

STUDY ON THE MORTALITY OF BIRDS CAUSED BY THE POWER GRID IN DRINO VALLEY, ALBANIA, DURING THE AUTUMN MIGRATION 2020

TECHNICAL REPORT

Under action A3 of the Egyptian Vulture New LIFE project (LIFE16 NAT/BG/000874)



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Protection and Preservation of Natural Environment in Albania (PPNEA)

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Summary

The Egyptian Vulture (*Neophron percnopterus*) is a globally threatened species, classified as Endangered (EN) according to the IUCN Red List. Its population in the Balkans has dropped to less than 50 pairs, and according to the last monitoring and in Albania this species is the last breeding vulture.

The decline of this species is related to many threats in the breeding areas and in the wintering grounds and electrocution is one of the threats for this species. This study was conducted during autumn migration 2020 in Drino valley, a very important foraging and breeding site for important birds of prey such as the Egyptian vulture, Lesser kestrel, Short-toed snake eagle etc. Divided in two teams, we have conducted ground transects under about 14 km of 10 kV and 35 kV powerlines and the data were recorded in iOBS and SmartBirds Pro. During this monitoring along the power lines we have found evidence of four individuals of three species which were most probably electrocuted.

Along the transects there have been identified some problematic power poles, which could cause bird electrocution. The first is at the entrance of Glina and the transects Terihat to Frashtan seems to be problematic due to the density of the power grid, increasing the risk of collision and electrocution.

Contents

Introduction.....	5
Methodology	6
Results.....	8
Jorgucat-Gorice.....	8
Terihat-Frashtan	10
Grapsh-Gline.....	123
Conclusions and Recommendations	15

Introduction

Drino valley is situated in the southern part of Albania and it is categorised as an Important Bird Area (IBA), due to its diversity of protected species using this area as a feeding, roosting and breeding site. This area it is well-known for two particular species of conservation concern, Egyptian vulture and Lesser kestrel. Egyptian vulture (*Neophron percnopterus*) with a population of three breeding pairs and Lesser kestrel (*Falco naumanni*) with a population of 3000- 6000 non-breeding individuals which are roosting along the valley during migration. (BirdLife International 2020). In addition, Drino valley is also one of the main flyways in Albania for migratory birds.

In the framework of the Egyptian Vulture New LIFE (LIFE16 NAT/BG/000874), under action A3, PPNEA with the support of its partners has been identifying threats along the flyways for migratory species. One of the main threats identified is electrocution and collision with power infrastructure and such surveys are helping us to increase our knowledge on the impact of the energy infrastructure on the birds in Albania.

Methodology

PPNEA conducted the survey for investigating the mortality caused by dangerous power lines in Drino valley area, based on the methodology provided by Egyptian New Life project. The survey team has walked along the power lines where the path was accessible, checking carefully in a radius of 5 m from power pylons for cases of mortality due to the electrocution or collision. This survey took place during the time of Lesser kestrel congregation (*Falco naumanni*), on 13th of September.



Figure 1. Map of transects monitored including villages Jorgucat, Gorice, Grapsh, Gline, Terihat and Frashtan.

The team was composed by four people and was split in two groups consisting of two people for each group, surveying on both sides of the valley and walking on opposite sides so one of groups could collect the other surveying group with car after the survey was over. The data were registered in iOBS and in SmartBirds.

Transects that were surveyed are used by migratory birds and are areas where the Egyptian vulture has been observed flying over or its presence was confirmed in the past, while only one of the transects included a confirmed active territory in 2020.

The transects monitored included: Jorgucat – Gorice villages, consisting of approximately 8 km; Terihat- Frashtan, consisting of 3.7 km, while the last transect (Grapsh- Gline) had a total length of 2.5 km. A total of 14.6 km power line were surveyed in these transects.



