Electrocution in powerlines – prevention and minimization

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Who are we?

- The Portuguese Society for the Study of Birds (SPEA) is a nonprofit scientific association that promotes the study and conservation of birds in Portugal

- We have offices in Lisboa, São Miguel (Azores) and Funchal (Madeira) and ocasionally work on foreign projects

- Currently SPEA has about 3500 members and develops projects of nature conservation in national territory and also some in partnership abroad (Cape Verde, Sao Tome, Greece, Spain and Malta).

- Working together with 500 volunteers each year

- The Portuguese BirdLife International partner

Our work

- We study the trends of bird populations through monitoring schemes and biology studies
- We design and implement projects to the conservation of habitats at risk
- We promote the birdwatching in Portugal
- We develop environmental education and awareness activities
- We are tackling invasive alien species
- We analyze the environmental impact of infrastructures and humane activities in bird populations (power lines, fisheries)

Birds and Powerlines Protocols

Started in 2003 by ICN, EDP Distribuição, Quercus and SPEA, joined by LPN in 2013

Main goals:

- Characterize birds and powerlines situation in mainland Portugal
- Identify avian mortality “black spots”
- Minimize powerlines impact on avian wildlife
- Prevent future impact of new powerlines

Birds and Powerlines Protocols

CTALEA – Technical Advisory Comitee for Birds and Powerlines

edp distribuição

spea
Sociedade Portuguesa para o Estudo das Aves

lpn
Liga para a protecção da natureza

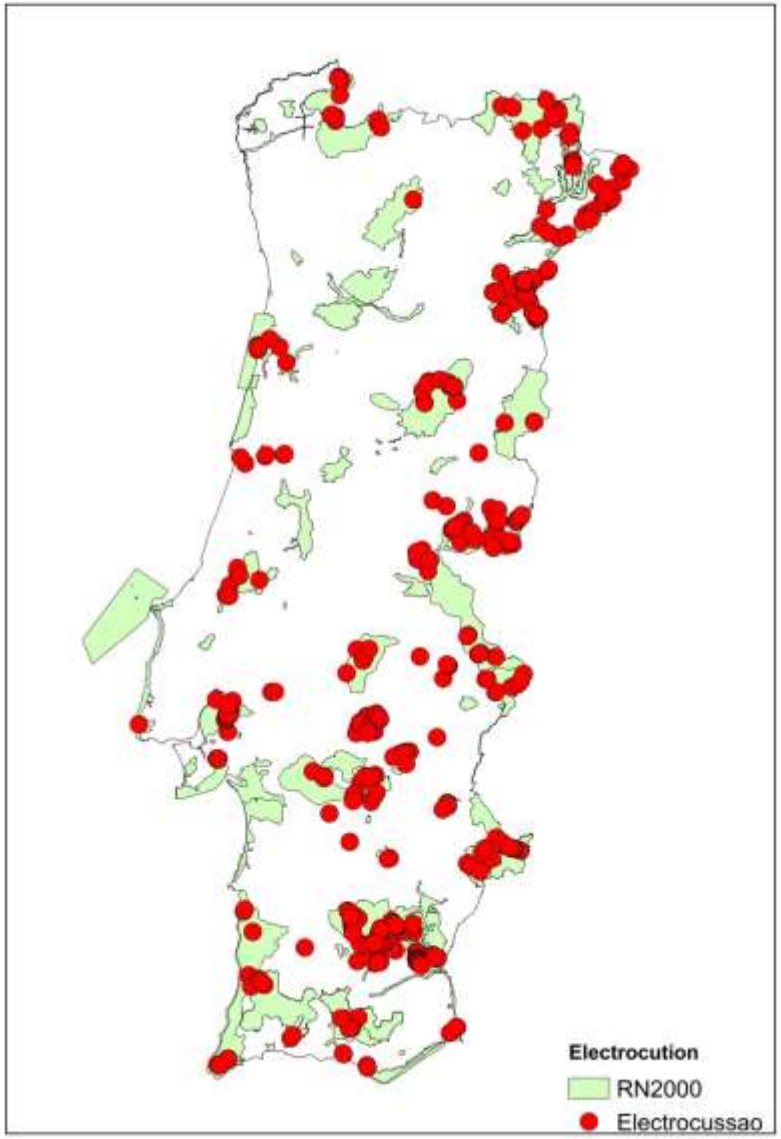
Quercus

ICNF
Instituto da Conservação da Natureza e das Florestas

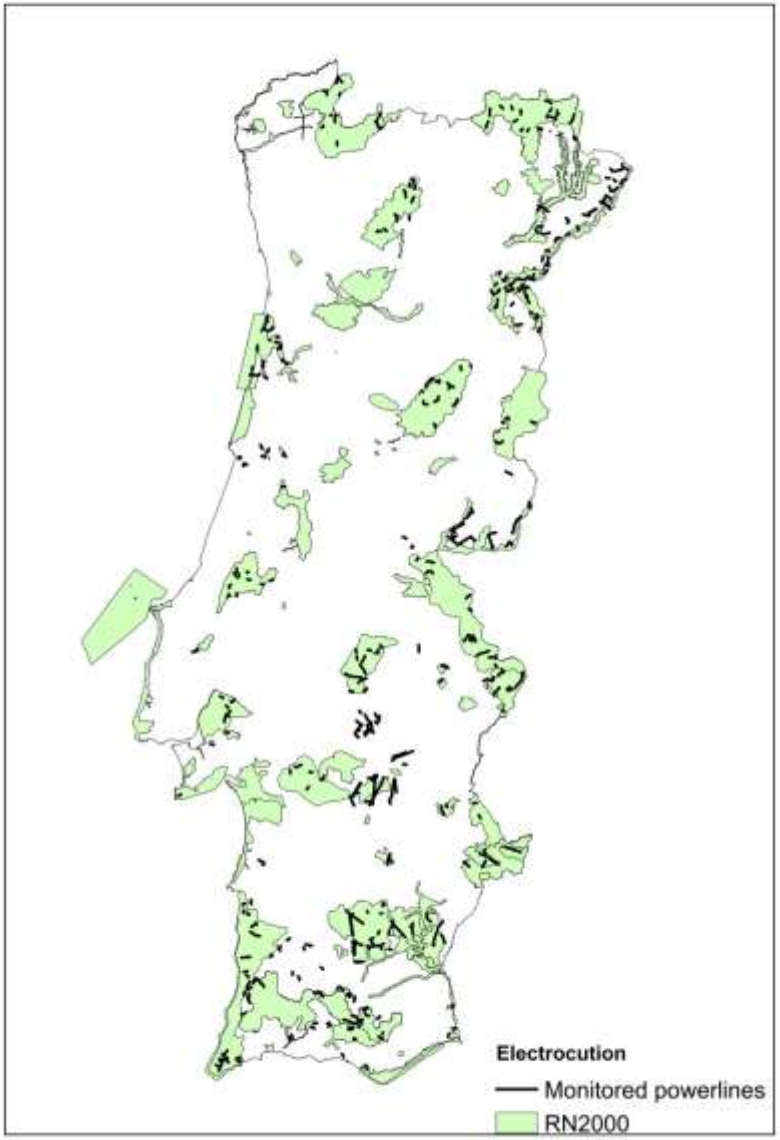
Electrocution

“Electrocution of birds is a simpler problem than collision. It may take place when a bird touches two phase conductors or one conductor and an earthed device simultaneously, especially when the feathers are wet.” Bevanger, 1998

