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Short Communication

First sighting of the white-tailed eagle *Haliaeetus albicilla* (Linnaeus, 1758) for Makwanpur District, Nepal

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Abstract

The white-tailed eagle *Haliaeetus albicilla* is a rare winter visitor to Nepal and it has been previously recorded from Chitwan, Kathmandu, Nawalparasi, Bardiya, Sunsari and Kaski districts of Nepal. Here, we present the first-ever record of the white-tailed eagle for the Makwanpur District of Nepal. During the bird survey by line transect method, we observed a single juvenile of the species soaring over the Manahari River on 29 January 2022. Loss of habitat, illegal fishing, human disturbance, extraction of boulders, gravel, sand and water pollution were the major threats to birds observed during the survey period. In order to overcome these threats, conservation awareness programs about the importance of birds, effective law enforcement, and regular monitoring should be carried out in the study area.

Keywords: Line transect survey; Manahari River; Raptor; White-tailed eagle; Winter visitor

1 | Introduction

The white-tailed eagle *Haliaeetus albicilla* is a large-sized bird of prey belonging to the Accipitridae family and is widely distributed in Europe and Asian countries (Birdlife International 2022). It prefers undisturbed rocky cliff, and old large tree stands for breeding and its habitats include large rivers, lakes, and coastal areas (Birdlife International 2022). Primarily, it feeds on fish, water birds, and occasionally on small mammals and carrion (Naoroji 2006; Ekblad et al. 2020). Although the white-tailed eagle is globally categorized as least concern (Birdlife International 2022), it is listed as critically endangered in the National Red Data Book of Nepal (Inskipp et al. 2016). The major threats to the white-tailed eagle encompass habitat loss, loss of roosting sites, persecution, water pollution (waste disposal, pesticides, and poisoning for illegal fishing), over fishing, collision with utility and power lines, and human disturbance (Inskipp et al. 2016; Birdlife International 2022). The white-tailed eagle is a rare winter visitor to India, Pakistan, Nepal and Bangladesh (Rasmussen & Anderton 2005). It has been usually reported from habitats like large rivers and lakes in Nepal (Grimmett et al. 2016). It has so far been recorded from Sunsari, Chitwan, Nawalparasi, Kathmandu, Bardiya, and Kaski districts of Nepal. The species was not recorded from Makwanpur district so far (Inskipp et al. 2016). On this note, we provide the first record of the species from Makwanpur District.

2 | Materials and methods

2.1 | Study area

Bird survey was carried out along the Manahari River located at the Manahari Rural Municipality, Makwanpur District (Fig. 1) on 28–29 January 2022. Manahari Rural Municipality ranges from 27°23'34" to 27°36'37"N Latitude and 84°42'35" to 85°57'36"E Longitude. The study area has a subtropical type of climate with mean annual temperature and precipitaton found to be 17.1 °C and 2274 mm respectively (CBS 2017). The vegetation in the area is characterized by the presence of dominant trees like *Dalbergia sissoo* and

