

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	Jasmin Pasic
Project title	Preliminary Study of Bat Fauna within Protected Area of National Park Kozara
RSG reference	19393-1
Reporting period	1 st of June 2016 till 15 th of June 2017
Amount of grant	£5.000
Your email address	jasmin.pasic@czzs.org
Date of this report	15.06.2017.

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
Analysis of existing published data related to bat fauna of National Park Kozara				Done in June, 2016. We did not find any earlier published data on bats of National Park Kozara, in the local library, Natural History Museum or administration of National Park Kozara.
Defining the minimum of 10 sites/habitats, which can potentially be specifically good for bats				Done in June, 2016. We identified 10 sites within the National Park Kozara: Trnovačka Cave Gumlinska Cave Kamena kuca (Bukovica) Cave Vinograč Gola planina Previja Mrakovica – surrounding of monument Mrakovica – skiing slope Gumline – Bijela voda stream Kotlovača stream
Field visits for summer period, according to the described methodologies				Field visit was performed during July and August, 2016. During the 7 days in the field, we managed to visit and perform the research at 10 identified important sites.
Field visits for autumn period, according to the described methodologies				Field visit was performed during September, 2016. During the 7 days in the field, we managed to visit and perform the research at 10 identified important sites.
Identification of hibernation sites, applying described methodologies				Identification of hibernation sites was performed during February, 2017. During the 3 days in the field, we managed to visit and perform the research at three identified important sites for hibernation. Within the park, during the research, we were not able to register more hibernations sites for bats but three caves (Trnovačka Cave, Gumlinska Cave, Kamena kuca Cave).

Field visits for spring period, according to the described methodologies				Field visit was performed in the beginning of June, 2017. During the 7 days in the field, we managed to visit and perform the research at 10 identified important sites.
Making of brochure for bats and presentation of the project in administration of National Park Kozara				<p>During the second half part of the project, in April 2017, we organised a workshop with administration and all the rangers of National Park Kozara in the facilities of new info tourist centre. Members of local speleology association were also present. During the workshop, we had a presentation of achievements and current findings of the research within the project. We also discussed about importance of bats in nature, hopefully continuation of the research and future activities and collaboration between our organisation and national park. All the participants showed interest and agreed with the points of importance of bats.</p> <p>In the end of the workshop we handed printed brochures "Bats of Kozara" which are now used as promotional material in the Info centre.</p>
Provide a first database assessing list of species, the size of the population and roosting and nursery sites of the bats to be protected in the area which will be delivered to management of National Park Kozara				<p>We established first database of the found species within the park. The database is shared with administration of National Park Kozara. It is adaptable and possible to be upgraded as the research continues. In total, during the project, using described methodologies, we registered 11 different species:</p> <p><i>Barbastellus barbastellus</i>, <i>Miniopterus schreibersii</i>, <i>Rhinolophus ferrumequinum</i>, <i>Rhinolophus hipposideros</i>, <i>Pipistrellus pipistrellus</i>, <i>Pipistrellus pygmaeus</i>, <i>Eptesicus serotinus</i>, <i>Myotis bechsteinii</i>, <i>Myotis mystacinus</i>, <i>Myotis brandtii</i>, <i>Vespertilio murinus</i>.</p>
Demonstrate that with proper education and minimum funding, civil				During the fieldwork we obtained help from the employees of National Park Kozara. Also, speleologists from local

society-locals, and employees of National Park, can be actively involved in the promotion and management of protected areas and they could provide an invaluable contribution for field monitoring of bat population			speleology association were present. In this way we manage to get to know them with the activities on the field which are necessary for bat research. During the continuation of the activities and the project, we hope we will be able to expand the interest on students of biology from the University of Banja Luka.
Better use of the habitat and creation of management plans for different bat species			During our workshop with the employees of NP Kozara we have discussed about better use of habitat and taking bats in consideration. Recommendations were given to leave the old trees, forbid uncontrolled entrance in the caves especially during the summer and winter period etc. Management plan for species of bats is planned after more detailed research is performed within the park, hopefully after 5 years.
With conduction of the research, through administration of National Park and local government we will promote and advocate for signing of the "Agreement on the Conservation of Bats in Europe" (EUROBATS)			During the workshop and our presentation of the project to the administration of National Park, we were discussing about importance of signing of the "Agreement on the Conservation of Bats in Europe" (EUROBATS). They got familiar with the issue and with join forces, in the future, we will lobby to the Bosnia and Herzegovina's relevant institutions for this agreement to be signed.
Raise awareness of local population, youth, government and including scientific community on the ecological importance of bats and need for their protection.			With promotional material, brochure "Bats of Kozara" we will be able to reach young people and visitors to the national park. Scientific community is aware about the project through exchanging experiences and information through different networks which our organisation is a part of. Government bodies will be introduced with the activities and the project in its continuation when we plan to raise it on a higher level with the data and network of people we want to establish.

