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	Vasheniak Iuliia
Project title	Rare species and habitats conservation occurred in the limestone outcrops of Dnister Canyon
RSG reference	19026-1
Reporting period	June 2016-July 2017
Amount of grant	£4600
Your email address	arrhenatherum@gmail.com
Date of this report	20.07.2017

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
Fieldwork in different parts of Dniester Canyon (Ivano-Frankivska, Ternopil'ska, Khmel'nytska and Chernivets'ka regions) as investigation of rare limestone outcrops habitats				We organised 15 expeditions to different parts of Dniester Canyon and partly some tributaries (Zolota Lypa, Ushytsia, Seret, Smotrych rivers) to gather database of limestone outcrop vegetation and also the locations of rare vascular plants. We were trying to make geobotanical relevés of standard 10 m^2 plots (EDGG Expeditions approach) with rare vascular plants (*Stipa pulcherrima, S.pennata, Adonis vernalis, Carex humilis, Astragalus monspessulanus, Sesleria heuflerana, Cytisus albus, Allium obliquum, Schivereckia podolica, Poa versicolor, Iris hungarica*). We have also gathered cryptogams (bryophytes, lichens and some algae) and soil samples (averaged samples from five points of standard plots) to make chemical analysis of such chemical indexes (acidity, carbonate content, humus content, nitrogen content and mineralisation). At least we have gathered 400 relevés of limestone outcrops vegetation.
Creation vegetation database by means of TURBOVEG Software and JUICE Software				We have created database of 268 geobotanical relevés and sent it to the Custodian of Ukrainian Grassland Database (Kuzemko Anna) and Deputy Custodian of Grass plot Database (Idoia Biurrun).
Processing of gathered data (cluster analyzing, ecology analyzing, chemical analyzing, rare habitats mapping)				We have processed part of the gathered data (2016 year samples) using cluster analysis (TWINSPAN Modified Algorithm with the help of OPTIMCLASS Application): have made an ecological analysis of

				gathered data (12-scales environmental factors ecological assessment) and mapping of rare limestone outcrops habitats (as points on maps created in ArcGIS Software). Additionally we have sent soil samples to the local chemical laboratory (State Ecological Inspection of Khmel'nyts'ka region) and have made chemical analysis of soil samples (acidity, humus, nitrogen and carbonate content, mineralisation). We have used these results of the analysis in our papers and have sent to the peer-review journals.
Preparing and writing scientific and popular papers				During the period of the reporting period we have written two scientific papers and have sent to the peer-review journals: "Vegetation of limestone outcrops in Central and Western Podillia" (Tuexenia) and "Comparative characteristic of limestone outcrops vegetation: syntaxonomy and ecology in Dniester Valley and its tributaries" (Hacquetia) and one popular paper to the local newspaper "Marichka News" "Dniester Canyon is the most beautiful treasure of Emerald Net of Ukraine". We have deviated from the planned themes of scientific papers because of many reasons: firstly, we decided to include our vegetation data into database of Central and Western Podillia as geographical regions and make complex syntaxonomical and ecological analysis of the vegetation data; secondly, we have made comparison between data of Ukrainian and Moldavian parts because vegetation data of Czech, Slovak Republic, Hungary are simply different in floristic structure and belonged to another syntaxa. Now these papers are in peer-review assessment and revision processing.

Workshops and open discussions; lectures to the students				With the help of non-governmental organisation "Environment-People-Law" (Vasyliuk Olexii, Marushchak Olexii and Katia Polyanska) we have organised the workshop for scientists, activists, governors in the Ukrainian Ministry of Ecology. As the result of our workshop we have published the book of the articles about NATURA 2000 / Emerald Net in Ukraine and we added open discussion in the next section of our workshop; also we have taken part in the open discussion about creation of rare habitats list in Ukraine. We have not made the open discussion about the increasing of the Nature National Park "Podil'ski Tovrty" because of the consultation with the leading specialist of Ukrainian Ministry of Ecology Nastia Drapaliuk (we were planning to add some territories from Novoushyts'ky district to add to the National Nature Park "Podils'ki Tovrtry"). But now it is no necessary to increase the territory of this park and we decided to make new protected areas as national reserves. Also we have conducted lectures to the students of Interregional Academy of Personnel Management during the subject "Basis of Ecology": "NATURA sites in Dniester Canyon", "Biological diversity of Dniester Canyon", "New nature reserves creation in Dniester Canyon", "Rare habitats of Dniester Canyon"
Preparing of scientific justifications (creation of natural reserves, NATURA 2000 sites and increasing of Natural Nature Park "Podil's'ki Tovtry"				We have created scientific justification of new natural reserves ("Dnistrovs'ky", "Ushyts'ky", "Zololota Lypa Valley", and "Makarivs'ky"). Also we have created NATURA 2000 sites (five sites) and have sent it to the project conducted by Kateryna Polyanska "Creation of Ukrainian Emerald Shadow List". It is explained by some collisions of Ukrainian Environmental Law (Ukraine

