



BSPB

Bulgarian Society for
the Protection of Birds



Mitigation measures to reduce electrocution of globally threatened birds in Bulgaria

International Seminar

“Bird protection practices on electricity grids”

28 June 2018

Vilnius, Lithuania

2008-2018

Svetoslav Spasov

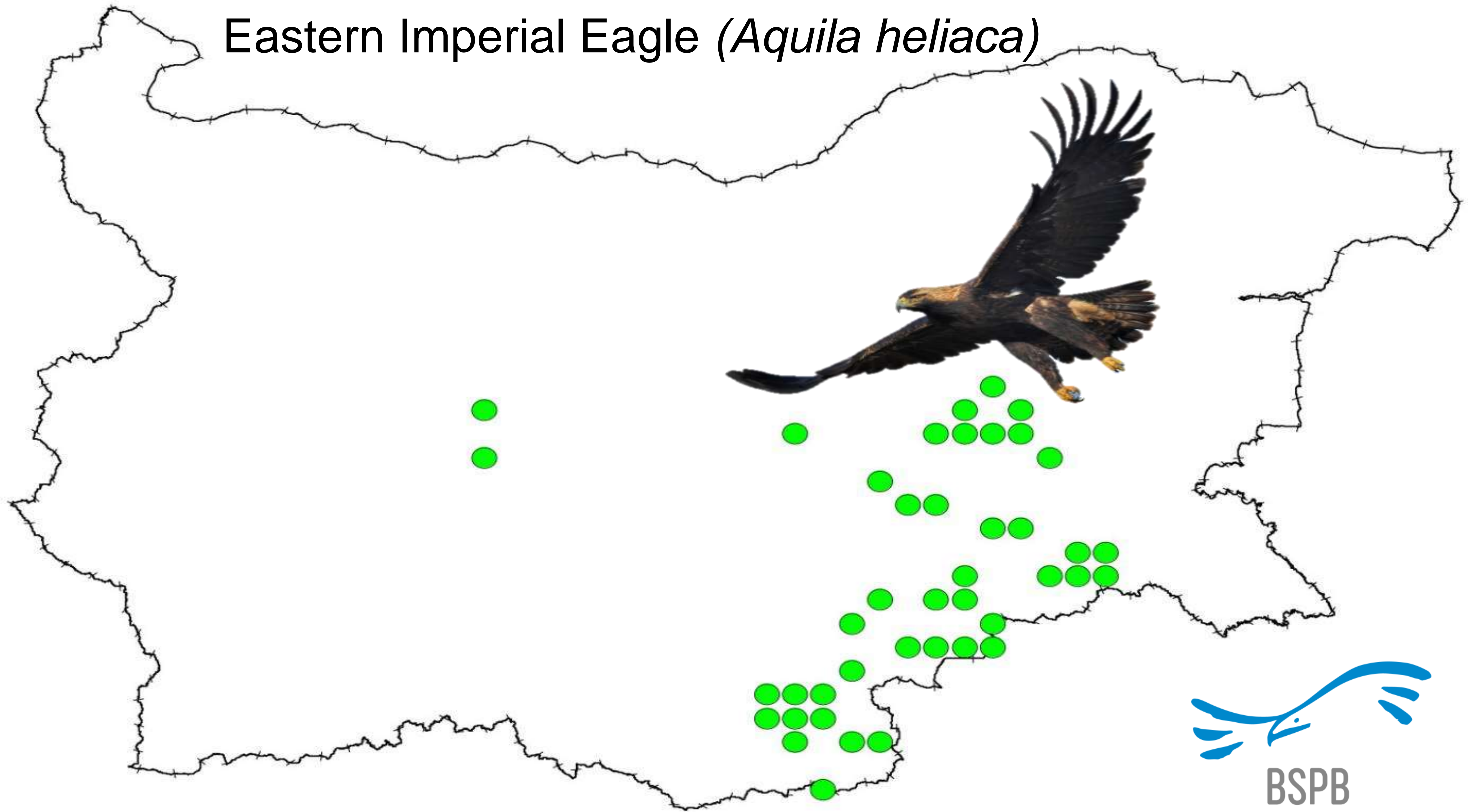


Background in 2008

- 110,000 km medium voltage overhead power lines
- Majority of electric poles are hazardous to wild birds
- No quantitative data about mortality rate of wild birds as a result of electrocution and collusion



Eastern Imperial Eagle (*Aquila heliaca*)



Save the Raptors LIFE+ project

The Survey

- 25 overhead power lines
- 204,1 km
- 6 Natura 2000 sites / SPAs
- April 2009 - January 2010
- 292 fatalities
- 68,5 % electrocution
- 31,5 % collision

