Transect survey for mapping of dangerous pylons and detecting mortality due to electrocution and collisions with power grid in Albania

(Action A3)

AOS 2019

Field Team:
Taulant Bino
Erald Xeka
Ramis Xhurxhi
Ergi Bregasi
Gent Hyka

LIFE16 NAT/BG/000874

Table of Contents

Table of Figures

1. Methodology:

AOS conducted their field surveys to investigate on the mortality of birds due to dangerous power grid in the catchment of Drino valley, an area that shelters two occupied territories of the Egyptian Vulture (Glina and Peshkepi-Radat) as well as several territories used in the past but unoccupied during the last two years.
The surveys were conducted in 5th -7th, 31st of August 2019 and 1st and 21st of September 2019.

The working team was composed by five persons each of them following the power lines and reporting any potential case of collision or electrocution.

During the first phase (5th -7th of August 2019) three main transect were checked:

1. Glina – Drino River – Drino valley;
2. Vllaho - Goranxi – Glina *and*
3. Peshkëpi – Radat – Glina.

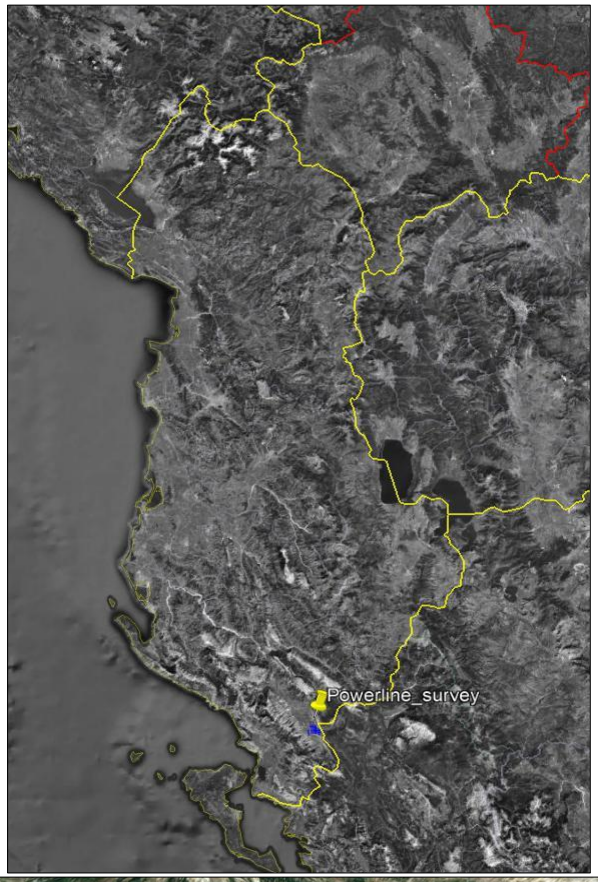
During the second phase (31st of August 2019, 1st and 21st of September 2019) the survey team covered eight other transects:

4. Libohovë
5. Kakavjë - Jorgucat
6. Libohovë - Fushë
7. Jorguct - Grapsh
8. Nepravishtë
9. Graps - Fushë
10. Bulo – Fushë
11. Fabrika e Glinës - Fushë

The survey was carried out by a team of three to four people. One stayed in the car in order to facilitate the transportation from one area to another while the rest patrolled the area following the above-mentioned transects. The monitoring was carried out according to the project methodology. The power lines were carefully checked along their alignment and in a distance of three meters both sides. All the data was recorded on Survey 123.

