

# Status and distribution of Black-bellied Tern *Sterna acuticauda* in Gujarat

**Devvratsinh Mori:** Ecology, Environment and Climate Change Cluster, School of Arts and Science, Ahmedabad University, Ahmedabad 380009. devvratsinhmori@gmail.com

**Kartik Upadhyay:** 1/101 Avni Residence, Near Bansal Super Market, Gotri-Vasna Road, Vadodara. kartik\_upadhyay35@yahoo.com

## Introduction

The Black-bellied Tern (*Sterna acuticauda*) is found in Pakistan (River Indus) and towards the east in the major river systems of East to Central India, the Assam Valley, and to Bangladesh. It is now sporadic in S China (W Yunnan), Nepal, and Myanmar, and probably extinct in Cambodia, Laos, NW Thailand, and S Vietnam. Historical reports from SW Afghanistan (Seistan) probably refer to Whiskered Tern (*Chlidonias hybrida*); it is also doubtfully reported from Lasbela (SW Pakistan) and Baluchistan (Rasmussen & Anderton 2012).



Photo: Devvratsinh Mori

In India, the species is believed to be widespread on large rivers, extending from Gujarat, eastward to Arunachal Pradesh, and Punjab in the north to old Andhra Pradesh (now Telangana & Andhra Pradesh) in the south. It is a winter visitor to Kerala, and some parts of southern India (Grimmett *et al.* 2011, Rahmani 2012, Palei 2015). Birdlife International (2022) considers the species as 'Endangered' on a global scale as its population is roughly 6,700 – 17,000 mature individuals in the wild. However, a re-assessment is urgently needed as the species is somewhat less studied in many parts of its range.

## Identification

The Black-bellied Tern is similar to three other tern species: River Tern (*Sterna aurantia*), Whiskered Tern and Common Tern (*Sterna hirundo*). Here, we discuss the basic Identification features of Black-bellied Tern based on field experience and available literature/reference books. The Black-bellied Tern is a small-sized, typical, elegant tern. The breeding adult looks striking with long deep orange bill and legs, pale upperparts, dark black cap and belly, white lores and a deeply forked tail (with greyish outer webs). The wings show dark trailing edge to primaries from above and below. The non-breeding adult

has pale greyish upperparts, and orange bill with a dark tip. The Black-bellied Tern is slightly smaller than River Tern. The bulkier River Tern can be similar but averages shorter- and thicker-billed, lacks black belly in breeding plumage, and has patchier black on the head in non-breeding plumage. The long orange bill separates this species from Whiskered Tern while the Common Tern too has a different bill. The Black-bellied Tern in non-breeding plumage often shows a dark eye-stripe and black on the belly is less or can be absent. However, structurally, it is different from Whiskered Tern and Common Tern and if good photographs are obtained, the identification is fairly easy.

## Historical records from Gujarat

Ali (1954) collected specimens of Black-bellied Tern from Kheda District, and reported it from the Orsang River near Bodeli; he stated that its status is uncertain but it was probably resident and breeding 'on the sandbanks of some of the rivers'. Dharmakumarsinhji (1955) also gave it as a 'resident and local migrant', stating that he saw a pair or two nesting in the company of a colony of River Terns; the location of the nests is not mentioned but was presumably from Saurashtra. Khachar (1996) stated that it bred with River Terns at Jasdan, Saurashtra. Breeding of Black-bellied Tern was recorded in 1980 and 1982 at Bortalav, Bhavnagar (Raju Vyas, *pers. comm.*). Ganpule (2016) gave it a 'rare? probably migrant' and as 'probably overlooked in non-breeding plumage' with sightings from Jamnagar and Porbandar. In the recent reference texts, Kazmierczak (2000) and Grimmett *et al.* (2011) have shown it as an uncommon resident in almost entire Gujarat while Rasmussen & Anderton (2012) have shown it as resident only along the Narmada River in southern Gujarat.