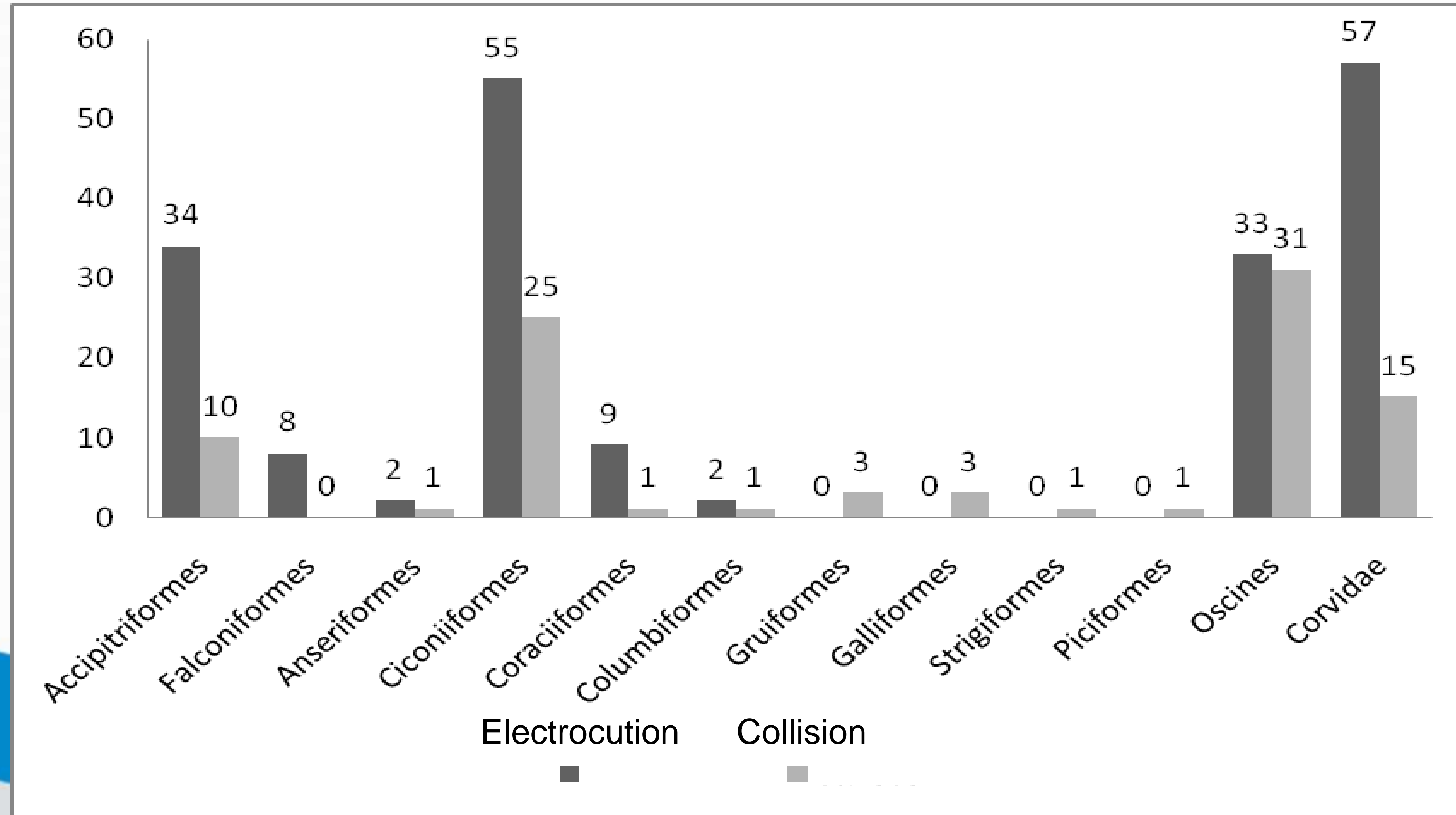


The real number of fatalities is much higher!





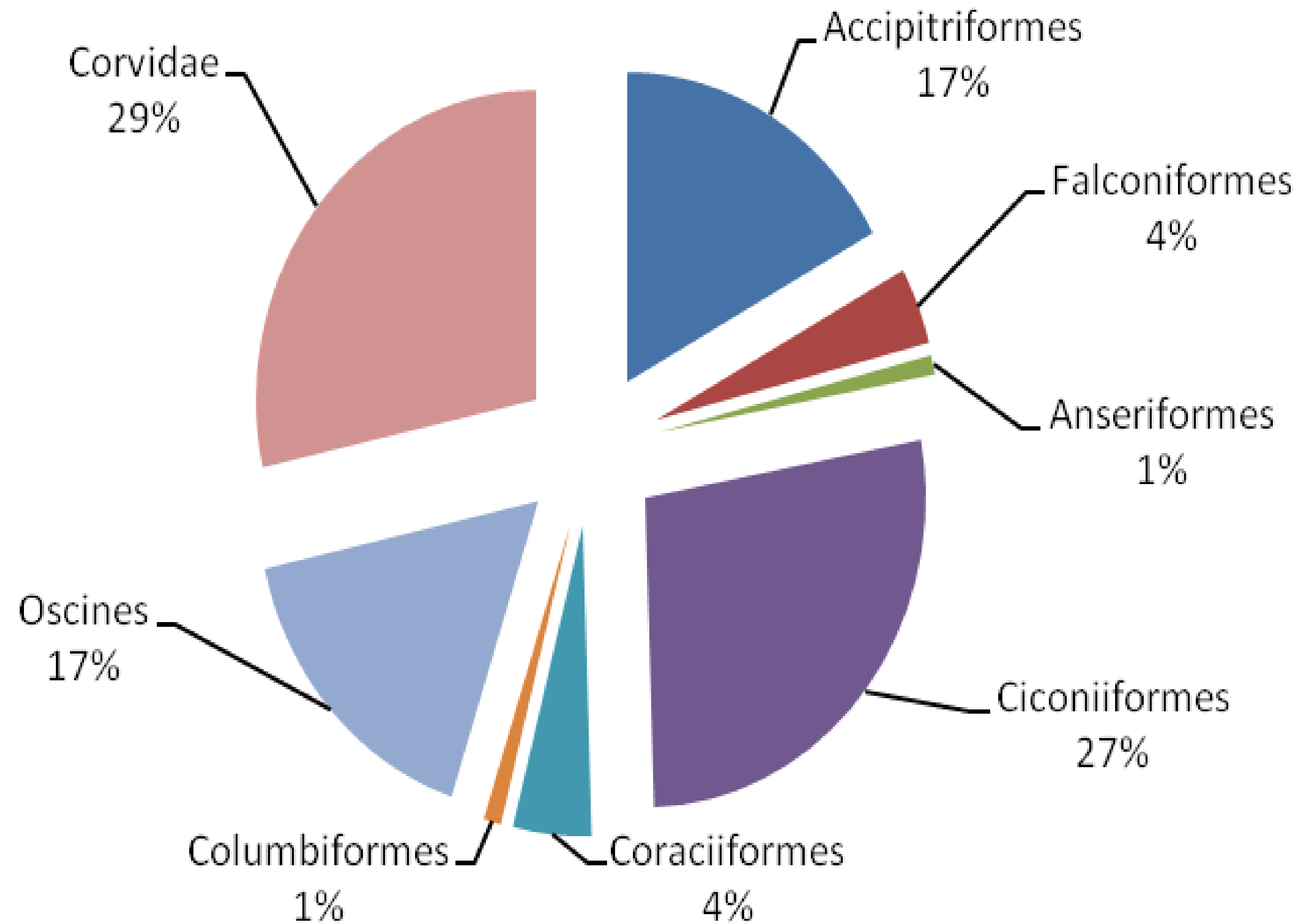
Mortality caused by electrocution and collision



