

Breeding status of Indian Skimmer *Rynchops albigollis* in the National Chambal Sanctuary, India

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Abstract

Even though the Indian Skimmer *Rynchops albigollis* is listed as a 'Vulnerable' species, and its population is declining rapidly as a result of widespread degradation and disturbance of lowland rivers and lakes, it is one of the least studied species in India. India holds the only known remaining breeding grounds for this species. Its best-known nesting site is the National Chambal Sanctuary, India, where I conducted a survey from 17 to 30 May 2013 with the aim of identifying and collecting information on its breeding colonies. A total of ten breeding sites were identified, and 92 nests recorded, during the survey, from six localities. The maximum number of nests was recorded from a small island in Ater, Etawah. Intensive sand mining is a threat that directly affects nesting.

Introduction

The population of the Indian Skimmer *Rynchops albigollis* is declining rapidly as a result of widespread degradation, and disturbance, of lowland rivers and lakes, and therefore it is listed as Vulnerable (BirdLife International 2014). Its present global population is estimated at 6,000–10,000 mature individuals. It was formerly widely distributed across the Indian Subcontinent, along the major rivers of Myanmar, and along the Mekong in Indo-China. Today, small numbers are present in Pakistan, it is known from only three localities in Myanmar, and the species is extinct in the Mekong Delta (Sundar 2004). It is a rare visitor to Nepal. At present, the last strongholds of the Indian Skimmer are India, and Bangladesh. Bangladesh has an important role in its conservation, as a large population of skimmers winters on its coast (Mohsanin 2014). India holds the only remaining breeding grounds for this species. In India it is mainly confined to the major

river systems of northern India, notably the Chambal-, and Ganges Rivers (Ali & Ripley 1987; Grimmett *et al.* 1998; Rasmussen & Anderton 2012.). It is one of the least studied species in India (Rahmani 2012). Detailed information on its ecology, breeding biology, and local movements are lacking.

Narora (28.24°N, 78.26°E), in Uttar Pradesh, India, is a known nesting site (Siddiqui *et al.* 2007), and Raja Mandal, an employee of the Narora Atomic Plant, informed me that he observed 12 Indian Skimmer nests there in 2013 (Raja Mandal, *pers. comm.*, 2013). However, the best-known nesting site is the National Chambal Sanctuary (NCS) (Sundar 2004) where I conducted a survey from 17 to 30 May 2013 with the aim of identifying and collecting information on breeding colonies of Indian Skimmer. NCS is a 5,400 km² tri-state protected area in northern India that was mainly established to protect the critically endangered gharial *Gavialis gangeticus*, red-crowned roof turtle *Batagur kachuga*, and the endangered

Ganges River dolphin *Platanista gangetica* (Islam & Rahmani 2004). Within the sanctuary the pristine Chambal River cuts through a maze of ravines and hills with many sandy beaches.

Methods

I used a motorboat to search for nests, and investigated potential spots on foot, along a 10 km stretch of the river. Precautions were taken not to disturb birds, by observing them from a distance, through binoculars,



Fig. 1. Showing the breeding sites of Indian Skimmer found in this study (Green flags) and previous breeding sites, which have been abandoned in recent years (Red flags). Map: Google.

and visiting the sites infrequently. This was supplemented with a study of historical records, and by collecting recent local information from reliable sources.

Results

Breeding sites

A total of ten breeding sites were identified including a few historical records (Fig. 1). A total of 92 nests were recorded during the survey from six sites. Two historical sites, Puren, and Barendra, have seen no breeding activities in recent years (R. K. Sharma, *pers. comm.*, 2013). Two other historical sites were recently active: 16 nests were found in Nadigaon in 2012 (R.K. Sharma *pers. comm.*, 2013), and 45–50 nests were reported at Bareh in 2000 (Sundar 2004), but both these were found to be empty during this survey.

Among the breeding sites in NCS, Rajghat is well known, and is often reported in national newspapers. The highest number of nests here was recorded from a small island in Ater, Etawah. Here 48 adult skimmers were seen, and out of 82 nest depressions there were 30 active nests containing 51 eggs, and 55 chicks on 23 May 2013. Ater is comparatively less disturbed by anthropogenic activities, and cattle grazing, because the surrounding water is deep, and the island is located far from the banks. Ussedghat is another breeding site where four nests were seen at the onset of breeding season but according to a forest official none survived.

Discussion

Breeding: Most skimmer nests were mere scoops in the sand, with eggs laid directly on the sand, as is typical for the species (Zusi 1996). I observed three skimmer nests on heavy gravel mixed with sand in Rajghat, while all other nest sites were on plain sand. Nests of Little Tern *Sterna albifrons*, and Small Pratincole *Glareola lactea* were also found near to the Indian Skimmer nests in Ater.

At Rajghat five nests were located during my survey, of which four had already been completed when found. On 25 May 2013 I watched a pair of skimmers scoop out a shallow nest in the sand by shifting it back and forth with their breasts, and sweeping side movements with their wings, thus hollowing out a cup, on a tiny island (c. 3x4 m) at Rajghat. On 28 May this nest had one egg. Both parents attended the nest, and frequently (c. 10 min. intervals) changed places to incubate the egg. The birds left the nest, skimmed over the water, and returned to it with wet breasts, perhaps to lower the temperature in the nest when they settled on the egg.

Four completed nests, each with four eggs, were found at the outset of the survey, of which one successfully hatched chicks. In that nest one egg failed to hatch. Three chicks hatched on three consecutive days (18–20 May); all three survived until the end of the survey. Two nests suffered from being trampled upon, and one was abandoned.

Threats: I found similar threats and disturbances to those mentioned by Sundar (2004), but on a larger scale. The river had dried up considerably, so nests were easily accessible to people, and domestic animals such as dogs and cattle; except at Ater, which was surrounded by deep water. I also found trampled eggs, as did Sundar (2004). Sand mining is a new threat, which has dire consequences, as it directly affects nest survival. It is crucial that sand mining ends on nesting islands, and that deep

Table 1. Breeding sites of Indian Skimmer at National Chambal Sanctuary with the number of nests recorded in 2013

| Site | Co-ordinates | Status | Number of nests |
|---------------|------------------|----------|---|
| Palighat | 25.86°N, 76.26°E | Active | 01 |
| Nadigaon | 26.18°N, 77.57°E | Active | 16 were recorded in 2012 (Source: R. K. Sharma) |
| Tigri-Rithora | 26.69°N, 77.99°E | Active | 02 |
| Ussedghat | 26.86°N, 78.32°E | Active | 04 |
| Rajghat | 26.66°N, 77.93°E | Active | 06 |
| Gorkha | 26.66°N, 77.97°E | Active | 03 |
| Ater, Etawah | 26.77°N, 78.62°E | Active | 82 |
| Bareh | 26.53°N, 79.14°E | Inactive | – |
| Puren | 26.76°N, 78.11°E | Inactive | – |
| Barendra | 26.82°N, 78.26°E | Inactive | – |

flowing water is maintained, so that these islands remain isolated by the barrier created by water, throughout the breeding season. Predation by House Crow *Corvus splendens* is another threat documented in Narora (Siddiqui *et al.* 2007).

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