

RESEARCH ARTICLE

Drivers of power line collisions and electrocutions of birds in Nepal

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Abstract

Among the several anthropogenic factors, power lines are increasingly regarded as one of the most significant hazards to bird species, primarily owing to collisions and electrocutions. Nepal has comparatively fewer studies on the impact of power line collisions and electrocution on birds compared with developed nations. From November 2021 to May 2022, we assessed the effect of power line collisions and electrocutions on the mortality of birds in the Putalibazar Municipality of the Syangja district of Nepal. We established 117 circular plots in diverse habitats, including agricultural lands, forests, settlements, and river basins, along a 30.6 km long distribution line. Within 18 plots, we detected 43 fatalities of 11 species (17 individuals of six species due to collision and 26 individuals of eight species due to electrocution). House Swift (*Apus nipalensis*) and Common Myna (*Acridotheres tristis*) were the primary victims of the collision, whereas House Crow (*Corvus splendens*) and Rock Pigeon (*Columba livia*) were frequently observed electrocuted. We also recorded the electrocution of the critically endangered White-rumped Vulture (*Gyps bengalensis*). The total rate of bird power line collisions per kilometer was 0.55 birds, while the total electrocution rate per 10 poles was 2.22. The bird abundance, distance to agricultural regions, and proximity to human settlements were found to have a strong relationship with the mortality of birds caused by power lines. In order to reduce power line collisions and electrocution fatalities, we recommend conducting a detailed bird population study prior to determining the route of distribution lines.

KEYWORDS

agriculture lands, bird mortality, globally threatened birds, settlements, white-rumped vulture

TAXONOMY CLASSIFICATION

Biodiversity ecology

1 | INTRODUCTION

Globally, the development of power lines is expanding significantly. Usually, two types of power lines are constructed, that is,

transmission lines, the high-tension wires that carry electricity with a magnitude larger than 60 kV from the power plant to substations, and distribution lines, the high-tension wires that carry electricity with a magnitude between 1 and 60 kV (APLIC, 2012). Due to their

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Birds And Power Lines Collisions Electrocutions And Breeding

Michael O'Neal Campbell



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