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

Only difficulty was that we needed to postpone field visits for spring period due to the low temperatures and continuous rain in May. Bats are not very active when bad weather occurs so we performed it in beginning of June, 2017.

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

1. We manage to register 11 different species and important bat sites (colonies) in the National Park and according to findings, database is created which can be updated in the future as the research is conducted.

2. Establishing the cooperation with the management and employees of National Park Kozara through organising fieldwork and workshop about activities of the project and importance of bats in general. Director of National Park, Mr Dragan Romcevic, expressed his satisfaction with the results and collaboration with the comment that this project should be continued.

3. Brochure called "Bats of Kozara", which was created and printed during the project. Samples of the brochure is shared in the tourist info facility within the park to children and other visitors. With this activity, we are changing minds of the people about bats, especially to younger generations.

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

In the first part of the project, there was no direct involvement of local community other than the local visitors of the national park who had a chance to take a brochure about bats and get familiar about the importance of bat fauna.

In second part of the project we plan to directly involve local community through workshop which we would like to organize with the representatives of all local communities in National Pak surrounding.

5. Are there any plans to continue this work?

Plan is to continue the project activities for 5 years, as we stated in our application.

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

Plan is to share the results through series of meetings with authorities on national and local level. We would also like to share experiences from this project with other protected areas in Bosnia and Herzegovina. Our vision is that National Park Kozara should be an example in Bosnia and Herzegovina for exploring, awareness and proper management of bat fauna.

Plan is also to share the results of the project on the web sites and FB pages of our organization Center for Environment and National Park Kozara.

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 Rufford Foundation grant was used during the period from June, 2016 till June 2017, as it was predicted when project was approved.

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
Accommodation and food during the fieldwork	1000	865,42	134,58	During the fieldwork, we managed to reduce the spent amount since, when we were able, we used free accommodation within the national park
Travel expenses for fieldwork	1000	968,45	31,55	-
Fee for one person (researcher)	800	800	0	-
GPS device	200	191,93	8,07	-
Mist nets with telescopic mist net poles	200	193,86	6,14	-
Bat detector – model Petterson d240x	800	1117,5	- 317,5	Bat detector and recorder for sound files were purchased in a package. The price was slightly higher than planned, but we managed to reduce the costs in another items in order to purchase the very important equipment for work on a field.
Recorder for sound files	200	0	200	Explanation above.
Notebook-personal computer	500	581,74	- 81,74	The price for the notebook was higher since we purchased slightly smaller notebook (13, 3") which are a bit more expensive in general. We made this decision in

				order to be easier for us to carry it on the field.
Brochure printing and design cost	100	100	0	-
Workshop organisation costs	200	181,1	18,9	-
Totals	5000	5000	0	-

* Local unit exchange is: £1 = 2,208854 BAM
 (<http://www.cbbh.ba/CurrencyExchange/>)

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

In future years, important next steps would be to continue the inventory of species and later to establish planned and systematic monitoring of bat species within the national park. Further, after 5 years, to make final analysis of the work and to create management plan for each species which will be found during the research. Idea is that management plan should be presented to the employees of National Park Kozara, for proper, sustainable management of bat species within the park.

10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did The Rufford Foundation receive any publicity during the course of your work?

Yes. The Rufford Foundation logo was used during the workshop and presentation of the project in the National Park Kozara and in the brochure about bats of National Park Kozara which was created.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

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Ivan and me work together already for a while and we are very trained team for the research of bat fauna. That was essential also during this project where efficient assistance is really important and part of some activities was not easy to do alone, for example: organizing the fieldwork, carrying equipment on distant locations, setting up the mist nets and other field activities, but also organizing the workshop with administration of National Park Kozara.

12. Any other comments?

Last year, network of research of bats in Bosnia and Herzegovina started a magazine specialised in bat fauna within the Balkan countries region, called "Hypsugo". Magazine is presented and very well presented by the lead bat experts on a

EUROBATS meeting in Belgrade, Serbia on 27th – 29th March, 2017. Jasmin Pasic is one of the editors and Center for Environment is one of the publishers of the magazine. Article about the project "Preliminary Study of Bat Fauna within Protected Area of National Park Kozara" will be issued in the next released number in the end of 2017. We plan that continuation project activities will also be part future issued numbers of the "Hypsugo" and it will be a very nice way for following and promotion of the project activities.