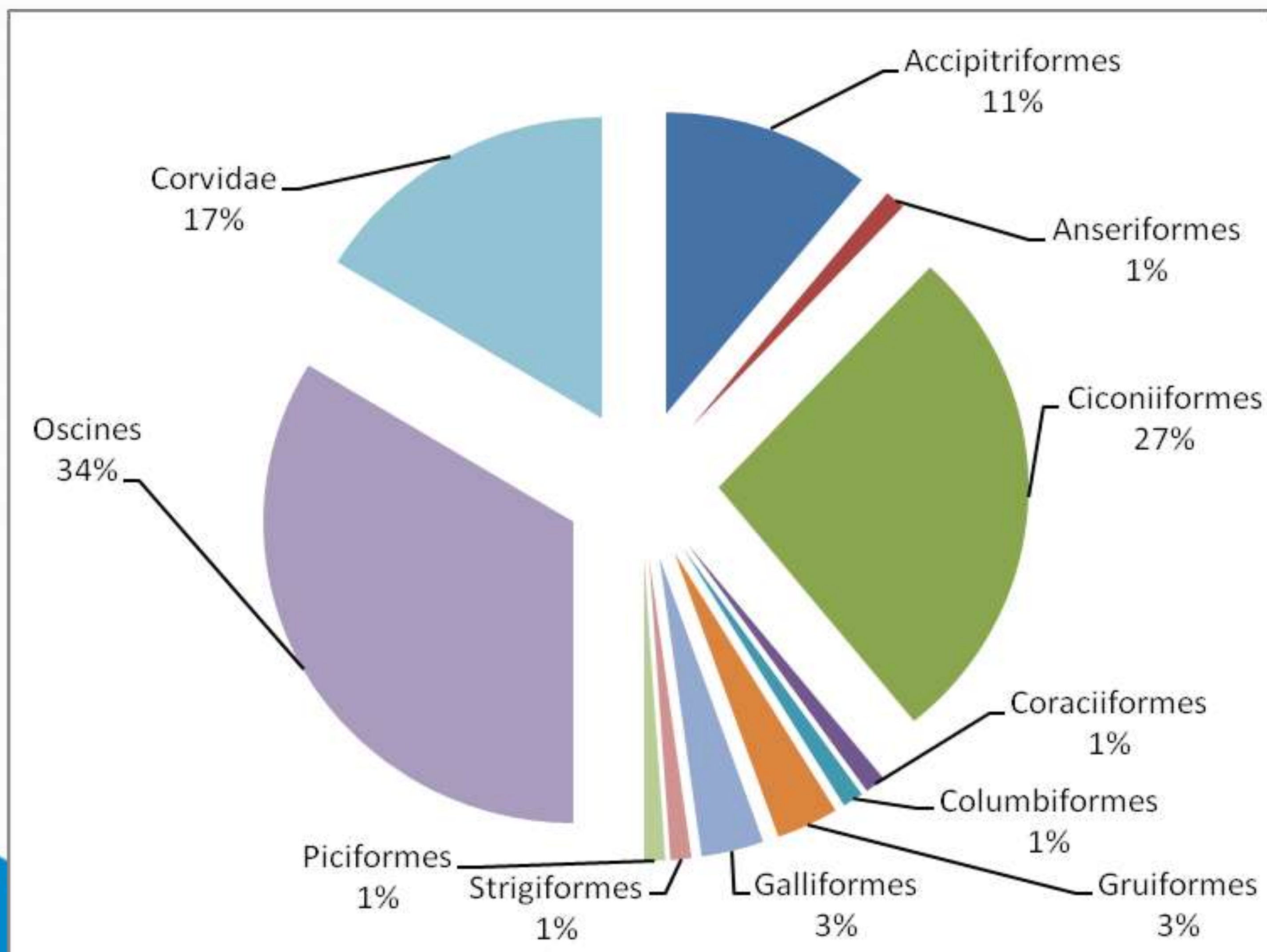


BSPB

Electrocution fatalities

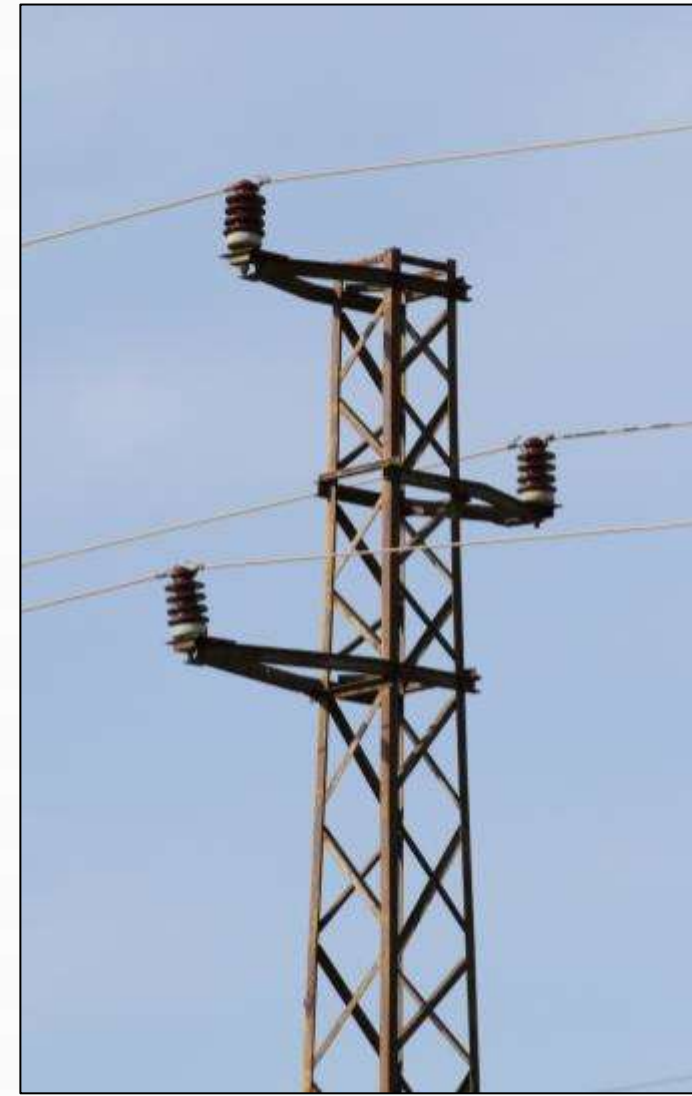