				did not implement European Habitat Directive and is not able to create NATURA 2000 Net). But Ukraine declared its own Emerald net (as analogue of NATURA 2000 Net) to Bern Committee. Is has been reviewed current Emerald Net of Ukraine and creates new one "Shadow List" by many young activists of Ukraine (project of Kateryna Polyans'ka).
Preparing graphical models and informational booklets and posters				We have prepared graphical models using our own photos, and also photos of Olexandr Vikyrchak, Lesia Mandziuk, Yakiv Didukh (with the help of Dasha Shyriaieva) and published 500 and 1000 copies of booklets and posters. We have spread these materials in different events and different organisations.

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

Firstly, we were planning to start our fieldwork in April-May 2016 but due to some circumstances we have started in the middle of June 2016. We asked the organisers to extend our fieldwork until August 2017 to finish our tasks.

Secondly, during the first field season we had a problem to achieve many places in the Dniester Canyon using the boat. We asked the organisers to make some revisions and to buy the boat. And it has become easier to achieve the difficult places of Dniester Canyon.

Thirdly, we have planned to organise the open discussion and to make scientific justification dedicated to increasing of Nature National Park "Podol's'ki Tovtry" but after the discussion with the leading specialist of Ukrainian Ministry of Ecology Nastia Drapaliuk that it is not impossible because of the large area of the park. And we have decided to omit these activities during the project processing.

Fourthly, we made five NATURA 2000 sites but it could not be created in the future because Ukraine has not implemented European Habitat Directive (it could be possible if Ukraine became the member of European Union). Ukrainian Ministry of Ecology suggested creating Emerald sites as analogue of NATURA 2000. Furthermore, Ukraine has implemented Bern Convention and started to create Emerald Net in Ukraine. There is Emerald Net created in 2009 by "Interekotsentr" but there are many questions around this network. Young activities started to create new Emerald Net (Kateryna Polians'ka's project) with the help of different scientists of Ukraine. We proposed five NATURA 2000 sites from Dniester Canyon and its

tributaries to this network named "Shadow List". They are planning to report about new network to Bern Convention including our results.

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

1) We have collected very big limestone outcrops vegetation database of Dniester Canyon and partly of its tributaries that can be used for large-scale analysis. For example we started to make the analysis of *Stipo pulcherrimae-Festucetalia pallentis* order of Ukraine including releves from Dniester Canyon to distinguish new syntaxa from Ukraine.

2) We have distinguished new syntaxa of limestone outcrops vegetation: validated the endemic alliance *Galio campanulatae-Poion versicoloris* and endemic association *Poetum versicoloris*; described new associations *Agrimonio eupatoriae-Seslerietum heufleranae*, *Schivereckio podolici-Seselietum libanotitis*, *Bryo argenteae-Ajugetum chiae*.

3) We have described localities of rare plants and rare habitats occurred on limestone outcrops in Dniester Canyon and it would be useful before preparation of new edition of Red Book of Ukraine.

4) We have created scientific justification of new natural reserves and potential NATURA 2000 sites in Dniester Canyon and Dniester tributaries.

5) We have conducted workshop and lectures using materials (booklets and posters) to inform about the importance of limestone outcrops habitats protection of Dniester Canyon.

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

As I mentioned, we cooperated with non-governmental organisation "Environment-People-Law" and provided some educational events for the majority of people (scientists, governors, land-users) and spread informational booklets and posters in different organisations. We spoke with young students on ecological themes on the seminars about the importance of protection of rare plants and habitats of Dniester Canyon and how to improve this activity in Ukraine.

5. Are there any plans to continue this work?

Yes, we are planning to continue our work in the right bank of Dnieper River (Ukraine) including Carpathian Mountains. We also have an aim to create new NATURA 2000 sites using all methodological approaches with detailed management program.

And we have some hope to get second Rufford Small Grant to realise our plans and activities.

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

As I mentioned we have written scientific papers to the peer-reviewed journals and also popular article (see above). Our publications during the report period:

1. Vasheniak Y. Calcareous outcrops communities of Dniester Valley / Book of Abstracts of 13th Eurasian Dry Grassland Conference "Management and Conservation of Semi-natural: from theory to practice". Sighisoara, Romania, 20-24 September 2016. – P.P. 71.
2. Vasheniak Y. Habitat diversity of dry grasslands in Central Podillia and its zoological assessment / Scientific Issues of Chernivets'ky National University. Biology and Biological Systems.№8, 1. – P.108-117.
3. Vasheniak Y. Rare xerophitic habitats of Right-Bank Forest-Steppe zone of Ukraine (including Dniester Canyon) / Book of abstracts of scientific and applied workshop "NATURA 2000 Network as innovative approach of rare species and habitats protection". - Kyyiv, Ukraine, 15 February 2017. – P.20-22.

