

PAN INDIA

ASSESSMENT AND
MONITORING OF
ENDANGERED SPECIES -

VULTURES



भारतीय वन्यजीव संस्थान
Wildlife Institute of India

FINAL REPORT

2025



भारतीय वन्यजीव संस्थान
Wildlife Institute of India



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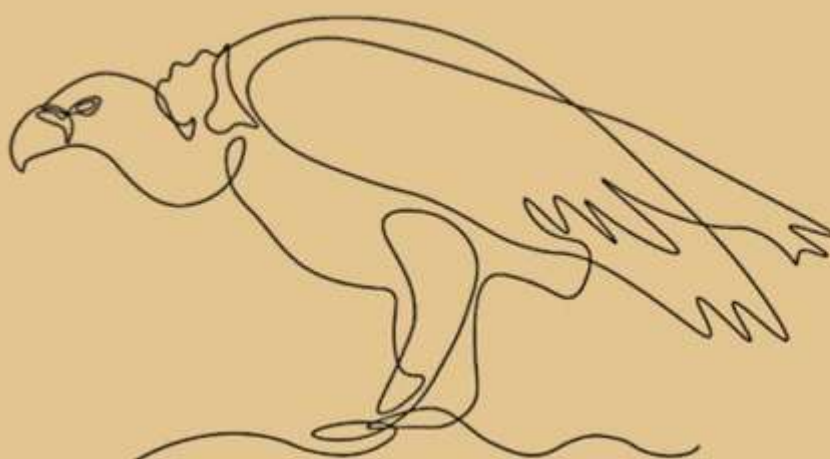
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CONTENTS

	SUMMARY	i-iii
01	INTRODUCTION	1-14
02	METHODOLOGY	15-18
03	RESULTS	19-64
04	DISCUSSION	65-70
05	REFERENCES	71-74
	ANNEXURES	73-89
	BIBLIOGRAPHY	90-97

Summary

This report details the findings of the PAN-India vulture population assessment (2023–2025), the first systematic effort carried out across India, with a special focus on four Critically Endangered resident breeding vulture species: White-rumped Vulture *Gyps bengalensis*, Indian Vulture *Gyps indicus*, Slender-billed Vulture *Gyps tenuirostris* and Red-headed Vulture *Sarcogyps calvus*. While most population assessments tend to focus on total counts of individuals, this assessment focused on estimating the number of breeding adults through a combination of literature review, systematic nest counts, and citizen science data. This approach provides a realistic yet conservative estimate of the minimum number of each vulture species, which were once widely distributed and now are fragmented into scattered breeding populations.

By integrating historical records with new nesting sites, this study documented the presence of the vulture species at 216 sites across 17 States in India. There, a total of 2410 (1994 active) nests of these species were recorded; nearly 58% of these were of the cliff-nesting Indian Vulture, and 39% were of the tree-nesting White-rumped Vulture. The Indian Vulture was recorded nesting at 110 sites across 10 States, and had a total of 1379 (1029 active) nests, translating to a minimum of 2058 to maximum of 2758 breeding adults. A majority of the Indian Vulture nests were found in Madhya Pradesh (715), especially in and around Panna Tiger Reserve (TR), Satpura TR, Bandhavgarh TR and Gandhi Sagar Wildlife Sanctuary (WLS). The tree-nesting White-rumped Vulture continues to be widely distributed across India and was recorded in 12 States, with nesting populations spanning from the Himalayan foothills to the southern Western Ghats, in the Thar desert to the Brahmaputra Valley. In all, a total of 945 (890 active) nests were recorded of the species that translates to a minimum of 1780 to maximum of 1890 breeding adults. The highest number of the species was found nesting in Chir Pine *Pinus roxburghii* forests in the Himalayan foothills of Himachal Pradesh (625 nests).