## Sightings

The authors recorded this species at different locations in Gujarat, between March 2021 and January 2023. The first author saw two Black-bellied Terns near Bharuch, southern Gujarat, on 12 March 2021, at around 10:30 hrs. He did not have a camera with him at that time and the birds were flying around. The second sighting was on 1 May 2022, at around 11:05 hrs when both authors were visiting Sukhi Dam near Ratanmahal Sloth Bear Sanctuary, along with Bhavanisinhji Mori. A few record photographs were taken. The light conditions were excellent and after some time, it flew towards

**Table 1: Records of Black-bellied Tern from Gujarat (2013 till January 2023)**

Sr No.	Date	Location	Observer	Source	Reference
1	Not available	Jamnagar			Ganpule (2016)
2	Not available	Porbandar			Ganpule (2016)
3	August 2013	Surat	Vijayendra Desai	FB	Desai (2013)
4	25 February 2018	Bharuch	Kandarp Andharia	BOG	Andharia (2018)
5	26 October 2019	Karai Siphon, Gandhinagar	Ayaz Mansuri	BOG	Mansuri (2019)
6	27 October 2019	Karai Siphon, Gandhinagar	Raaz Kasi	BOG	Raaz (2019)
7	27 October 2019	Gandhinagar	Jay Patel	BOG	Patel (2019)
8	10 November 2019	Sant Sarovar, Gandhinagar	Tushar Tripathi	eBird	Tripathi (2019)
9	24 November 2019	Zadeshwar, Bharuch	Sandip Modi	BOG	Modi (2019)
10	15 December 2019	Little Rann of Kachchh	Mittal Gala	eBird	Gala (2019)
11	4 October 2020	Hansot Road, Bharuch	Parthiv Agola	BOG	Agola (2020)
12	17 February 2021	Nareshwar, Bharuch	Manish Kumar Chattopadhyay	BOG	Chattopadhyay (2021)
13	10 March 2021	Narmada River, Bharuch	Pankaj Maheria	BOG	Maheria (2021)
14	12 March 2021	Narmada River, Bharuch	Devvratsinh Mori	Author's sighting	<i>pers. observation</i>
15	20 March 2021	Narmada River, Bharuch	Viral Patel	BOG	Patel (2021)
16	19 October 2021	Nilkanteshwar Temple, Bharuch	Dhyey Shah	eBird	Shah (2021)
17	February 2022	Bharuch	Ajith Kumar	FB	Kumar (2022)
18	30 April 2022	Bharuch	Saswat Mishra	eBird	Mishra (2022)
19	1 May 2022	Sukhi Dam, near Ratanmahal WLS	Devvratsinh Mori & Kartik Upadhyay	Author's sighting	
20	25 July 2022	Karajan, near Baroda (Rescued)	Patel M	<i>pers. comm.</i>	
21	1 August 2022	Karajan, near Baroda	Patel M	<i>pers. comm.</i>	
22	20 August 2022	Karajan, near Baroda	Patel M	<i>pers. comm.</i>	
23	12 November 2022	Karajan, near Baroda	Patel M	<i>pers. comm.</i>	
24	3 December 2022	Karajan, near Baroda	Devvratsinh Mori & Kartik Upadhyay	Author's sighting	
26	11 December 2022	Karajan, near Baroda	Patel M	<i>pers. comm.</i>	
27	20 December 2022	Karajan, near Baroda	Devvratsinh Mori & Kartik Upadhyay	Author's sighting	
28	8 January 2023	Valvod Dam	Devvratsinh Mori & Kartik Upadhyay	Author's sighting	
29	11 January 2023	Fichwada	Patel M	<i>pers. comm.</i>	
30	23 January 2023	Karajan, near Baroda	Patel M	<i>pers. comm.</i>	
31	Not available	Baroda	Not available		eBird

a small island where a breeding colony of River Terns was present. Attempts to relocate it on the same evening were unsuccessful. Based on the photographs, the identification was easy as the bird was in breeding plumage. The third sighting was at Karjan (21° 56' 54.5" N, 73° 15' 25.3" E), at our birder friend Mital Patel's farm. We saw seven different individuals between 07:30 hrs and 18:30 hrs at a few fish ponds which this species frequently visits. The bird was pretty familiar with our presence at the time. We took some good photos from a safe distance. The birds arrive at the fish farm at around 07:00 hrs and catch fish and insects. They are seen till about 18:00 hrs,

