

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 | Konstantin Zdraveski |
| Project title | Conservation of Velidab - Biodiversity Heaven in Lake Ohrid (COVEL-BIOHEVLO) |
| RSG reference | 20008-1 |
| Reporting period | 24.02.2017-24.03.2018 |
| Amount of grant | £4925 |
| Your email address | tincoz@yahoo.com |
| Date of this report | 05.03.2018 |

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 |
|---|--------------|--------------------|----------------|--|
| Contingent Valuation of the Willingness to Pay – TESSA Toolkit Site Valuation | | | | Initially, it has been intended that a contingent valuation method of evaluation is conducted during the valorisation of the site. However, in the communication with the founding institution, it has been decided that the TESSA Toolkit would be applied. |
| Summer Sampling Campaign | | | | Full completion of the sampling of the groups of macrozoobenthos, macrophytes and benthic diatoms, as well as basic physic-chemical parameters. The sampling has been conducted during May and July 2017. |
| Laboratory Analysis | | | | Laboratory analysis of the collected samples have been conducted in August 2017. |
| Contingent Valuation Calculations | | | | There has been no need for this action, since the valuation has been conducted by application of another method. During the period intended for this action, there has been conducted meetings with different stakeholders and collection of material for completion of the TESSA valuation of the site. |
| Workshop | | | | The final workshop was organised on 23.02.2018. |
| Initiative | | | | The initiative (legal document) with the accompanying reports has been prepared and delivered to the relevant institutions. |
| Scientific Paper | | | | The results of the investigations have been completed and synthesised into a scientific paper which has been submitted and accepted for publication in Acta Zoologica Bulgarica for its April's edition. |

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

There have been no unforeseen difficulties which have affected the overall realisation of the project activities. As it has been already mentioned in the project application, the weather conditions have been the main issue which had to be dealt with during the implementation of the field activities in the summer period of 2017. In fact, based on the schedule there were intended dates which have been planned for realisation of the field activities, but unfortunately during those days the weather has been rainy and not suitable for realisation of the field activities. Nevertheless, these has been summer short-timed weather difficulties and they have been overpassed by postponing the field work for one day or two, which did not affect the quality of the samples and the field work as a whole.

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

The three most important achievements during the implementation of our project include:

1. Development of an inventory of species from the groups of macrozoobenthos, macrophytes and benthic algae at the locality of Velidab in Lake Ohrid. This locality has been famous for its high biodiversity, especially among the group of benthic fauna. However, until now, the researches that has been conducted in the field has been sporadic and not comprehensive, which yield inaccurate and uncontentious results. With the implementation of this project there has been conducted baseline analysis of the species inventory which have been recorded in the past, an inventory which has been developed during our sampling and analysis and a comparison between the two has been made. This represents a good basis for further activities in terms of monitoring of the species at the locality. All the findings have been synthesised in a comprehensive report which has been made public through the web site, during the organised final workshop and through the social media. In addition, the findings have been published in the scientific paper in *Acta Zoologica Bulgarica*.

2. The locality of Velidab, although being famous for its high biodiversity has never been valuated before, which is true for most of the localities along the lake. In fact, there is little done in terms of economic valuation of Lake Ohrid and there is little completed in terms of identification and valorisation of the ecosystem services in the region. Based on the activities of this project, there has been conducted valorisation of the locality, by application of the TESSA Toolkit for Site Valuation. The findings have been presented in a comprehensive report which has been made public through the web site, during the organised final workshop and through the social media. In addition, parts of the findings have been published in the scientific paper in *Acta Zoologica Bulgarica*.

