

The Rufford Small Grants Foundation

Final Report

Congratulations on the completion of your project that was supported by The Rufford Small Grants Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. 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. 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	Sergey Drobenkov
Project title	Numerous nesting aggregations in the European pond turtle in south Belarus: distribution, current threats, and primary priorities for steady conservation (Belarus)
RSG reference	35.03.08
Reporting period	June 2008 - November 2009
Amount of grant	£5600
Your email address	bel_gerpetology@rambler.ru
Date of this report	13.01.2010

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
(1) To inventory and preserve largest nesting habitats of the pond turtle in western and east part of the Polesye Region.			✓	36 new unknown collective nesting habitats of the European pond turtle in two study areas of the Polesye region (the Western Bug and the Dnepr water-system) have been discovered. Detailed descriptions of the egg-laying localities (relief, exposure, vegetation, area of site, microclimate and other attributes) have been made, the actual human-related dangers were identified as well as implications for management of populations were developed.
(2) To identify main current threats for nesting aggregations in various geographical areas, landscapes, and habitat types.			✓	The next most significant factors of threat to the Belarusian population of the <i>Emys orbicularis</i> were identified: 1) human-caused destruction of the reproductive habitats (sand extraction for construction of dams and channels in the drainage systems and country roads); 2) high mortality route of females and hatching turtles crossing the roads during seasonal terrestrial migrations; 3) high loss of eggs and juveniles as result of excessive predator pressure (red fox, raccoon dog and other mammals destroy 15-60% of the turtle nests annually). Predators influence on reproductive success and population recruitment mainly in natural landscapes, while the habitat destruction and mortality on the roads play a leading part in the man-made landscapes.
(3) To define the factors determining a location of terrestrial habitats and assemblage abundance.			✓	The cold climate and the shortage of the warm open sandy highlands, that are necessary for successful egg development of the pond turtle, was the possible cause of the origin of the communal nesting and nest site fidelity in this species in the Polesye region, woody and marshy area of south Belarus. The disposition of the terrestrial breeding habitats of this emydid turtle is determined by the type of the

				surrounding landscapes, while female abundance in local reproductive aggregations is connected with distribution and area of sites of the favorable nesting habitats and general population abundance in the closely associated water bodies.
(4) To develop and test new effective measures of breeding area protection.			✓	<p>The wooden grates and wire nettings covering the nests (clutch protective devices), and also lines of red flags around sandy highlands (visual deterrents) are the most effective predator-controlling means in the collective oviposition places of the turtle.</p> <p>Prevention the sand utilization and restriction of road traffic around the surrounding roads is important measure for conservation of the breeding habitats and saving of mass female aggregations.</p>
(5) To draw public organizations, to conduct a training of school groups and local resident teams for protection and monitoring of mass aggregations.			✓	<p>Three groups of the active locals and naturalists were trained for continuation of monitoring and conservation of the biggest nesting congestions.</p> <p>The colour booklet has been published and lectures for local residents, schoolboys, fishermen are read for the purpose of environmental education and attraction of public attention to the turtle conservation</p>
(6) To prepare a package of recommendations for the Ministry of Nature and Nature Resources of Belarus for reservation of 5-6 biggest nesting habitats.		✓		<p>We projected the packages of practical recommendations for protection of 3 largest nesting clamps of the females and collective breeding habitats of the turtle for the Ministry of the nature and resources and regional departments of environment protection.</p> <p>2-3 packages for the conservation of breeding habitats will be completed within a year after more detailed censuring of females during next egg-laying period.</p>
(7) Ecological education of village people, schoolboys, fishermen, tourists.			✓	<p>16 popular lectures and two meetings regarding life history, distribution, threats and priority in conservation of this species have been carried out for locals, fishermen, staff of the forest department and conservationists.</p> <p>The colour booklet (350 copies) on current state of Belarusian population of</p>

				the <i>Emys orbicularis</i> and conservation goals has been designed and distributed.
(8) Shooting and collecting of video materials on mini-arribada in the pond turtle for a special film for Belarusian TV channels.			✓	We have filmed many interesting materials about various aspects of the turtle life history for the popular science film which will be presented on the national TV channel in the short run.