The tree-nesting Slender-billed Vulture and Red-headed Vulture, on the other hand, were found to be in precariously low numbers, with 20 (all active) nests of the former limited to 12 sites in the Upper Assam region of the Brahmaputra Valley, translating to only 40 breeding adults. Few additional nesting pairs of the species may likely occur in Kaziranga TR and Manas TR, though this requires further confirmation. The highly territorial Red-headed Vulture, a solitary nesting species, could only be located in Protected Areas (PA's) of Madhya Pradesh (three nests in Madhav National Park, one in Gandhisagar WLS) and Rajasthan (one nest in Desert National Park), and these were in an active state. Given the solitary nature and association with dense woodland, primarily in protected forests, the nesting of the Red-headed Vulture is likely to be more than what was recorded during this assessment. Based on citizen science reports (eBird), the species presence during the breeding season of this two-year study period was found in 35 other PAs across the country. Considering a minimum of one pair nesting in each of the 35 PAs and together with the 10 breeding adults located during this assessment, translates to 80 breeding adults of the species. This species' occurrence is scattered across the country, with no single regional stronghold, and as a result, requires serious conservation focus.

The number of nests of other vulture species: Himalayan Griffon *Gyps himalayensis*, Bearded Vulture *Gypaetus barbatus*, and Egyptian Vulture *Neophron percnopterus* recorded during this assessment was relatively few and therefore, estimates of their population are not made. The remote, mountainous and high-altitude terrain in the Himalayas, where the Himalayan Griffon and Bearded Vulture breed an effective and systematic search to locate nests of the species was not possible. A total of 35 (34 active) nests of the Himalayan Griffon were located across eight sites in the States of Jammu & Kashmir, Himachal Pradesh and Uttarakhand. Two nests of the Bearded Vulture were recorded in the Kishtwar area of Jammu & Kashmir, though the species very likely nests throughout the Himalayas in the higher elevations. The Egyptian Vulture, on the other hand, the resident populations of which are widely distributed across much of the country, posed a challenge in the location of their nests as these are dispersed far and wide. During this assessment, a total of 24 (14 active) nests were located in eleven sites, primarily in the States of Rajasthan and Madhya Pradesh.

The assessment also included a survey of major carcass dump sites, particularly in Northwest India, which is also the wintering ground for the migrant vultures: Eurasian Griffon *Gyps fulvus*, Himalayan Griffon, Cinereous Vulture *Aegypius monachus*, Egyptian Vulture. Across 12 carcass dumping sites in Rajasthan, a count of the migrant vultures resulted in a total of 7715 Egyptian vultures, 2800 Eurasian Griffon, 890 Himalayan Griffon and 70 Cinereous Vulture. The dumping sites also had large aggregations of Steppe Eagle *Aquila nipalensis* (1338) and Black Kite *Milvus migrans* (1192). The presence of a large number of feral dogs at the dumping sites limits food availability to vultures and requires effective management interventions.

This Pan-India assessment, while it highlights the continued persistence of vulture nesting across the country, it also reveals the absence of nesting of vultures from nearly 70% of their historical nesting sites. Further, the resident breeding vulture populations are highly localised and are primarily limited to PA's, where 54% of all vulture nests were located, signifying the critical role of PA's in sustaining current vulture populations. In conclusion, this first-ever systematic effort to document vulture populations across India, particularly of the four Critically Endangered vulture species forms an important baseline. The information generated on all the individual vulture nest location, which includes the following details: State, district, site name, date of nest observation, whether active or inactive, geographical coordinates, elevation, habitat type, nesting tree species and characteristics, threats, inside PA or outside is now maintained as the National Vulture Database. This dataset forms a critical baseline for long-term monitoring, future population assessment, and site prioritisation and conservation planning at the National and State levels.



