

## **Project Update: November 2021**

In this update, I am going to report about the summarised results of the work on the next completed activities of the project:

- 1) Inventorying distribution lines and estimating the level of death on them.
- 2) Summer survey and estimate of steppe eagle population number.
- 3) Building a network of artificial nests.

All the planned activities were successfully completed. We achieved considerable success in creating the basis of a long-term project on studying and conserving the steppe eagle in the Republic of Kalmykia, using Rufford funds.



### **1. Inventorying distribution lines and estimating the level of death on them**

To estimate the death rate of birds that died in the course of spring migration, the main fieldwork was carried out at the end of April 2021 (29th-31st). 371 km of power lines in the Sarpinsky and Kharbinsky sanctuaries were surveyed. The works showed an absence of bird-protective devices on lines and a high mortality level of birds, largely birds of prey. In total, 76 dead birds were found, among which the steppe eagle and black kite were the most common ones. Moreover, the remains of such rare species as imperial eagle, peregrine, griffon vulture, and others were found.

In mid-May 2021, after processing the obtained data, the owner of distribution lines, the branch of Rosseti-Yug PJSC Kalmenergo, was sent an appeal with the proposal to jointly develop and implement the mid-term programme for retrofitting distribution lines with bird-protective devices. However, Kalmenergo ignored our appeal, and the appeal with all materials was sent to the public prosecution office in early June 2021. Largely thanks to the started campaign covering the problem of bird deaths on mass media, social media and TV, this problem became topical, and we could speed up the bureaucratic stage on the wave of public attention.



As a result, on 30<sup>th</sup> July 2021, a joint visit of the representatives of the public prosecution office and the electric company took place. During the examination of 34 km of lines, the working group could clearly see the danger of distribution line structures for birds and the unacceptable death rate. Following the results, on 5<sup>th</sup> August 2021, the Republican prosecution office made a representation to the owner and the work on the preparation of claims for compensating damage caused to wildlife objects was started.



Despite some success achieved, all indications are that the owner will keep delaying bird-protective measures in the sanctuaries. Due to this, we'll keep running annual raids and seek reequipping lines by enforcement through supervisory authorities making this problem as public as possible.

Some publications and TV videos:

- <https://tass.ru/>
- <https://www.mk-kalm.ru/>
- <https://vesti-kalmykia.ru/>
- <https://www.rgo.ru/>
- <https://mobile.ruscable.ru/>

## **2. Summer survey and estimate of steppe eagle population number**

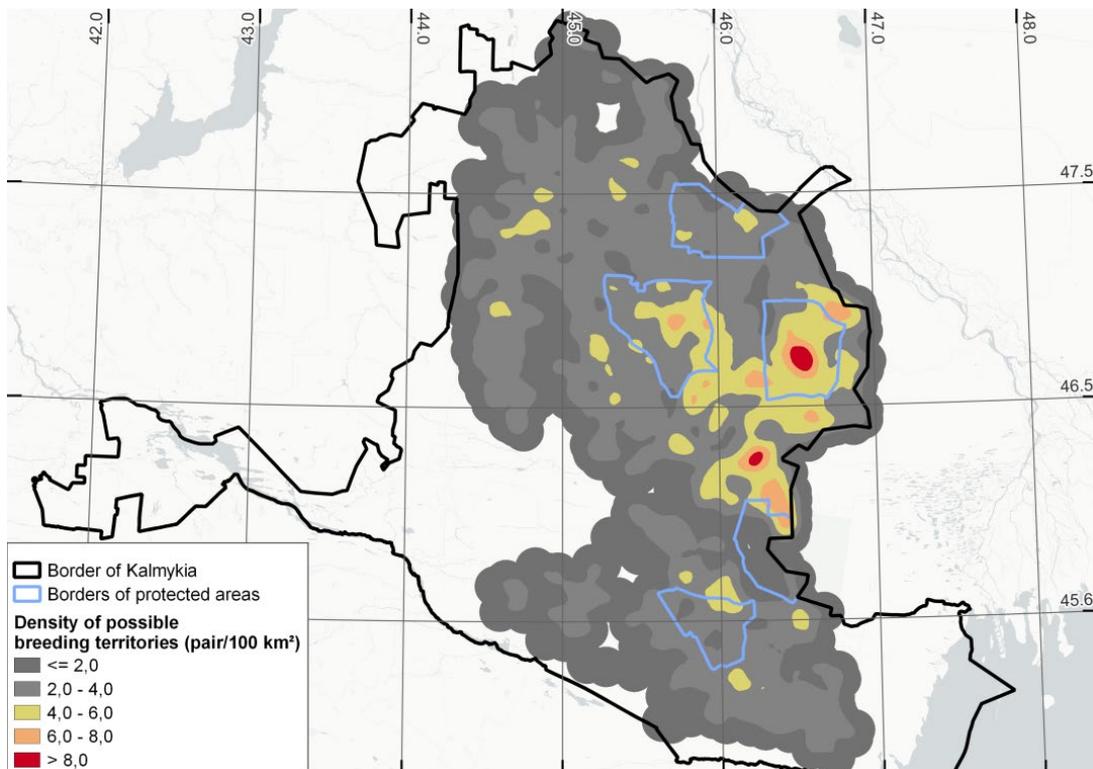
Summer monitoring of steppe eagle was conducted from June 15<sup>th</sup> to July 11<sup>th</sup> 2021 within 2 weeks. The total length of the route of the expedition was 1453 km. The total area of surveyed plots in suitable breeding habitats was 3212 km<sup>2</sup>. A tall stand of grass, which formed in the territory of Kalmykia because of a decrease in the livestock number after the 2020 drought and heavy rainfall, became a feature of this year. This significantly complicated the search for land nests at our sampled plots, for which distribution nest data either lacked or were obsolete.