Figure 2. 10 kV power pylon along the transect

Results

Jorgucat-Gorice

In this transect a total of 8 km of 10 kV powerline was surveyed, consisting of approximately 60 power pylons. The powerline is close to the main road and is accompanied mostly with a plain relief making the survey easier, except for few power pylons which were located uphill, within fields surrounded by fence or in the middle of dense shrubby vegetation. Few parts of the power pylons were located within the inhabited area (see figure 3).

This area is one of the main sites regarding the congregation of Lesser kestrel in Albania and the perching of Lesser and Common kestrel is a frequent sight in this transect. During our monitoring other birds of prey were seen flying near powerlines, such as Short-toed snake eagle (*Circaetus gallicus*), Common buzzard (*Buteo buteo*), and meanwhile Hooded crow (*Corvus cornix*) was the other most common species perching in the power pylons.



Figure 3. Map of Jorgucat-Gorice transect

In this transect monitoring we found evidences such as feathers of 2 individuals of common kestrel which were most probably electrocuted (see fig 4 and 6). These evidences were under the same power pylon, maximum 1 m distance from the pylon (fig 4) in entrance of road that connects Drino valley with Glina and Peshkpi (39.944 N; 20.264 E)

In Jorgucat one of the local inhabitants expressed that once he had seen dogs feeding on bird carcasses near the power lines but not indicating the cause of bird mortality.



Figure 4. 10 kV power pylon where the
Figure 5. One of the monitoring teams.
*dead individuals of Common kestrel
 have been observed*



Figure 6. Feathers of the two individuals of the common *kestrel* (*Falco tinnunculus*) under the 10 kV power pylon



Figure 7. Short-toed snake eagle (*Circaetus gallicus*) flying near the wires
Terihat-Frashtan

This transect has a total length of 3.7 km and consists of 16 power pylons. The power lines are located in a plain relief and the transect is easy to monitor. Along this transect there are 10 kV and 35 kV power lines in short distance from each other. There were no evidences of bird mortality found during this monitoring.

Along the monitored transect additional information was collected through verbal interviews and discussing with locals, such as farmers, business owners and casual villagers. The questions led the discussion towards electrocution of birds or if they have seen any dead birds below the power pylon etc.

According to the information collected, locals weren't aware about this threat and didn't give us valuable information related to the electrocuted birds, which we were looking for.

