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	Fedor Sarayev
Project title	Assessment of bird of prey mortality caused by electricity power lines in Mangistau region, Kazakhstan
RSG reference	15733-1
Reporting period	October 2014 – April 2015
Amount of grant	£ 5000
Your email address	fas_2@rambler.ru
Date of this report	

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. Reviewing and gap analysis of the regulatory framework of RoK on avian interactions with power lines		+		After consultation with some legal advisors from governmental environmental agencies and private companies, as well as reviewing the RoK regulatory framework for environmental protection we discovered that only two important RoK regulatory acts address the issue of avian interactions with power lines, but these regulations do not contain specific operating procedures and technical specifications to prevent birds electrocution and ensure the safety of the birds.
2. Analysing of the current state of power lines in Mangistau region (length and other technical specs). Based on this information representative areas along power lines would be selected for the survey.		+		We could not get officially requested data on powerlines in Mangistau region (length, location, technical specs and ownership), but from unofficial sources we can estimate that the total length of powerlines 6-10kV in the region is about 4,000 km.
3. Implementation of the survey along power lines grid (6-10kV) to record bird mortality caused by electrocution. Actual damage evaluation with extrapolation on entire territory of Mangistau region.			+	Two seasonal surveys were conducted along powerlines (6-10kV) of total length 400 km (autumn 2014 and spring 2015). All surveyed lines belong to the state energy companies KazTransGaz and KazTransOil. During the survey we found carcasses of 123 birds of 30 species that were killed by power lines in the last two years. 81.3% of birds were killed by electrocution when they tried to perch on power line structures.
4. Development of recommendations to			+	We reported key survey findings and recommendations at the final meeting on

reduce the effect of power lines on endangered raptors and interaction with the state environmental agency and the Government of Mangistau region to implement these recommendations. Relaying of the recommendations to the government of the RoK, lobbying for measures to fix this problem.				protection of birds and mitigation measures to reduce bird mortality caused by electrocution with power lines (6-10kV) in Mangistau region that was held on 13 May 2015 in Aktau. Representatives of state environmental agencies, regional authorities and energy companies attended this meeting.
5. Preparation and distribution of informative poster on raptor interaction with power lines among energy/oil companies and local community. Publishing and posting the project findings in scientific journals and media.			+	A poster (A2 size) on bird interaction with power lines with the RSGF logo was published and distributed to target groups (energy/oil companies, environmental agencies and educational institutions). Regional television made a TV report on our project in April 2015. Media personnel attended the final meeting on mitigation measures to reduce bird mortality caused by electrocution in Mangistau region that was held on 13 May 2015 in Aktau. As a result, several articles were published in local newspapers.

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

Unfortunately, we were unable officially to get requested data on power lines in Mangistau region (length, location, technical specs and ownership). Initially it was assumed that this information would be received via a request from Mangistau Department of Natural Resources and Environment to power line owners. We prepared and submitted a relevant draft letter to the Department. However, contrary to our expectations, this information has not been received. The possible reason for this was staffing shortfall and resignation of key management personnel. Nevertheless, we managed to establish from unofficial sources that the total length of 6-10kV power lines in the region is about 4,000 km, which allowed us to extrapolate from the collected data for the entire territory of Mangistau region.

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

1. Two seasonal surveys were conducted along powerlines (6-10kV) of total length 400 km (autumn 2014 and spring 2015). During the surveys we found carcasses of 123 birds of 30 species that were killed by power lines during the last two years. It should be noted that among them 8 species are listed in the Red Book of Kazakhstan (73 birds or 59%).

Most of the birds(*Falconiformes, Corvidae, Strigiformes*) were killed by electrocution when they tried to perch on power line structures (100 birds or 81,3%). 23 birds (swan, ducks, flamingo, spoonbill, quail, small passerine birds) were killed by collision with the power lines (18,7%).

Among electrocuted birds: 9% are from Corvidae family (rooks and crows), 9% are owls (eagle owls) and 82% from *Falconiformes*, including 59% from *Aquila* (*Aquila nipalensis, Aquila heliaca, Aquila chrysaetos*).

Based on analysis of the collected data, the following conclusions and recommendations are presented:

- In Mangistau region, as well as throughout the Former Soviet Union, there is a problem of mass electrocution of raptors with medium voltage power lines (6-10 kV), including species that are listed in the Red Book of Kazakhstan. It is estimated that at least 1,000-1,500 birds are killed by electrocution every year, causing significant damage to rare species and putting their populations under greater threat. In this regard, the steppe eagle populations are under the greatest pressure.
- According to existing legislation in the RoK, the annual damage from avian deaths caused by electrocution on power lines in Mangistau region is estimated at around 200 million tenge (£500,000).
- This situation is a violation of RoK legislation and in urgent need of correction. At the same time the existing regulatory framework needs to be updated and should formulate specific requirements for the design, construction and operation of medium voltage power lines to prevent birds from being electrocuted and ensure their safety.
- Currently the most widely used concrete poles with horizontal metal crossarms and pin insulators are the most dangerous structures for birds and need to be refitted with effective bird protection devices. Other common structures with metal dovetailed crossbars and suspended insulators are also not safe for birds and need to be modified with bird protection devices.
- In the design, approval and construction of new medium voltage power poles (6-10kV) preference should be given to avian-safe facilities that will include protective devices and these will not need to be retrofitted. In accordance with RoK legislation, companies that operate medium voltage power lines have to develop and implement programs to prevent bird electrocution on power lines within a realistic timeframe.