LIFE16 NAT/BG/000874

2. Transect conducted in the EV's territories



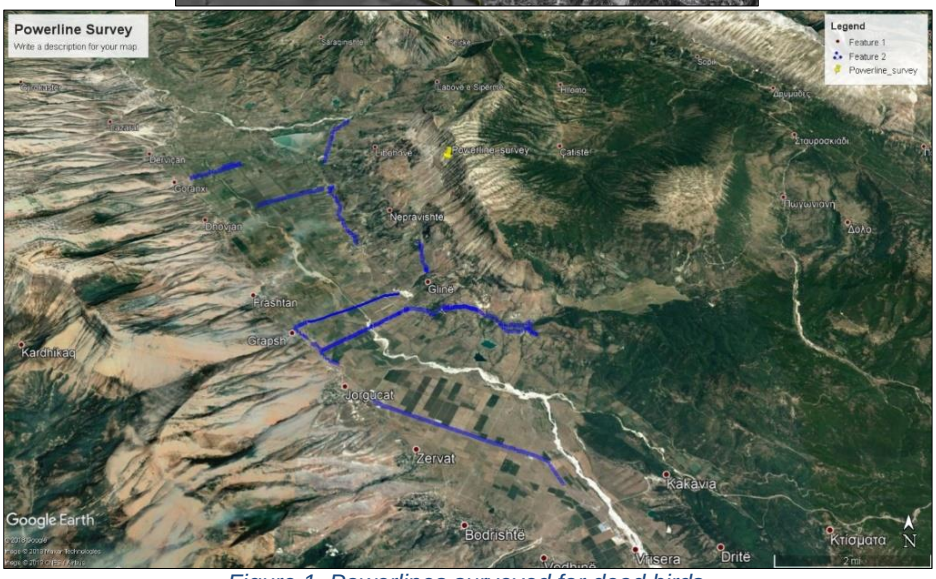


Figure 1. Powerlines surveyed for dead birds

2.1. Glinë-Drino valley (6th of August 2019)

Figure 2. Glinë-Luginë transect (3.8 km).

This transect (Fig. 2) has a total length of 3.8 km and follows a secondary road that connects Peshkëpi village with the main road. Alongside this road are located medium voltage pylons with a height of 7 meters. Due to plain relief we didn't have any difficulties on monitoring all the pylons along this transect.

During our monitoring on this transect we found limited evidences of a Corvid (most probably Hooded Crow) being electrocuted (Fig. 3 – up right) and a Lesser Kestrel being collided with the power lines (Fig. 3 - down right).

This section of Drino valley is known for large concentration of pre-migratory Lesser Kestrels. Counts undertaken at Lesser Kestrel roosting site in Jorgucat have shown that the number of Lesser Kestrels using Drino valley is up to 3500 or circa 2.5 % of the global population of the species.

Figure 3. Transect survey of Glinë-Luginë transect, electric poles, powerlines and feathers from Hooded Crow and Lesser Kestrel

On the other hand, the valley is very well-known for several birds of prey using electric poles for perching. Most common species using the electric poles for perching are the Short-toed Snake Eagle (*Circaeetus gallicus*), Honew Buzzard (*Pernis apivorus*), Common Buzzard (*Buteo buteo*), Common Kestrel (*Falco tinnunculus*) and Lesser Kestrel.

Other birds of prey occur also in the area although we have not seen them perching. Our most frequent observations include the Egyptian Vulture, Golden Eagle (*Aquila chrysaetos*) etc.

2.2. Vllaho-Goranxi – Glinë (6th of August 2019):

Figure 4. Vllaho-Goranxi - Glinë transect (2.8 km).

This transect (Fig. 4) has a total length of 2.8 km. The topography of this area is mountainous and rugged while the vegetation cover is represented by xerophilic vegetation (Fig. 5). The terrain and the vegetation cover makes the power line survey difficult as we couldn't follow the power lines closely. No carcasses or remains of dead birds were recorded in this transect.

Figure 5. Monitoring of Vllaho-Goranxi – Glinë transect and Monitoring of Vllaho-Goranxi – Glinë transect.

