

## The Rufford Foundation Final Report

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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**

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<b>Grant Recipient Details</b>	
<b>Your name</b>	Olesya Bezsmerntna
<b>Project title</b>	Conservation of rare aquatic ferns' natural habitats in Ukraine
<b>RSG reference</b>	12.05.2013
<b>Reporting period</b>	November 2014 – October 2015
<b>Amount of grant</b>	£5987
<b>Your email address</b>	olesya.bezsmerntna@gmail.com
<b>Date of this report</b>	03 October 2015

**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
<p>Investigation of geographic distribution, ecological features and modern condition as well as structure of populations of rare aquatic ferns in Ukraine and identification of causes of rarity of these species.</p>			+	<p>During the period of our project we have investigated the features of rare aquatic ferns' distribution on the territory of Ukraine. <i>Pilularia globulifera</i> was known only from the one locality in Ukraine. We have inspected this habitat and haven't found <i>Pilularia globulifera</i> there. Also this species hasn't been found in the other investigated localities, therefore it can be considered as disappeared in Ukraine.</p> <p><i>Salvinia natans</i> is widely spread species on the investigated area and isn't threatened. According to the results of our investigation, the larger number of <i>Salvinia natans</i>' localities are in the valleys of Dnipro, Pivdennyi Bug and Siverskiy Donets rivers and in Transcarpathia region. During the period when our investigation was running, we discovered the range of new localities in some regions of Ukraine where earlier <i>Salvinia natans</i> was unknown. Thus, we can prove that this species occurs in all administrative regions of Ukraine.</p> <p>Almost all of the inspected populations of <i>Salvinia natans</i> are stable. Also we have considered the tendency to increase of quantity of <i>Salvinia natans</i>' populations because of this species migration from the riversides to the artificial ponds.</p> <p>After analysis of literature sources, herbarium data and according to results of our investigation we have</p>

			<p>information about 35 localities of <i>Marsilea quadrifolia</i> from nine regions of Ukraine.</p> <p>But, unfortunately, after our revision of these localities we set that there are only eight confirmed localities two of them are new and have been found by us in Transcarpathia and Kyiv regions. In 27 other localities this species is disappeared. Revealed localities are in Transcarpathia and Kyiv regions. <i>Marsilea quadrifolia</i> is stenotopic species and the greatest threats to their populations are poor management and violations of the hydrological regime due to land reclamation works. This species saved only in bayous of Latorytsia river and meliorative canals in Transcarpathia region, also in Kozynka river (Kyiv region).</p> <p>Now four populations are threatened because the reservoirs get dry and only in two localities <i>Marsilea quadrifolia</i> formed thickets and its populations are in good condition.</p>
<p>Development, creation and practical realization of effective methods of conservation of rare aquatic ferns' habitats in Ukraine</p>		<p>+</p>	<p><i>Salvinia natans</i> is protected in two Biosphere Reserves, five Natural Reserves, 16 National Natural Parks and many other protected areas. Our investigation showed that this species isn't threatened and don't require creation of new protected areas or any actions for conservation of their populations except informing the local population about the value of this species.</p> <p>Six of <i>Marsilea quadrifolia</i> localities are protected in the «Prytesnianskiy» and «Kozynskiy» Regional landscape parks, but two other aren't protected.</p> <p>In order to improve management of territory we have worked out the scientific grounded presentation to</p>

				<p>Ministry of ecology and natural resources of Ukraine for rising of the conservational status of «Prytesnianskiy» and «Kozynskiy» Regional landscape parks.</p> <p>While the ministry is responding to our request, the monitoring of these populations and management of these areas are running with help of local people and NGOs.</p> <p><i>Salvinia natans</i> and <i>Marsilea quadrifolia</i> in Ukraine are cultivated in six botanical gardens and arboretums. Their collections are sources for repatriation of the natural populations of these plants, especially of <i>Marsilea quadrifolia</i>.</p>
The discussion of conservation problems of rare aquatic ferns' habitats with local population for raising their level of ecological consciousness			+	<p>In the framework of the project took place several lessons for children, seminars and conversations with local populations in the different regions of Ukraine. Also we took part in the International conference for young scientists «Advances in botany and ecology», The 7th «Planta Europa Conference» and other.</p> <p>We prepared and partially published material for popular scientific articles in the different Ukrainian popular journals and local newspapers.</p> <p>We printed colour information bulletins and posters which we spread to schools, universities and scientific institutions in order to inform our people about importance of rare aquatic ferns' habitats conservation.</p>
The edition of the monograph «Rare aquatic ferns in Ukraine»			+	<p>Material for the monograph is collected and the layout of the book is prepared. Now book is in press.</p>

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

We planned to conduct a few expeditions to the Crimea and East part of Ukraine in order to check reliability of information about presence of *Salvinia natans* there and examine conditions of its populations. However, annexation of Russian Federation our territory in Crimea and escalation of the situation related to the military conflict on the eastern Ukraine caused overlapping communication with these areas and we could not get there.