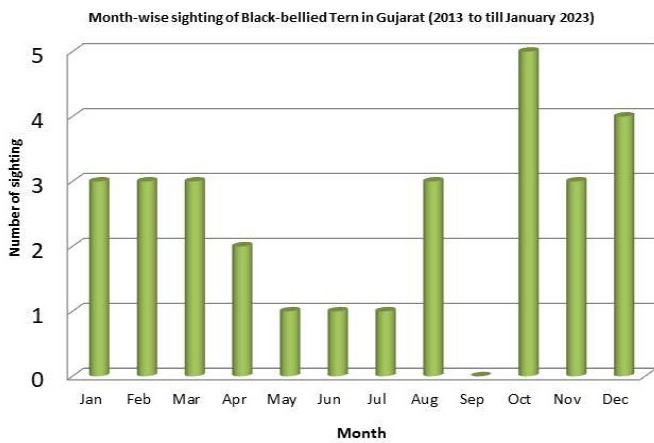
after which they fly towards the Narmada River, which is about one km away. This is most likely the best place to watch the Black-bellied Tern in Gujarat.

Since this species is endangered and there are very few recent sightings from Gujarat, we attempted to collect recent records of the Black-bellied Tern from Gujarat. We have tried to collect maximum published records and sight records, which are given in Table 1. Photographs posted on different websites and on the social media were searched to consolidate information about its current status in Gujarat. It is possible

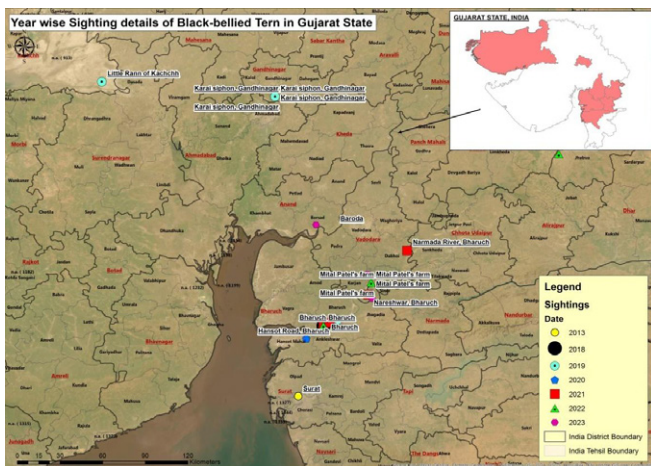


that we may have missed some sightings which have not been shared by birdwatchers online. The records of this species from 2013 till January 2023 are listed in the Table.

Based on these sightings collected from 2013 till January 2023, the maximum sightings are in the month of October. See Graph 1 for details of month-wise sightings of Black-bellied Terns from Gujarat. Map 1 gives the locations from which the Black-bellied Terns have been noted recently in Gujarat.



Graph-1: Month-wise sightings of Black-bellied Tern in Gujarat (2013 till January 2023)



Map 1: Distribution of Black-bellied Tern in Gujarat (2013 till January 2023)



Photo: Devvratsinh Mori

**Discussion**

The Black-bellied Tern is one of the 16 species of terns occurring in Gujarat (Ganpule 2020). Based on the sightings collected by us, it can be seen that there are only infrequent sightings of this species in Gujarat and that the majority of the sightings are from 2019 onwards – it is likely that bird watchers are on the look-out for this tern now due to its rarity. It is somewhat regularly seen only along the Narmada River in southern Gujarat while there are sporadic sightings from Saurashtra. There are no recent records of this species from mainland Kachchh and northern Gujarat. The sighting from Sukhi Dam is significant as this is a new location from where the species has been noted. The Sukhi Dam was constructed over the Sukhi River in Chhota-Udepur. This dam was built in the village of Sagadhra to manage the water of the river for irrigation purposes. The Sukhi River is a small tributary of the Narmada River, and the area surrounding Sukhi was flood-affected before the construction of this dam. There is a confluence of the Sukhi and Bharaj Rivers near the villages of Sagdhra and Khos in Pavi-Jetpur and Chhota-Udepur Taluka, respectively, of Vadodara District (Bhavsar 2015). There is good avian diversity in this area as we saw and recorded more than