Introduction

Population estimation of endangered species is important for understanding their conservation status and guiding management decisions, as it helps track their numbers, understand trends, and identify threats to their survival. Reliable population data not only allow conservationists to track changes in abundance over time but also provide insight into demographic trends, spatial distribution, habitat use, and the effectiveness of ongoing conservation measures (Caughley and Sinclair, 1994; Nichols and Williams, 2006). Without such data, efforts to prioritise species and their habitats for protection can be misinformed or inefficient. Beyond the scientific need for data, many endangered species hold ecological, cultural, or economic significance, making their protection vital to maintaining biodiversity and ecosystem health (Lindenmayer and Likens, 2009; Runge et al., 2015). Additionally, for many indigenous and local communities, these species may carry cultural or spiritual value, while others may support livelihoods through ecotourism or ecosystem services. Thus, safeguarding such species is vital for ecosystem stability (Robbins 2007), upholding cultural identity and human well-being.

One such species group in critical need of population estimation is vultures, which perform vital ecosystem services. Often overlooked due to their scavenging lifestyle, vultures play an indispensable role in nutrient cycling and disease regulation by rapidly consuming animal carcasses, thereby preventing the spread of pathogens and supporting ecosystem cleanliness and health (Ogada et al., 2012; Dimitriou et al., 2021). However, across South Asia, vulture populations collapsed dramatically during the 1990s and early 2000s, declines so steep and rapid that three Gyps species, notably, White-rumped Vulture *Gyps bengalensis*, Indian Vulture *Gyps indicus*, and Slender-billed Vulture *Gyps tenuirostris*, lost over 96% of their numbers in less than a decade (Ogada et al., 2012). The non-steroidal anti-inflammatory (NSAID) veterinary drug diclofenac was found to lead to kidney failure in vultures and ultimately resulted in their death (Gilbert et al., 2002; Cuthbert et al., 2006; Swan et al., 2006; Arshad et al., 2009; Prakash et al., 2003).

Given that the population declined to such a critical level, immediate interventions were required to be taken up to secure extant populations. Subsequently, the manufacture and use of veterinary Diclofenac was banned by governments across South Asia (Mahapatro and Arunkumar, 2014). This was then followed by the banning of other vulture-toxic veterinary drugs, such as Ketoprofen and Aceclofenac (Galligan et al., 2021) and promoting the use of an alternative vulture-safe drug, Meloxicam. Given the dire situation of vulture populations, ex-situ conservation methods needed to be taken up. The establishment of Vulture Conservation Breeding Centres, where vultures could be bred in captivity and later released into the wild as part of the rewilding programme (Bowden et al., 2012). Additionally, awareness campaigns targeting veterinary doctors, forest department personnel and local communities, that emphasise the ecological importance of vultures and how they help prevent diseases through the disposal of carcasses and of also add to the recovery of populations of vultures nationwide (Kanauija et al., 2013). Currently, the sharp decline in vulture population appears to have slowed, and the numbers have remained relatively stable since 2007 (Prakash et al., 2012). However, despite this stabilisation, there is still no evidence of a significant recovery in any of the three species, and their numbers remain in a precarious state (Prakash et al., 2024).

Various organisations, State Forest departments, and individuals have been independently monitoring vultures at local scales. The Bombay Natural History Society (BNHS) has conducted coordinated road transect surveys across key regions of India to monitor populations of the White-rumped, Indian, and Slender-billed Vultures. WWF India has also initiated an annual vulture count as a nation-wide citizen science initiative. State Forest Departments in Gujarat, Madhya Pradesh, Karnataka, Kerala, and Tamil Nadu are also conducting synchronised state-wide counts of vulture populations. These independent monitoring efforts have been vital in understanding long-term trends and informing conservation strategies, especially given the scale and severity of the declines. Despite these efforts, challenges in population assessment still remain.

Vulture populations in India are now critically low and highly fragmented, persisting in small, scattered pockets across the country (Prakash et al., 2019). This fragmented

distribution presents a significant challenge for population assessments. Each vulture species contributes to this complexity, as few remain broadly distributed and far-ranging, while others are restricted to specific strongholds, necessitating different approaches for accurate assessment. However, still, in light of the reported stabilisation of vulture population decline following the ban on toxic veterinary drugs, it is crucial to evaluate their current status through more standardised and reliable approaches.