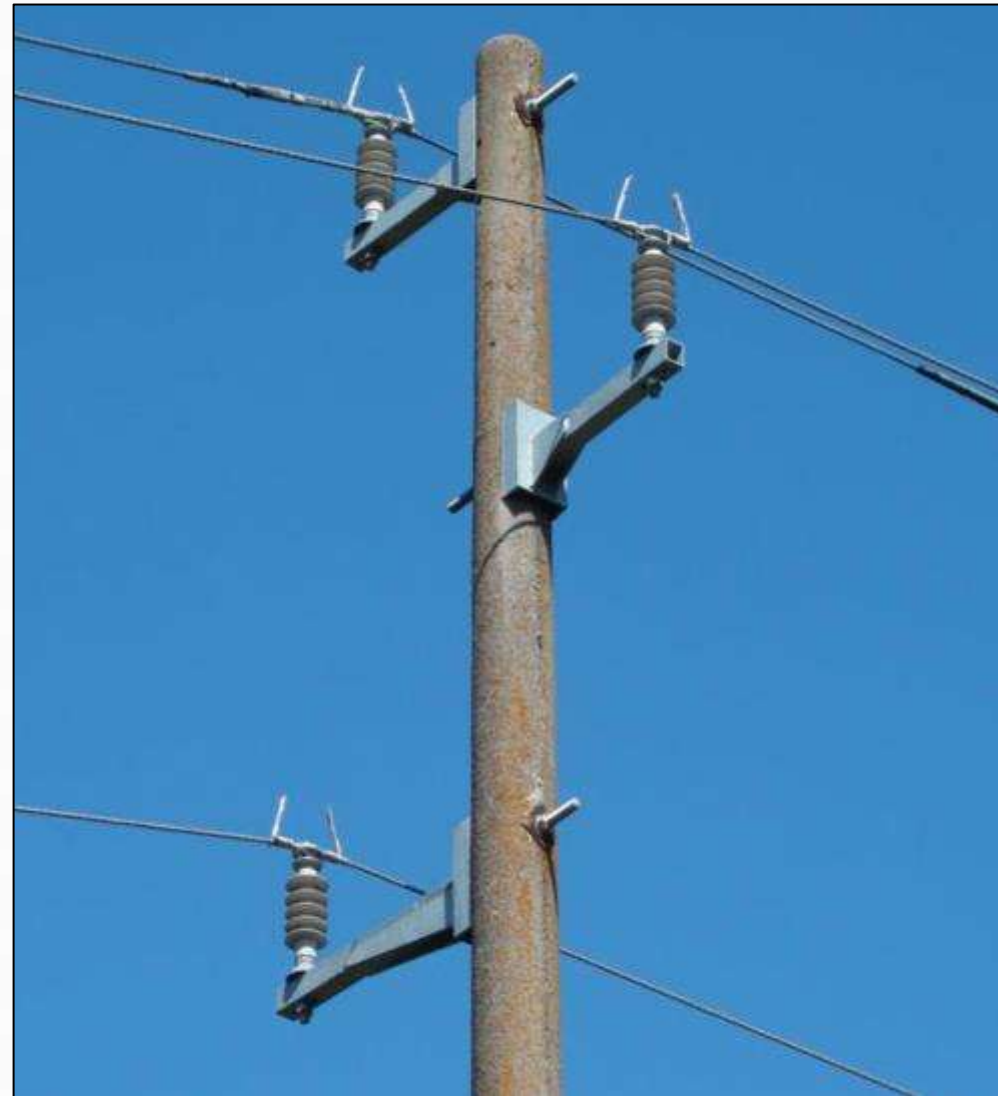


Collision fatalities

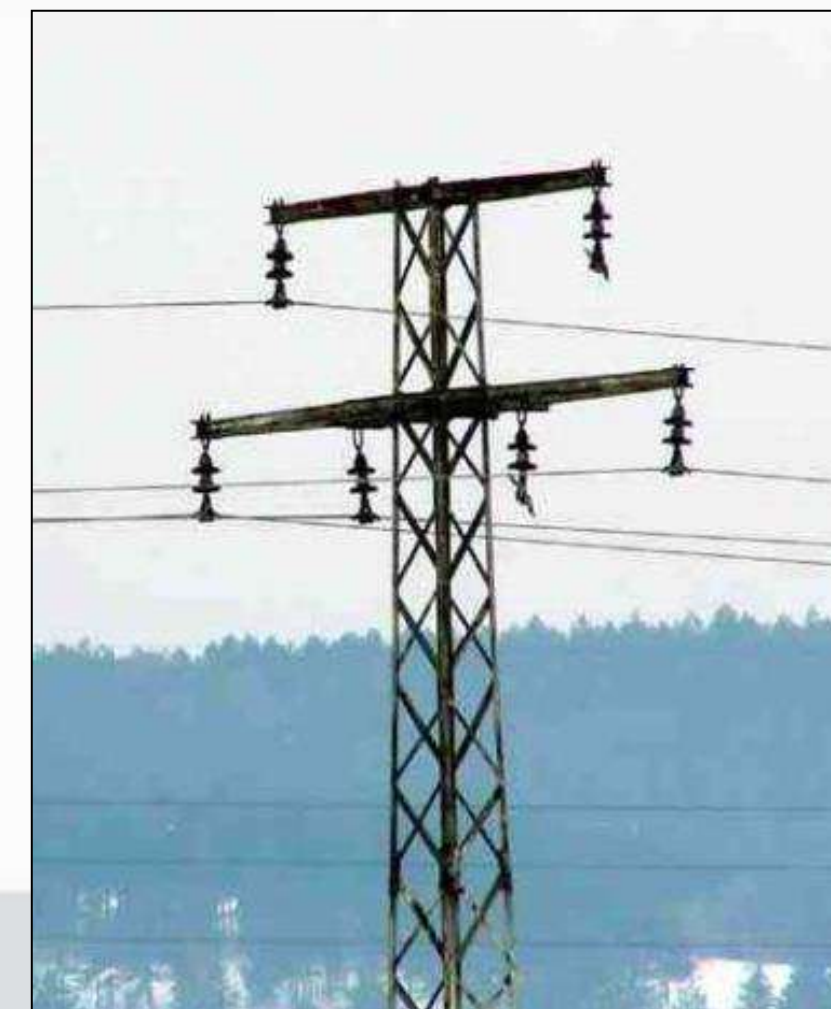
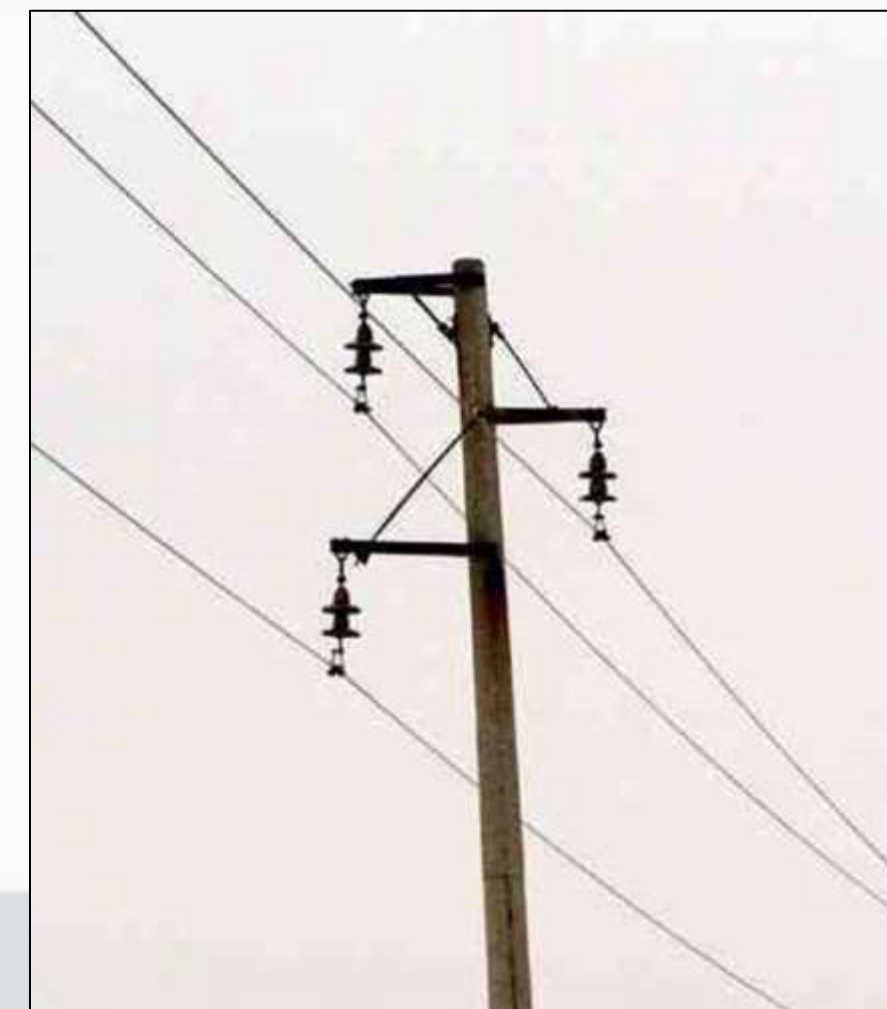




