

## 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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

Grant Recipient Details	
<b>Your name</b>	Vuk Iković
<b>Project title</b>	Checking the distribution and populations' status of the highly endangered Balkan Terrapin ( <i>Mauremys rivulata</i> ) in Montenegro
<b>RSG reference</b>	13108-1
<b>Reporting period</b>	January 2013 to October 2013.
<b>Amount of grant</b>	£6000
<b>Your email address</b>	<a href="mailto:vukikovic@gmail.com">vukikovic@gmail.com</a>
<b>Date of this report</b>	April 18 <sup>st</sup> 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
Gathering precise information about the potential habitats of Balkan terrapin on the Montenegrin coast.			x	During the 21 days of fieldwork, we visited the entire Montenegrin coast and listed potential habitats.
Describing habitat characteristics and defining threats.			x	<p>We described the topographic characteristics, type of the plant associations and all kinds of threats for each habitat.</p> <p>The main threats to this species at its habitats are:</p> <ul style="list-style-type: none"> <li>- industrial wastewater and sewage water that is not filtrated,</li> <li>- presence of invasive species red-eared slider,</li> <li>- illegal dumping of building, solid and communal waste next to the river flow,</li> <li>- urbanisation of the habitats for the purposes of tourism development,</li> <li>- expansion of the road network,</li> <li>- climate change.</li> </ul>
Gathering tissue samples for DNA analysis.			x	From each adult individual the top of the tail was taken for DNA analysis. We collected DNA samples from nine populations.
Finding isolated populations.			x	We found six isolated populations, of which two are in contact with each other. Also, we defined habitat corridor.
Population analysis			x	We have started the capture–mark–recapture (CMR) procedure and collected standard morphometric and meristic data. Each individual was measured in detail. During the 21 days of fieldwork, we measured 23 individuals. We consider it to be enough to start the population analysis. We had been expecting a larger number but only caught 23 individuals, because of the difficult conditions in the field.
Producing educational material (educational brochures, t-shirts and posters).			x	<p>Brochures, posters and t-shirts are made with the goal to inform and to attract the attention of both local community and biologists (brochure is available at <a href="https://docs.google.com/file/d/0B2gRzGtoAek-OEt0SHpRekVzS2c/edit?usp=sharing">https://docs.google.com/file/d/0B2gRzGtoAek-OEt0SHpRekVzS2c/edit?usp=sharing</a>).</p>
Organising promotional lectures at the Faculty of Mathematics and			x	More than 50 students attended the lecture, which is quite enough considering the size of our faculty. Fairly small number of students showed interest in the field activities.

Natural Sciences – Department for Biology, in Podgorica.				
Organising promotional lectures at several schools near the investigation area.			x	Lectures on the topic of Balkan terrapin and its habitats were held at six elementary schools. Students showed great interest.
Meeting of the regional expert groups and decision makers on the state and local level.		x		All invited lecturers took part in the workshop. The workshop was opened by the director of the Environmental Protection Agency, but no one attended from the local authorities and they have the most important role in this issue.

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

- a) In the areas where Balkan terrapin are abundant, several inhabitants told us about the activities of illegal tortoise collectors. We informed them where they can report such illegal activities.
- b) Around 30% of habitats were inaccessible. Therefore, we could not catch individuals for DNA analysis. For this kind of habitats, we needed special network for capturing turtles.
- c) At one habitat we confirmed the presence of invasive species red-eared slider (*Trachemys scripta*). This species occupies Balkan terrapin habitat and influences by reducing its number.
- d) Lack of understanding of the local people for the tortoise protection. Financial problems and poverty for a large number of citizens, over the past 20 years in Montenegro caused the lack of care for the protection of nature. Reform in education and more educational effort is needed to overcome such problem.