While vultures are among the few large birds that can be surveyed across extensive landscapes, open-country counts risk double-counting or underestimation due to their mobility and far-ranging behaviour. Hence, population estimates are most reliable when conducted at congregation sites, particularly nesting and roosting locations, where individuals are relatively stationary and can be more accurately counted. Although this method does not account for the total population, including non-breeding individuals, it provides a critical baseline of reproductive individuals. This approach has been widely adopted in vulture research and monitoring efforts (Ramakrishnan et al., 2014; Majgaonkar et al., 2018; Bhusal et al., 2019; Rana et al., 2019; Campbell et al., 2020). In line with this, the current assessment also adopted a nest count approach, focusing on the minimum number of breeding individuals, which is essential for tracking long-term viability. This method also offers practical advantages, being more easily replicable and resource-efficient than large-scale landscape surveys, which demand synchronised efforts, trained personnel, and extensive logistical coordination.



This report presents the findings of a targeted assessment focused specifically on the breeding populations of Critically Endangered resident vultures in India, based on direct nest counts. The study also includes supplementary observations on wintering migratory vultures and other raptors. It does not represent an overall population estimate for all vulture species in the country, as such a comprehensive assessment is beyond the scope of this project, given the spatial and ecological scale involved. Key data collected include the total number of nests per species, habitat characteristics, protection status of nesting sites, threats facing the nesting sites, and details of the nesting tree species. The report also provides the number of vultures and other raptor species from carcass dump site surveys conducted in different states of northern and western India, with a special focus on Rajasthan. All information gathered has been integrated into the National Vulture Database, providing a stronger foundation for evidence-based policy interventions and the strategic allocation of conservation resources. Ultimately, this data will support the identification of population trends initially at the site level, then across regions, and eventually at the National scale.

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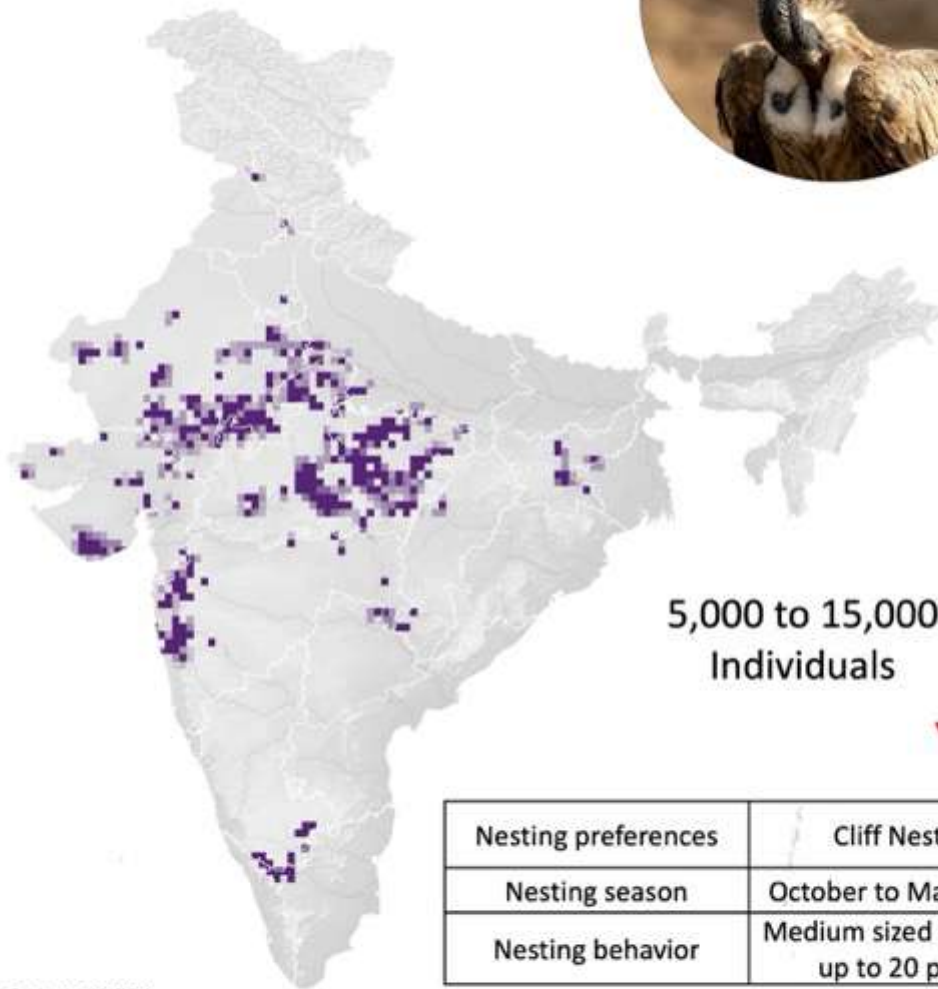
Critically Endangered