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

The first insignificant difficulty was connected with limited time for the assessing the quantity of the female nesting assemblies during the short egg-laying season (only 3-4 weeks in annual cycle). Therefore for the estimation of abundance we used two approaches: (a) visual nocturnal finding and assessing the quantities during the breeding season by several research teams (our project command and groups of active locals and naturalists); (b) the approximate estimate of a relative abundance of females using the nests destroyed by predators at the next time of 3 summer months. Next year we plan to collect fuller data about the numbers of some nesting assemblies and two or three biggest aggregations will be protected.

Second minor difficulty is connected with a long term of practical realization of conservation efforts for every rare endangered species and its habitats in Belarus. Real results of the nesting sites reservation will take place only 2-3 years later, after reduction of any economic activities in these reserved areas.

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

(a) The results of our life nature project showed that numerous nesting aggregations of the pond turtle are distributed within all the Polesye region, southern Belarus, in its central part (the first RSG, 2006-2007), and its east and western part (the second RSG, 2008-2009). We assume also that the collective breeding of this chelonian occur in neighbouring countries, namely Lithuania, Ukraine and Poland, in its areas with a similar climate and natural landscapes (some publications and personal messages of foreign colleagues).

(b) A principal cause of an origin of the collective reproduction and breeding site fidelity in the *Emys orbicularis* in southern Belarus was most likely cold climate of the region and a shortage of the favourable habitats for successful embryonic development and steady population reproduction at northern border of the species range. The general route of the annual egg-laying migrations of the pregnant females is directed from the coldest, low and wet areas of a landscape (ponds, rivers, bogs) to the warmest, high and dry localities (sandy highlands). For spatial orientation and navigation during long distance terrestrial migrations the females use most likely sensitive vomeronasal organ of chemoreception which located in a throat and a neck.

(c) We believe the protection of mass nesting areas of the pond turtle in the Polesye, including the favourable water habitats in great numbers (various bogs, small standing ponds, and a dense network of the rivers), but a precious few suited breeding areas, will be most effective action for

population conservation. We tested and applied some anti-predator devices to nest protection, several largest female aggregations (presented by 40-70 females at least) were discovered and reserved, 12 active locals and naturalists were attracted to the conservation actions, the popular booklet was published, many field video materials and photographs for an educational aims about live history and needs in urgent protection of this freshwater turtle were collected.

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

The European pond turtle is an exotic species of animal for people of many countries of Eastern Europe, including Belarus. We have trained three teams of naturalists of the local population that will be able to work in area of ecological tourism as guides. Collective nesting and mass breeding habitats of this freshwater turtle in a temperate climate zone near a southern taiga zone are a unique phenomenon and highly interesting object for the international tourism. We also have paid work of the several locals involved in production and controlling of protective nesting devices.

5. Are there any plans to continue this work?

The top priority of our long term conservation activity is development of small nature reserve network for protection of unique nesting aggregations (arribada) and the Belarusian population of the pond turtle, which is one of the northernmost populations of world's turtles.

At present, we observed only 40% of the turtle's distribution area in Belarus where have found and reserved 12 biggest collective breeding habitats. The main little known terrain is located in the basins of the right inflows of the Pripyat River, in wide band along the Ukraine frontier. For completion of the inventory stage and creation of the turtle refuges one to two field seasons and financial assets are required. Belarus is in grave conditions of economic crisis, therefore we would like to ask the support in the international funds, The Rufford Foundation (Small Grants for Nature Conservation), the Global Environment Facility (GEF)/UNDP Small Grants Programme) and the British Ecological Society (Small Ecological Project Grants). National Academy of Sciences of Belarus show interest to our conservation activity and may subsidize some funds (\$3-4,000).

We plan to expand collaboration with conservationists of neighbouring countries, Latvia, Lithuania, Ukraine, Poland, Russia, and also Germany (cooperative field research, training, and seminars). One of the priority tasks is to unite the turtle reserves of these countries into integrated network, to establish the general database, and to generalise practical experience on the pond turtle conservation.

We would like to conduct some national workshops about problems of this species conservation for young researchers, conservationists, officers of nature conservation departments and mass-media. We also would like to test GIS technology for searching, mapping and analyzing of the turtle's nesting habitat distribution, to make several model artificial nesting grounds (sandy hills) around the ponds and to carry out reintroduction of young turtles in the more important areas, such as National Park "Pripyatsky" (main turtle national reserve) where 15-20 adult animals have remained only.