Which poles are most hazardous?



Over **10,000** hazardous poles within the
28 Imperial Eagle breeding territories





Level of threat from electrocution

By relief

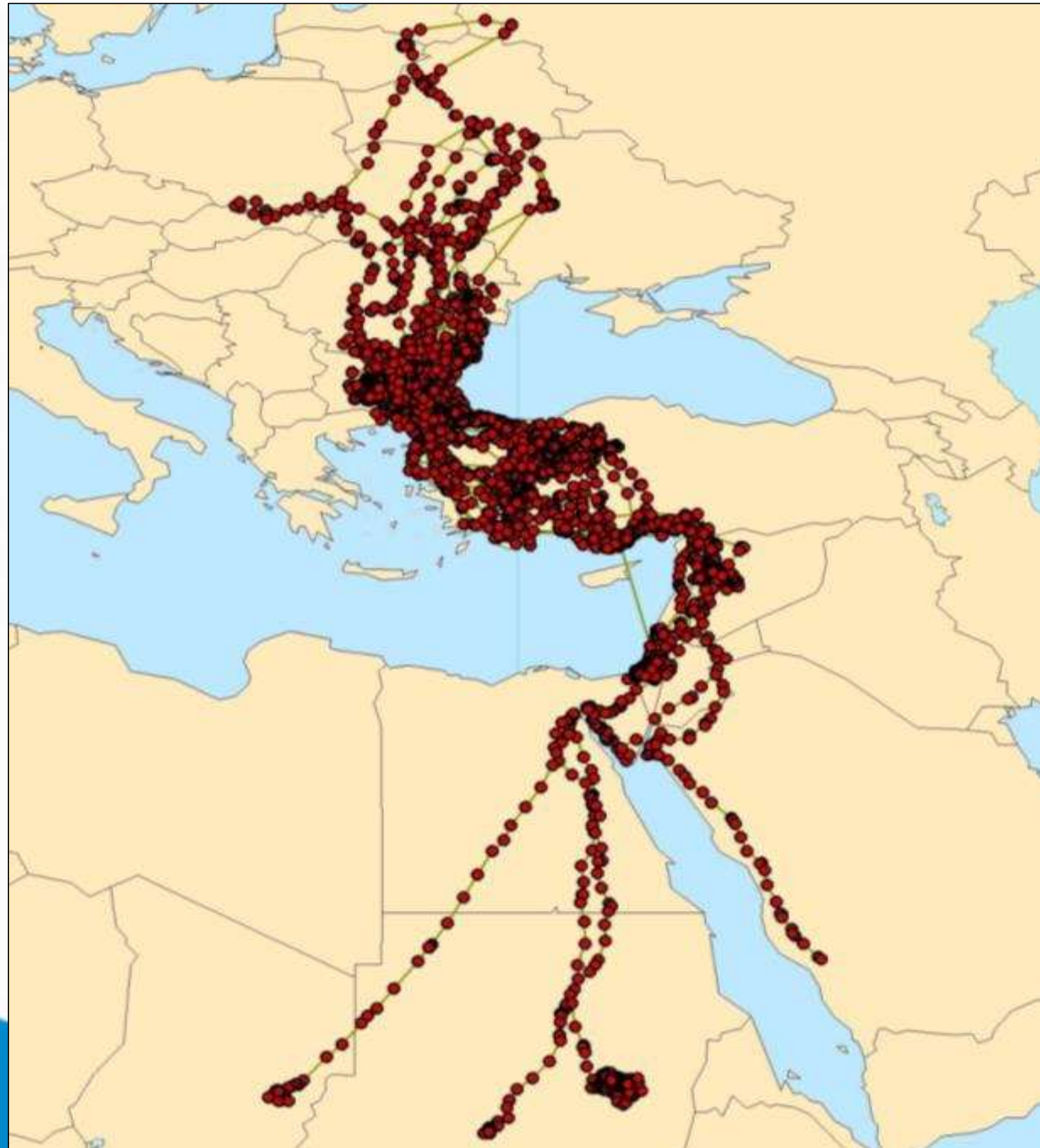
- flat (3.33 ± 6.34)
- slopes (1.12 ± 2.59)
- hilltops (0.95 ± 2.02)