Indian Vulture
Gyps indicus

Resident



© Raymond Loyal.



5,000 to 15,000
Individuals

Nesting preferences	Cliff Nester
Nesting season	October to May/ June
Nesting behavior	Medium sized colonies up to 20 pairs

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 Year-round

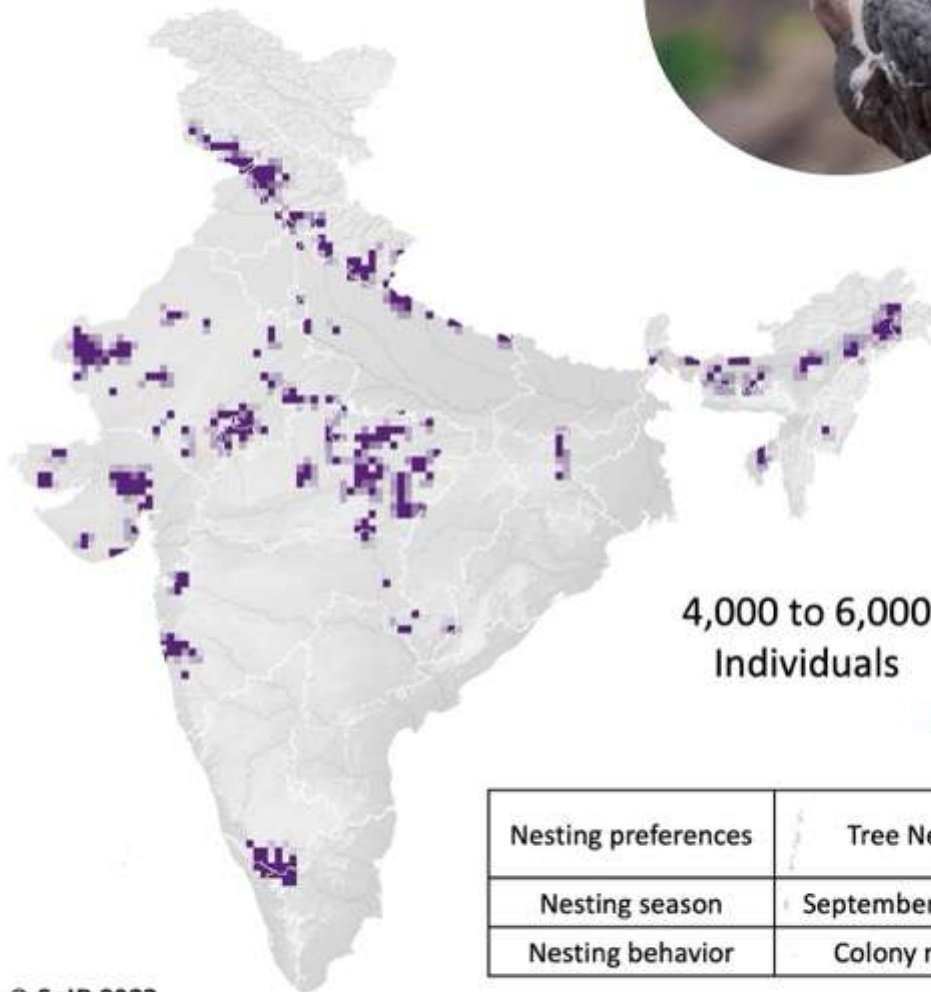
Critically Endangered

White-rumped Vulture *Gyps bengalensis*

Resident



© Noor Hussain



4,000 to 6,000
