

Indian Skimmer (Rynchops Albicollis) As Pollution Indicator

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Abstract

The Indian Skimmer Rynchops albicollis is an endemic and the threatened bird and falls in the vulnerable category of the Bird Life-IUCN. It majorly acts as a pollution indicator. The Important Bird and Biodiversity Area (IBA) has been studying these species because it act as ecoindicator.

Keywords: - *Rynchops albicollis, Important Bird and Biodiversity Area (IBA), Indian Skimmer, ecoindicator, bird*

INTRODUCTION

Bird ringing has therefore been part of this analysis. Indian Skimmer and other riverine birds like the Black-bellied Tern *Sterna acuticauda*, Little Tern *Sternula albifrons*, Small Pratincole *Glareolalactea*, Black-winged Stilt *Himantopus himantopus*, the River Lapwing *Vanellus duvaucelii*, Great Thick-knee *Esacus recurvirostris* and the River Tern *Sterna aurantia*, totaling 203 birds, were ringed from May to July 2018. The birds were marked with numbered metal ring and the colored flag (white flag with alpha numeric number engraved in red colour).

In January 2019, we observed that a few of the ringed skimmers have started returning to the ringing sites in Sanctuary. The tome “Important Bird Areas in India” was released in October 2004 by the Minister of Environment and Forests, Government of India; and later it was released in many of the states and distributed to the Forest Department officials and the individuals who had contributed during the IBA selecting process. Have been many reports, analysis and publications on sites which are IBAs without mention of the IBA status (Debata et al., 2017).

STRATEGIES TO PROTECT IBA

To protect IBAs and the threatened bird species, we need grass-root support. As a first step, need more IBCN partners/members, spread among the civil society. Presently, and have about 800 members and about 80 institutional partners (Dilawar et al., 2016).

The Indian Skimmer *Rynchops albicollis* is an endemic and the threatened bird and falls in the vulnerable category of the Bird life-IUCN. Once delineated to be an extremely common bird in upper India, both its range and the number have declined rapidly with an estimated population of 11,000 individuals (Fausch et al., 2002). The major causes of its population decline are destruction and fragmentation of its habitat, because of the anthropogenic pressures. Here the researchers delineate our observation on a yet another threat to the bird – House Crow *Corvus splendens*. Presently the Indian Skimmer is confined to the main river systems of north India viz; Chambal and Ganga (Habib et al., 2010). The Indian Skimmer has been observed at Narora (28° 14' 15" N, 78° 24' 17" E) in Uttar Pradesh, some 121 km from Delhi. Narora, located on the right bank of the Ganga, is

an IBA (IBA Criteria A1, A4iii) (Fig: 1). Recently Narora has been declared the Ramsar site – a wetland of international importance. Narora is also an Important Bird Area (IBA) (Mathur et al., 1991). Narora is home to the large number of birds, both resident and migratory, the turtles, the Marsh crocodile, the Gharial, the Gangetic Dolphin, and others. There are several other bioindicators like lichens, *Wolbaschiasp* (Sreeremya et al., 2017).

Narora is also the site for the India's fourth atomic power station, Narora Atomic Power Station (NAPS) (Mathur et al., 2006). Two large canals, forming one of the north India's biggest and perhaps the oldest irrigation systems originate from Narora barrage. It has been observed that during the pre- and post-monsoon surveys, the total population of the Indian Skimmer was quite scattered throughout the river course (Anupshahr – Narora-Kachla, ~ 75 km of river stretch) mostly in groups of 1-4 individuals. Post monsoon surveys during 1999-2000 in the downstream, in Narora – Kachla stretch (~47 Km downstream of Narora barrage) the population of the Indian skimmer was estimated to be, on an average of 3.24 individuals per km (Müller et al., 2010).



