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	Tsovinar Hovhannisyan
Project title	Identifying movement patterns and wintering grounds of Lesser Kestrel
RSG reference	12618-1
Reporting period	2013-2015
Amount of grant	5930 GBP
Your email address	Tsovinarhov86@gmail.com
Date of this report	05/08.2015

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
Identify movement patterns and migration routes of Armenian Lesser Kestrel	√			Due to some problems caused by satellite transmitter manufacturing company- Microwave Telemetry, who is the only producing company of 5g satellite transmitters, we had to buy geolocators instead of satellite transmitters. Geolocators provide data on wintering grounds, but unfortunately, we failed to collect any data on movement patterns of the species in Armenia. We tagged 33 individuals with geolocators provided by Swiss Ornithological University and retrieved only 3 of them, which were damaged and did not provide any data.
Identify limiting factors that the species might face outside of the country	√			As it was not possible to identify wintering grounds of the species, we could not identify limiting factors that the species might face outside of Armenia
Find out possible breeding areas else the ones known			√	We found a new breeding area of Lesser Kestrel in Sisian town, Southern Armenia. It is the biggest known breeding colony in Armenia with 50-60 breeding pairs. Also, it is for the first time that this species breeds just under to man-made buildings. (http://aspbirds.org/articles/new- breeding-colony-of-lesser-kestrel- found-in-armenia.html)
Genetic analysis			√	In collaboration with Ilia State University of Tbilisi, we did a genetic analysis in order to estimate genetic diversity, reconstruct phylogeny and assign individuals of F. naumanni sampled in Armenia. We sampled 40 individuals from natural and artificial breeding towers. Our analysis reveals that cytochromeb fragment in samples from Armenia have identical nucleotide sequences, this indicates that sampled birds
Annual monitoring of the Lesser Kestrel population				Based on the studies of 2013-2015 Lesser Kestrel population in Armenia made an increase: from 45-50 breeding pairs to 90-110 breeding pairs.

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

The unforeseen difficulties were caused by satellite transmitter manufacturing company- Macrowave Telemetry and interrupted production schedule, which made the purchase of 5g satellite transmitters impossible. I got permission from Rufford Small Grants team to buy geolocators instead of satellite transmitters.The retrieved geolocators were damaged and based on report from Swiss Ornithological University the problem might be the roosting and wintering places (maybe narrow entrances) and electronic safety controls that Armenia uses.

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

- One new breeding colony of Lesser Kestrel is found in Sisian town, Armenia.
- Genetic analysis of sampled Lesser Kestrel individuals showed that are close relatives and are in the same clade with individuals from Johannesburg zoo and sequences with accession numbers EU233077-79
- The Armenia population of Lesser Kestrels increased and doubled from 45-50 breeding pairs to 90-110 breeding pairs.

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

5. Are there any plans to continue this work?

- ASPB plans to continue the monitoring of Lesser Kestrels in Armenia, as well as to tag Lesser Kestrel individuals with loggers to study the flight distance from the nesting area for searching food and possible roosting areas.
- Also, we plan to tag Lesser Kestrel individuals with geolocators and finally find out the wintering grounds and possible key limiting factors of the species outside of Armenia.

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

The results of the project will be published in scientific journals, in ASPB's web site and newsletter "Winged news" and also, publicized in e-newspapers.

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

The Rufford Foundation grant was used from April 2013 to June 2015 to monitor the population size, food ratio, to do banding and tagging with satellite transmitters, but because of unforeseen problems the project was suspected for one year and in 2014 the purchase of satellite transmitters was replaced with the purchase of geolocators and genetic analysis was added to the objective of the project.

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
Geolocators	4400	4000	400	The price of 30 geolocators was slightly cheaper than for 2 5g satellite transmitters. The difference was used for fuel and per diem to travel for 3 breeding seasons (blood sampling, ringing and tagging with geolocators), as well as for international postage of geolocators to
Brochure printing	500	750	-250	Within 2 years the costs of printing in Armenia raised and we used some money from GIS mapping for the brochure design and printing.
GIS mapping	350	0	350	The money was used for brochure printing and for fuel.
Travel (per diem)	380	630	-250	The money difference was used from the budget of geolocators and GIS mapping.
Fuel	300	550	-250	The money difference was used from the budget of geolocators.
Total	5930	**5930**	0	***The mean rate of GBP for these 3 years (2013-2015) is 677, 2 AMD. But I received the fund in Euros and the exchange rate was different.**

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

The next important step is to continue genetic analysis in order to find out whether there is negative hybridisation in the colony, as during the observations we noticed many individuals with common kestrel plumage, but white talons which is typical for Lesser Kestrel. As well as it is important to build a adobe breeding tower, as the TV tower which is used by Lesser Kestrels now, might be deconstructed soon as Armenia is restructuring its TV providing mode moving from standard to digitized mode.

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?

The logo of the Rufford Foundation was place on the brochure about Lesser Kestrels in Armenia and hard copies were sent to RSGF.

11. Any other comments?

I would like to thank Rufford Small Grants Foundation for providing a special support to this project. It was for the first time in Armenia and entire Caucasus region that falcons were tagged with geolocators. Also special thanks are extended to the team of the Rufford Small Grants Foundation for their understanding of force-major situations and making this project a reality.