By habitat type

- pastures (KR = 0.11)
- vineyards and orchards (KR = 0.09)
- arable land (KR = 0.07)
- woodland (KR = 0.02)



Imperial Eagle satellite telemetry 27 tagged individuals





67% of tagged juvenile Imperial Eagles have been electrocuted





595 poles within Imperial Eagle
breeding territories have been insulated



EVN

www.SaveRaptors.org



LIFE for Safe Grid project

- EVN Bulgaria and BSPB started the project in 2013
- Additional survey on electrocution of Imperial Eagles has been done in 2014-2016
- 4,759 hazardous pylons within eagle's breeding territories and temporary settlement areas have been identified as high priority for insulation



LIFE for Safe Grid project

- 43 km of overhead power lines have been converted into underground cable





LIFE for Safe Grid project

- 42 km of bare cables have been replaced with insulated ones



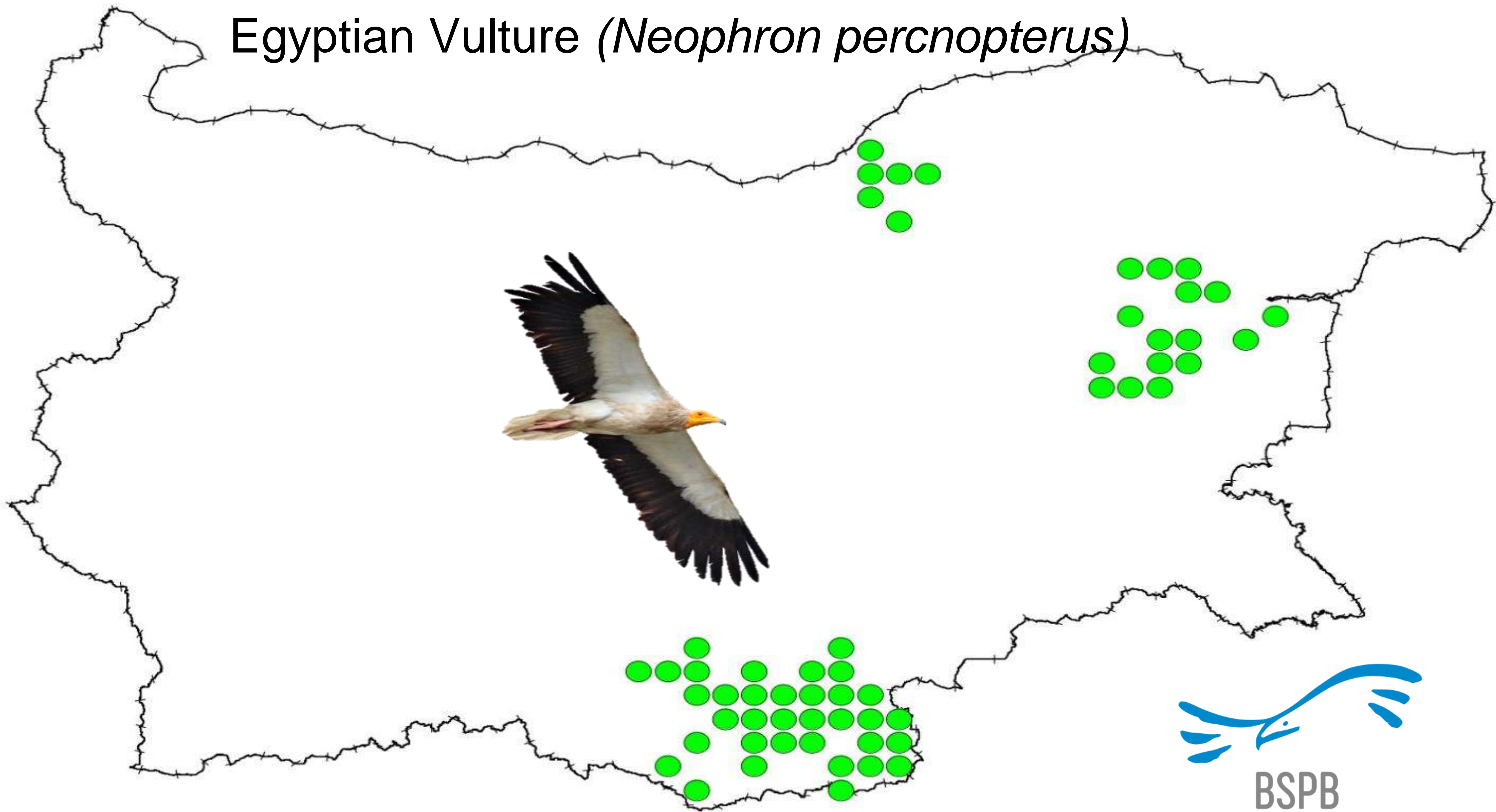


LIFE for Safe Grid project

- 2,340 poles have been retrofitted with insulation caps



Egyptian Vulture (*Neophron percnopterus*)