Figure:-1

This population was observed mostly on the semi-submerged sandbars. However, during November-April period the total population of the Indian Skimmer was found to vary between 12-25 individuals, mostly in the groups on the sand-islands and sandbars, which dot the river Ganga. For the Indian Skimmer was carried out under the further study on the breeding behavior of the bird, in and around the Exclusion Zone of NAPS. The study and analysis is being conducted under the Environment Stewardship Programme (ESP), the voluntary activity of Nuclear Power Corporation, Ltd. The downstream of the river, which is very much difficult to negotiate due to very low water levels and presence of loose sand, and was extensively surveyed. A large variety of birds and a congregation of 44 individual

Indian Skimmers were spotted on the sand-islands (Pimm et al., 2015). This bird population was much bigger than that observed in the past. Some other birds found in the area encompassed, the Little Cormorant *Phalacrocorax niger*, the Grey Heron *Ardea cinerea*, Little Egret *Egretta garzetta*, the Painted Stork *Mycteria leucocephala*, the Black necked Stork *Ephippiorhynchus asiaticus*, the Black Ibis *Pseudibis papillosa*, the Eurasian Spoon bill *Platalea corodia*, the Spotbilled Duck *Anas poecilorhyncha*, the Sarus Crane *Grus antigone*, the Little Ringed Plover *Charadrius dubius*, the Great Stone-Plover *Esacus recurvirostris*, the Small Pratincol *Glaeolalactea*, the River Tern *Sternaurantia*, the Black-bellied Tern *Sternaacuticuda*, and the Whiskered tern *Chlidonias hybridus*. Indian Skimmer was

found to be carrying out the nesting along with the River Tern, on some islands towards the second half of February 2007 (Rajguru, 2017). The first nest of the Indian Skimmer was observed on April 4, 2007. The nest had a clutch size of 2. Another survey reported and resulted in the discovery of about 38 individuals on the island. The nesting colony at the island was shared among the Indian Skimmer, the Small Indian Pratincole and the River Tern. In all 18 nests of Indian Skimmer were observed on the island. The nests of the Indian Skimmer were observed and assessed on the outer periphery of the Island (near water) whereas the nests of the River Tern and the Small Indian Pratincole were found in the middle of the island, mainly camouflaged with the small grass.

Binocular observations from the distance revealed that the nests were intact and the clutch size varied between 1 and 4. Often the nests were attacked by the small flock of crows (5-6) but the Indian Skimmer and other birds in the colony chased them out and specifically defended their nest. April proved to be an eventful day (Rao et al., 1987). A storm hit the terrain at the time of observation (~0600 hrs). The storm converted into the sandstorm in the island, due to the presence of loose sand. The

intensity of the wind aggrandized significantly, reducing visibility and even making the breathing difficult. The surface sand-temperature (taken at another similar island) in the morning was 32.20 C, rising to 38.60 C at 0900 hrs and 52.90 C at about 1200 hrs. The air temperature at this moment was about 42.0 C and the temperature of the river water was about 31.0 C. Several birds were sprinkling water on the eggs, so characteristic of the Indian Skimmer. Around that time the large flock of House Crows (~90-100) attacked the main colony (Andheria, 2003).

A flock of 12 Indian Skimmers *Rynchops albicollis* observed in March; they were displaying the gregarious flocking behavior, indulging in open-wing displays, and occasionally skimming the water near a vast sand island upstream of the TWLS. This island is nearly 180 km from the newly located nesting grounds of the skimmer in the Ganga River, upstream of the Allahabad, near the Ganga-Yamuna confluence (Bayani et al., 2017).

Though once widespread, quite few breeding sites are currently known for this species from India. Seven pairs of Little Terns *Sterna albifrons*, and the five pairs of Indian Skimmers were observed nesting on the island on 08 May 2018.

Subsequently, two pairs of Indian Skimmers were seen with two chicks each, active near the edge of the sand island on 27 June 2018. The researchers ensured the safety of the birds on the island by following standard methods for studying and assessing the breeding biology of avian species. Researchers approached the island once, to aid understand additional aspects of the skimmer's breeding, and the nests and chicks were not disturbed during the course of the photography. Three nests had clutches three to five eggs that were dark brownish cream, and had dark chocolate brown blotches, as observed by the researchers in mature eggs. The cryptic chicks were specifically found hiding in the shallow scrapes, at the edges of the water, making detection difficult, thus protecting themselves from the predators (Chinchkhede et al., 2013).

CONCLUSION

Indian Skimmer *Rynchops albicollis* is mainly seen besides the Ganges River. It acts as a bioindicator, the population of Indian skimmer is less in polluted areas, thus acting as an ecoindicator. Several other properties are discussed in this paper.

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