The other difficult connects with unforeseen changes in exchange rates, which determine changes of our project budget.

Also in connection with the reorganization (in many sectors and levels) of government agencies, including the Ministry of ecology and natural resources of Ukraine, respond to requests for protected areas occur much longer, because today we could not significantly improve the environmental status of regional landscape parks, where *Marsilea quadrifolia* was registered.

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

1. Firstly, the result of our project is collection of scientific data about spreading of rare aquatic ferns in the territory of Ukraine and about conditions of their populations.
2. Based on analysis of the collected information, we have worked out the practical methods of rare aquatic ferns' natural habitats conservation. Also the scientific grounded presentation to the Ministry of ecology and natural resources of Ukraine was worked out and we hope it help us to increase protection of natural habitats of *Marsilea quadrifolia* in Transcarpathia and Kyiv regions.
3. Our public activity promoted the raise of ecological consciousness of the local population contributes of preservation of water areas, especially of young generation which took actively part in our lessons and seminars.

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

During the project we have collaborated with local communities and volunteers. We carried out common excursions and conversations about biological and ecological features of rare aquatic ferns species which are growing in the neighbourhood of them. Also we conducted lessons and seminars for local people and children where we presented multiply presentations about aquatic ferns and water ecosystems of Ukraine. On the one of the seminars we were awarded of acknowledgement for forming of ecological consciousness of pupils. Colour bulletins and posters, we spread to schools, universities, scientific institutions and other communities are associated with natural research or environmental education of youth. Also, during the time of our project, thanks to the support of Rufford Small Grants

Foundation, we contacted with many employees from various nature reserved objects and began stable monitoring of populations of rare aquatic ferns.

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

We plan to investigate the dynamic of *Marsilea quadrifolia* populations, which have been found during the project. The concentration of our future investigation will be directed on the conservation of presence populations of this fern and repatriation of the extinct ones to their former localities (in particular in Ternopil region where saved favourable for the growth of this species biotopes). Also, in cooperation with new connected employees of environmental organisations and local volunteers, we plan to keep monitoring of water biotopes in Ukraine, because *Marsilea quadrifolia* populations capable of migrations and in order to find new localities of this species the monitoring of favourable for the growth of this species biotopes is necessary.

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

The basic information and results of the project is light out in our monograph «Rare aquatic ferns in Ukraine» and other publications.

Also we plan to continue to distribute the results of our investigations on the numerous conferences that will take place in different parts of Ukraine, meetings of the Ukrainian Botanical Society, give some consultations and discussions with the colleagues and further educational work among the local population, especially among young people, who are much more environmentally conscious.

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

Our project includes all of planned stages but carrying out of them was shifted on the timescale. This is due to discrepancy of planned and actual beginning of the project. We planned to begin our work in August 2013 but began them only in November 2013.

1. Expeditions to natural species' habitats for investigation of their modern conditions (was planned: 25.08. – 30.09.2013; 25.06. – 10.10.2014, really: May 2014 – October 2014 and May 2015 – September 2015).
2. Processing the results of expeditions. Preparation of scientific substantiated documentations for creation of protected territories with the subsequent presenting them for approval to the Ministry of ecology and natural resources of Ukraine (was planned: 10.10 – 15.12.2013; 15.10 – 20.12.2014, really: October 2014 – August 2015).
3. Conducting of the ecological lessons and seminars with children on the base of nature protect land and water areas. Also, popularisation of the environment protection problems and the protection of the water ecosystems in particular (were planned: 25.09.2013 – 25.10.2013; 25.03.2014 – 25.04.2014, really: March 2014 – September 2015).

4. The message about the project and its results in media. Preparation and distribution of the information bulletins about conditions of the species' habitats and necessity of their conservation in public (were planned: 25.08.2013 – 30.05.2014, really: April 2014 – September 2015, some materials are in press).
5. The final report. The edition of the monograph «Rare aquatic ferns in Ukraine» (was planned: 05.07.2014 – 25.09.2014, really: October 2015).

