

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	Gurgen Khanamirian
Project title	Butterfly species and habitat conservation in selected region of Armenia
RSG reference	13693-1
Reporting period	1 st of September, 2013 – 30 th of December, 2014
Amount of grant	£6,000
Your email address	gurgenkhan@gmail.com gkhanamirian@aua.am
Date of this report	28 th of December 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
1. Introduce the concept of Prime Butterfly Areas (PBA) to the Ministry of Nature Protection (MNP), and the Administration of National Park 'Arevik' (NP).			The task is fully achieved	<p>The workshop was attended by representatives of key development organizations such as WWF Armenia, UNDP, and German Organization for International Cooperation (GTZ). Representatives of Ministry of Nature Protection (MNP) could not attend the workshop for technical reason. Nevertheless, we have arranged implementation of the next seminar directly with the representatives of MNP. In addition students of YSU and AUA have participated the seminar as well.</p> <p>For Ministry of Nature Protection a separate seminar was conducted</p> <p>The idea of creation of the Prime Butterfly Area (PBA) network was welcomed by participants and the approach related to the cycle of works, such as inventory of fauna, zoning of the areas of National Park, designing of routes, development of informational materials for butterfly watching, and training of personnel of the National Park, was highly valued.</p> <p>In addition the concept was presented at the second international conference dedicated on protection of biological diversity of South Caucasus, attended by more than 200 participants from 7 countries.</p>
2. Identify the butterfly species diversity hotspots, and to compile their full description as PBAs in accordance to the guidance of Butterfly			The task is fully achieved	<p>In result of our work we have inventoried and analysed over 15 areas in Meghri district. Out of them we have selected 7 candidates to PBA. We have created a detailed description of PBA in accordance to the guidance of Butterfly Conservation Europe (BCE), which was discussed with M. Warren, C. van Swaay, M. Wiemers, R. Verovnik, and other members of BCE.</p>
Conservation Europe (BCE).				<p>After finalizing of the format of PBA, we have described all the seven candidates to PBA.</p> <p>The identified PBAs are published in the proceedings of International Scientific Conference on Biological Diversity of South Caucasus.</p>

<p>3. Ensure recognition of the areas as PBAs at the levels of BCE, MNP of Armenia, and the Administration of NP.</p>			<p>The task is fully achieved</p>	<p>The selected candidates have been presented to Butterfly Conservation Europe, where they have been discussed and approved as PBA. We have conducted a seminar with National Park Arevik and with Ministry of Nature Protection, and have received their commencement to take the sites into account when start zoning of the National Park (planned for 2015).</p>
<p>4. Identify threats to butterfly species, to specify their habitats and provide details of their distribution and abundance.</p>			<p>The task is fully achieved</p>	<p>We have analysed over 10,000 records of the butterflies of Meghri region. In addition we have collected about 1000 new records. For 60% of the species we have calculated population trends. Among those 36 species demonstrated population declining trend, and for them we have analysed their habitat conditions and threats. The species have been selected as potential candidates for the Red Data Book of Armenia. The justification for inclusion into Red Data Book of Armenia for those species will be started after analysis of their trend in entire Armenia (is planned to be conducted during 2015).</p>
<p>5. Detail the habitat requirements of the host-plant species for threatened butterfly species.</p>			<p>The task is fully achieved</p>	<p>Out of the 36 species showing population declining trend, we have selected sixteen species that have shown population decline of over 15% during the last 10 years in Meghri region. For those species, such as <i>Erynis marloyi</i>, <i>Pontia chloridice</i>, <i>Proterebia afra</i>, <i>Tomares romanovi</i>, <i>Chilades trochilus</i>, <i>Agrodiaetus Zarathustra</i>, and others), we have described habitat requirements for their host plants (including type of soil, exposition and steepness of the slope, shade, humidity of the habitat) and human influence. The analysis of those characteristics allows selection of the most vulnerable species of host plants such as <i>Stachys recta</i>, <i>Malcolmia africana</i>, <i>Ferula karategina</i>, <i>Poa annua</i>, and <i>Astragalus finitimus</i>, and <i>Astragalus ssp.</i> From section INCANI (the species is not identifiable yet, and there is even a possibility that the species is new for science).</p>
<p>6. Where necessary, plant the critical host-plants at butterfly diversity hotspots in order to strengthen the native but damaged plant populations.</p>			<p>The task is fully achieved</p>	<p>Preliminary assessment of the state of the host plants demonstrated absence of necessity in critical measures of planting the herbs for saving the vulnerable host plants, because in accordance to our observations, in the abandoned sites a tendency of habitat recovery is recorded. Therefore, at current it is more important to concentrate efforts on adoption of measures aimed at mitigation of existing threats.</p>