2003 – *Present*

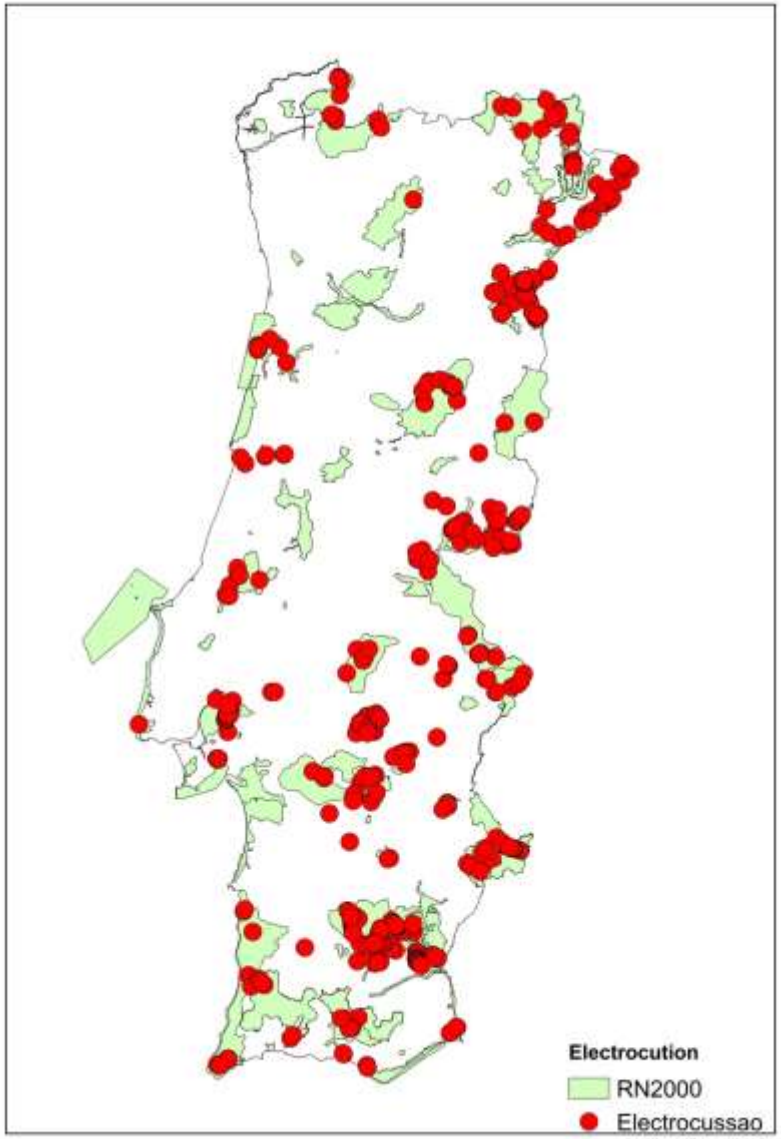


Electrocutions *n* = 805



Powerlines monitored – 1.335,497 km

2003 – *Present*