LIFE16 NAT/BG/000874

2.3. Peshkëpi-Radat (6th of August 2019)

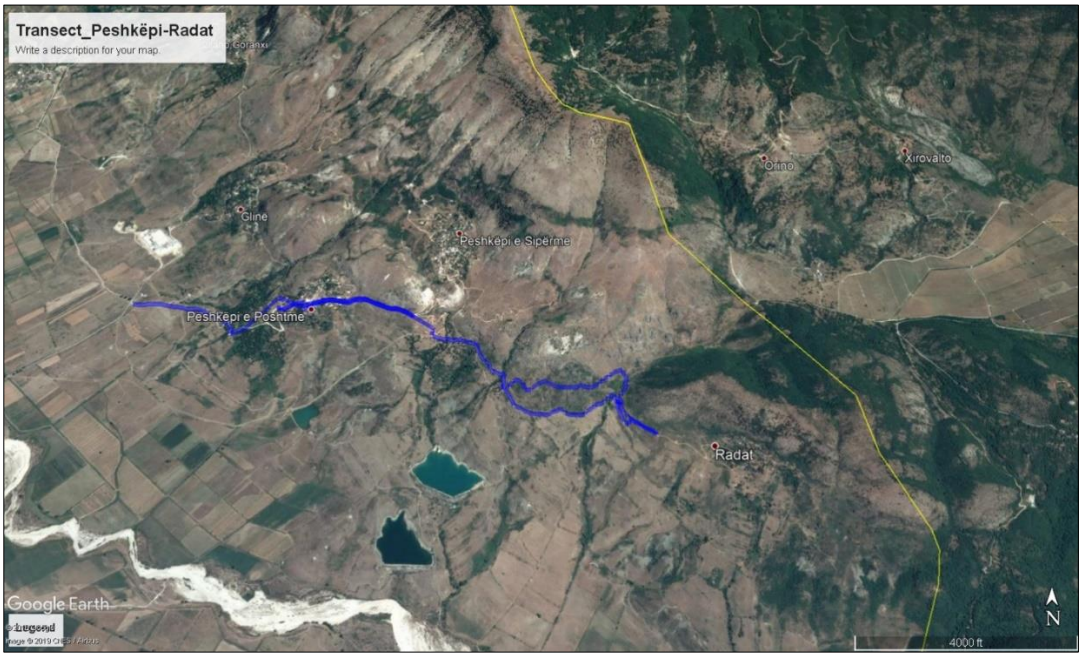


Figure 6. Peshkëpi-Radat transect (5.6 km).

Peshkëpi–Radat powerline (Fig. 6) has a total length of 5.6 Km and it is located at the central part of the Eyptian Vulture territory of Peshkepi-Radat, as well as very close to the nest. The monitoring of this transect was difficult because of the topography of the area and the presence of xerophilic vegetation cover (Fig 7 and 8). No carcasses or remains of dead birds were recorded in this transect.

Despite the absence of carcasses, its vicinity with the nest make some sections of this powerline potentially dangerous for collision of the Egyptian Vultures using this nest and the territory.

Figure 7. Medium voltage pylon. Peshkëpi-Radat.

