

## Project Update: October 2023

I am writing to update you on the progress and future plans for the project entitled "Habitat selection and genetic diversity of the Critically Endangered, White-bellied Heron *Ardea insignis* in eastern Arunachal Pradesh". Due to unrest between the Forest Department and the local people, there was a safety issue at the original time of sampling from November 2022 and were not permitted to enter Namdapha Tiger Reserve. However, we did gain access in February 2023 and have the following updates:

- In February 2023, we surveyed river birds in Namdapha Tiger Reserve. We conducted five surveys in total along the Noa-Dehing and Namdapha Rivers. Each survey had a minimum of two observers. During these surveys, we walked a total of 29.67 km of river sections and recorded the number of individuals of each river bird species encountered.
- We recorded 532 individuals in total belonging to 25 river bird species. We calculated the individual and flock encounter rates for each species, respectively (Table 1). During each survey, on average, we detected 14 river bird species and 106.4 individuals in total. The three most common river birds detected were the great cormorant (*Phalacrocorax carbo*), white wagtail (*Motacilla alba*), and plumbeous redstart (*Phoenicurus fuliginosus*). Of the 25 species, there were seven species for which we only observed one individual each. Regarding species of conservation concern, the Near Threatened river lapwing (*Vanellus duvaucelii*) was seen on two transects with a total of five individuals.
- The white-bellied heron (*Ardea insignis*) was not recorded during these surveys. We detected a single heron outside our rapid survey on our way to the Firm base camp, along the Noa-Dehing River. We observed it feeding and wading through a rocky section of the main river on the opposite bank. It later flew downstream, and we could no longer see it. It is unusual that in this rapid survey of nearly 30 km of sampling effort, not a single white-bellied heron was encountered. In our previous sampling effort in 2017 we had detected six herons in a similar sampling stretch with an effort of 8 km. However, that survey was done in a different season. We plan to determine seasonal changes in river habitat use by herons in the future.
- During this survey effort, we did encounter another Vulnerable species, Asian small-clawed otters (*Aonyx cinereus*; Figure 1) and have written a note which has been accepted by the IUCN SSC Otter Specialist Group Bulletin and will be in the next issue of the journal. The RSG received for this project has been acknowledged in the same. The citation for the paper is: Menzies, R.K. (2023). An update on Asian Small-clawed Otters (*Aonyx cinereus*) from Namdapha Tiger Reserve, Arunachal Pradesh, India. *IUCN Otter Specialist Group Bulletin*, 40(4). Accepted." I will share the publication with you as soon as it is made available.
- We plan to have regular repeated surveys of the rivers for white-bellied heron both inside and outside the protected area of Namdapha and Kamlang Tiger Reserve. We will survey from November 2023 to March 2024 to determine the seasonal and monthly variations in the species presence, abundance, and the changes to the habitat characteristics. By understanding the natural changes to the riverine habitats, we will also be

able to determine the impact of anthropogenic activities on these resources and the subsequent impact it will have on river birds. A clear understanding of these associations between the river bird species and the riverine habitats will also help inform conservation strategies, especially for extremely threatened species like the white-bellied heron.

**Table 1:** The details of the total number of sightings for each bird species (n = 25) recorded during the 5 river surveys in Namdapha and Dehing Rivers, with the encounter rate indicating the number of birds per kilometre from the total effort (29.67km) in February 2023, Namdapha Tiger Reserve.

Species	Scientific Name	Conservation Status	Total Sightings	Flock Encounter Rate (per km)	Individual Encounter Rate (per km)
Great Cormorant	<i>Phalacrocorax carbo</i>	LC	252	1	8.49
White Wagtail	<i>Motacilla alba</i>	LC	62	1	2.09
Plumbeous Redstart	<i>Phoenicurus fuliginosus</i>	LC	61	1	2.06
White-capped Redstart	<i>Phoenicurus leucocephalus</i>	LC	20	1	0.67
Blue Whistling-Thrush	<i>Myophonus caeruleus</i>	LC	15	0.8	0.51
Common Kingfisher	<i>Alcedo atthis</i>	LC	15	0.8	0.51
Crested Kingfisher	<i>Megaceryle lugubris</i>	LC	15	1	0.51
Striated Heron	<i>Butorides striata</i>	LC	15	0.8	0.51
Eurasian Wigeon	<i>Mareca penelope</i>	LC	11	0.4	0.37
Black Stork	<i>Ciconia nigra</i>	LC	10	1	0.34
Brown Dipper	<i>Cinclus pallasii</i>	LC	10	0.8	0.34
Common Merganser	<i>Mergus merganser</i>	LC	10	0.2	0.34
Indian Pond-Heron	<i>Ardeola grayii</i>	LC	6	0.6	0.20
Blue Rock-Thrush	<i>Monticola solitarius</i>	LC	5	0.6	0.17
River Lapwing	<i>Vanellus duvaucelii</i>	NT	5	0.4	0.17
Ruddy Shelduck	<i>Tadorna ferruginea</i>	LC	5	0.2	0.17
Hodgson's Redstart	<i>Phoenicurus hodgsoni</i>	LC	4	0.6	0.13
Little Forktail	<i>Enicurus scouleri</i>	LC	4	0.4	0.13
Eastern Spot-billed Duck	<i>Anas zonorhyncha</i>	LC	1	0.2	0.03
Ibisbill	<i>Ibidorhyncha struthersii</i>	LC	1	0.2	0.03
Osprey	<i>Pandion haliaetus</i>	LC	1	0.2	0.03
Pied Kingfisher	<i>Ceryle rudis</i>	LC	1	0.2	0.03
Spotted Forktail	<i>Enicurus maculatus</i>	LC	1	0.2	0.03
White-tailed Eagle	<i>Haliaeetus albicilla</i>	LC	1	0.2	0.03
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	LC	1	0.2	0.03



**Figure 1:** A pair of Asian Small-clawed Otters seen feeding at the Namdapha Tiger Reserve.



Images of the river bird surveys and field sampling.



Images of the landscape and habitat along the rivers of Namdapha Tiger Reserve.