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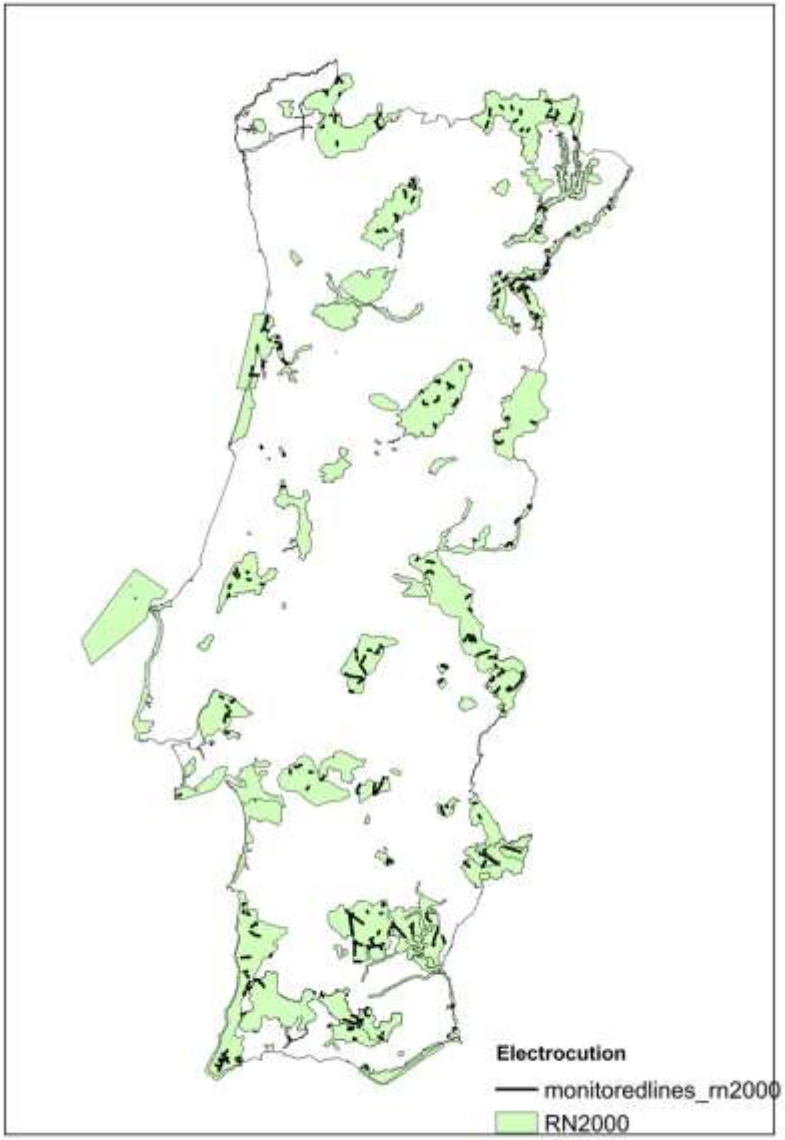
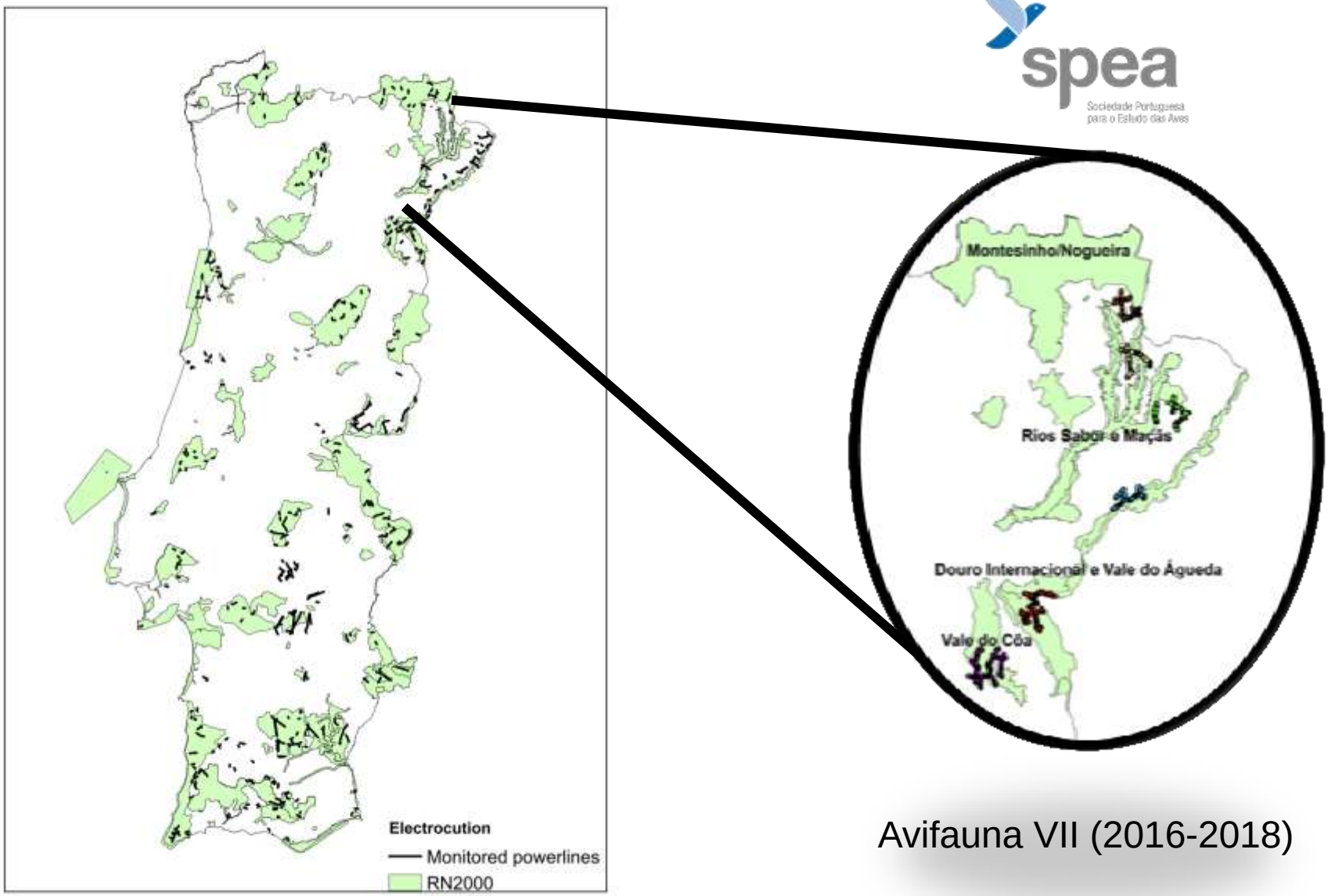
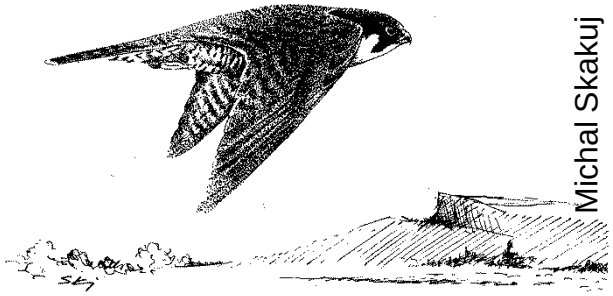