Figure 8. Monitoring of Peshkëpi-Radat transect and Power line in Peshkëpi-Radat

LIFE16 NAT/BG/000874

2.4. Libohovë (31th of August 2019)

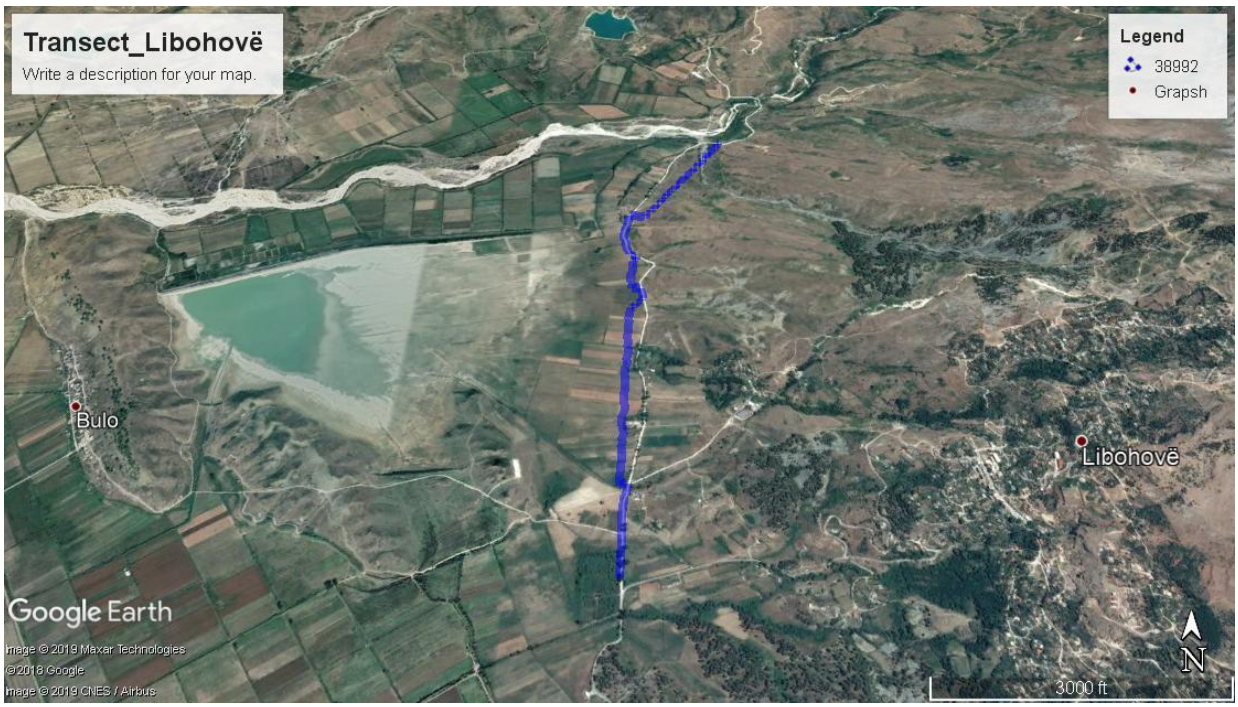


Figure 9. Libohovë transect (3.5 km).

This transect (Fig. 9) has a total length of 3.5 km and lies alongside "Bulo" reservoir. We have intentionally chosen this transect in order to investigate if there is any case of electrocution or collision of waterbirds that use the shallow parts of the reservoir to feed. During the survey the team observed flocks of Barn Swallow (*Hirundo rustica*) resting on the wires, as well as 15 individuals of Turtle Dove (*Streptopelia turtur*), ready to start their migration. We didn't record any carcasses or remains of dead birds on this transect.

2.5. Kakavijë - Jorgucat (1st of September)

Figure 10. Kakavijë-Jogurcat transect (5.7km).

Kakavijë-Jogurcat (Fig. 10) transect has a total length of 5.7 km and it lies in a plain area, south of the EV occupied territories. On this transect we have recorded some black feathers (Fig. 11). Nevertheless, we could not arrive in a conclusion about this finding. It could be a case of collision but the evidence is not sufficient.