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

- first field research expedition in Ivano-Frankivska oblast' (Tlumachskiy, Tysmeytskiy region) (planned in May 2016 - actually realised in August 2016);
- second field research expedition in Ternopilska oblast' (Zalishchikiy, Buchackiy, Monastyrskiy, Borschivskiy region) (planned in June 2016 – actually realised in June-July 2016 and May-June 2017);
- third field research expedition in Khmelnitska oblast' (Kamyanets-Podilskiy, Novoushitskiy region) (planned in June 2016 – actually realised in June-August 2016; in June-July 2017);
- fourth field research expedition in Chernivetska oblast' (Kelmenetskiy, Sokyryanskiy region) – (planned in July 2016 – actually realised in June-July 2016; June-July 2017);
- field data preparation for processing: making vascular plants herbarium sheets and cryptogams (bryophytes and lichens) samples; soil samples– (planned in August 2016 – actually realised in September 2016);
- creation vegetation database by means of TURBOVEG Software and JUICE Software – (planned in August-September 2016 – actually realised in October 2016);
- cluster analyzing by means of TWINSPAN Modified and STATISTICA 10 (planned in September 2016 – actually realised in October 2016);
- chemical analyzing of soil samples by chemical indicators as humus, humidity, acidity, nitrogen and carbonate content (planned in September 2016 – actually realised in January 2017);
- ecology analyzing of vegetation data with the means of R-project Program and comparison phyto indication values of ecology factors with the chemical ones (planned in November 2016 – actually realised in November 2016);

- mapping rare habitats and rare species by using ArcGIS Program (actually realized in February 2017);
    - preparing and writing scientific papers:
    - 'Rare limestone outcrops habitats of Dniester Canyon' – (planned in October 2016 – actual realized in November 2016 and the work topic of the article is "Vegetation of limestone outcrops in Central and Western Podillia" due to reviewers' suggestions);
- 'Comparative characteristic of limestone outcrops vegetation from Ukraine, Romania, Czech Republic and Slovak Republic' (planned in March 2017 – actually realised in February 2017);
- preparing the popular article to the local newspapers 'Limestone outcrops of Dniester Canyon – the most beautiful places in Ukraine' (planned in October 2016 – actually realised in September 2016);
- workshop for state administration members 'NATURA sites creation: methodology and resources' (planned in September-October 2016 – actually realised in February 2017);
- open discussion with the participation of non-governmental organizations, land-users and ecologists and scientists about the creation of nature reserves and NATURA sites – (planned in November 2016 and realised in February 2017 we decided to combine this event during the workshop meeting after the lectures sessions;
- open discussion with the participation of non-governmental organizations about the widening of Nature National Park 'Podilski Tovtry' (planned in November 2016 – actually we did not realise this event (see above);
- lecture 'NATURA sites in Dniester Canyon' at schools and colleges (planned in November 2016 – actually realised in November 2017);
- lecture 'Biological diversity of Dniester Canyon' at schools and colleges (planned in November 2016 – actually realised in April 2017);
- lecture 'New nature reserves creation in Dniester Canyon; at schools and colleges (planned in December 2016 – actually realised in April 2017);
- lecture 'Rare habitats of Dniester Canyon' at schools and colleges (planned in December 2016 – actually realised in November 2016);
- preparing scientific justification of the widening of Nature National Park 'Podilski Tovtry' (planned in December 2016 – we did not realise this item (see above);
- preparing scientific justification of the creation of new nature reserves of Dniester Canyon (planned in January 2016 – actually realised in April 2017);
- preparing scientific justification of the creation of NATURA sites of Dniester Canyon –(planned in January 2016 – actually realised in May 2017);
- preparing graphical models and scientific materials to make information booklets and posters 'Biodiversity of Dniester Canyon' to spread in different organizations (planned in September 2016 – actually realised in April 2017;
- preparing graphical models and scientific materials to make information booklets and posters 'NATURA sites of Dniester Canyon' to spread in state ecology organizations (planned in October 2016 – actually realised in February 2017;
- publishing information booklets and posters in private printer – (planned in March-April 2017 – actually realised in February – April 2017);

- Preparing the final report (planned in April – May 2017- actually realised in August 2017).
- We asked Rufford Foundation to extend our report period (mail from 16.08.2016) because of the completion of the fieldwork in 2017.