RN2000 Powerlines – 877,806 km

2003 – *Present*

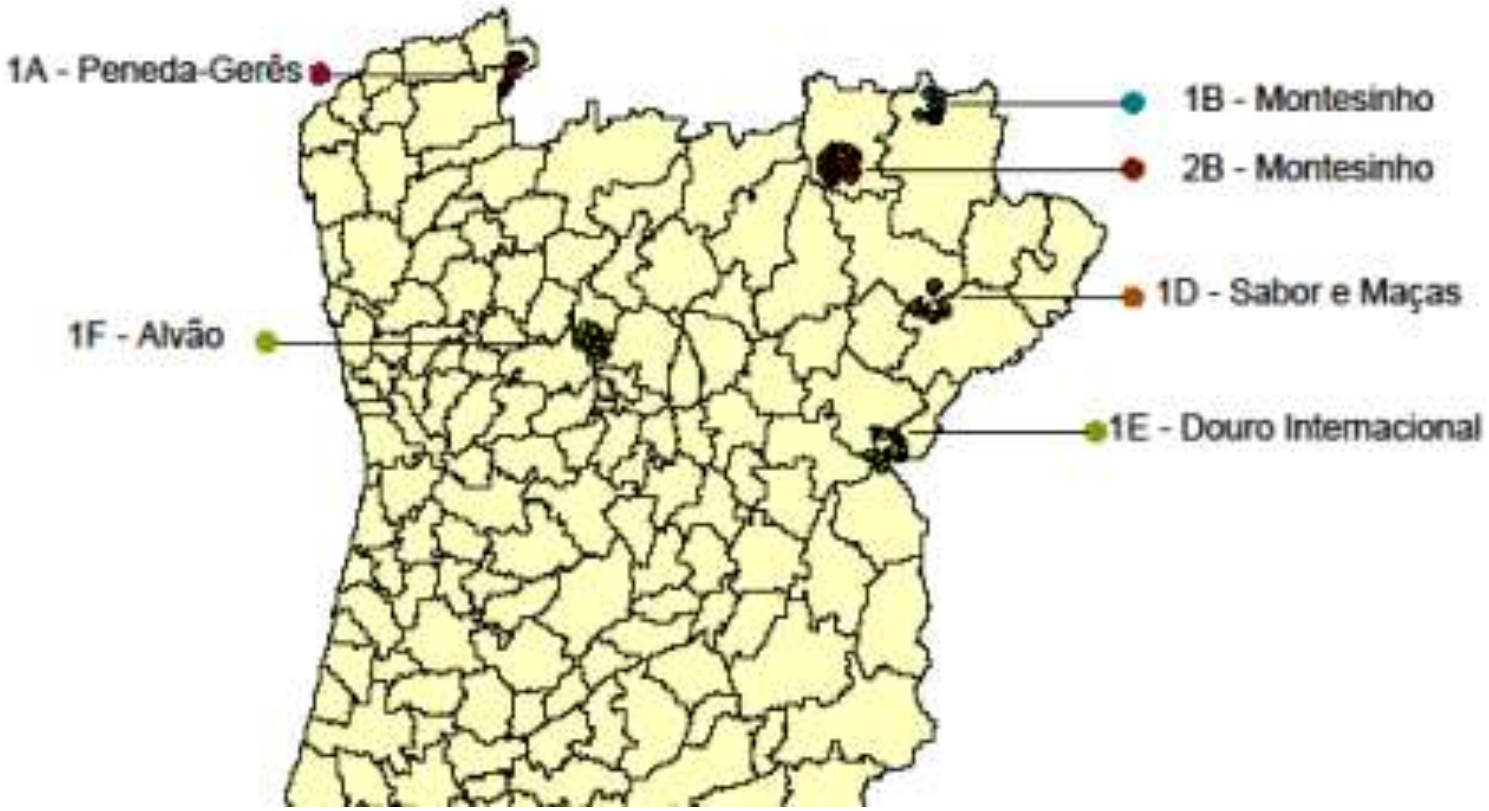


Avifauna VII (2016-2018)