Figure 11. Bird feathers found during the survey of Kakavijë-Jogurcat transect

LIFE16 NAT/BG/000874

2.6. Libohovë – Fushë (1st of September)

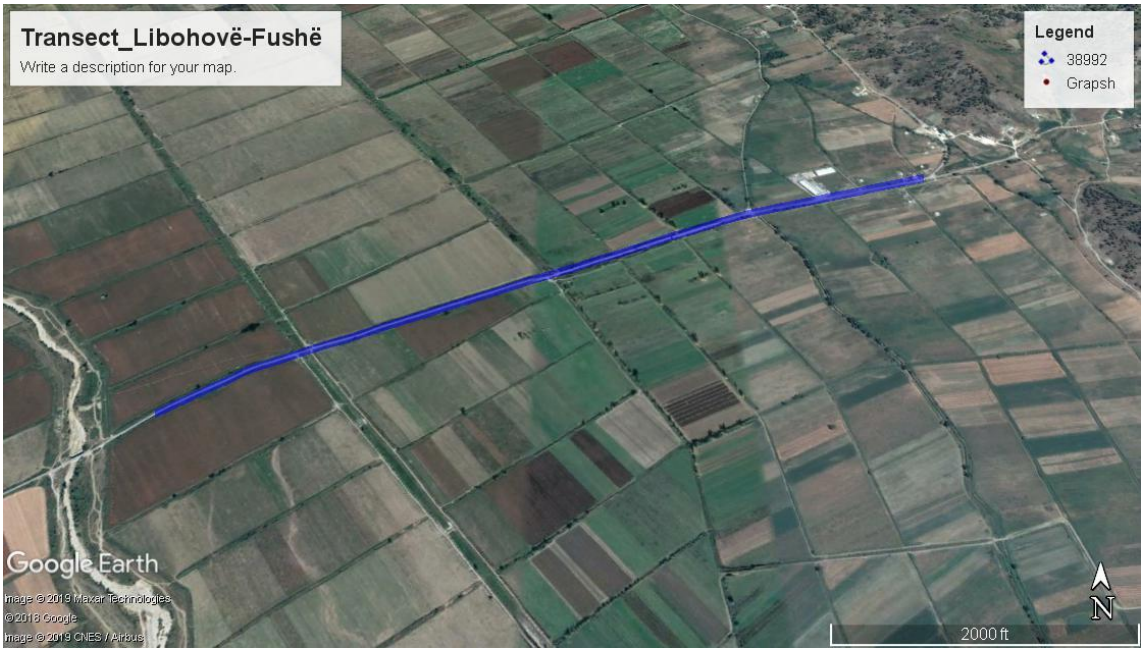


Figure 12. Libohovë – Fushë transect (3.6 km).

Libohovë-Fushë transect (Fig. 12) has a length of 3.6 km. During the monitoring of this transect we observed many migratory birds resting on the wires (Fig. 13). No carcasses or remains of dead birds were recorded.

Figure 13. Birds resting on power lines

2.7. Grapsh – Jorgucat (1st of September)

Figure 14. Jorgucat – Grapsh transect (1.9 km).

Jogurcat-Grapsh transect (Fig. 14) has a length of 1.9 km. No carcasses or remains of dead birds were recorded in this transect despite the presence of dangerous powerlines (Fig. 15).