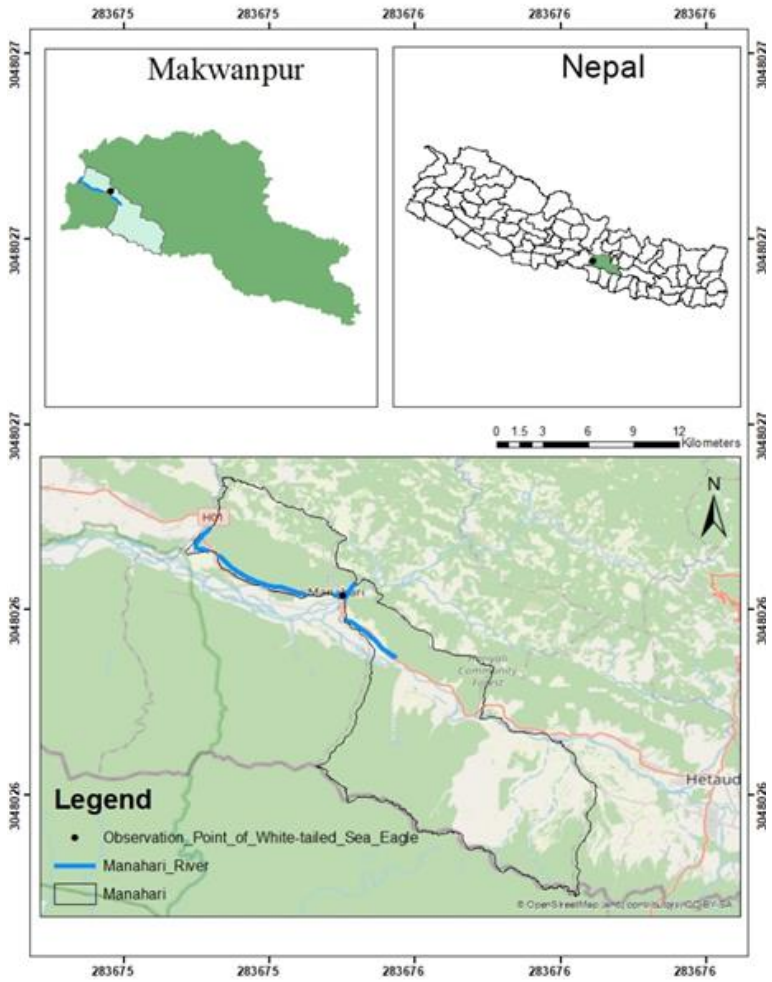

Figure 1. Map showing study area of white-tailed Eagle *Haliaeetus albicilla*

Acacia catechu and the grasses like *Saccharum spontaneum.*

2.2 | Methods

We followed line transect method (Bibby et al. 2000) to survey birds from 7:00 am to 11:30 am using Nikon D7000 for taking photos and Acculon binocular 8×42 for observing birds. The coordinate of the white-tailed eagle presence was recorded with the help of a GPS Garmin eTrex 10.

3 | Results

While conducting a line transect survey of birds on 29 January 2022, a huge bird (Fig. 2) soaring over the Manahari River was sighted exactly at 10:17 am (27˚32' 19" N 84˚48'33" E) on a sunny day. It was soaring along with black kite *Milvus migrans*. It had a pale patch on axillaries, wedge-shaped whitish tail, and dark-edged feathers. At first, we were unable to identify the bird in the field. Later, we consulted with experts by showing photographs, and then it was confirmed to be a juvenile white-tailed eagle. The particular locality where we spotted the white-tailed eagle is characterized by the presence of grass like *Saccharum spontaneum* and forest patches of dominant trees like *Dalgergia sissoo* and *Acacia cathechu* on both edges. Following the past distributional record from the National Red List of Birds of Nepal and consultation with the Bird Conservation Nepal, we claim our record to be the first sighting from the Makawanpur District.

4 | Discussion

There has not been any earlier authentic record of the white-tailed eagle from the Makwanpur District, central Nepal. Our finding concludes that this is the first-ever record of the white-tailed eagle from the Makwanpur District, Nepal. We observed a pale patch on axillaries, wedge-shaped and whitish tail similar to the body structure described by Rasmussen and Anderton (2012) and Grimmett et al. (2016), which confirms it as a juvenile one.

The bird species was found in the Manahari River which is one of the major rivers of Makwanpur District. This is similar to the habitat explained by Grimmett et al. (2016).

Figure 2. A juvenile white-tailed Eagle observed in Manahari River, Makwanpur

Indiscriminate extraction of boulders, gravel and sand lowers the underground water table, thereby, creating the loss of fish and other aquatic birds' habitat (Dahal et al. 2012; Trites et al. 2009). This can be a serious threat to white-tailed eagle as fish and small birds are the major prey for them (Ekbald et al. 2020).

Construction and expansion of transmission lines and wind turbines on a global scale as a renewable energy sources have been the major problem for the white-tailed eagle (Krone et al. 2006; Bevanger et al. 2011). Similarly, lead poisoning and infectious diseases like mycobacteriosis, aspergillosis, and erysipelas are threats to this species (Isomursu et al. 2018). Recently, Nepal has been rapidly expanding its transmission lines along with the construction of new hydropower stations for electricity supply. Mortality of more than ten sarus crane *Grus antigone* (Gosai et al. 2016) and vultures (Rasaili 2022) due to power line collision indicates that birds with large body size are more prone to collision. On this note, existing power transmission network might be more vulnerable resulting injury and death to the species.

5 | Conclusions

Our finding adds new locality record of the white-tailed eagle with photographic evidence from Makwanpur District, Nepal. Extraction of boulders, sand and gravel, fishing and development activities should be done in a sustainable way ensuring a better habitat for birds. In addition, conservation awareness programs about the importance of birds, effective law enforcement, and regular monitoring seem to be crucial in the study area for the proper conservation of such a nationally threatened (critically endangered) species and its habitat. Since the population size of the white-tailed eagle remains poorly known, we recommend further exploration of similar potential habitats for population assessment.

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Authors' contributions

Pradhan, N. conceptualized, collected the data, and supported the writing. Rokka, P. wrote the original manuscript, analyzed the data and prepared the map of the study area. Bajagain, S. and Pradhan, A. reviewed and edited the manuscript. All authors wrote critically to the drafts and gave final approval for the publication.

Conflicts of interest

Authors declare no conflict of interest.

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