The Return of the Neophron LIFE+ project

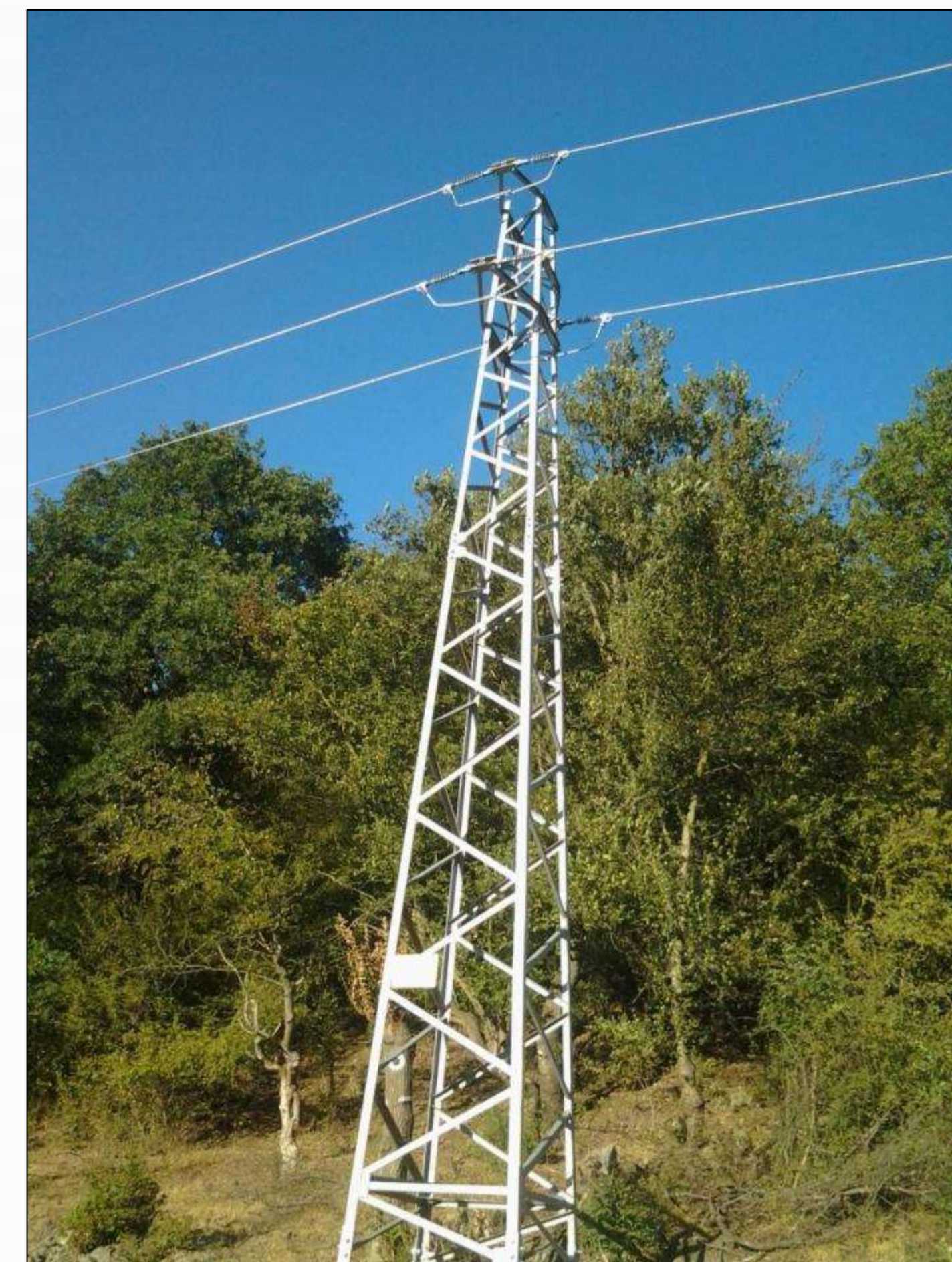
- 9,489 poles mapped within 39 EV territories in Bulgaria and Greece
- 5,580 hazardous poles identified (4,017 in Bulgaria and 1,563 in Greece)
- 4,663 potentially hazardous poles mapped around known congregation sites in Afar, Ethiopia, where the highest known congregation of wintering EVs in Africa exists





The Return of the Neophron LIFE+ project

- 397 hazardous poles have been insulated between 2013 and 2016 in Bulgaria
- 66 hazardous poles have been insulated Greece



Sudanese “killer line” switched off in 2014

- The power line from Port Sudan to the Red Sea coast has been switched off.
- This decisive action by the Sudanese government and power company officials follows years of work by BSPB (BirdLife in Bulgaria), BirdLife Migratory Soaring Birds project and the Sudanese Wildlife Society.



Saker Falcon LIFE+ project in HU, SK, RO and BG

- 440 poles have been insulated in important Saker Falcon staging and wintering areas in NE Bulgaria