Figure 15. Power lines in Jorgucat – Grapsh transect

2.8. Nepravishtë (1st of September)

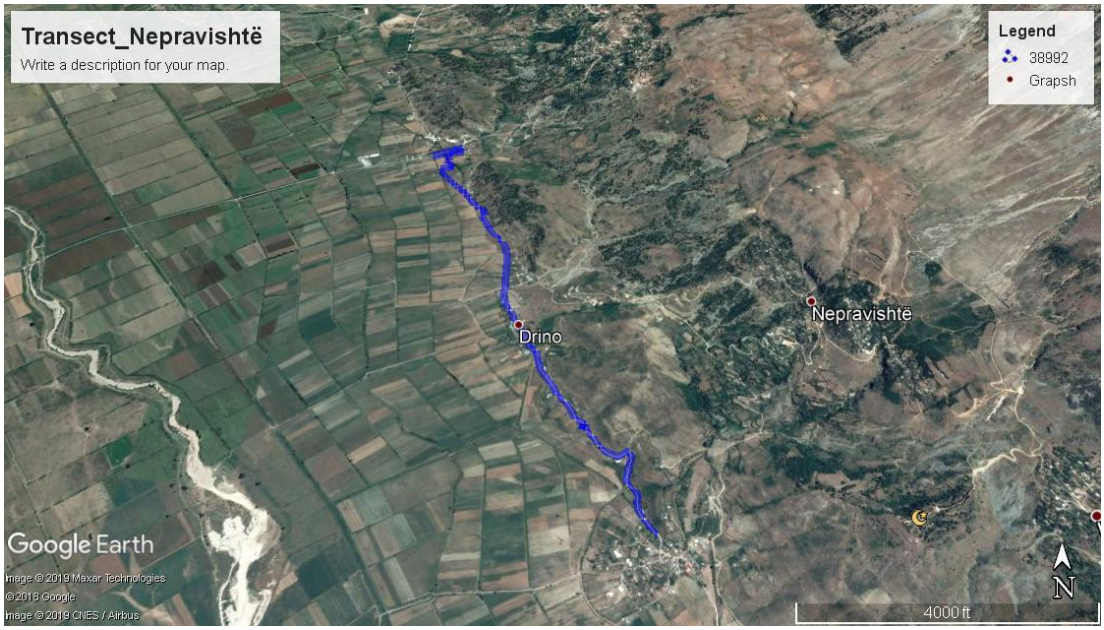


Figure 16. Nepravishtë transect (4.6 km).

This transect (Fig. 16) has a total length of 4.6 km. It lies entirely in the village of Nepravishta. During the monitoring on this transect we didn't record any carcasses or remains of dead birds. Flocks of Barn Swallows (*Hirundo rustica*) were observed in migration (Fig. 17).

Figure 17. Barn Swallows (Hirundo rustica) on power lines.

LIFE16 NAT/BG/000874

2.9. Grapsh-Fushe (1st of September)

Figure 18. Grapsh-Fushë transect (2.2 km).

Grapsh – Fushë transect (Fig. 18) has a total length of 2.2 km. On this short transect we didn't record any carcasses or remains of dead birds. Birds of prey were using the poles as perching sites (Fig. 19).

Figure 19. Common Buzzard and Short-toed Eagle in Grapsh-Fushe

LIFE16 NAT/BG/000874

2.10. Bulo – Fushë (1st of September)

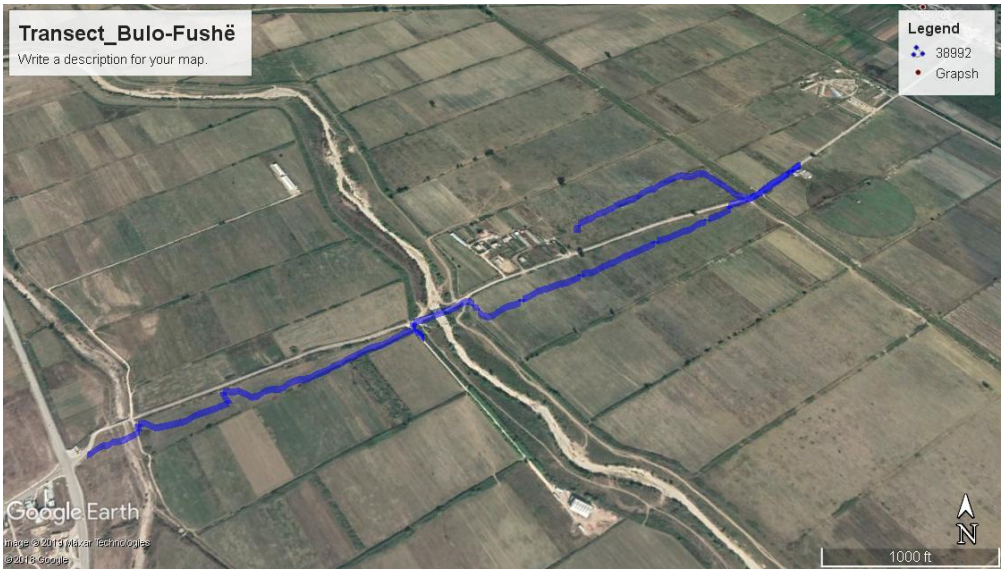


Figure 20. Bulo – Fushë transect (3.7 km).

