Bird protection around the grid – for nature protection and system security

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Electrocution, Collision & Disturbance in Greece

Hellenic Ornithological Society
Nikos Tsiopelas

Renewables Grid Initiative

BirdLife INTERNATIONAL

Partnership for nature and people

Introduction.
The Threats

What is what?

Collision	Electrocution	Disturbance
Birds are killed due to collision on overhead conductors	Birds are killed due to electrocution	Birds are subject to disturbance / habitat degradation

When & Where is the Threat recorded?

Collision	Electrocution	Disturbance
In all types of network * While flying	Mostly in Distribution network * While perching or flying	In all types of network * During construction or operation

The situation in Greece

A brief historical overview

In Greece, the threats of **electrocution** and **collision** were reported by ornithologists as significant for certain species, as early as in the 1980's.

In the decades afterwards, more **electrocution** and **collision** incidents were recorded but the monitoring of these threats was never conducted in a systematic way

In the recent years, (after 2010) the implementation of conservation projects trying to tackle the threat, enabled the first mitigation efforts to take place

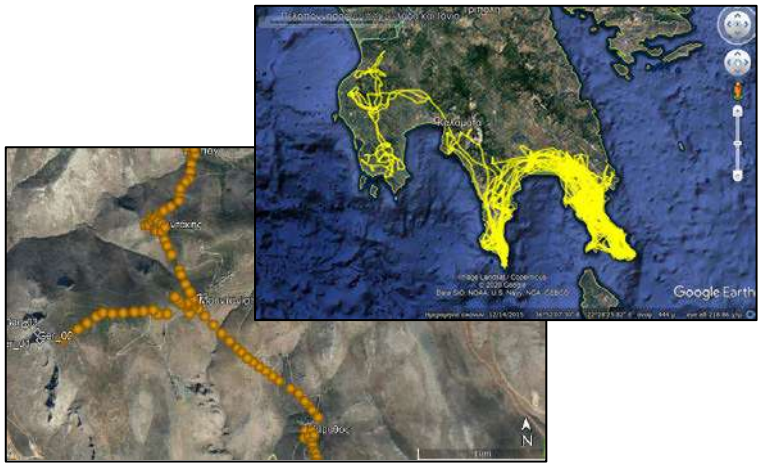
During the last years (2016+) the development of technology and especially telemetry provided new significant data, while in parallel dedicated monitoring schemes allowed for a better insight on the issue

The situation in Greece
Findings

Since 2019, HOS has been collecting information available from various sources on incidents of electrocution and/or collision in Greece:

These main sources of data are:

- Dedicated carcass search efforts
- Telemetry
- Citizens' info
- Rehabilitation centers
- Press / Web
- Other sources



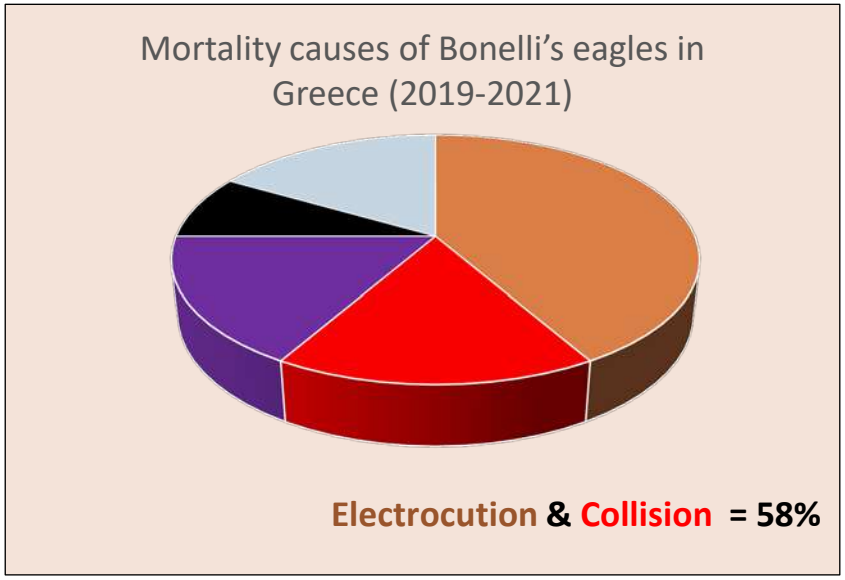
The main species affected were found to be:

- Eagle owl
- White stork
- Common buzzard
- Flamingo
- Common kestrel
- Corvids

The situation in Greece
Findings

Moreover, it has become evident that there are several endangered species for which electrocution / collision is the most significant, non-natural cause of mortality:

- **Bonelli's eagle** (>50% in juveniles)
- **Dalmatian pelican** (yearly ca. 4% of the population at Mesolonghi & Amvrakikos wetlands)
- **White stork** (>100 individuals per year)



The situation in Greece
Drawbacks & Restrictions

Our current knowledge on the subject is limited due to the following facts:

- **Systematic Monitoring effort is not enough** - in terms of time-scale / spatial scale / human resources
- **Inherent Difficulty of monitoring** (many mortality incidents are never being detected due to carcass removal by scavengers, difficulty of approach, vegetation etc.)
- **Limited public awareness & training** (many incidents are never reported – the cause cannot be properly identified)
- **Lack of citizen-science data** (no platforms for data-entry exist)
- **Telemetry data are selective** (originating from research efforts on a handful of species and only in some areas of Greece)
- **Spatial Data are missing** (regarding grid mapping, movements and concentrations of birds and the seasonality of birds' movements)

Disturbance

Disturbance for wildlife – and more significantly avifauna – is caused due to:

- Construction works in progress
- Habitat degradation / Changes in land-use
- Creation of barriers
- Facilitation of access
- Increased human presence

Disturbance can often lead to:

- Reduced breeding success
- Alteration of species composition in an area
- Displacement
- Mortality

- ***Disturbance is a significant threat that is poorly studied in Greece, especially regarding sensitive areas where the grid is already operational.***

Present Situation

- 3 LIFE Projects are directly or indirectly working towards the implementation of mitigation measures and increase of public awareness
- NECCA planning for the next years foresees the implementation of mitigation measures in several PAs in Greece
- Collaboration with the TSO/DSO has been established and are constantly developing
- TSO/DSO have been working actively towards the implementation of mitigation measures
- Data availability, resources and research efforts are significantly improved
- Synergies with international projects are established

Leaving 2023 behind, we are confident that we are on a good path. Nevertheless, in the following years we ought to maximize our efforts and set ambitious goals.

Gradually risk assessment studies and prioritization of areas for intervention are being implemented