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
Transportation (including fuel and amortization)	2500	2402.17	+97.83	It was very difficult to achieve some locations on Dniester Canyon (the lack of roads, stream slopes of limestone rocks) and we used few types of transportation (cars, boats, trains and buses). Mostly we used our own car but sometimes we used other cars of our partners from Ivano-Frankivs'ka and Chernovets'ka regions (Yuliia Polishchuk, Ivan Parpan, Budzhak Vasyl'). We proposed averaged costs of transportation, but we used many cars with different type of fuel, besides the price of fuel was so deviated during the report period (£ 0.67-0.73 of petrol price).
Accommodation and meals	1000	966.07	+33.93	Unfortunately, there are not so many hotels in the Dniester Valley and we had to live in our tents or in the houses of our friends (it was free of charge), but sometimes we accommodated in hotels and hostels. We had standard breakfast and dinners but mostly we used snacks and some beverages in the field. As we proposed averaged amount of this item we have now this difference.
Paper publishing	500	533.86	-33.86	Firstly, we planned to pay for our articles to share our results with scientific majority, but in the peer-review journals submitting is a free of charge. According to mail of Rufford Small Grant Foundation (mail from 06.02.2017) we changed our plans and decided to publish book of abstracts of our organized workshop in Kyyiv. Also we used this money for proof-reading before the submitting of our

				articles
Information booklet publishing	200	191.16	+8.84	We printed booklets and posters in the private printing house (the owner is Popov Dmytro Viktorovich) in Kyyiv.
Open discussions, workshops, seminars organisation	200	205.40	-5.40	We have organized workshop in Kyyiv in the Ukrainian Ministry of Ecology and there were many guests in our event. We have organised coffee-breaks and dinners for the guests during the organised event. Also we have organised some local discussions and seminars with students during the study of "Basis of Ecology" in the Interregional Academy of Personnel Management
Unforeseen expenses	200	200.31	-0.31	Firstly, we had to pay bank commission approximately £24.42 as we did not expect. According to the mail of Rufford Small Grant Foundation (mail from 06.02.2017) we have used chemical analysis omitted in our budget but it was strongly recommended. Also we have bought paper notebook, magnifying glass, pens, pencils, stickers, papers, batteries for GPS-navigator and photo camera. Also we agreed with our colleagues from Germany to determinate all cryptogam species gathered in 2017 and we sent all of them via mail.
Total amount	4600	4498.97	+101.03	As we proposed averaged costs of budget and also due to economic circumstances (in Ukraine during 2016-2017 the price of pound sterling was deviated from 37.7 to 33.48 hrivnas).

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

We will continue our scientific work and creation scientific justification of NATURA 2000 sites and also we are planning to make new scientific articles including the material gathered during report period. We will spread our booklets and posters among all interested people to share about our investigation.

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, we used Rufford Foundation logo in the cover of book of abstracts, booklets, posters, also in the presentations of the conferences, workshop, and lectures, in acknowledgements of our scientific and popular articles.

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

Vasheniak Iuliia - PhD in Biology, Senior lecturer of Khmelnytsky Institute of Interregional Academy of Personnel Management.

Idea and realisation of the project, field material collecting, preparing scientific articles and articles to publish, preparing information to publish booklets; workshops, lectures, open discussion organisation.
Didukh Iakiv Petrovich – Dr.habil.biol. Professor, correspondent member of NASU
Topic of his PhD thesis is "Structural and comparative floristic analysis of Yalta Mountain Forest Natural Reserve" (1977) and the topic of Doctor Habil. Biol. thesis is "Differentiation of vegetation cover in Mountain Crimea" (1988)
He provided scientific coordination of the project, determination of critical species and habitats, preparing scientific papers as a co-author.

Polishchuk (Rozenblit) Iuliia – PhD student of NASU
She helped us to realize the project and to collect some vegetation data.

12. Any other comments?

We are very thankful for Rufford Foundation for the great opportunity of realizing our aims. Additionally, we want to thank all people who help to realise it: Monika Janisova, Idoiia Biurrun, Anna Kuzemko for their positive reviews; Olexandr Vikyrchak and Lesia Mandsiuk for their hospitality and the navigation in the Dniester Canyon during the fieldwork in Ternopil'ska region; Olexii Vasyliuk, Olexii Marushschak, Nastia Drapaliuk, and Dasha Shyriaieva for the organisation of workshop and open discussion and also for printing the book of abstract, booklets and posters in the private printer; Vasyl' Parpan and Nadiia Shums'ka for the realisation of the fieldwork in Ivano-Frankivs'ka region; Vasyl' Budzhak and Illia Chorney for the realization of the fieldwork in Chernivent'ska region; to Nastia Drapaliuk for her useful comments about creation of protected areas, and also to Dmytro Vasheniak for the car driving during the most period of the fieldwork in Khmel'nyts'ka region. Also we are thankful to Vasyl' Virchenko and Nadia Kapets' for their distinguishing of bryophytes and lichens and also Oleg Lishchuk for the chemical analysis.