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**Effect of Anthropogenic Disturbances on Critically Endangered, Black-Necked Stork in Kumana National Park**

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**Abstract**

Black-necked stork (*Ephippiorhynchus asiaticus*) (BNS), is a Critically Endangered bird species in Sri Lanka inhabiting the south-eastern coastal areas. Being the tallest bird found on the island, it stands as one of the most remarkable waterbird species. A thorough study was undertaken from August 2022 to April 2023 in Kumana National Park with the intention of identifying the degree of anthropogenic disturbances faced by this species. Vehicle noise and speed were measured along transects in all road-accessible habitats. Additionally, the range finder (Bushnell 1700) was used to measure the distance between vehicles and the birds. The study documented all behavioural responses of BNS, whether the birds habituated to the vehicle noise and the speed or chose to escape. Only three individual birds were observed within the confines of the park. The Black-necked storks habitually encountered average noise levels of  $(59.65 \pm 0.704)$  dB and vehicle speed of  $(27.70 \pm 4.59)$  kmh<sup>-1</sup>. They could escape, experiencing noise levels of  $(72.30 \pm 1.14)$  dB and vehicle speeds of  $(41.60 \pm 2.09)$  kmh<sup>-1</sup>. The average habituate and escape distances of BNS were  $(147.4 \pm 12.1)$  m and  $(55.45 \pm 1.99)$  m, respectively. The BNS displayed alertness in response to the noise and the speed of jeeps up to a distance of 250 m. This heightened alertness might be attributed to their tall stature, which affords them a broader field of vision in open areas. Black-necked storks were not observed habituating to jeeps. These findings illustrate the impacts of human disturbances on the behaviour of this critically endangered bird whose population is at its lowest within the park. Consequently, it is crucial to focus on management implications for their survival. This includes continuous monitoring and research, visitor education and awareness, implementing buffer zones, and enforcing limitations for visitors inside the parks.

**Keywords:** Black-necked stork, Anthropogenic disturbances, Conservation