Birds and Powerlines Protocols

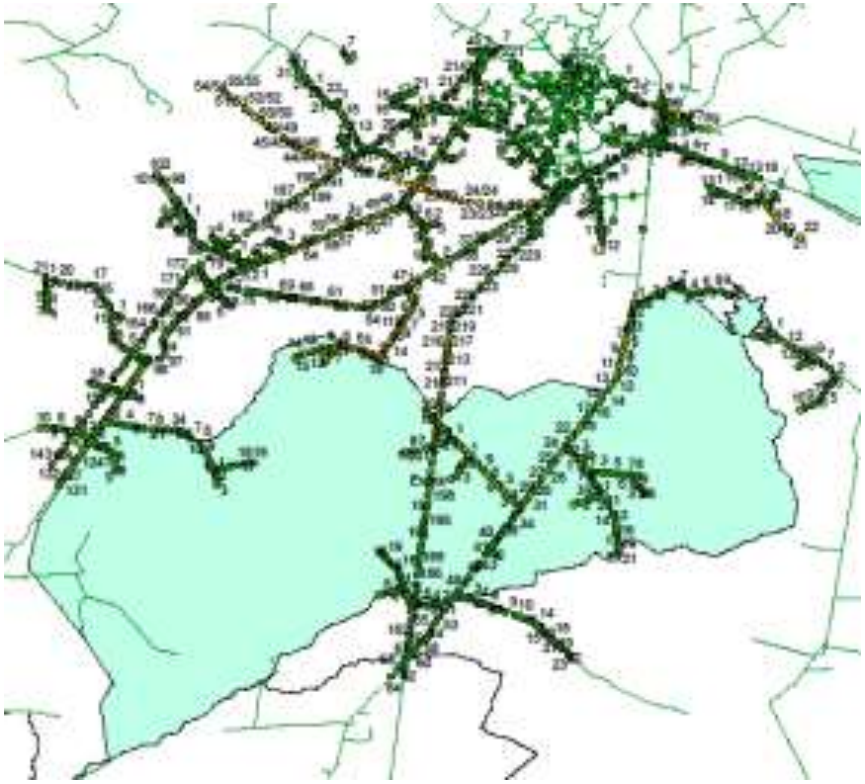
Electrocution risk assessment

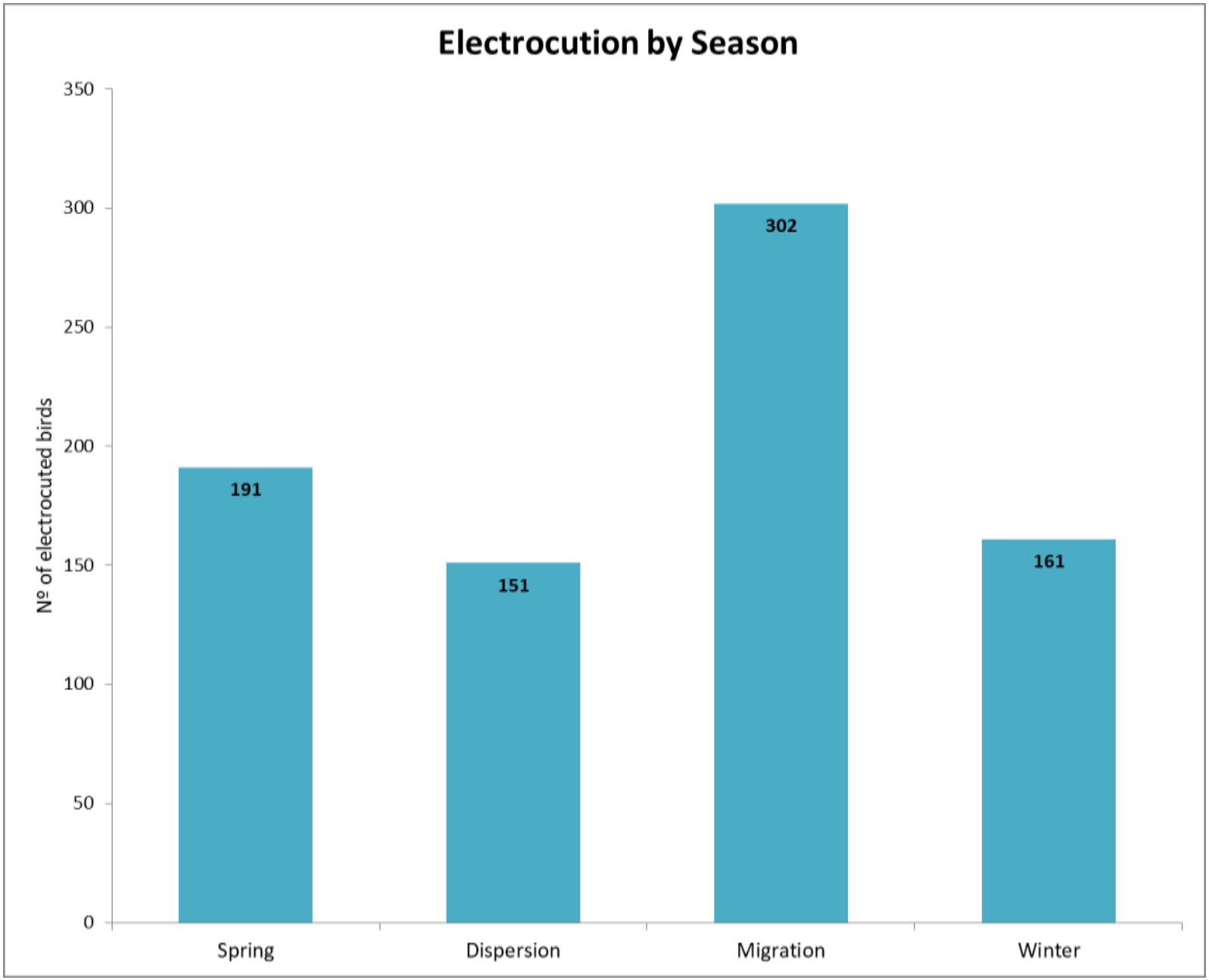


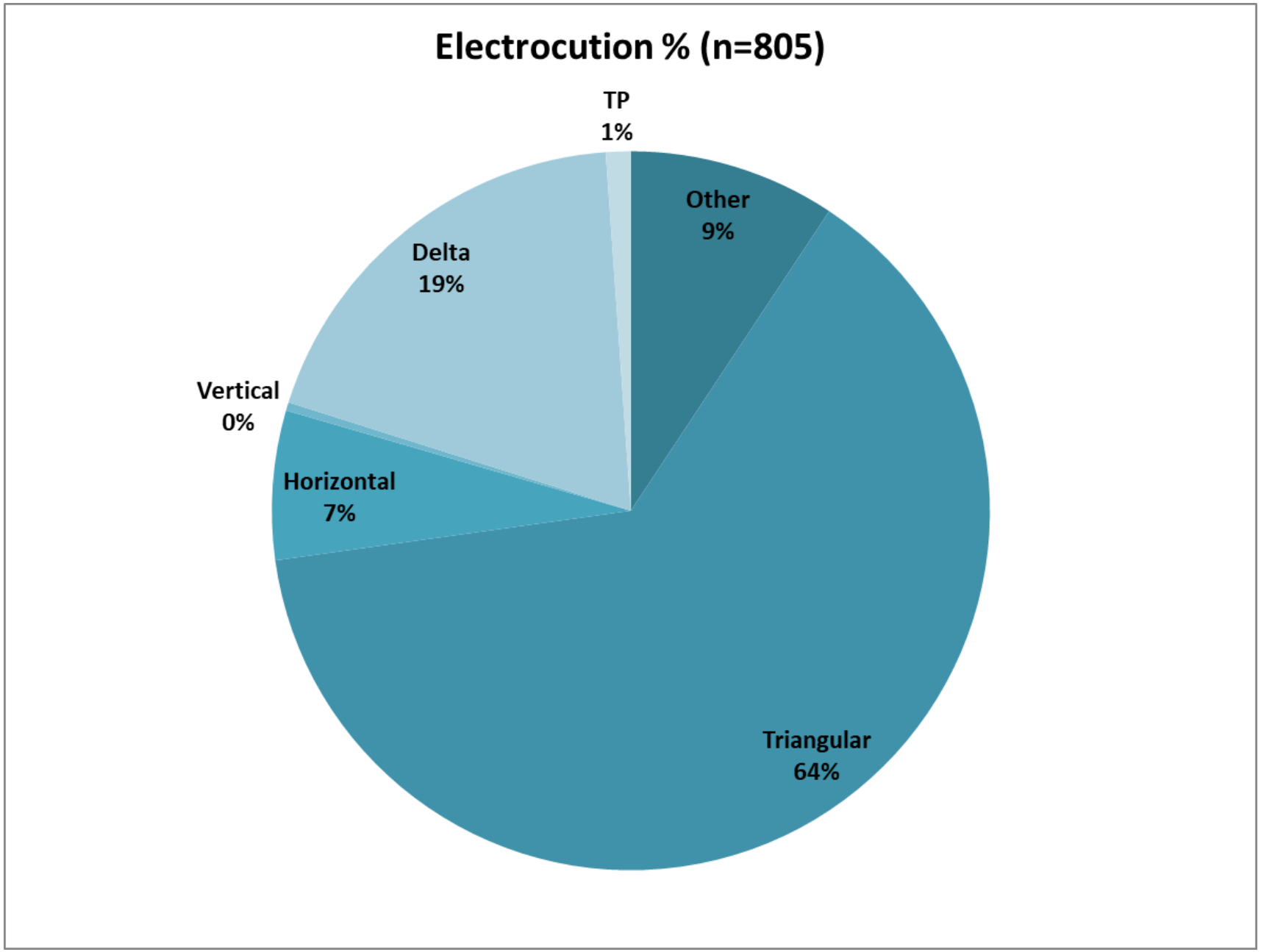
Birds and Powerlines Protocols

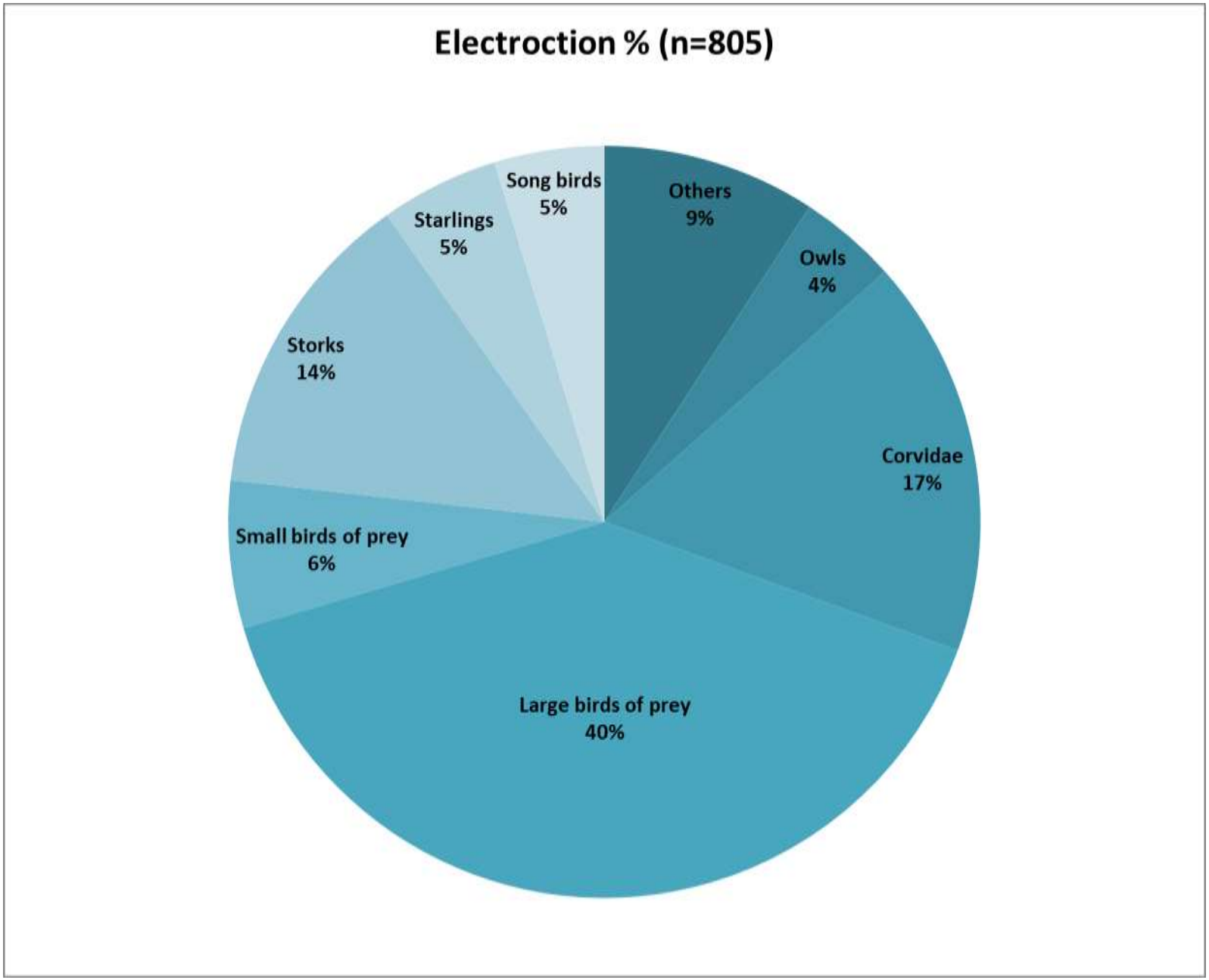
Coef. Pylon x Coef. Habitat x Coef. Distance x Coef. Mitigation

= Coef. Electrocution risk




Electrocution by Season
Nº of electrocuted birds
350
300
250
200
150
100
50
0
191
151
302
161
Spring
Dispersion
Migration
Winter


Electrocution % (n=805)
TP
1%
Other
9%
Delta
19%
Vertical
0%
Horizontal
7%
Triangular
64%


Electroction % (n=805)
Others 9%
Owls 4%
Corvidae 17%
Large birds of prey 40%
Small birds of prey 6%
Storks 14%
Starlings 5%
Song birds 5%