<p>7. Assess the feasibility of reintroducing some butterfly populations at butterfly diversity hotspots / PBAs.</p>		<p>The task is fully achieved</p>	<p>According to our observations populations of three of the assessed species: <i>Agrodiaetus damonides</i> <i>Agrodiaetus zarathustra</i>, <i>Testor romanovi</i> might require some strengthening of their populations. However, it would become meaningful only after strengthening of the protection of their distribution sites and decreasing of human influence. It is possible that future monitoring of the sites demonstrates absence of necessity to reintroduce the species, however at current it is too early to make that kind of decisions.</p>
<p>8. In collaboration with NP and the local enthusiasts, define the measures on protection of the identified butterfly diversity hotspots / PBAs.</p>		<p>The task is fully achieved</p>	<p>So far we have identified fourteen types of the threats (IUCN 2014) in Meghri region of Armenia. Among those, five are having a negative impact on 38-83% of butterfly fauna of local areas. Those belong to categories of mining and quarrying, and livestock farming and ranching. There is some influence of use of pesticides in the orchards. The determined threats have been demonstrated to the administration of the National Park Arevik and to local inhabitants with an aim to discuss the protection measures. The following conclusions have been made during the discussion:</p> <ol style="list-style-type: none"> 1. There is an obvious need of cooperation of administration of the NP Arevik in development and adoption of the solutions 2. The developed solutions should take into account interests of local community and be based on the long-term financially-sustainable mechanisms 3. To protect the habitats from open pit mining it is necessary to apply together to a mining company about conservation of the areas for two- years period; the period is necessary for assessment of importance level of the sites and their inclusion into protected areas 4. To protect the habitats from overgrazing it is necessary to develop a schedule of patrolling of the main roads and paths that take to those sites. 5. To protect the habitats from occupation of the lands it is necessary to activate an existing mechanism of environmental assessment of new projects, and to design plans of mosaic structure of the newly developed arable lands that are owned or rented by local inhabitants. <p>For protection of fauna of the orchards from influence of pesticides it is necessary to review the policy of their use at areas closely located to protected areas.</p>

<p>9. Develop the knowledge and skills of key NP personnel and active members of local communities by providing training in butterfly identification, monitoring methods, and interpretation of results.</p>			<p>The task is fully achieved</p>	<p>According to our plan we have completed eight trainings on identification of 40 species of butterflies and three sessions on their count at the route. The feedback from the personnel of the National Park shows that they would like to have more field classes on the routes. Also the National Park's personnel expressed an interest in trainings for tour guiding, and we have conducted three additional trainings in tour guiding on the routes showing principles of guiding butterfly watching tours. In addition one training session on interpretation of the results was provided.</p>
<p>10. Designate butterfly watching trails and to provide their full description, including information on other conspicuous species: birds, dragonflies, orchids, etc.</p>			<p>The task is fully achieved</p>	<p>We have identified six trails that allow observation of over 90% of the butterfly fauna of the region. The format of trail description was discussed with Tom Brereton and includes: start/end points, length, steepness, time of walk, butterfly species of various seasons, and other objects of wildlife tourism (birds, dragonflies & damselflies, and flowers). The trail descriptions have been compiled into trailing-guide that was designed printed and provided to National Park Arevik as PDF file and 200 hard copies.</p>
<p>11. Create a website of the project aimed at providing information on PBAs and butterfly watching trails. The website will also promote the NP 'Arevik' as a destination for ecotourism.</p>			<p>The task is fully achieved</p>	<p>The website www.butterfly-conservation.am is created and filled with the information about PBAs in Meghri district and NP Arevik. The butterfly watching trails have been uploaded at Google maps and the link was shared at www.butterfly-conservation.am. Since we are planning to expand the network of PBAs and butterfly watching trails at the rest of Armenia, with primary aim at National Parks and other protected areas, the website was designed in order to have that capacity. At current we are at the last stages of checking the bugs of the website and plan to launch it at beginning of 2015.</p>
<p>12. Advertise the project's website through global and local environmental and social networks.</p>			<p>The task is fully achieved</p>	<p>The information about upcoming website was distributed to the members of Butterfly Conservation Europe, and also through Ecolur network, and network of Association of Young Biologists of Armenia (Armenian NGOs).</p>

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

There are some unforeseen difficulties that we faced:

1. Representatives of Ministry of Nature Protection did not attend the workshop dedicated on presentation of PBA concept. As a solution we have negotiated and conducted additional seminar for the Ministry to be implemented in the next phase of the project.
2. National Park Arevik becomes part of Biosphere reserve, and is managed separately. To be on a safe side we have developed relationship with the new Director of the Biosphere reserve, step by step explaining the benefits of designation of PBAs and developing of butterfly watching in the area.