In this regard, we are especially proud that we managed to establish trust-based partnership relationships with locals. For example, 45 stock breeders actively took part in monitoring at the sampled plot near the Sarpa settlement. They monitored nests they knew. Also, attracting the local population made it possible to avoid underestimation of nests, which were left by mature birds after their clutch or nestlings died.



In total, we found 165 nests and 135 breeding territories of steppe eagles, which makes up approximately the fifth of the estimated number of the Kalmyk population. We redefined and extended the boundaries of the steppe eagle breeding range in Kalmykia thanks to the reports of the citizens of other regions beyond the area of our works. Besides, we discovered new centres of a high-density breeding groups in the territory of protected areas (up to eight pairs per 100 km<sup>2</sup>), which emphasises their importance for the steppe eagle conservation.

Based on our study, the population of the steppe eagle in Kalmykia was overestimated – 789 (587-1059) pairs in 2021. While there was no increase in the species number in Kalmykia, the overestimate comes from redetermination of the boundaries of the breeding range and discovery the breeding groups with high densities on new plots. Taking into account the new estimate of steppe eagle number and its potential spread, soon we plan to explore and establish a number of new sites to monitor the species in revealed key habitats.



Despite the seeming stability of the population, it has the signs of extremely negative trends. Because of a very high mortality of adult birds from 2013 the number of abandoned breeding territories increased by three times, and the proportion of immature birds in breeding pairs – by 15 times. In turn, the process of extinction and further redistribution of breeding groups are probably due to worsening feeding conditions in the area boundaries. An increase in the density of breeding on sites with a high number of ground squirrels while nesting on sites with a low number is reducing speaks well for it.



The 2021 breeding season was extremely unsuccessful for steppe eagles because of a decrease in the small ground squirrel number. Only 41% of breeding territories were successful; the clutch died in 36% of breeding pairs; all nestlings died in 14%. Weather conditions of this year and decreased pasturing were the most obvious reason for the deterioration of eagles' food supply.



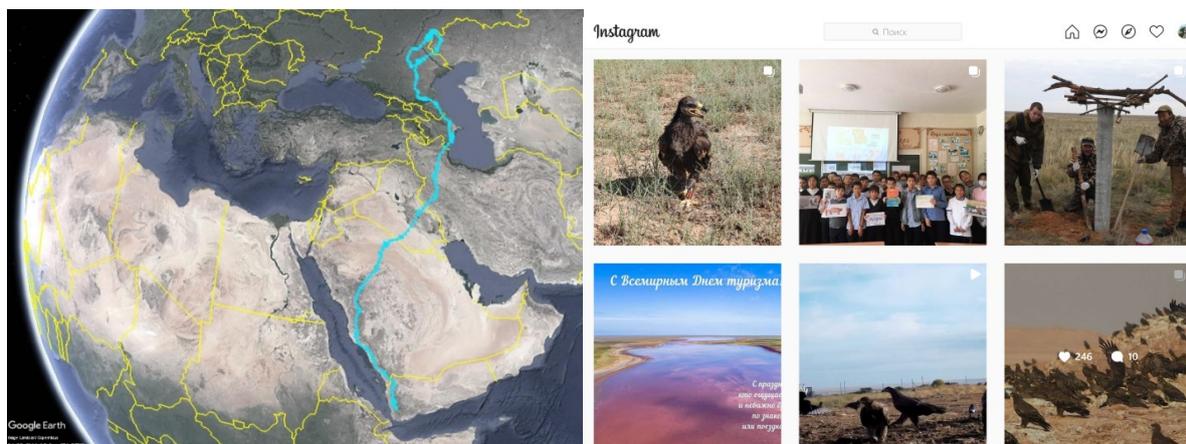
In addition to electrocution on distribution lines, we identified a number of threats, which can have a significant negative effect on the steppe eagle in Kalmykia. In some regions, there have been cases of feed supply erosion, which also contributed to unsuccessful breeding attempts in some pairs. It is believed that ground-squirrel fat has healing properties in lung troubles, that's why a part of the local population massively preserved it for sale, especially in the COVID-19 pandemic period. Moreover, we registered the cases of intentional poaching, when four nestlings were stolen from two nests located near highways.

