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	Saving of abundant nesting assemblies of the European pond turtle in Belarus: creation of the reserve network and the National conservation plan development
RSG reference	8463-B
Reporting period	August 2010-September 2011
Amount of grant	£8900
Your email address	bel_gerpetology@rambler.ru
Date of this report	30th September 2011

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 finish inventories of collective nesting habitats of the pond turtle in unknown areas of southern Belarus, in basins of the right confluents of the Pripyat river and in trans-boundary regions near Ukraine and Poland			✓	In 2006-2011 we surveyed great area of southern part of Belarus, presented by the natural and transformed landscapes, and have found out more than 90 collective terrestrial breeding habitats of the pond turtle. This year over 30 unknown nesting sites and 18 numerous aggregations of females in the basin of the right inflows of the Pripyat river and near borders of Belarus and Ukraine have been recorded. The numbers of reproductive groups ranged from 5-10 to 80 females. Along the frontier area of Belarus and Poland in water system of the Western Bug river the abundant female associations in the egg-laying season were not observed.
2) to create 5-9 turtle's micro reserves in the largest nesting aggregations and to finish development of general network of protected areas in the country			✓	The field assessment for creation of five micro reserves in the biggest nesting habitats of the pond turtle are performed and submitted to the Ministry of Nature and Natural Resources and local authorities of three districts. Reservation of these areas is planned in 2012. Besides, this year seven existing wildlife reserves have been surveyed, and small populations and multiple clutch sites of the turtle have been discovered in three of them.
3) to train 4-5 teams of natives (teachers, learners, naturalists) for continuation of nesting assemblies protection and their monitoring			✓	Four teams of local teachers, schoolboys, amateur naturalists and fishermen, consisting from three to 12 volunteers, have been trained (lectures and field exercises) for monitoring and protection of the nesting aggregations. The groups have been instructed to employ the nest defense devices and other approaches for protection communal egg-laying sites, as well as females and hatchlings in the most dangerous areas of their traditional terrestrial migrations.
4) to implement starting actions for turtle population recovery in one of the important state preserves, National park "Pripyatsky"			✓	The management plan of declining population of this species in National park "Pripyatsky" has been developed. This plan, including such measures as clearing of breeding habitats, removal of excessive vegetation in ponds and along their coasts, collection of eggs in the nests destroyed by predators, egg incubation and realisation of reared young turtles in native habitats, is submitted to the Ministry of Nature and Natural

				Resources and the direction of National park. The first recovery actions will start, according to planned schedule, next year. Furthermore, in 2011 in the southern part of the preserve 28 juvenile turtles hatched after captive incubation of eggs collected from destroyed nests, already were realised in wild habitat.
5) to continue ecological education (special Emys Website, lectures for locals and children, color poster, popular and scientific articles, the book on the European pond turtle in Belarus)			✓	14 educational lectures on the Pond turtle for local people and schoolboys have been delivered, colour poster (300 copies) have been designed and distributed, five popular articles in newspapers and magazines have been published. The popular book about the European pond turtle and others rare endangered species of Belarusian herpetofauna, listed in Red Book, including the pond turtle, is published (http://www.biblio-globus.us/description.aspx?product_no=9694966) . The design of Website on *Emys orbicularis* is developed and it will be presented in the Internet at the end of October 2011. This year the project author has published the scientific monograph «Population ecology of the European pond turtle in Belarus».
6) to try new approach (GIS technology) for searching, mapping and description of the turtle breeding habitats			✓	In this live project we tried to employ GIS technology for searching (and later to describe the environmental parameters) of egg-laying localities of the turtle using space pictures. The analysis of maps by the important ecological characteristics of breeding areas and following control of potentially suitable biotopes in the nature has shown that females nested in nine from 17 selected sites. Number of females in these habitats ranged from three to 26. Generally, this method has shown good results and will be used in the future.
7) to discuss our results with colleagues of neighbouring countries, Lithuania, Latvia, Poland, Ukraine and Russia			✓	The results of our field survey and the preliminary findings of conservation actions have been discussed in two international scientific conferences and two field seminars. The major results have been generalised in our scientific monograph which we will send to colleagues in Belarus and other European countries after receipt of author's copies.
8) to summarise all collected field materials in a special database on this species			✓	The special database on the pond turtle, including location of the nesting sites and water habitats, site area, number of populations, its size and sex structure, description of vegetation and environmental conditions, threat factors, and protection measures has been prepared. All materials collected by the author for last 20 years

