# 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** | Emanuel Lisichanets |
| **Project title** | Long-term Conservation measures for Imperial eagles in Macedonia |
| **RSG reference** | 21653-B |
| **Reporting period** | July 2017 – July 2018 |
| **Amount of grant** | £9960 |
| **Your email address** | e.lisichanets@gmail.com |
| **Date of this report** | 24-08-2018 |

**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 |
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| Annual monitoring of the breeding population | | | | As every year the survey or monitoring of breeding success began in the middle of February. During the monitoring mission, all known sites in the region of Ovce Pole and Povardarie (central steppe part of Macedonia) are controlled for presence of eagles. At the beginning of the breeding season (during March) the all known active nests of each breeding pair are searched for. Each nest was located on the map and recorded in the database. The nests have also been located using GPS.<br>The species is very sensitive to direct disturbance (e.g. close watching of the nest site) comparing to indirect disturbance (e.g. agricultural workers walking in the proximity of the nest). Due to this, direct disturbance is avoided as much as possible while visiting nest sites.<br>Monitoring was done from safe distance (using telescopes and binoculars) to prevent any disturbance of the birds. We checked the nests known from the previous years and also visited those sites that seemed to be appropriate for the species<br>This year began like successful for imperial eagles. We found three newly formed couples. Two of them nest on power poles (in an artificial nest platform which is set last year) and one has build new nest on tree. The newly established couples are proof of the success of the conservation measures implemented so far. |

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| | | | | Unfortunately however it is not as great as we wanted to be. In November 2017, following notification from a local farmer, near the rubbish dump of city of Veles we found the body of poisoned imperial eagle. It was the female from the couple near the village of Mamutchevo. But she was not the only victim. We also found two poisoned foxes and three common buzzards. The case was reported to the Ministry of Environment and inspectors took to the inspection.<br>Also in two nests there is a change of adult birds with subadult, indicating death from unknown reasons in adults. The female of one of such couples, because of inexperience, left the egg in the nest and went hunting in the nearby field. Egg was predated by ravens. This was a clear example of why sometimes young couples are unsuccessful in raising the young.<br>In 2018, 34 pairs were formed from which 32 started breeding. Seventeen nests were on poplar trees and other are on power line pylons. Four nests this season are vulnerable and are guarded. Twenty-five pairs have one chick and five have two chicks in the nest. Two pairs lost their young during incubation. During July, due to a severe strong storm, four nests were totally destroyed along with the young in them. Not a single young from the destroyed nests survived.<br>In total, 27 fledglings successfully left the nest. |
| Installation of artificial nests | | | | Based on the positive results of previous projects, it has been shown that platforms mounted on power lines poles provide long-term possibilities for safe nesting and the increasing of breeding pairs of Imperial eagles. Artificial nests are composed of two parts. One part is a |

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| | | | | metal platform and the other part is a nest woven from branches and lianas which is reminiscent the natural nest. Our experiences have shown that such types of artificial nests are most acceptable to many different species of birds. Metal platforms are with size 900 X 900mm and height of 150mm, with specially made hooks for attaching the construction of the transmission line. In the autumn of 2017 the platforms and artificial nests were constructed. The platforms are made in mechanical workshop and wooden nests are made by local villagers. Involving local people in making nests has helped to increase the knowledge of locals about Imperial eagles, but also had an economic effect, which the villagers gratefully accepted.<br>Installation of platforms and nests on high-voltage pillars is carried out by workers of AD -Mepso that specialise in maintenance of high voltage pylons. The cooperation with this company is at a high level and this year the platform is being installed (due to experience from the previous projects) easy and fast, despite the bad weather. The installation was carried out in mid-April when the transmission line was disconnected for regular inspection.<br>This year, platforms with nests were placed on the new build transmission line which passes almost the center of the Ovce Pole region, where most of the imperial eagles are located. I expect that the new platforms will help at least four pairs who have quite uncertain and unstable nests on trees and are in the immediate vicinity of the transmission line. Because the platforms were placed during the regular inspection of the transmission line that was going on at the end of April, this year I do not expect any of |