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

- a) Balkan terrapin was found in 10 new locations. During the 21 days of the fieldwork, we visited the most important sites. We gathered samples for the DNA analysis from nine localities. The distribution map of the found populations is provided as an additional file.
- b) All threats to this species are listed for each habitat. We defined the problems and necessary actions for the future management plan on the conservation of Balkan terrapin. Threats are described under Objective 2.
- c) Raising awareness of the local community. We held a lecture at six elementary schools, at the Montenegrin coast, and at the Faculty of Mathematics and Natural Sciences – Department for Biology, in Podgorica. The largest part of the lectures was devoted to the influence of man on the Balkan terrapin and its habitat. We shared with students the brochures and t-shirts. During this project, a discussion with the local people on the subject of Balkan terrapin and its habitat took place at the localities that were included in the fieldwork. Through the educational material people have confronted with the existing problems of declining numbers of the Balkan terrapin. We had three live broadcasts on the local radio stations of Herceg Novi, Budva and Ulcinj, with a

goal to inform local communities on the project activities and results. Our work was also presented on national the TV (available at <http://www.youtube.com/watch?v=j1hMy1gIPbg> ).

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

During the field research we talked with all the people we met. We introduced them with this species and its threats and how they can contribute to its preservation. We talked about the Balkan terrapin as an indicator species of pure water, which they found very interesting. Many citizens have helped us in finding new habitats. We showed them the importance of removing weeds from the water channels and the importance of disposal of the building waste on legal sites. We also suggested a contact address where can apply illegal activities, such as: throwing rubbish, illegally collecting turtles from the wild, involving invasive species into nature and backfilling of water channels in order to build tourist facilities.

**5. Are there any plans to continue this work?**

We have several plans to continue this work:

- continuing the research of the population to get more precise information on the state of population and its habitats,
- starting a campaign on the importance of this species with the local people,
- having meetings with all the local administrations to make agreement on the implementation of the necessary measures. This is of great importance for Management plan for this species and its habitat,
- visiting potential habitats where Balkan terrapin has not been confirmed yet,
- visiting potential habitat of the Sub-Mediterranean area (the continental part of Montenegro) and
- submitting DNA samples for its analysis.

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

Information material (brochures and posters) are distributed to Environmental Protection Agency, Faculty of Mathematics and Natural Sciences – Department for Biology, Ministry of Agriculture and Rural Development, Ministry of Sustainable Development and Tourism and ecological organisations from Croatia, Serbia and Macedonia, for dealing with this issue.

We have constructed a web-page where everyone can inform on the project (<http://drustvoekologa.me/en/tags/rivolata>).

Currently preparing a scientific paper that contains some of the information obtained by the project. We write this paper together with our colleagues from Croatia and Macedonia, and it will be published by an international journal.

We will present the state of freshwater habitats of the Montenegrin coast at International Symposium of Ecologists of Montenegro, where we will show the results of the project.

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

Month	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>
Preparation of lectures and presentations	X	X								
Preparation of educational materials		X	X							
Presentations at university and several schools				X	X					
Detail planning of fieldwork			X	X						
Fieldwork					X	X		X		
Broadcasts on local radio stations and national TV									X	X
Regional workshop										X

The terrain we anticipated to do in April 2013, we completed in May since the funds for the project were paid in early May. The final fieldwork was supposed to take place in September 2013 but was rescheduled for August 2013 due to the obligations of the project team in September.

**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
First travel	138	165	+27	Prices for the fuel were higher than expected.
Second travel	105	121	+16	Prices for the fuel were higher than expected.
Third travel	113	132.2	+19.2	Prices for the fuel were higher than expected.
Daily allowance (for food, drink, etc.) 20 GBP x 4 persons x 21 days	1625	1723	+98	For two field trips there were more participants. They were volunteers, students of biology from Podgorica.
Brochures and posters preparation (material, photos, design), and print (2,500 copies)	650	650	0	
Balance x 2	211	211.30	+0.3	
Camera	406	415.94	+9.94	
Notebook computer (HP, 3Ghz)	400	381.2	-18.8	
GPS	162	203.56	+41.56	The cheapest GPS that was exposed for sale and therefore purchased with 203.56 £.
Data logger (Kestrel 4000)	203	123.20	-79.8	We were unable to find a data logger (Kestrel 4000), so we bought the most similar data logger. Its cost was 123.20 £.