3. One of the objectives of the project has been raising awareness among the decision makers (local and central government) in regards to the protection status and importance of this small, but very unique locality. In that context, we have

organised meetings with the Mayor of Ohrid, prof. d-r. Jovan Stojanovski, with representatives of the Tourist and Economic Development Unit within the Municipality of Ohrid (Mrs. Gabriela Miloshoska), as well as with the leader of the governing party in Ohrid – the local President of the Social Democratic Party in Ohrid (Mr. Laze Tanevski). All of them have been informed on the findings of the project and have expressed great interest in assisting us with the continuation of the administrative works on proclamation of the Velidab locality a Strict Nature Reserve. Moreover, in this period there have been organised a Meeting with the President of the Committee of Preservation of Natural and Cultural Heritage of the Ohrid region within the Assembly of Macedonia (H.E. Irena Stefoska and H.E. Maja Morachanin), where there have been presented the findings of our action and our Initiative for proclamation of the site as SNR. Both of them expressed great support for the Initiative and announced that they will make sure the Initiative will be analysed in some of the next assemblies of the Macedonian Parliament. That's why (and based on our project plan) we have prepared the official Initiative (a legal document), which has been delivered to all mentioned institutions.

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

The target groups of the action include the local population, the scientific and educational institutions, the local government and indirectly the general public. Velidab is a slope in the shore of Lake Ohrid in Macedonia, which is nearby Koder and Gradishte (famous summer destination for tourists). This area comprises approximately 3 km² of strictly rocky underwater habitats in the south-eastern shoreline of the lake and it's characterised by numerous sub-lacustric springs. According to Albrecht and Wilke (2008) Velidab (N 40°59'188"; E 20°47'904") is rather famous for its high degree of biodiversity for different species and families, as well as for its high degree of endemism, especially for the macrozoobenthos. The place Velidab used to be known as one of the least affected by any anthropogenic impact in the past, but recent investigations show that this place is not as unpolluted as expected. The surrounding of the locality of Velidab is characterised by the National Park Galicica which is covering the mountainous slopes and continuation of the mountains in the east, Lake Ohrid in the west, south there is the village of Trpejca on 4.2 km, while north there is the Bay of the Bones Museum and the Recreational Beach Complex of Gradishte on 650 m and 1 km respectively. The borderline between the aquatic part and the terrestrial part of the area is a cliff with limited/no terrestrial riparian vegetation, which ends by the motorway Ohrid-Pogradec. The area belongs to the National Park Galicica, according to the spatial planning of the park and is comprised by the Lake Ohrid, which is proclaimed Monument of Nature in Macedonia and is protected by UNESCO as World's Natural Heritage. The area is fully comprised by public land, no private ownership is registered. Therefore, as it can be seen the place is not inhabited by people, but the local community from the nearest villages, the tourist facilities along the shore and the population of the town of Ohrid would definitely benefit from establishing a Strict Nature Reserve at this locality by first protecting the environment and second generating revenues from the possible visitors (scientific and educational excursions).

5. Are there any plans to continue this work?

The project has been a great way of developing an inventory of the species from the mentioned groups and has been considered only the basis for further development of conservational actions in the field. As it has been mentioned, the locality of Velidab is famous hotspot of biodiversity of the Lake Ohrid and until now there have been no conservation actions undertaken to prevent loss of the biodiversity. What is more, there have been no inventory conducted of the species which are still present at the locality. Both missing links have been made a reality due to the Rufford funding of the project which enabled the enthusiasts to undertake those actions. Following the end of the project, the group has submitted an Initiative for an increase of the protection of the area and has provided the findings to the Hydrobiological Institute in Ohrid, which is the responsible institution for monitoring of the waters in Macedonia. The Institute will continue conducting monitoring at the same locality in order to be able to compile a dataset which is going to be monitored through time. Moreover, the team is now seeking funding for undertaking several actions, which emerged from the investigations and have been pointed out as possible further steps of conservation by the involved experts in the action:

Measures for urgent protection and conservation:

1. Extensive chemical monitoring to detect the origin of pollution.
2. Immediate initiative to the relevant Ministries for increasing the status of protection.
3. Physical protection by setting up visual barrier 200 m from the shore.
4. Public awareness increases campaigns.

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

The obtained results from the investigations conducted during the implementation of the project action are going to be open source and available for everybody. Besides the communication plan during the implementation of the project, there is going to be conducted different activities in terms of dissemination of the results following the end of the action.

First, the information is available from the official website of the project where the scientific report, the TESSA Toolkit Valuation report and other useful and relevant information are available.