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| | | | | artificial nest to be occupied, because the nesting has already started.<br>With the last installation, most of the territory of the steppe in Macedonia is covered with nesting platforms. It is necessary to set another about 20 platforms to the southern part of the steppe on the region called Povardarie, and on direction to the northern border with Serbia. This will allow an increase in the population of imperial eagles and expanding of nesting territory.<br>This action attracted the attention of the public and was followed by journalists and television crews that regularly reported on the progress. |
| Insulation of medium-voltage power lines | | | | The implementation of this action was accompanied by more difficulties, generally of a technical nature. It was necessary to obtain consent from directors of AD EVN (a company which own the middle voltage distribution network), for the implementation of the action, but also the import of the selected isolation equipment lasted for too long. Finally, the equipment arrived from Finland towards the end of January, but in the middle of winter it was not possible to install it so the implementation of the action was postponed for spring.<br>Before starting with the implementation of this action, I decided to do once again a detailed survey of the entire medium-voltage network that stretches across the IBA Ovce Pole because this action in preview project was partially achieved because we agreed that the most of the funds for this action will be redirected to action for monitoring of known and potential breeding sites.<br>After analysing the collected data, I decided that the most significant part that should be covered first with |

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| | | | | isolators is the part around rubbish dump of meat industry Sveti Nikole because this place is identified as important stop-over place and wintering grounds for immature imperial eagles.<br>This region is quite important for wintering young imperial eagles. Because of the meat industry dump and a large pig farm in the immediate vicinity, almost all young imperial eagles (but also and some adults) spend most of their first year in this surrounding. Unfortunately, here is the densest network of low-voltage, medium-voltage and high voltage transmission lines that eagles and other bird species often use as roosting place.<br>The action for installing the insulators was carried out during May on several occasions. The bad weather was a problem, but at the end were completely isolated 230 pylons from the middle-voltage transmission network. The installation of the equipment was carried out by professional installers using special vehicles but also by climbing the pylons.<br>And this action attracted the attention of the public and was followed by journalists and television crews that regularly reported on the progress. |
| Nest guarding | | | | This season four nests were vulnerable and there was a need for their constant monitoring and guarding. Three of them, due to the unstable branches on which they are built (with the more recent use of the nest, become big and heavy, so there is a risk of collapse along with the branch on which it is built) and one because of the existence of the risk of robbery.<br>The experience of last year and this year too, has shown that the best |

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| | | | | guards are local stock breeders who spend all day with their flocks in the vicinity of vulnerable nests and are fully familiar with the comings and goings in each location. Most often they are simple people who know quite a lot about the surrounding environment, as well as the eagles.<br>This model of guarding has proven to be very efficient but also inexpensive because it is only necessary to pay for the monthly mobile phone costs for the guards. Last year these involved "guards" were provided with binoculars, owned by the Association Aquila.<br>This year, after the storm, one chick from the guarded nest fell down from the nest and, unfortunately, was taken from a strong torrent so that it could not be saved.<br>Monitoring and guarding continue until August when it is expected that all fledglings will leave the nests. |

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

Although I previously talked with representatives of the company EVN who are responsible for the department environment in their company, and in general I got the consent to install isolators on their side, when I asked to start the implementation of the action I got the answer that it is necessary to get permission from their directors. Due to summer vacations, originally the project was presented to the board of directors in late September. At the end of October, I received a response that the idea of installing isolators on hazardous conductors was accepted and approved, but with the requirement that the company itself will choose the equipment (insulators) that will be installed. It took another almost a month to finally select the isolators that will be installed, but also the company that will purchase and import them in Macedonia. It was selected equipment that is produced in Finland by the manufacturer Ensto (https://www.ensto.com/products/overhead-line-networks/medium-voltage-overhead-line-solutions/ensto-covered-conductors/environmental-friendly-products/SP45.3). The selected equipment is much more expensive than I expected and therefore, I bought less isolation equipment than I expect, for the available funds.

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

- One of the most important outcomes is forming a great database that is and will be continually filled with data from the field. This represents a unique database for imperial eagles in Macedonia. This database is the cornerstone on which further activities concerning imperial eagle's protection will be based and will be very useful for every current and future researcher.

- The fact is that by implementing the conservation measures, using the Rufford funds, the population of the imperial eagles in Macedonia is slowly increasing. Providing a nesting opportunity by placing secure platforms and artificial nests will help a lot in creating new couples and expanding the breeding territory.

- Electrocution and collisions are confirmed threats affecting the population of many birds, including imperial eagles, especially young inexperienced birds. Therefore, the isolation of dangerous conductors from the mid-voltage distribution network, which causes most of the electrocution deaths, will help reduce mortality in birds and thus maintain a stable and increase the population of vulnerable bird species.