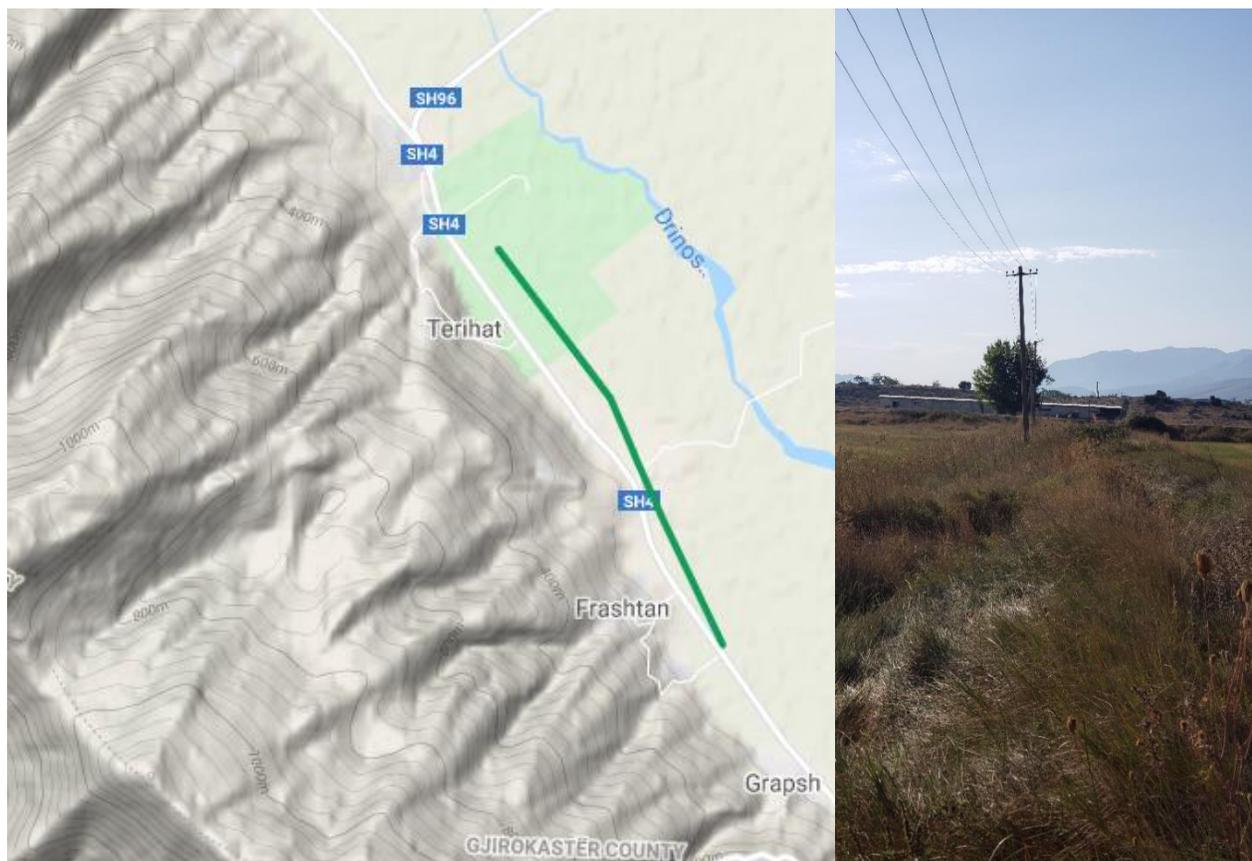


Figure 8 & 9. Map of Terihat-Frashtan transect and power lines monitored in Terihat-Frashtan



Figure 10. *110 kV and 35 kV power lines in vicinity of each other in Terihat- Frashtan*

Grapsh-Gline

The length of this transect is 2.5 km in total, located alongside the main road and a secondary road leading to Glina village. The transect included 21 power pylons.

This transect started from a small power central surrounded by fence and we could not monitor down the pylons inside the central. Meanwhile from Drino valley to Glina entrance the only type of pylons are the 10 kV power pylons.

The only evidences for bird mortality that we found were a full carcass of common buzzard (*Buteo buteo*) directly under the power pylon (39.9519074 N; 20.2637416 E), possibly electrocuted (Fig.12 & 14) , and feathers of an individual of lesser kestrel (*Falco naumanni*). (39.9515952 N; 20.2566052 E). (Fig.12). The body was checked but there was not any visible sign to indicate the cause of death.