IUCN Categories

15 species under IUCN Threatened categories

Critically Endangered

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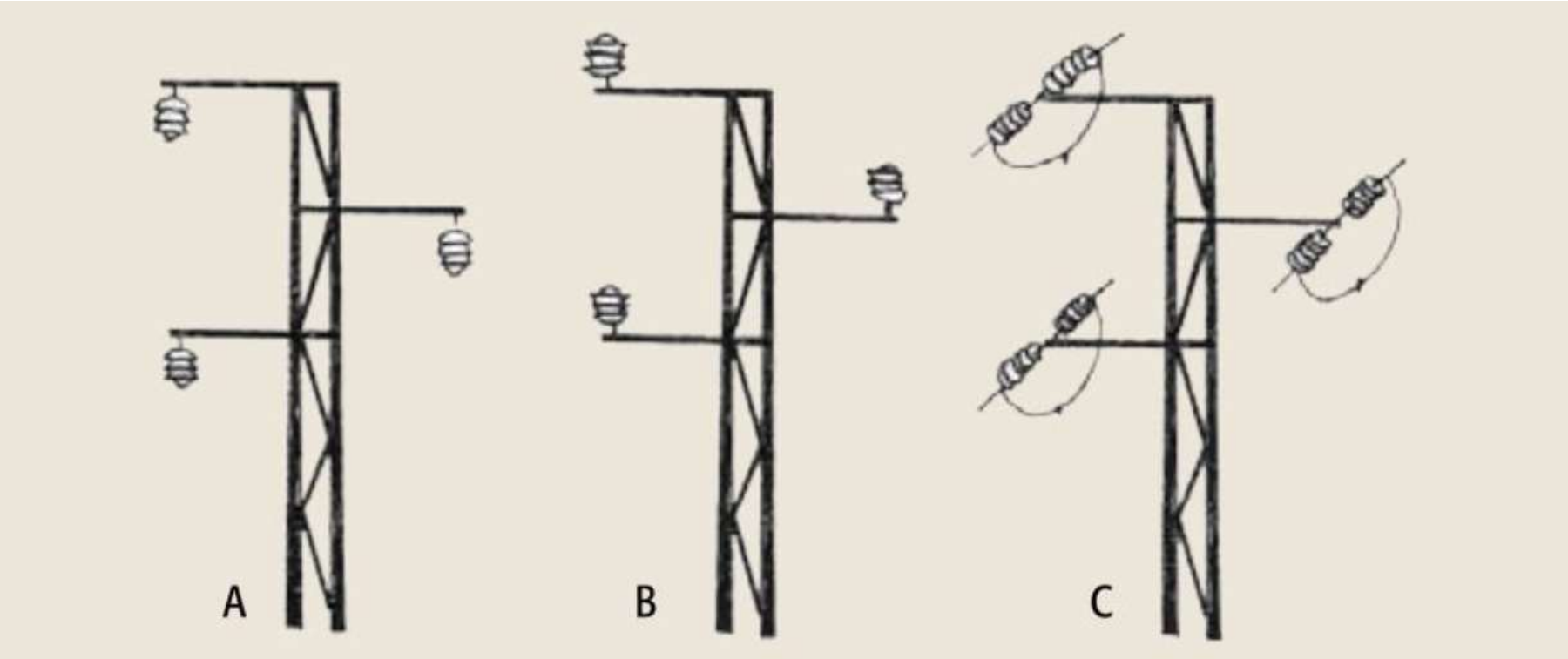
Endangered

Vulnerable

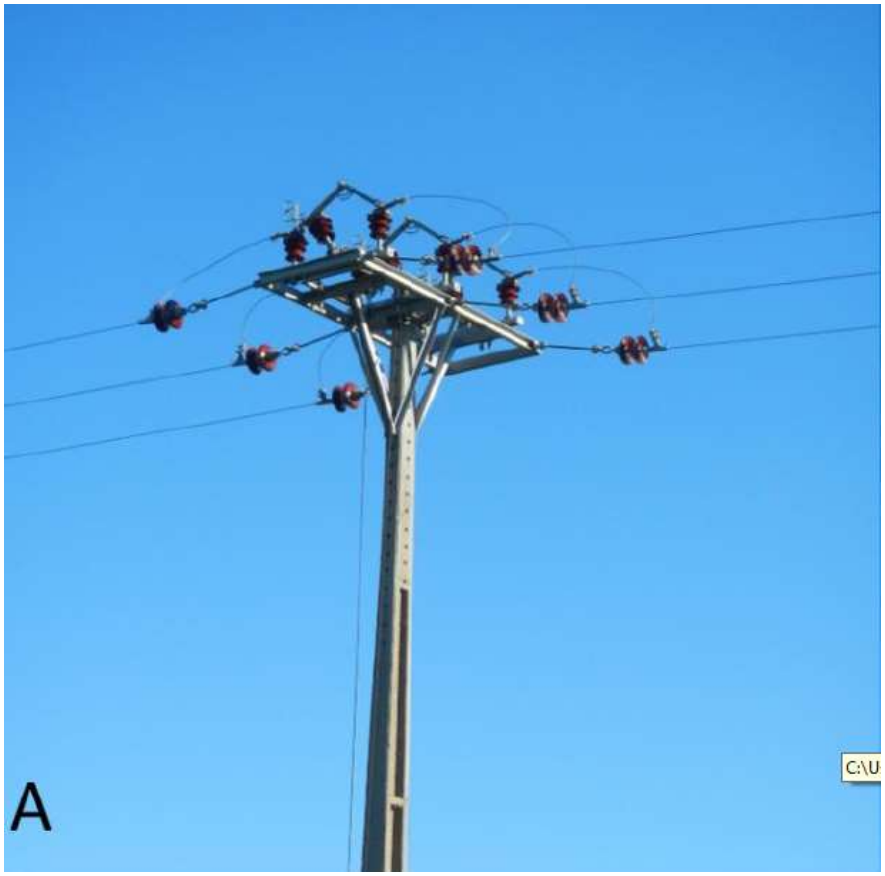
Mitigation



Garrido *et al.* (2009)