3. As during the project the National Park became beginning of part of a new Biosphere reserve, it was not a separate legal entity, but in the same time the Biosphere reserve was on its way of development. Therefore it was not possible to sign the Memorandum of Understanding between National Park and American University as proposed. Instead we have requested and received a letter of appreciation from Ministry of Nature Protection, and will continue acting based on that letter.

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

1. The concept of Prime Butterfly Areas was introduced and well received by governmental structures of various levels (from National Park "Arevik" to Ministry of Nature Protection), and by key players in conservation field in Armenia (such as United Nations Development Program – UNDP, German Organization for International Cooperation – GIZ, WWF Armenia), local scientific community, and local environmental activists.
2. The first set of Prime Butterfly Areas is identified, its methodology is tested for the country of Caucasus region, and the methodology is adjusted and ready to be replicated.
3. The awareness of the personnel of National Park Arevik was raised in necessity of protection of endangered butterflies and their habitats, as well as in opportunities of wildlife tourism development; the capacity of the personnel in implementation of butterfly monitoring and butterfly tour guiding was built.

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

We have created capacity of butterfly watching tour guiding among local people employed by National Park Arevik. Also in informal conversations with all the seven Bed-and-Breakfast owners we have explained the potential of the region to attract tourists and therefore potential benefits for those B&BS.

Also it is important to say that the personnel of the National Park have actively been participating in all the discussions about protection measures and the works related to searching of the host plants, identification of threats, and designation of the trails.

5. Are there any plans to continue this work?

In the short-term perspective we plan to continue the work in two major directions: (1) enhance capacity of the National Park in conservation of the habitats in Meghri region, and (2) using already tested methodology to continue development of Prime Butterfly Area network for the next five National Parks of Armenia. In the mid-term perspective we plan to expand the network of PBAs to the non-protected areas of Armenia and further to the territories of the neighbouring countries.

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

The results have been presented and discussed at the annual meeting of Butterfly Conservation Europe, and as a result some consultancy was requested from us by the representatives of Butterfly Conservation of Romania. Also we have presented the potential of PBAs as a source of information for assessment of Emerald Sites at the meeting in frames of Bern Convention (held in Georgia, 2014). Further we plan to cooperate with our colleagues in Georgia, Turkey (Caucasus part), and hopefully in Azerbaijan in order to help them to build the PBA network in those countries. Also the results will be shared through our website www.butterfly-conservation.am.

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 project was planned to be implemented from 1st of September, 2013 till 30th of December, 2014. We have conducted project activities in accordance to proposed schedule.

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
Salaries	2656.78	2463.09	193.69	fluctuations of exchange rate
Transportation	1208.89	1271.64	-62.75	the total travel took 240 km more than was planned
Accommodation (food and hotel)	1726.99	2040.64	-313.65	the accommodation became more expensive than at the stage of planning
Website design	172.70	171.84	0.86	fluctuations of exchange rate
Consumable office supplies	112.25	52.78	59.47	The rest of necessary supplies was covered by the Centre's budget
Communications	122.38	0.00	122.38	The communication expenses have been covered by the Centre's budget
Total	6000.00	6000.00		

The rate of 1 GBP = 647.4 AMD was used at the planning stage as of 15th of Sep of 2013. Later the rate was varying throughout the year.

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

There are three important steps that we plan to undertake:

1. to continue development of the PBAs in Armenia and further in Caucasus and to secure their evaluation as Emerald Sites;
2. to conduct assessments of global conservation status of Caucasus endemic species of butterflies for IUCN Species Survival Committee, and assessments of national conservation status of habitat specialist butterflies for the Ministry of nature Protection of RA;
3. to continue building capacity for development of butterfly watching branch of wildlife tourism focusing on the staff of National Parks and local enthusiasts, and closely working with tour agencies.

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?

The logo of the project was used for all three presentations (seminar at American University, presentation at international conference, seminar at Ministry of Nature Protection). The RSGF was acknowledged at article "Khanamirian G.G., Aghababyan K.E., Warren M.S., van Swaay C.A.M. 2014. Identification of Prime Butterfly Areas in Meghri District of Armenia. Proceedings of International Conference "Biological diversity and conservation problems of the fauna of the Caucasus - 2", September 23-26, 2014, Yerevan, Armenia, 202-205".

11. Any other comments?

The current grant was very important as it allows us to begin the very complicated process, and to learn a lot during implementation of the project. From now on we see the further path much more clearly and understand critical areas where to put our efforts.

Also we would like to acknowledge the great assistance of Ministry of Nature Protection, especially Bio resources Management Agency and especially ones of Dr Aram Aghasyan (head of the Department of Specially Protected Natural Areas), and the national Park Arevik, and its director Mr Surik Hovhannesian. Also we would like to express our gratitude to Martin Warren, Chris van Swaay, Tom Brereton, Rudi Verovnik, and Martin Wiemers from the network of Butterfly Conservation Europe for their great consultancy of our works during implementation of the project.