- Governmental environmental agencies need to organise comprehensive monitoring of bird electrocution on power lines with experts' involvement from NGOs and establish effective control over compliance with environmental legislation.

2. On May 13th 2015 in Aktau we conducted the final meeting on protection of birds and mitigation measures to reduce bird mortality caused by electrocution with power lines (6-10kV) in Mangistau region. Representatives of state environmental agencies (Mangistau Department of Natural Resources and Environment, Regional Environmental Prosecutor's Office, Forestry and Hunting Inspectorate, Ustyurt State Nature Reserve), regional authorities, energy companies and journalists attended this meeting. The keynote report was presented by our colleague Mark Pestov. All participants of the meeting supported the need to address the issue of bird mortality from electrocution and expressed their willingness to tackle this problem in stages. A "KazTransGas" representative stated that this company had already re-equipped two sections of power lines with dielectric bird protection devices and was planning to continue this work.

Following the meeting a media release was prepared and distributed to journalists.
As a result, there have been several publications in the media:

http://www.lada.kz/aktau_news/ecology/page,1,2,28042-mark-pestov-v-mangistau-populyaciya-stepnogo-orla-sokratilas-na-90-procentov.html#comment

http://tumba.kz/novosti-kazaxstana/49-%D0%BD%D0%BE%D0%B2%D0%BE%D1%81%D1%82%D0%B8-%D0%BA%D0%B0%D0%B7%D0%B0%D1%85%D1%81%D1%82%D0%B0%D0%BD%D0%B0/8479-stepnojj_orel.html

3. We drew up a draft Resolution "On approval of the requirements to prevent wildlife mortality in the design, construction, operation, repair and modification of power lines (6-10kV) in the Republic of Kazakhstan" and are currently holding discussions with leading experts of Russia and Kazakhstan on this document. The text of the draft is based on similar documents approved in some regions of Russia. We are planning to submit this document to the Government of Kazakhstan by the end of 2015.

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

Working on the project we found a lot of new friends among local people in Mangistau region. We are also thankful for great support provided by the staff of Ustyurt State Nature Reserve.

5. Are there any plans to continue this work?

We deem it advisable to continue to seek opportunities to further monitor the situation with bird mortality caused by electrocution in the Mangistau region in the coming years, as well as implementation of similar projects in other parts of Kazakhstan, especially in the steppe and desert zones. We are also planning to carry out a similar study in Uzbekistan in the future.

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

The results of this project have been presented to the participants of the international ornithological conference of northern Eurasia that was held in Almaty (Kazakhstan) in August 2015 and received positive feedback. In the near future we are planning to publish an article about the results of the project in the journal «Raptor Conservation» in Russian and English languages.

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

We used the Rufford Foundation grant over the period of September 2014 – August 2015, as it was initially planned.

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.

5000 £ sterling = 1461750 Kazakhstani tenge; 1 £ sterling = 292,35 Kazakhstani tenge (exchange rate on 13.10.2014).

Item	Budgeted Amount	Actual Amount	Difference	Comments
Travel expenses	1075	1044	-31	Due to the purchase of cheaper air tickets
Per Diems	1620	1620	0	
Car Rent	1980	2036	+56	Car rent payment for two surveys– 1875£ (Car rent per day 62,5£). Fuel costs for two surveys- 161£.
Poster printing	180	188	+8	
Miscellaneous	145	112	-33	
Total	5000	5000	0	

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

After a comprehensive discussion of the draft Resolution "On approval of the requirements to prevent the wildlife mortality in the design, construction, operation, repair and modification of power lines (6-10kV) in the Republic of Kazakhstan " we are planning to submit this document to the Government of Kazakhstan. At present, we have agreed with Talgat Kerteshev, National Coordinator of UNDP projects on biodiversity conservation in Kazakhstan (talgat.kerteshev@undp.org) to cooperate in lobbying for the adoption of the relevant governmental decree. A similar agreement was reached with Serik Ospanov, parliamentary deputy of the RoK. All this gives us hope for successful lobbying of the proposed regulatory document. The outcome of this initiative will be posted on our page at the Rufford Foundation site. We also hope to find partners and sources of funding for a similar project in Uzbekistan.

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?

A poster on bird interaction with power lines with the RSGF logo has been published and distributed to target groups (energy/oil companies, environmental agencies and educational institutions). During the course of our work (in all publications and TV reports), we have always mentioned RSGF as a project sponsor.

11. Any other comments?

We are deeply thankful to Rufford Small Grants for Nature Conservation for long-term support of our project and are ready to continue our cooperation.