Mitigation

From this…



Jaime Sousa (2017) – Master Thesis

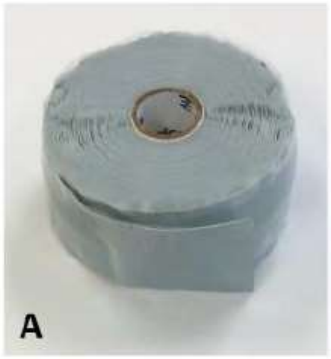
Mitigation

To this…

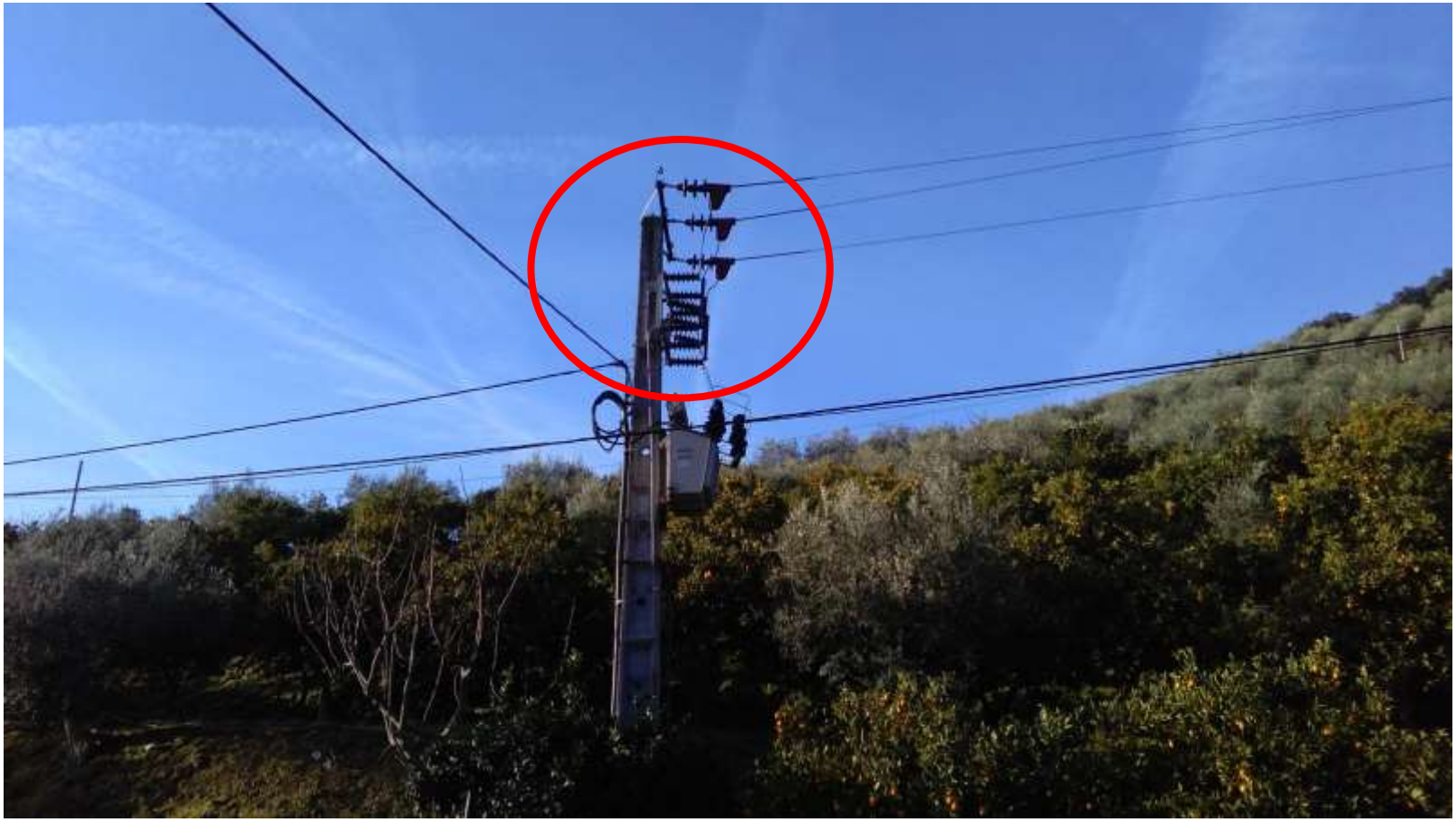
Mitigation

Anti-electrocution devices

Mitigation



Mitigation

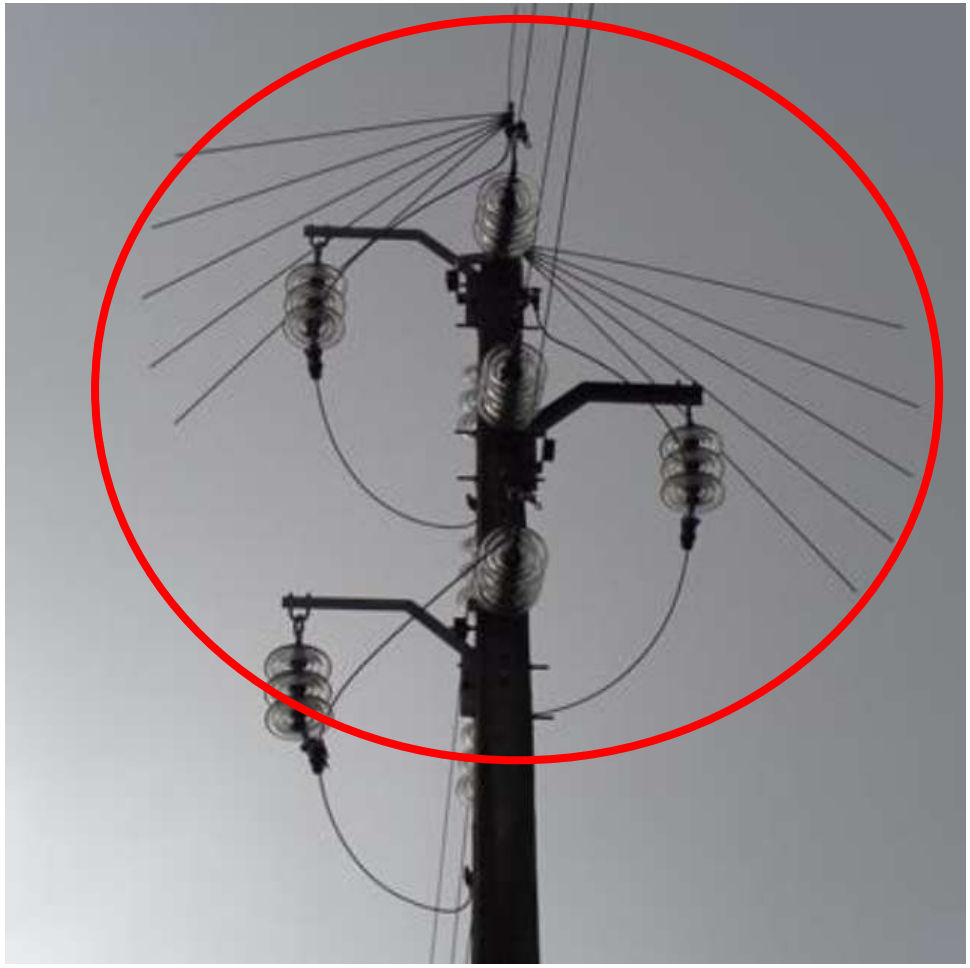


Mitigation

Mitigation

Mitigation

Perching



LIFE Rupis - Conservation of Egyptian Vulture and Bonelli's Eagle in the Douro Valley

Vilnius, 28 june 2018 | Rui Machado | rui.machado@spea.pt

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