Second, a scientific paper has been submitted and accepted for publishing containing the results of the investigations to the international scientific journal with an impact factor Acta Zoologica Bulgarica. The paper is going to be published in its next published edition in April 2018.

Third, the results obtained in the research are going to be used during the teaching practices at one of the primary schools in Ohrid – Koco Racin.

Next, the investigations have obtained results which are going to be used and disseminated by the Hydrobiological Institute Ohrid at different conferences, seminars and alike.

Last but not least, the results and practices which have been applied during these investigations have been suggested as a basis for further analysis within project activities financed by the European Union and other founders.

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 funds required and granted under this project have been used during the proposed period of 1 year (February 2017-February 2018). There is no difference in the intended timeframe and the actual timeframe of implementation of the project. There have been made some modifications in regards to the time of implementation of the actions, as mentioned above, including: the use of the time intended for calculations of the findings of the contingent valuation method for organisation of meetings with stakeholders, small deviations in the intended schedule for samplings due to weather conditions etc. Moreover, the scientific paper which has been listed as an outcome of the project has been prepared and submitted within the timeframe and duration of the project, but due to the publishing schedule of the journal it is going to be published after the official end of the project – in April 2018. However, the editor of the journal informed us that we can require official statement that the paper is going to be published, if necessary and required by the founding organization.

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 |
|---|-----------------|---------------|------------|---|
| Benthic Fauna Expert Terms of Reference | 650 | 650 | 0 | Terms of Reference has been prepared and a Contract signed with an expert responsible for sampling, analysis and interpretation of the findings in regards to benthic fauna at Velidab. |
| Macrophyte Expert | 650 | 650 | 0 | Terms of Reference has been prepared and a Contract signed with an expert responsible for sampling, analysis and interpretation of the findings in |

| | | | | |
|-------------------------------------|-----|-----|------|---|
| | | | | regards to macrophytic vegetation at Velidab. |
| Benthic Diatoms Expert | 650 | 650 | 0 | Terms of Reference has been prepared and a Contract signed with an expert responsible for sampling, analysis and interpretation of the findings in regards to benthic diatoms at Velidab. |
| Project Leader and Valuation Expert | 765 | 765 | 0 | Terms of Reference has been prepared and a Contract signed with an expert responsible for valuation by TESSA Toolkit of Site Valuation and Project Management. |
| Gasoline | 425 | 403 | -22 | Gasoline for the research vassal (2 times) and gasoline for car required to get to the locality. |
| Publication Fee | 255 | | | |
| Chemicals | 213 | 250 | 38 | Chemicals for successful completion of the sampling has been purchased, including alcohol, distillate water, Nafrax etc. |
| Consumables | 128 | 150 | 22.5 | Consumables for the field work, refreshments and food during the field work. |
| Multifunctional Printer | 128 | 130 | 2 | Canon Maxify MB2050 EUR InkJet Printer purchased for the purposes of the project and then donated to the CSO Ekomenlog Ohrid |
| Office material | 170 | 168 | -2 | Purchase of office materials for the entire year, including: paper, pens, pencils, folders etc. |
| Printing | 85 | 190 | 105 | Printing of leaflets and brochures 200 pieces |
| Leaflets and Brochures | 255 | 150 | -5 | Design and technical preparation |
| Website | 128 | 130 | 2 | Creation of web site, paid domain and hosting for one-year, regular update and support |
| Workshop | 425 | 375 | -50 | Organization of Workshop, Materials, Food and Refreshments, Meal, Notebooks, Presentation material |

The budget has been lower by 85.71 ponds, which have been paid by the CSO Association for ecology EKOMENLOG Ohrid.

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

Based on the knowledge that we have obtained during the implementation of the Project and based on the knowledge we have about the ecosystem and its conditions, it is evident that further need of conservation activities is required. In other words, the inventorisation of the species, the economic valuation of the site and development of the Initiative to increase the protection level to a Strict Nature Reserve are the only beginning steps in the full protection and restoration of the very unique locality. As the next logical steps, which we expect to be undertaken in the future may be listed:

1. Physical protection by setting up visual barrier 200 m from the shore.
2. Public awareness increases campaigns.
3. Extensive chemical monitoring to detect the origin of pollution.
4. Immediate conservational methods: DNA barcoding and invitro cultivation.