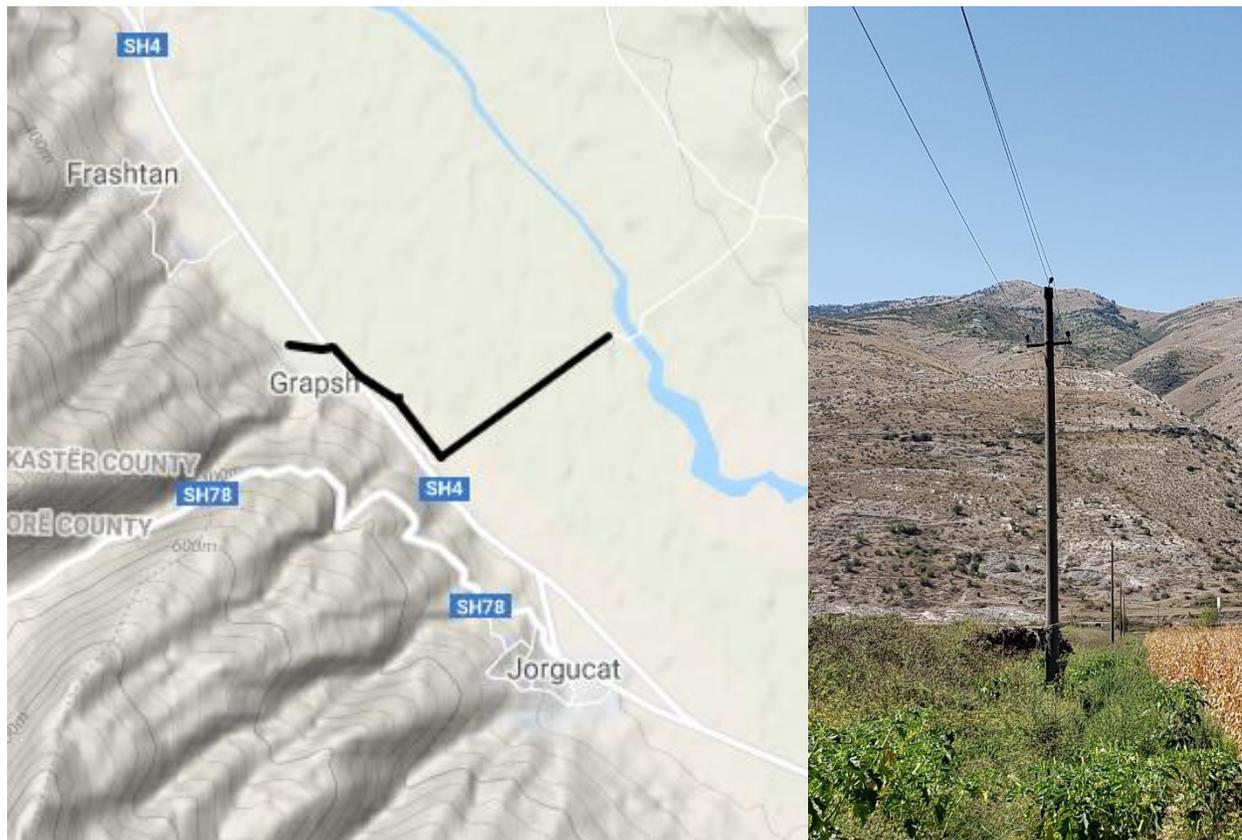


Figure 11 & 12. Power line in Grapsh-Gline transect; 10 kV power pylon where the dead individual of Common buzzard has been found



Figure 13. Common buzzard (*Buteo buteo*) perching in a 35 kV power pylon



Figure 14: Dead common buzzard (*Buteo Buteo*) under the hazardous power pylon (10 kV)

Conclusions and Recommendations

A total of 14.6 km was surveyed by our team in the frame of mapping the dangerous power pylons and assessing the mortality of birds due to electrocution and collision with power infrastructure in Drino valley.

Taking into consideration the number of dangerous pylons and the small number of evidences, this survey might have been affected by natural or non-natural interventions such predators who feed on carrions, local dogs, maintenance bodies, loss of carcasses in dense vegetation.

Most of the power lines from Jorgucat to Gorice seem to not be dangerous due to the proximity to the inhabited areas and the main road, creating disturbance and a not suitable roosting site to be used by birds.

A short segment from Grapsh to Frashtan is used by birds of prey as a feeding ground and the power lines seem to be more dangerous than other parts of the transect. In addition, the powerlines of the transect from Terihat to Frashtan seem to be problematic due to the density of the power grid, with mixed power lines in vicinity with one another (10 kV, 35 kV and 110 kV) increasing the risk of collision. We recommend to install bird diverters/ reflectors on the dangerous powerlines to prevent this phenomenon.

Meanwhile, specific power pylons are problematic due to risk of electrocution and need interventions, such as the one in entrance of Glina, the 10 kV power pylon, where two victims (*Buteo buteo*; *Falco naumanni*) were found. (Fig. 12&14). We highly recommend the insulation or retrofitting of the hazardous poles with bird protection covers.

In case of new electric infrastructure in the area, we recommend the use of a “friendly” and appropriate design, which is safe and reduces the risk of electrocution/collision of the bird species.