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

We will extend results of our conservation project by means of scientific and popular articles in journals and newspapers, TV and radio appearances, posters and booklets. This year our book on the pond turtle, including two chapters on the threats and conservation, will be published and

distributed between local authorities, forestry system, nature reserves, universities, and some middle schools. In the near future the educational environment film about this remarkable species will be shown in the First National TV channel of Belarus. We plan to present results of our work in three of four international and two or three regional scientific conferences. Our detailed report on the project will be presented to colleagues of neighbouring countries.

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

The time of the project grant covers the period since June 2008 till November, 2009. During this period almost all programme of works was carried out.

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
Rent of automobile	£1100	1150	-£50	
Payment of fuel (petrol)	£1200	970	+£230	
Automobile service	£400	430	-£30	
Foodstuffs for the team	£1000	1240	-£240	
Designing, publication and spread of the colour booklet	£550	415	+£135	
Materials for nest protective device	£400	540	-£140	
Photo and video materials (flash-cards, DVD-R, films, batteries)	£220	195	+£25	
Special water-resisting tripod for camcorder	£60	70	-£10	
Topographical maps, paper	£120	130	-£10	
Services (cell phone, e-mail, Internet, mail)	£150	160	-£10	
Reward for work of country people (fitting and control of protection devices)	£250	300	-£50	
- Unforeseen costs	£150	-		
TOTAL	£5600	£5600		

Exchange rate of 1£ sterling to U\$ was 1,55 and to Belarusian rouble was 3850 in 2008.

All original receipts we are sending to the Rufford Small Grant Foundation by post.

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

The main objectives in 2010-2012:

- To complete inventory of the abundant nesting habitats of the *Emys orbicularis* in southern Belarus, primarily in the uninvestigated areas near Ukraine frontier, to select three to five big reproductive associations, to prepare their detailed description and preservation proposals, and as a result to establish the national Belarusian network of the little turtle refuges.
- To unite all the collected data in a special database on this species (distribution, aspects of life history, abundance, population structure, pictures and video, literature) which will be a background for the development of the National Plan of rescue of the pond turtle in Belarus in the near future.

- To organize international working partnership with conservationists of neighbouring countries of Eastern Europe (mutual field investigation and management, training, meetings) for development the general reserve network for the pond turtle conservation, mainly in transboundary areas (Belarus-Ukraine, Belarus-Lithuania, Belarus-Poland).
- To develop and to try a complex of the practical biotechnical actions for preservation and recovery of the pond turtle populations in the most important nature protection areas, in two national parks and two biggest reserves in the south part of the country (construction of artificial breeding grounds, clutch protection devices and actions, reintroduction of juvenile turtles in lost habitats).

We plan realization of practical actions in cooperation with the Global Environment Facility.

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

RSGF logo was used in our colour booklet on the pond turtle conservation and nature education, published in 350 copies, at field training of the initiative commands for continuation of conservation and monitoring actions, interview for journalists of newspapers and radio, and badges.

11. Any other comments?

Our nature protection booklet and the poster (RSGI) have been a huge success. In many regions of Belarus (and other countries of Europe) this species has become a “poster species” for attracting public interest in issues of the turtle and marsh conservation. The pond turtle is fine object for nature protection education, especially among children, because it is a unique component of a biodiversity in countries of Eastern Europe.

Our last publications with gratitude to the Rufford Small Grants Foundations for its support

- Drobenkov S. The European pond turtle in Belarus // European pond turtle – *Emys orbicularis*, Chelonian Library, Edition Chimaira, Frankfurt am Main, 223-225.
- Drobenkov S.M. Nesting habitats and breeding behaviour of the European pond turtle (*Emys orbicularis*) in the Polesye region, South Belarus // *Testudo*. Vol. 7, 2009. 62-70.
- Drobenkov S.M. Recent status, ecological features, and preservation tasks of European pond turtle *Emys orbicularis* in Belarus // *Problems of animal study and preservation in the north*. Syktyvkar, November 16-20, 2009, Komy Republic, Russia. Proceeding of scientific conference. 363-365.
- Drobenkov S.M. Status and conservation problems of European pond turtle population (*Emys orbicularis*) within the Belarusian Polesye // *Natural resources of National park «Pripiatsky» and other reserves of Belarus*. Proceedings of Scientific conference in National park «Pripiatsky». 2009. 87-94.