				(165 aquatic habitats and 120 reproductive biotopes) have been summarised in this database.
9) to generalise results of current population status estimation and to develop the National plan of the pond turtle conservation for the Ministry of Nature and Resources			✓	The results of all our researches and conservation projects, and the plan of its preservation in Belarus are published in the author's monograph this year. The National plan will be filed to the Ministry of Nature and Natural Resources (as declared in the grant application) in November 2011.

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

Long term of official procedure of the pond turtle nesting habitat reservation was main difficulty in implementation of this project. The first results of protection will take place only 2-3 years later after the termination of any economic activities in these micro reserves.

Besides, reservation of the nesting habitats is only the first step of preservation of local populations this animal. This step will enable to reduce human activity in the breeding sites and to retain an environment in the collective nesting areas of the turtle. However radical transformation of landscapes in the surrounding area will entail negative influence on the breeding habitats. High number of the predators consuming the turtle eggs (fox, raccoon dog, wolf, house dogs) both a dense network of the roads and the intensive traffic are main threats in changed landscapes in South Belarus. Therefore, next very important step is realization of special annual actions for protection of clutches, females and hatchlings on the ways of their migrations (particularly, across the roads).

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

(a) During past 6 years we surveyed the big territory of South Belarus and have discovered nearly 90 collective breeding habitats of the pond turtle. As a result of the present study it is evident that the communal reproductive behavior, the mass seasonal migrations of females and nest-site fidelity are spread over all south part of the country (the Polesye region). According to few publications, the similar nesting biology was detected also in other sites of the range of nominative subspecies of *Emys orbicularis* (Poland, Lithuania, Ukraine, Germany). We suppose that today the most abundant nesting aggregations has survived only in South Belarus and this is connected with natural features of the region (many mires and waterlogged lands in low floodplain of the Pripiat river).

b) Results of our research have allowed identifying the possible reasons of an origin of abundant nesting aggregations of this freshwater species and navigation mechanisms of females during distant terrestrial journey in the mosaic difficult area. The cold climate of this region and shortage of preferred habitats for successful embryonic development and steady population reproduction near northern border of distribution of the pond turtle was a principal cause of an origin of a phenomenon mini-arribada in South Belarus. 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 (open sandy hills). For spatial orientation and navigation during long distance traditional seasonal movements the females use most likely sensitive vomeronasal organ of chemoreception located in the throat and the neck.

(c) We are sure that numerous nesting aggregations of the pond turtle females in South Belarus are an unusual (among freshwater turtles), very interesting (to observe in wild) and unique (for Europe) phenomenon. Therefore, urgent protection of the largest breeding habitats, creation of micro reserves, protection of clutches, as well as females and hatchlings on routes of their migrations, energetic educational activity and attracting of local community to the conservation actions and turtle population management are very important and current. Showing of this phenomenon in indigenous species of reptiles in natural environment will be very attractive action for the international and local ecological tourism.

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

We have involved local community (mainly villagers) in teams for the population monitoring and the nesting aggregation preservation of the pond turtle. Volunteers of these commands can work in the area of ecological tourism as guides in the future. Inhabitants have been involved for making and installation the nest protection devices in wild too. Students of local universities participated in our project and practised in the nature protection actions. The significant support in project realization was rendered by local authorities of some districts (information support).

5. Are there any plans to continue this work?

We have completed the first stage of research study (investigation of the arribada phenomenon in European pond turtle in northern part of the range) and have only begun initial conservation actions. Most likely reasons of origin of the numerous nesting aggregations of this species in Belarus have been established, inventory and description of communal breeding habitats have been conducted, 12 small reserves for protection of largest turtle populations have been created.