That is why the implementing team of this project activity is continuing with the organisation of the public awareness campaigns, which are going to assist in the opinion of the public for the protection of the locality. As planned public awareness campaigns which are going to be undertaken in the future by the team in cooperation with several CSOs in the region, there are: presentation of the actual state of the locality on organised workshops and conferences dealing with environment in the city, presentation of the actual state to CSOs and network of CSOs and motivating them to suggest, undertake and implement possible conservation actions in the locality and the surroundings.

Likewise, we are currently working on preparation of two projects, one dealing with the advanced DNA barcoding, which is a method to gather DNA sequences of the most endangered species and by storing them to keep DNA for possibility of further development of the species and the second one being a project for physical protection by setting up a visual barrier of 200 m from the shores in which the boats cannot travel – in cooperation with the local self-government and the Capitan Office in Ohrid.

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?

The Rufford logo has been placed in all documentation that has been developed during the project, including contracts, lists of attendance, promotional printed brochures and alike. In addition, the Rufford logo has been placed at the official website of the project where it has been stated that the activities are undertaken under the financing of the foundation. In addition, as a special acknowledgment for the Rufford Foundation has been placed in the scientific report which has been accepted for publishing and will be published in the April's edition of the Acta Zoologica Bulgarica.

In all public events, such as meetings, meetings with local population and tourists during the samplings, meetings with stakeholders, as well as meetings organised with the relevant representatives from the local and central government and the Macedonian Assembly, there has been publicly proclaimed that the project is conducted due to the financial support provided by the Rufford Foundation. It should be noted that during these meetings it has been found out that the Macedonian Governmental organisations have not been much aware of the existence and work of the foundation, but mainly due to our meetings the organisation received the much-deserved publicity.

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

Dr. Sasho Trajanovski, a full professor and a senior researcher at Hydrobiological Institute in Ohrid, where he conducts research in hydrobiology, with particular focus on zoo benthos, macrophytes, and invasive species. Since 1998, he has been involved in limnological investigations of lakes Ohrid, Prespa, Dojran, Skadar, and has collaborated with institutions and experts from all over the region. He has been involved in the action, being responsible for sampling and analysis of the macrozoobenthos at the locality.

Dr. Sonja Trajanovska (PhD in biological sciences), with specialization in aquatic macrophytes. She has 17 years of experience in the research of freshwater ecosystems in Macedonia and the region. As the senior researcher in Hydro Botany Department of Hydrobiological Institute, she is involved in and manages projects related to limnological aspects of Lake Ohrid, water quality, bio indicators. She has been responsible for conducting the sampling and analysis of the macrophytic vegetation within the scope of the project.

MSc. Konstantin Zdraveski, MSc degree in Economy (Finance) is working in the field of ecosystem services. In fact, during the past few years, he has been the first scientist from Macedonia who has conducted economic valuation of the biodiversity in Lake Ohrid (both in Macedonia and Albania) through the application of the contingent valuation method. Moreover, he has conducted valuation of the protection of two endemic species of Lake Ohrid, including Ohrid trout and snail (*Gocea ohridana*). He has been responsible for realization of the valuation activities with the application of the TESSA Toolkit for valuation. He has been also the project leader.

MSc. Tatjana Loshkoska, MSc degree in Biology, with specialization in benthic diatoms. She is working as a biology teacher but has been active participant in numerous international and national projects within the Hydrobiological Institute in the last five years. She has been responsible for sampling and analysis of the benthic diatoms at the locality of Velidab.

12. Any other comments?

We use the opportunity to once again express our sincere gratitude to the Rufford Foundation for funding this project and providing us with all the support in the final realisation of the project goal. Based on this experience we gained valuable information on the species which live in the locality, its value and perspectives as well as we learn that the Macedonian officials are generally interested in providing sufficient support and protection of such localities, but there is a lack of initiators of such actions.