Bulo-Fushë transect (Fig. 20) has a total length of 3.7 km. We didn't record any carcasses or remains of dead birds on this transect (Fig. 21).

Figure 21. Survey in Bulo-fushe transect

2.11. Glina factory – Drino valley (21st of September)

Figure 22. Glina Factory – Drino valley transect (4 km)

We carried out another survey of the power lines in Drino valley, this time following another transect (Fig. 22) with a total length of 4 km. We didn't record any carcasses or remains of dead birds. During the survey we met a local shepherd who also hadn't seen any carcasses or remains of dead bird.

Figure 23. Monitoring of Glina Factory – Drino valley transect and Talking with locals.

LIFE16 NAT/BG/000874

3. Conclusions and recommendations

We conducted surveys in 41.2 km of transect for mapping of dangerous pylons and detecting mortality due to electrocution and collisions with power grid in Drino valley, in the southern part of Albania.

The surveyed power lines in the hilly or mountainous part of the valley seem not dangerous due to the presence of a mountainous and rugged relief covered by scrubs. The vegetation cover offers a barrier effect that seems to be avoided by flying birds. Exceptionally, one segment of the power line very close to the nest in Peshkepi-Radat, is potentially dangerous for collision of the Egyptian Vultures using this nest and the territory.

The power grid at Drino plain seems more problematic due to the presence of dangerous electric pylons and a heavy network of power lines (*see the most dangerous power lines in Annex 1*). Our surveys in this part of the valley could not find any carcasses perhaps due to the low intensity of the observations on the specific power lines. Nevertheless, the surveys here, and more specifically in the transect Glinë – Drino valley, provided some evidences of potential cases of electrocution and collision of birds.

Feathers of a Hooded Crow were found under an electric pole while feathers of Lesser Kestrel were found under the power lines. It is very likely that the Hooded Crow was electrocuted while perching at the power pylon while the Lesser Kestrel has collided with the power lines.

Despite the absence of very strong evidence of electrocution or collision, it is obvious that some of the power lines, especially those located in the floodplain, are dangerous for many birds of prey due to the fact that (i) there are no visual barriers (vegetation) along those power lines to make birds aware of the risk of collision and (ii) these areas are used by many birds of prey as perching places or feeding sites as well as corridors for their migration.

The most common birds of prey seen perching in the transect of Gline-Drino valley were the Short-toed Snake Eagle, Honey Buzzard, Common Buzzard, Lesser Kestrel and Common Kestrel while other large raptors such as Egyptian Vulture, Golden Eagle and Booted Eagle (*Aquila pennata*) cross the are too.

- **at a small segment of the power line, very close to the nest of the Egyptian Vulture in Peshkepi-Radat in order to avoid any potentially danger for collision of the Egyptian Vultures using this nest and the territory.**

- **The insulation of dangerous electric poles and the installment of bird diverters in the power grid Gline-Drino valley for avoiding respectively electrocution and collision.**

The power line of Gline-Drino valley transmits medium voltage, its length of approximately 3 Km and has 29 concrete electric pylons (*see for pictures of this power line in Annex 2*).

Annex 1. Transects estimated from our survey as the most dangerous power grids in Drino valley.

1.Glinë – Drino valley (39°57'35.3"N 20°16'42.5"E)

Figure 24. Glinë – Drino valley transect.

