candidate and provide a management structure and monitoring.

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?

The RSGF logo was used in brochures produced for distribution in the field as well as in government departments. The RSGF was acknowledged both at the local level during presentations to local communities, at the state level during a poster presentation for the Heart of Borneo Conference (Kota Kinabalu, Sabah, Malaysia) in 2013, and internationally at the 2013 Zoos and Aquariums Committing to Conservation (ZACC) (Blank Park, IO, USA).

11. Any other comments?

We are very thankful or the support of RSGF in our first year of operation as it has been our biggest funder in this period. Community-based conservation requires a long-term commitment, which our project intends to deliver on. We hope that RSGF will continue to support our project in the coming years.