**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
GPS navigator	550	443,38	106,62	Garmin Montana 650
Macro object glass for photo camera Nikon D90	220	273,35	-53,35	The price of the glass was unexpectedly raised.
Expedition goods (backpacks and tent)	320	365,54	-45,54	Except the backpacks and tent we also needed sleeping bags and mats, the price of which wasn't include in predicted amount.
Hard Drive Western Digital My Passport 1TB	60	51,46	8,54	
Transport expenses on travel by trains and buses	423	441,78	-18,78	We spent more money for transport because we conducted three expeditions more than expected.
Petrol	960	769,98	190,02	In spite of the petrol price was increasing in Ukraine, we saved money on petrol because in our expeditions took part some of our colleagues from local institutions which used a service cars and petrol.
Food	575	530,62	44,38	We have saved money on food because generally bought it on supermarkets where food was cheaper than in local small markets.
Payment for residing in hotels	881	907,12	-26,12	We spent more money for residing in hotels because we conducted three expeditions

				more than expected and in connection with increasing prices in hotels.
The writing goods (paper, cartridges for printer and another)	98	82	16	
Polygraph print of the information bulletins featuring all kinds of rare ferns (500 pc), regional information bulletins featuring the habitats of some species (100 pc), monograph «Rare aquatic ferns in Ukraine» (300 pc)	1900	1907,82	-7,82	Excess actual amounts for polygraph print of the planned sum caused by increase of publishers' prices.
Bank operations	0	47,14	-47,14	Bank taxes, which weren't, predict in prior budget of the project.
<b>Total</b>	<b>5987</b>	<b>5820,19</b>	<b>166,81</b>	

The sum that we asked in our grant application was £5987 and we received £5839.46 because of the rate change. The difference between asked price and sum which we have spent is £166.81, but really, we have £19.27 what is happened because of the difference between asked and received sum.

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

Our next work will be connected with:

1. Including of all identified populations of *Marsilea quadrifolia* to the protected areas.
2. Continuation and expansion of ecological and educational work among the local population.
3. Organisation of new project dedicated to investigation of other rare ferns species population on the territory of Ukraine in order to work out the appropriate measures of their protection.

### 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?

We used The RSGF logo in our multimedia presentations when prepared oral performances for lessons and seminars, on the posters and bulletins and at the cover of our book «Rare aquatic ferns in Ukraine». Besides, we acknowledged of the RSGF for support of our project in our publications, such as:

1. *Bezsmertna O.O., Shevchyk V.L. Salvinia natans* L. на території Канівського природного заповідника // Актуальні проблеми ботаніки та екології. Матеріали міжнародної конференції молодих учених. – Умань: Видавець «Сочінський», 2014. – С. 55-56.
  2. *Bezsmertna O.O.* Історія досліджень *Marsilea quadrifolia* L. на території Тернопільської області // Матеріали науково-практичної конференції, присвяченої 75-річчю Тернопільського національного педагогічного університету імені Володимира Гнатюка та хіміко-біологічного факультету «Концепція сталого розвитку та її реалізація в освіті» (16–18 квітня 2015 року, м. Тернопіль, Україна). – С. 26-29.
  3. *Bezsmertna O.O.* Save rare aquatic ferns in Ukraine // News from Planta Europa: <http://www.anpdm.com/newsletterweb/43475C467943425E4376414159/41445F427746455F447047425D4071>
  4. *Bezsmertna O.O., Sokolenko O.A., Peregryn M.M.* Знахідка *Marsilea quadrifolia* L. (*Marsileaceae*) у Київській області // Український ботанічний журнал, в друці.
- And other.

### 11. Any other comments?

I am really grateful to The Rufford Small Grants Foundation for the financial support of our project! Your foundation let to do significant contribution to protection of rare aquatic ferns of Ukraine. I hope to cooperate with The Rufford Small Grants Foundation in my future projects. I thank to my project team, referees of the project and all our friends and colleagues who helped us during our work.

We also should note that due to The Rufford Small Grants Foundation we linked many contacts with scientists and employers of environmental organisations that will contribute to further, more and more effective conservation of rare ferns species.

Our project was helpful whereas almost all local people didn't know anything about aquatic ferns, especially about *Marsilea quadrifolia* and during this project we increased ecological conscious of local population and improved the level of protection of rare aquatic ferns.