To study migration paths, immediate threats and raise public awareness about the steppe eagle situation, two nestlings were tagged with satellite transmitters. At the time of tagging, *Sarpa* and *Idzhil* eaglets were undernourished. Again, thanks to local people's kind heartedness, we managed to refeed them regularly, which allowed the juveniles to successfully leave the nests a month later. Unfortunately, *Sarpa* fell victim to land predators 2 days after the start of post-fledgling migration.



Meanwhile, tracking *Idzhil* provided us with unique data proving the connection of the Kalmyk steppe eagle population with the Western Kazakh one. When *Idzhil* was 4 months old, it moved 300 km north to the frontier zone of Russia and Kazakhstan, where it fed within a month on a site of intact steppe with an area of 10 km<sup>2</sup>. This allowed it to safely start the autumn migration in mid-September 2021 and reach Yemen within less than a month.

The level of audience engagement in our publications and steppe eagle protection problems indirectly indicates the high value of ecological enlightenment. It should be noted that satellite tagging of eaglets made it possible to achieve the maximum effect in attracting public attention. Personalising the life of young eagles allowed the locals to feel related to them. Now, the people look forward to news on *Idzhil's* migrations and hope that it will safely come back to Kalmykia.



Some publications and TV videos:

- <https://vesti-kalmykia.ru/>
- <https://rg.ru/>
- <https://tegrk.ru/>

- <https://www.mk-kalm.ru/>

### 3. Building a network of artificial nests

As part of the project, we were the first who tested the method of creating artificial nests on platforms under Kalmyk conditions. To improve the chances of steppe eagles settling the platforms, they were placed according to the scheme of potential breeding sites and in the areas with a high population of ground squirrels. To achieve the maximum conservation effect, a 10-artificial nest network was arranged within a dense breeding group in the central part of the Kharbinsky sanctuary.

Additionally, farmers who have households within our area of work were told about the project and the purpose of arranging artificial nests as a measure to conserve birds of prey. In their turn, they promised to take care of them. We will keep monitoring the state of the made artificial nests, and repair them, if necessary. Final assessment of whether this project area has been successful could be made in May-June 2022.

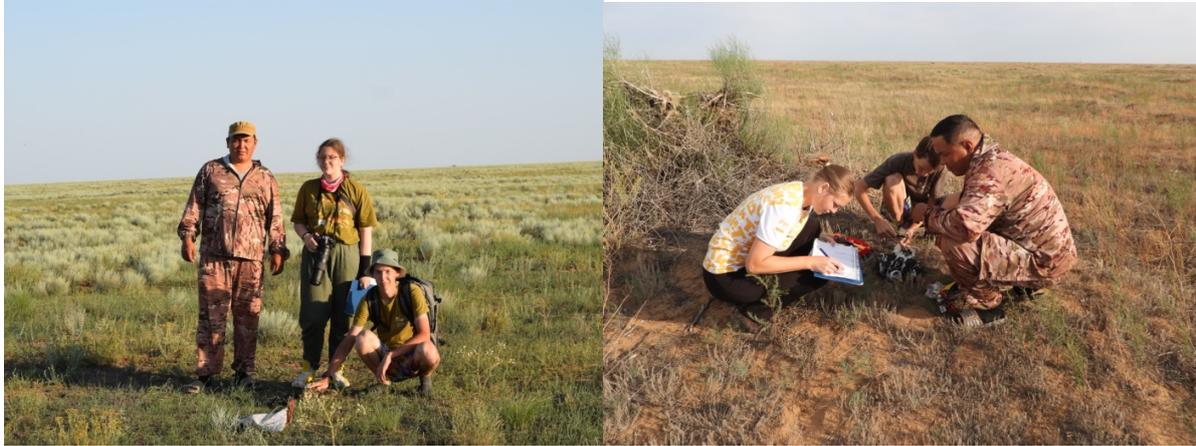


### 4. Other activities

We tried to involve all interested people in the project as far as possible. For example, in April 2021 on the basis of the Chernye Zemli reserve, we held an interactive class with young biologists with a lecture on steppe eagle biology and studying its diet by pellets.



Polina Gerasimova was a full member of our team during the summer accounting – a to-be biologist-student who completed a 5-day internship in the field, during which she learned how to find nests, safely handle nestlings, take measures, tag, etc. Six more volunteers from across Russia were able to get to know this unique species and our work during a field day.



On October 15<sup>th</sup> 2021, I presented a paper with intermediate project results at the Rufford Foundation and Northern Eurasia biodiversity conservation conference in Moscow. During the presentation, I touched on the issues of monitoring and estimating of the steppe eagle population, bird deaths on distribution lines, creating a network of artificial nests and ecological enlightenment.



Currently, two scientific papers with detailed findings, as well as a popular scientific article, which will tell the population about the project, the steppe eagle situation and conservation measures in plain language, are being prepared for publication.

In the coming days, we'll start developing booklets and other printed materials on the project subject. Also, interactive classes with biology teachers at regional schools will be organised. The project summarised results and conservation recommendations will be submitted to the Kalmyk Department of Environmental Resources, as well as other stakeholders.