



## Reduction in the electrocution of birds on power lines

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### Introduction to the Case Study

The electrocution of birds on 6-10 kV power lines (PLs) is a serious problem in the Daurian steppe in Russia and in other regions of Russia, Mongolia and other countries. Birds are electrocuted mainly on 6-10 kV power lines with non-isolated wires and grounded concrete poles. This impacts many populations of raptors including many rare migratory species of falcons and eagles. Daurisky State Nature Biosphere Reserve and neighboring Daurian steppe areas are important habitats for breeding and migratory Saker Falcon, Steppe Eagle, Golden Eagle and many other rare species of raptor.

### What was done and when and where did you do it?

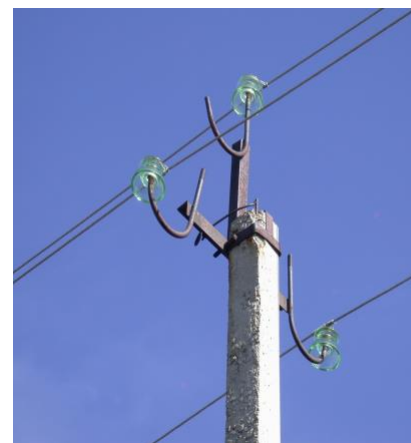
The work was carried out from 2010-2018 in the Daurian steppe region in Transbaikalia, South-East Siberia, Russia.

- In 2010-2012, we inspected more than 200 km of PLs on areas neighboring the Daurisky State Nature Biosphere Reserve. The average density of electrocuted birds was 0.14 dead birds per pillar and we determined that electrocution was the main cause of the serious population decline of globally threatened Saker Falcon (*Falco cherrug*).
- We met with PL owners to discuss our analysis of the PL surveys on damaged birds and our recommendations to eliminate the problem. From 2012, the owners began installing bird protection devices (BPDs - plastic caps covering the isolator and part of the bare wire) on PLs according to our recommendations.
- Since 2013, we have monitored the condition of the BPDs installed and identified shortcomings which the PL owners corrected. The three main problems were: 1) poor quality installation; 2) limited lifespan of BPDs because of the climate of Dauria (very low winter temperatures, intense insolation, and strong winds); 3) poor quality products used by some companies.
- We conducted an inventory of PLs in 7 administrative districts in the region with the highest mortality of birds covering more than 30,000 km<sup>2</sup> classifying the level of danger of PLs. The bird-dangerous PLs cover more than 200,000 km in Dauria so we have developed a schedule for their replacement by BPDs starting from the most dangerous to the least dangerous PLs.



**Dangerous pylons for birds**

Photo: Oleg Goroshko



**Installation of bird protection devices**

Photo: Oleg Goroshko

Identify your main target group for your activity	<ul style="list-style-type: none"> <li>• Power line owners (energetic companies, agriculture companies, mobile communication companies, army, etc.).</li> <li>• Local community.</li> </ul>
What was the result of the action?	<ul style="list-style-type: none"> <li>• Since 2012, the PL owners began installing bird protection devices (BPDs) on PLs in areas neighbouring to the Daurisky Nature Reserve. according to our recommendations.</li> <li>• The works to solve the bird electrocution in the vicinity of the Daurisky Nature Reserve were almost completed by the end of 2016: BPDs have been installed on all dangerous PLs (11 PLs with a total length of about 150 km covering different companies).</li> <li>• Since 2017, according to a court decision, PL owner installed BPDs on <i>all</i> bird-dangerous PLs not only around the Daurisky Nature Reserve, but within all spacious steppe area (more than 50,000 km<sup>2</sup>). BPDs should be installed on approximately 100,000 pillars until 2032 step by step (from the most dangerous PLs to the least dangerous PLs).</li> </ul>
What was the key to success?	During 2012-2018, electrocution mortality of the rare species of raptors was almost eliminated in areas neighbouring to the Daurisky Nature Reserve (about 6,000 km <sup>2</sup> ). In result of this, fast increase of the number of population of globally threatened Saker Falcon has been observed since 2014 in the Daurisky Reserve and its neighbourhood; number of nesting falcons in 2017-2018 was 3 times higher than in 2010-2011.
What was your biggest challenge in achieving success?	Cooperating with PL owners and prevailing upon them to install BPDs willingly without court enforcement.
If the result was not completely successful, what went wrong? What did you do to resolve the problem?	The electrocution of birds is a global threat for birds within huge steppe area in Transbaikalian Region. The Daurisky Nature Reserve can only work towards a solution this problem in the limited area around the reserve. Since 2016, we have been working closely with the regional Chita Interdistrict Environmental Prosecutor's Office to solve the problem of bird electrocution not only in the vicinity of the Daurisky Nature Reserve, but also in the entire Transbaikalian Region. In 2017, the court ordered two main PLs owners (having more 95% PLs) to install BPDs on all dangerous PLs on the territory of nine administrative districts (more than 50,000 km <sup>2</sup> ). The next step is the judicial order of other owners of dangerous PLs and we are preparing documents for this.
If relevant, identify your key sponsors/partners for your activity	Staff of the Daurisky Nature Reserve (partner). The UNDP/GEF project "Improving the system and management of nature protected areas in the steppe biome of Russia" (sponsor) Siberian ecological center (NGO) (partner). Local Government (partner).
How is the Case Study useful for other Partners?	A solution for the mass electrocution problem of birds in the Daurian steppe helped to conserve and restore the Saker Falcon population and other migratory species of raptors. This solution has helped to solve the problem in other regions.
Useful links	<ul style="list-style-type: none"> <li>• <a href="http://www.daurzapoved.com">www.daurzapoved.com</a></li> <li>• <a href="http://savesteppe.org/project/ru/">http://savesteppe.org/project/ru/</a></li> <li>• Goroshko O.A., 2011. Bird Electrocution in the Daurian Steppe (South-Eastern Trans-Baikal Region), Russia. Raptors Conservation 2011, 21: 84-99.</li> </ul>
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