Individuals

Nesting preferences	Tree Nester
Nesting season	September to June
Nesting behavior	Colony nester

© SolB 2023

 Year-round

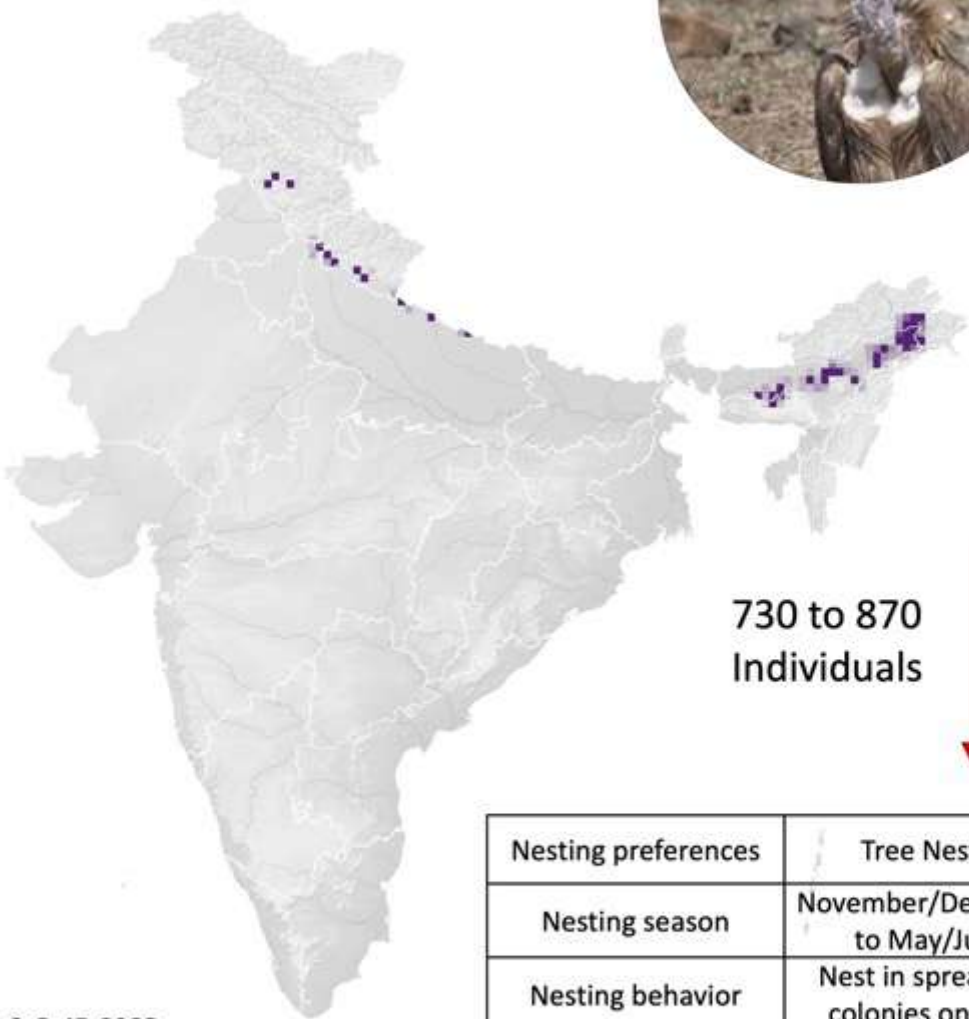
Critically Endangered

Slender-billed Vulture
Gyps tenuirostris

Resident



© John Anderson



730 to 870
Individuals

Nesting preferences	Tree Nester
Nesting season	November/December to May/June
Nesting behavior	Nest in spread out colonies on tress