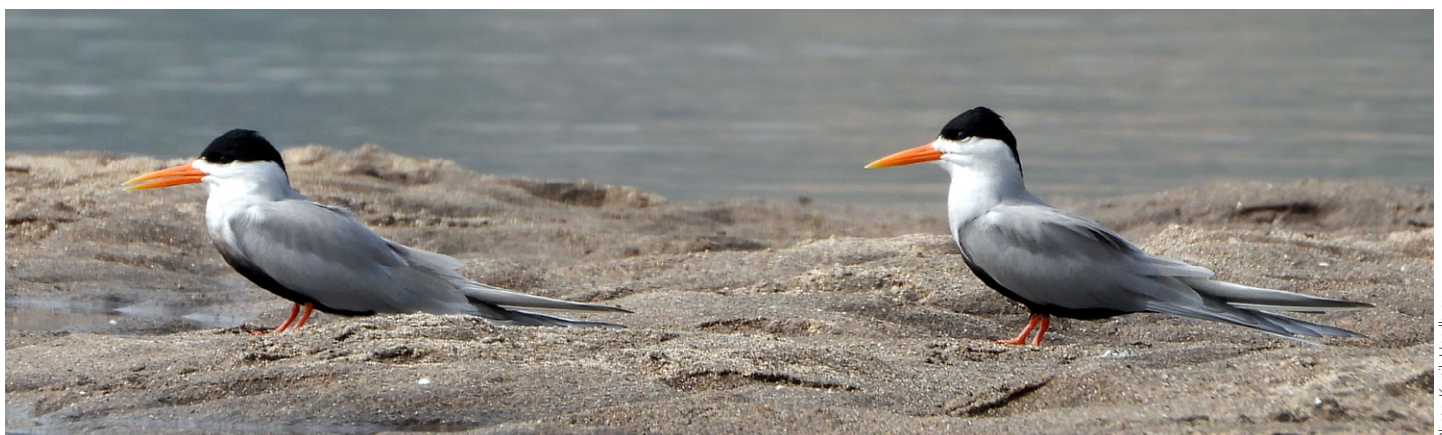


Photo: Karik Upadhyay

## Black-bellied Tern....

50 bird species in the summer season. The sighting of the Black-bellied Tern from this area makes it an important location for our state.

### Conservation possibilities in Gujarat

In Cambodia, domestic dogs predate on nests and local communities collect eggs (Goes *et al.* 2010). The Black-bellied Terns are also susceptible to illegal fishing, sand and gravel mining, cat predation, and river damming (Goes *et al.* 2010; BirdLife International 2022). According to Rahmani (2012), dams and water utilization in towns and villages for drinking in India leave very little water in dams and rivers in the summer, exposing the islands on which the terns nest to terrestrial predators. Dogs, cats, and crows destroy whole colonies. Further, the sudden release of water from the dams after rains also washes away eggs and chicks.

For these reasons, the species is listed as 'Endangered'. We suggest that for future conservation, a detailed survey needs to be carried in Gujarat between February-April so that the number and locations in which these terns are present can be confirmed. It should be noted that there are sightings almost throughout the year and it is likely that this species breeds here. We can learn more about the breeding ecology, habitat preferences, and movements of this species through surveys and detailed studies. There might be good habitats left in Gujarat for the Black-bellied Terns, and their habitats can be preserved for future species management.