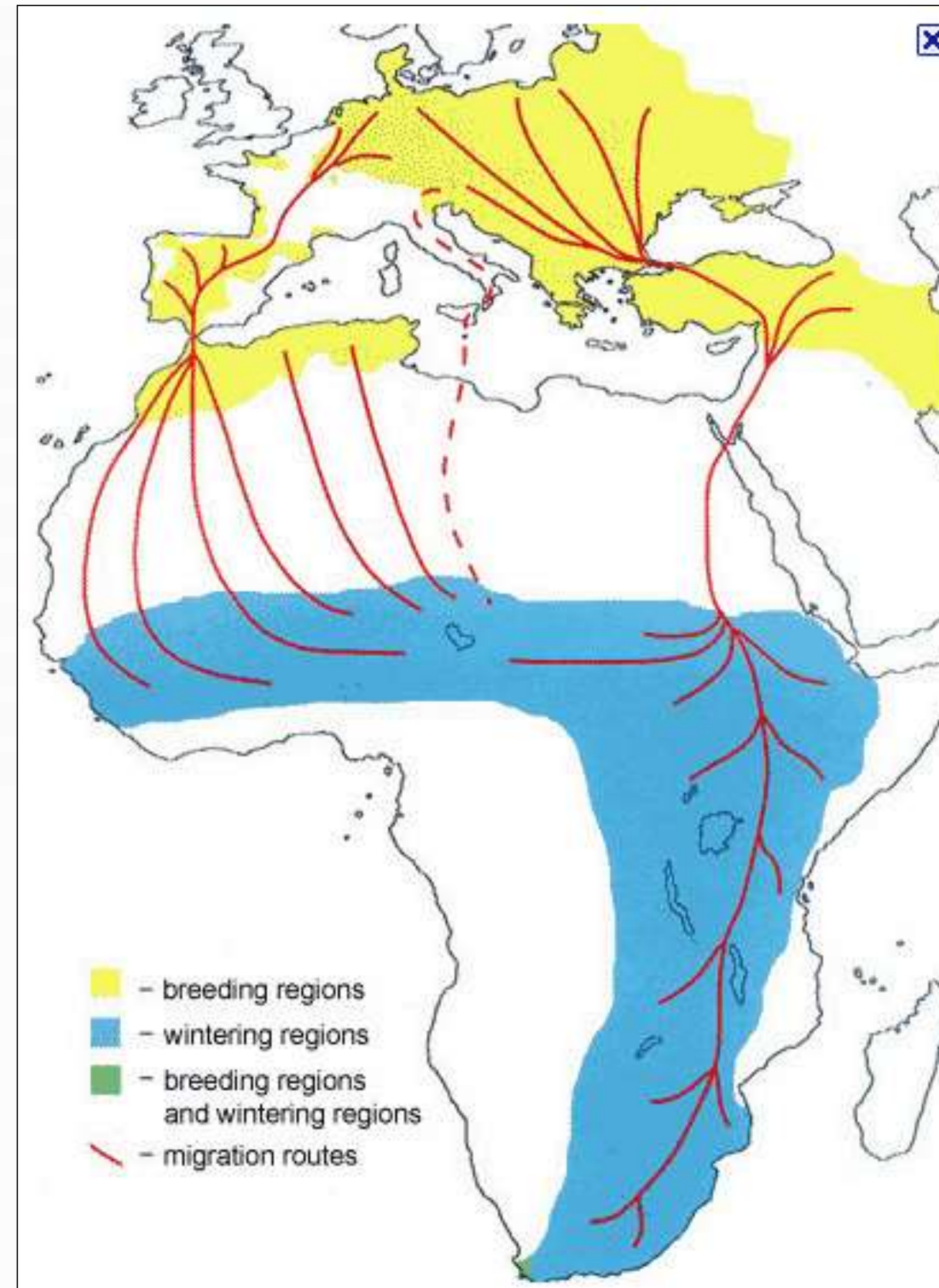
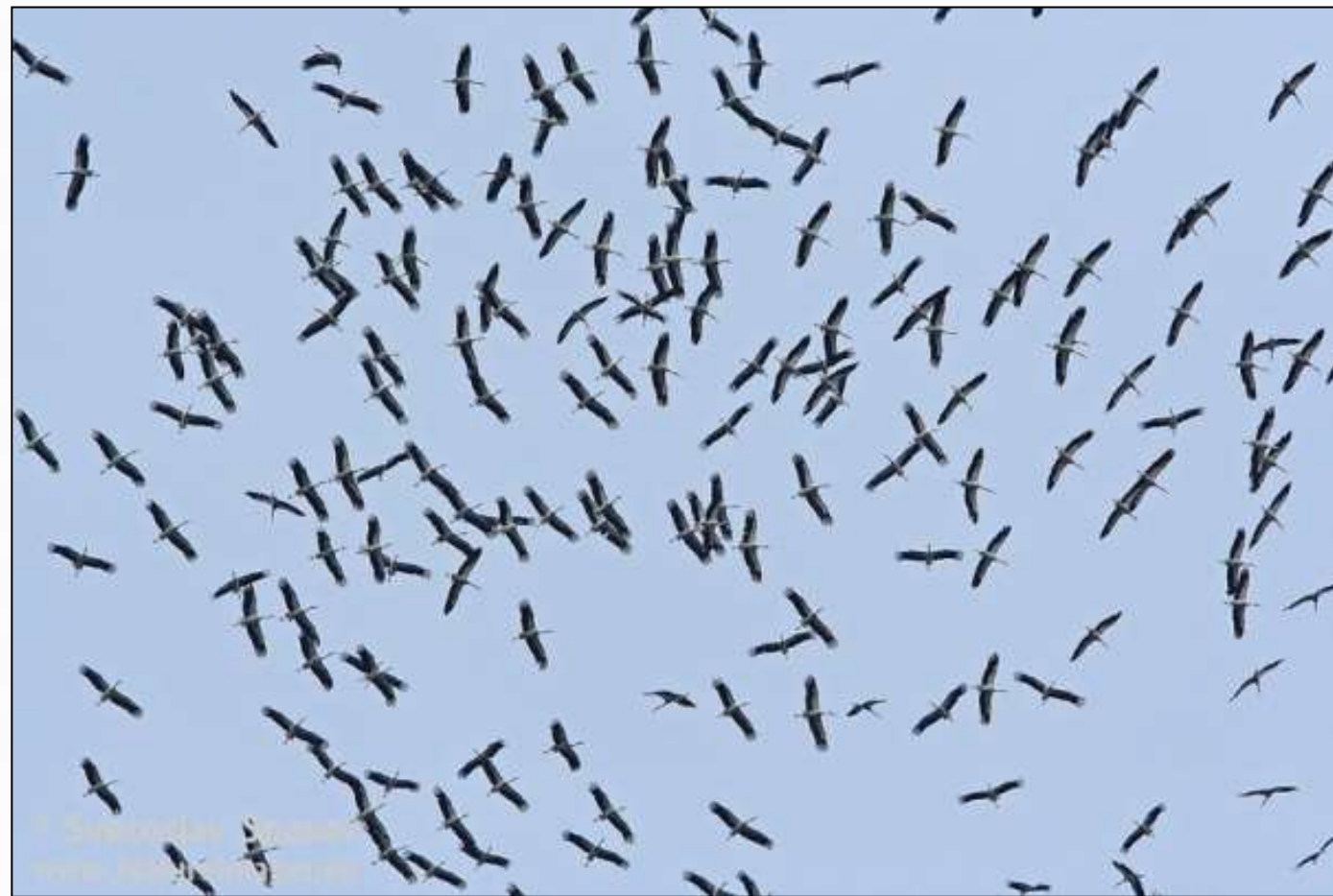
LIFE for the Burgas Lakes project

- Large city with industrial areas
- Dense grid of power lines
- Concentration of large numbers of water birds around the lakes
- Bottleneck site along *Via Pontica* bird migration route





200,000 White Storks cross Bulgaria each autumn





Many of them never leave the country...





60 poles insulated around Burgas Lakes



796 diverters installed to
prevent collision





Summary for the period 2008-2018

Imperial Eagle:

- 2,935 insulated pylons,
- 43 km underground cable,
- 42 km insulated aerial conductor

Saker Falcon

- 440 insulated pylons

Egyptian Vulture:

- 397 insulated pylons

Dalmatian Pelican:

- 60 insulated pylons
- 796 diverters



Summary for the period 2008-2018

Within BSPB projects:

- 3,836 pylons have been insulated
- 796 diverters have been installed
- 42 km bare aerial conductors replaced with insulated ones
- 43 km underground cable replaced 70 km overhead power lines

In total: 477 km of hazardous power lines have been retrofitted in Bulgaria

0,43% of the medium voltage grid!