- Experience shows that the nests of the imperial eagles are vulnerable for several reasons (collapse, theft, destruction from storms ....). Therefore, guarding some of the nests that are in any way endangered is of particular importance. Each rescued nest or youngster will help stabilise or even increase the population. After we started to guard the vulnerable nests, it has never happened to disappear young as a result of the robbery, which in the past has been repeated in several occasions.

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

I always try, as far as possible, to involve the local people in the implementation of the project. This is the case with the involvement of local cattle breeders in the nest guarding. The feeling of being personally involved in conducting project work is a great pleasure for them but also the coverage of monthly mobile phone charges (and by some gift on my side) is a benefit for them.

Wooden part of the artificial nests is made by local villagers. Involving local people in making nests has helped to increase the knowledge of locals about imperial eagles, but also had an economic effect, which the villagers gratefully accepted.

We made excellent connections in the local schools, and local children were very interested for educational material (leaflets) that we share.

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

Of course yes. The studies I conducted through the project implementation and later, showed that electrocution is a much more serious problem than I expected. In the course of 2018, I found five dead imperial eagles and one common buzzard, whose death was caused by electrocution. Three of them were young and two were already adult birds. In any case, this is a big loss. It is necessary to approach this problem more seriously and to find a way to isolate as many dangerous wires as possible.

It is extremely important and it is necessary that several young imperial eagles from different regions of Macedonia be marked with transmitters with the help of which we will monitor their movement and life habits. In this way, we will learn a lot about how much and what measures should be implemented for their successful protection.

In that direction I plan to move further work.

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

During the implementation of the project, almost all activities were monitored by journalist teams that regularly reported on the progress of the project and about the events with the imperial eagles, whether good or bad. In this way, the general public was well aware of our work and results. I also shared all of our activities on social networks.

Both of the ways have caused great interest among the people and more people come to me with questions or share some information with me.

**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 project was implemented in the planned one year framework. There was a difference in the planned time of implementation of some of the activities, but this was mainly due to technical reasons. First, EVN was late with the decision to install the insulators, so we had to wait for spring and good weather to set up the isolators, and secondly, the installation of artificial nests platforms had to be linked to a planned annual overhaul of the transmission line, which we did not know in advance when it would be planned. But in the end, all actions were successfully completed in the planned duration 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 |
|---|---|---|---|---|
| Nest guarding | 460 | 600 | 150 | Phone and fuel costs were higher |
| Vehicle Maintenance | 1000 | 1580 | 580 | Unexpected, but maintenance costs were higher |
| Banking | 50 | | | |
| Project leader salary | 300 | 300 | | |
| Anti-poison leaflet | 250 | 300 | 50 | Price of leaflet was 0,6 |
| Insulation of medium-voltage power lines | 4500 | 3672 | - 828 | The shipment came from Finland with a smaller number of insulators. |
| Install artificial nests | 900 | 897 | -3 | |
| Annual monitoring of the breeding population | 2500 | 2634 | 134 | We spend more petrol than was planed. |
| **Total** | **9960** | **9983** | | |

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

My later research has shown that it is necessary to continue installing nesting platforms on transmission lines and to isolate as many dangerous electrical lines as possible which would reduce mortality and increase the percentage of surviving birds. It is also necessary to equip several young birds with transmitters that will enable us to make the right decision which regions are important for further protection, but also what measures should be implemented for the successful preservation of the Imperial eagles in Macedonia.

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

Yes, Rufford's logo was always used everywhere. Also, I always emphasized the importance of the Rufford Foundation for the conservation of the imperial eagles in Macedonia.

**11. Please provide a full list of all the members of your team and briefly what was their role in the project.**

**Emanuel Lisichanets** – project leader.

**Kochov Kostadin** – monitoring of nests

**Tome Lisichanets** - monitoring of nests

**Trajche Mitev** – insulation of power lines

**Hrisanti Angelkovska** - insulation of power lines

**Robe Robeski** – nesting platforms

**Goran Ilievski** – nest guard

**Vlatko Krstev** – nest guard

**Boro Markov** – nest guard

**12. Any other comments?**

I thank my team that contributed to the successful implementation of the planned project activities and the EVN and MEPSO companies for the excellent cooperation, but most of all I want to thank the Rufford Foundation for enabling me to realize my dream to help the eagles that I have adore them, in their survival.