### Conclusion

In general, terns are poorly studied in western India and in Gujarat. Apart from the status and distribution given recently by Ganpule (2016), this is the first proper compilation of recent records of the Black-bellied Tern from Gujarat. This short note provides a baseline and gives current information on this species in the state. It can be seen that the maximum number of sightings of this species are from non-protected areas. The breeding period of this species is from February to April and it could be breeding along the large rivers in Gujarat, especially the Narmada River near Bharuch. However, there are no recent documented breeding records of the Black-bellied Tern from Gujarat. Systematic surveys will be useful in understanding the ecology of this species in the state and management plans can be worked out for the conservation of the Black-bellied Tern in Gujarat.

### Acknowledgments

We are grateful to Ahmedabad University, Bhavanisinhji Mori (Ex-member of the Gujarat State Advisory Board and Ex-honorary Wildlife Warden of Surendranagar District) & Raju

Vyas for their constant support and motivation. We thank Shri V. M. Desai (Deputy Conservator of Forest, Chhota - Udepur), Vanrajsinh Solanki (Range Forest Officer, Pavi - Jetpur), and all the forest department staff for their support and help. Heartfelt thanks to Prasad Ganpule for improving the draft manuscript. We thank Mital Patel and Sunil Kini for sharing valuable information. We are grateful to Pritesh Patel for the GIS mapping.

### References

- Agola, P., 2020. Website URL: [https://birdsofgujarat.co.in/bird\\_detail.php?id=16696](https://birdsofgujarat.co.in/bird_detail.php?id=16696)
- Ali, S., 1954. The birds of Gujarat – Part I. *Journal of the Bombay Natural History Society* 52 (2): 374-458
- Andharia, K., 2018. Website URL: [https://birdsofgujarat.co.in/bird\\_detail.php?id=7782](https://birdsofgujarat.co.in/bird_detail.php?id=7782)
- Bhavsar, M., Gohil, K. B., & Shrimali, N. J., 2015. Estimation of Reservoir Capacity Loss of Sukhi Reservoir by Remote Sensing. *International Journal of Advanced Research in Engineering, Science & Management* 1 (8).
- BirdLife International, 2022. Species factsheet: *Sterna acuticauda*. Downloaded from <http://www.birdlife.org> on 06/06/2022.
- Chattopadhyay, M., 2021. Website URL: [https://birdsofgujarat.co.in/bird\\_detail.php?id=18100](https://birdsofgujarat.co.in/bird_detail.php?id=18100)
- Desai, V., 2013. Website URL: <https://www.facebook.com/photo/?fbid=10201135293917563&set=gm.487206434707047>
- Dharmkumarsinhji, R. S., (Undated = 1955). *Birds of Saurashtra, India with additional notes on the birds of Kutch and Gujarat*. Bhavnagar, Saurashtra. Published by the Author.
- Gala, M., 2019. Website URL: <https://media.ebird.org/catalog?taxonCode=blbter1&regionCode=IN-GJ&mediaType=photo>
- Ganpule, P., 2016. The birds of Gujarat: Status and distribution. *Flamingo* 8(3) – 12(4): 2-40
- Ganpule, P., 2020. *A checklist of the birds of Gujarat*. Bird Conservation Society, Gujarat, Ahmedabad.
- Goes, F., Claassen, A. & Nielsen, H., 2010. Obituary to the Black-bellied Tern. *Cambodian Journal of Natural History* 1: 5–6
- Grimmett, R., Inskipp C., & Inskipp, T., 2011: *Birds of the Indian Subcontinent*. Oxford University Press, New Delhi.
- Kazmierczak, K., 2000. *A field guide to the birds of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and the Maldives*. 1st ed. London: Pica Press / Christopher Helm.
- Khacher, L. 1996. The birds of Gujarat - a Salim Ali centenary year overview. *Journal of the Bombay Natural History Society* 93 (3): 331–373
- Kumar, A., 2022. Website URL: <https://www.facebook.com/photo/?fbid=2699937323483030&set=pcb.2699937350149694>



Maheria, P., 2021 Website URL: [https://birdsofgujarat.co.in/bird\\_detail.php?id=18966](https://birdsofgujarat.co.in/bird_detail.php?id=18966)