2. Kakavijë – Jorgucat (39°55'49.5"N 20°17'36.0"E)

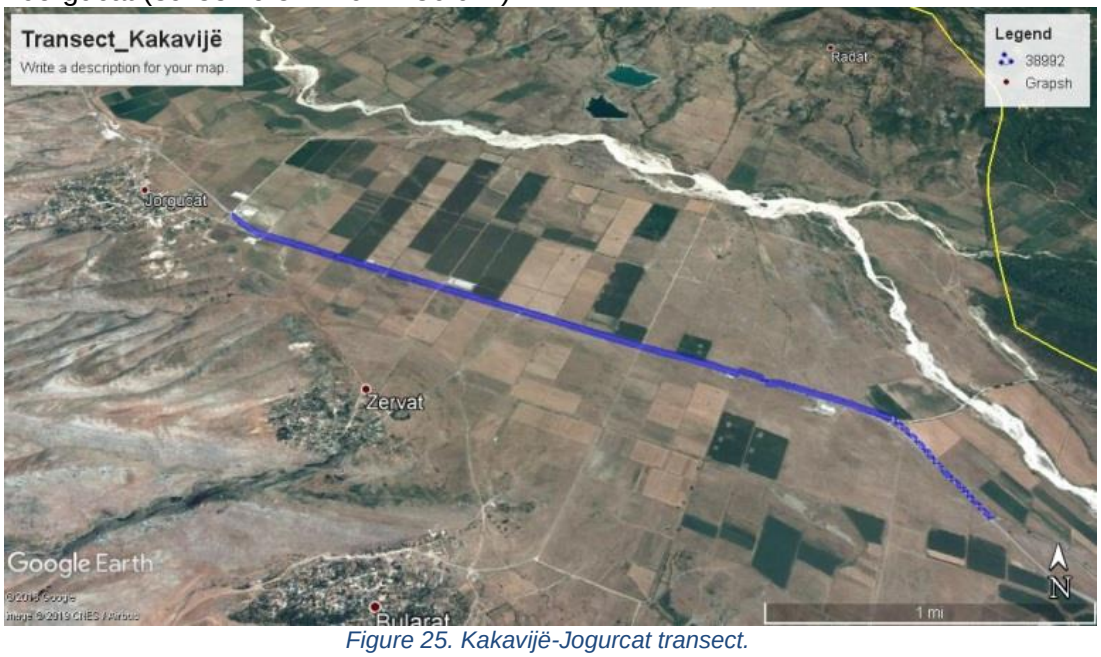


Figure 25. Kakavijë-Jogurcat transect.

LIFE16 NAT/BG/000874

3.Libohovë – Fushë (40°00'39.3"N 20°13'59.7"E)

Figure 26. Libohovë – Fushë transect.

1. Bulo – Fushë (40°01'48.6"N 20°12'44.3"E)

Figure 27. Bulo – Fushë transect.

LIFE16 NAT/BG/000874

5. Glina Factory – Drino valley (39°58'11.6"N 20°16'20.9"E)

Figure 28. Glina Factory – Drino valley transect.

Annex 2. Gline-Drino valley power line recommended for insulation and installment of bird diverters

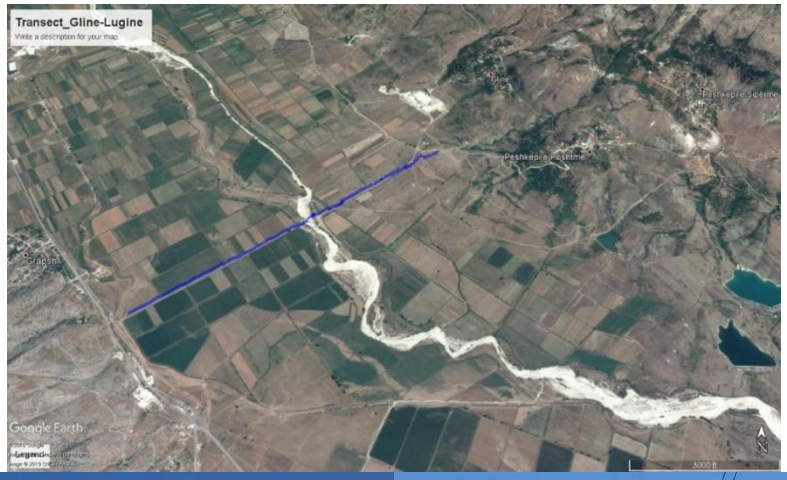


Figure 29. Gline-Drino valley power line recommended for insulation and installment of bird diverters

LIFE16 NAT/BG/00874