We very much hope to continue this work. Realisation of the effective protection measures in biggest nesting habitats of the turtle in five to six micro reserves and two national parks will be priority line of our activity at the following stage (2012-2013). Other perspective objective is to improve and develop new means for preservation of the turtle clutches against predators and decline the death rate of females and young turtles on the ways of their annual land migrations (particularly across the roads). Toward this end we plan to involve students of universities, post-graduate students, trained commands of local people as well as some nongovernmental nature protection organizations. Next all-important task is educational activities (lectures, posters, seminars, films, Website). We very hope for the financial and information support of some international conservation funds (RSGF, GEF) as Belarus is in deep financial and economic crisis today. The European pond turtle is a charismatic remarkable autochthonous species of native European fauna, a symbol of its vanishing marshes and important component of the biological diversity, therefore our work seems to us very important.

.

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

We plan to participate in the work international nature protection and herpetological conferences, field seminars in collaboration of nature protection experts and officials of the Ministry of Nature and Natural Resources of Belarus. Next year together with colleagues of Latvia we start reintroduction the pond turtle from Belarus in this country (all permissions are already received), and elaboration of joint conservation program of the species populations in border areas. The project author monograph on the pond turtle (containing gratitude to RSGF and its logo) will be distributed among colleagues of the European countries. Our command in the course of this project

performance the color posters and booklets dispensed among teachers and staff of forest service of the country.

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

This grant was used from August 2010 till September 2011. During this period of time all scheduled program segments of the project were 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
Car rent	£2000	£1950	£50	
Gasoline cost	£1700	£1740	£40	
Car service	£500	£530	£30	
Food for the research groups and initiative teams	£1600	£1550	£50	
Designing, publication and distribution of a poster	£500	£540	£40	
Designing and hosting of the Web Site	£500	£530	£30	
Materials for the nest protective devices	£800	£720	£80	
Flesh-cards, DVD-R, Mini DV, batteries	£300	£250	£50	
Topographical maps, stationery	£100	£120	£20	
Services (cell phone, Internet, mail)	£200	£200	-	
Payment of the country people (making and installation of protective devices)	£500	£570	£70	
Unforeseen costs (evacuation or repair of the automobile)	£200	£200	-	
TOTAL	**£8900**	**£8900**	-	

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

In 2012-2013 we would like to expand our conservation activity in following lines:

1. To conduct active nature protection actions in key areas, such as some the largest nesting aggregations of turtle (including from 100 till 250 females) and in the most valuable and important reserves (national parks). For this purpose, in breeding season from May till August special nature protection actions will be organised (nest defense, protection of females and juvenile on the migration routes, decrease of the automobile traffic and others).

2. To improve and (or) to develop new more effective protection means of clutches and collective reproductive habitats (plastic grates, lines of color tags, light lamps).

3. To draw attention of local people to a problem of the pond turtle preservation. For that we would like to design and publish the small handbook including data on its biology, current status in Belarus and other countries of Europe, threat factors and main tasks of protection activity, and circulate its

to the district inspections of nature protection, forest service, teachers of village schools. We hope our Website about the pond turtle will draw attention to its preservation problems.

4. Active international contacts. We plan to continue information exchange with colleagues of Latvia, Lithuania, Germany, Poland, Russia and any other countries. Next year we plan to send of adult belarusian turtles for introduction in neighboring countries, first of all in Latvia and probable in Poland. We plan also to develop the plan of creation and management of joint transboundary turtle reserves.

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 color poster on the pond turtle (300 copies), at the field trainings of initiative commands of local people (on the wind-breakers), conference posters, in scientific monograph, three articles, interview for journalists of newspapers and radio, and badges.

11. Any other comments?

Our turtle poster as before was a big success. In many regions of Belarus and other countries of Europe this reptile has become a “poster species” for attracting public interest to the animals and marsh conservation. The pond turtle is fine object for nature protection education, especially among children, because it is very peculiar animal and important component of a biodiversity in countries of Eastern Europe.