Mansuri, A., 2019. Website URL: <https://media.ebird.org/catalog?taxonCode=blbter1&regionCode=IN-GJ&mediaType=photo>

Mishra, S., 2022 Website URL: <https://media.ebird.org/catalog?taxonCode=blbter1&regionCode=IN-GJ&mediaType=photo>

Modi, S., 2019. Website URL: [https://birdsofgujarat.co.in/bird\\_detail.php?id=14310](https://birdsofgujarat.co.in/bird_detail.php?id=14310)

Palei, H. S., 2015. Endangered Black-bellied Tern *Sterna acuticauda* Gray, 1832 in Odisha needs conservation attention. *Zoo's Print* 30(10): 4

Patel, J., 2019 Website URL: [https://birdsofgujarat.co.in/bird\\_detail.php?id=14115](https://birdsofgujarat.co.in/bird_detail.php?id=14115)

Patel, V., 2021 Website URL: [https://birdsofgujarat.co.in/bird\\_detail.php?id=18989](https://birdsofgujarat.co.in/bird_detail.php?id=18989)

Raaz, K., 2019 Website URL: [https://birdsofgujarat.co.in/bird\\_detail.php?id=14026](https://birdsofgujarat.co.in/bird_detail.php?id=14026)

Rahmani, A. R., 2012. *Threatened Birds of India – Their Conservation Requirements*. Indian Bird Conservation Network: Bombay Natural History Society, Royal Society for the Protection of Birds and Birdlife International. Oxford University Press.

Rasmussen, P. C. & Anderton, J. C., 2012. *Birds of South Asia: The Ripley Guide*. 2 vols. 2nd ed. Smithsonian Institution and Lynx Edicions, Washington D. C. and Barcelona.

Shah, D., 2021. Website URL: <https://media.ebird.org/catalog?taxonCode=blbter1&regionCode=IN-GJ&mediaType=photo>

Tripathi, T., 2021. Website URL: <https://media.ebird.org/catalog?taxonCode=blbter1&regionCode=IN-GJ&mediaType=photo> □

## Sighting of Lesser Noddy *Anous tenuirostris* at Mahuva near Bhavnagar – a first record for Gujarat

**Batuk Bhil:** At – Nikol, near Mahuva, Bhavnagar 364290.

**Mahendra Bhil:** At – Nikol, near Mahuva, Bhavnagar 364290.



Photo: Batuk Bhil

Due to a low pressure created in the Arabian Sea during the onset of the monsoon season in 2022, there was a heavy wind and a rough sea around Mahuva, Bhavnagar, for four to five days. The sea was very rough during that time, with big waves lashing the coast. During that time, on 16 June 2022, at around 17:00 hrs, we received a message from a local fisherman that a sea bird was seen near the shore. We had discussed the types of birds occurring in the sea around Mahuva with him and so, he was aware of our interest in birds. He described it as a blackish bird with a greyish head. Thinking that it could be a Sooty Gull (*Ichthyetaetus hemprichii*), we immediately left to see that bird. We reached the site and saw that it was a noddy species. Initially, we thought that it could be a Brown Noddy (*Anous stolidus*). It was perched on a dried *Prosopis juliflora* and seemed to be weak or injured. We approached nearer to it

and took some photographs with our mobile phones. On closer approach, it flew and perched on a nearby tree. After that, it took off and went towards the west, into the sea. The location where we saw it was 21° 04' 40.1874" N, 71° 50' 29.7594" E.



Photo: Batuk Bhil

After coming back home, we carefully checked the photographs. We observed that this noddy had whitish head with pale lores, dark brownish upperparts and a slim bill. Compared to a Brown Noddy, it was slimmer and had a smaller and slimmer bill. Based on the pale lores, slim build and slim, short beak, we identified it as a Lesser Noddy (*A. tenuirostris*). We sent the photos to Prasad Ganpule, who confirmed that it was indeed a Lesser Noddy.