2 x Binoculars	162	138.11	-23.89	
Disposable equipment (200 x tubes for DNA samples, 3 x bottles of 96% alcohol, 3 x small handsaws for marking on shell, 2 x callipers, 8 x nets, fishing boots)	607	483.39	-123.61	One part of equipment, such as boots and nets, was purchased with fewer amounts than expected. The remaining of the amount for this item was spent on the daily allowance and fieldwork travel items.
Meeting (Budva, October 2013): food, accommodation and travel of participants and journalists	1218	1231.50	+13.5	
Bank commission (fee)	0	42.7	+42.7	This is a unexpected expense.
<b>Total</b>	6.000	6022.1		

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

- Continuing the research population to get more precise information on the state of the population and its habitats.
- Making arrangements with the local and state authorities on the making of the management plan for Balkan terrapin and its habitat.
- Being involved in the process of Environmental Impact Assessment for the habitats of Balkan Terrapin.
- Helping local community to understand and protect Balkan terrapin and its habitat.
- Initiating a campaign to reduce illegal collection Balkan terrapin and other turtle species.
- Establishing temporary shelters for turtle seized at the borders. This sort of shelters does not exist in Montenegro yet.
- Networking with colleagues from Croatia, Albania and Macedonia with the purpose of making a common action plan for this species.

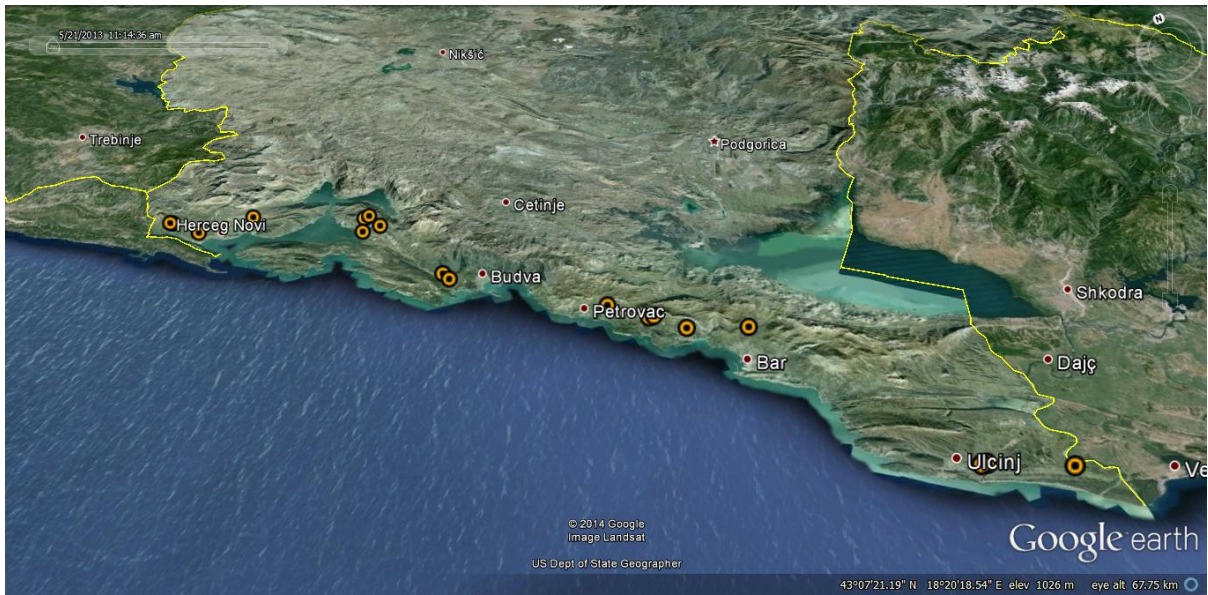
### 10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

The Rufford Foundation logo was used during the whole duration of the project. Logo is printed on the brochures, posters and T-shirts that were prepared during this project.

RSGF received publicity during this project, both on the national TV and broadcasts on the local radio stations, during our fieldwork, lectures on the Faculty of Mathematics and Natural Sciences – Department for Biology and several school and meetings with the decision markers.

### 11. Any other comments?

I am very grateful to the RSGF because it has recognized the problem of this kind. RSGF is the first foundation that funded the work on this problem. The data and samples we collected are unique and important for the future protection of the Balkan terrapin and its freshwater habitats. I also hope RSGF will continue the funding of these activities in order to resolve the problems and prevent the disappearance of this important species.



Distribution map.