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■ Year-round

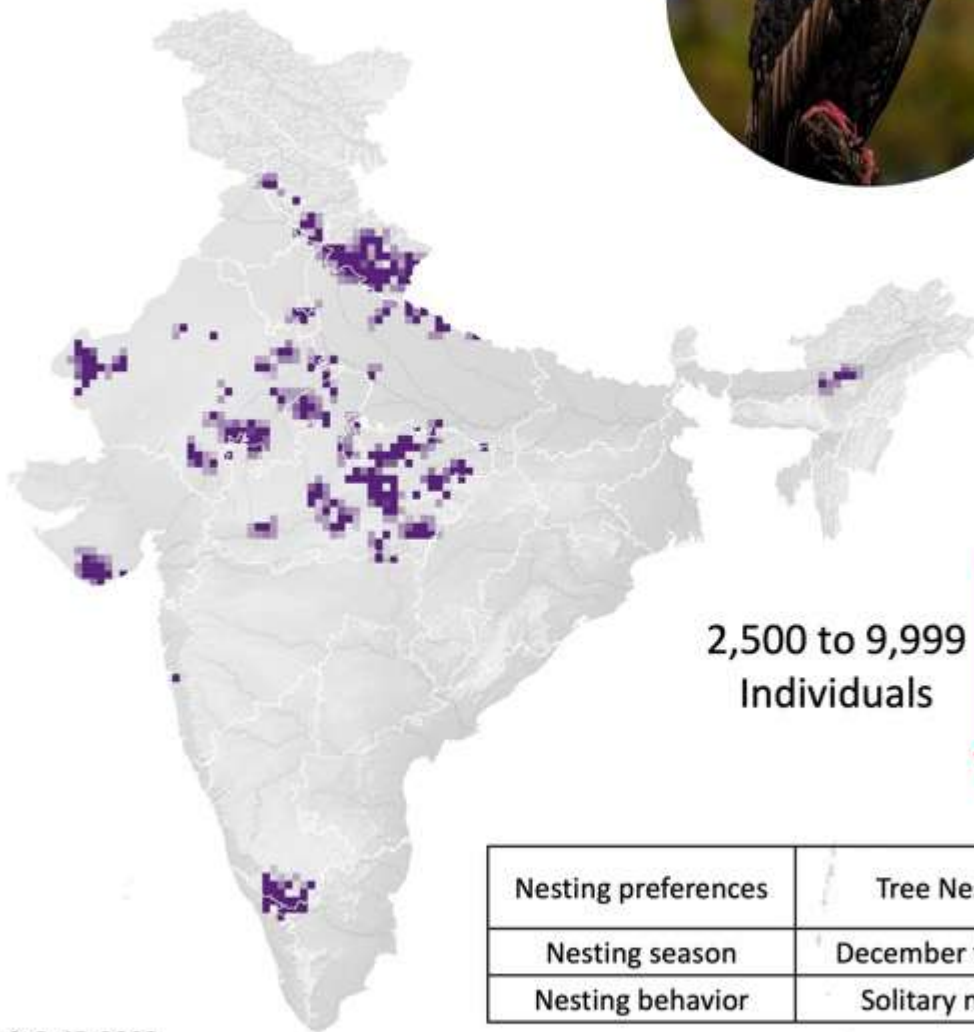
Critically Endangered

Red-headed Vulture *Sarcogyps calvus*

Resident



© Goutham Gopal



2,500 to 9,999
Individuals

Nesting preferences	Tree Nester
Nesting season	December to May
Nesting behavior	Solitary nester

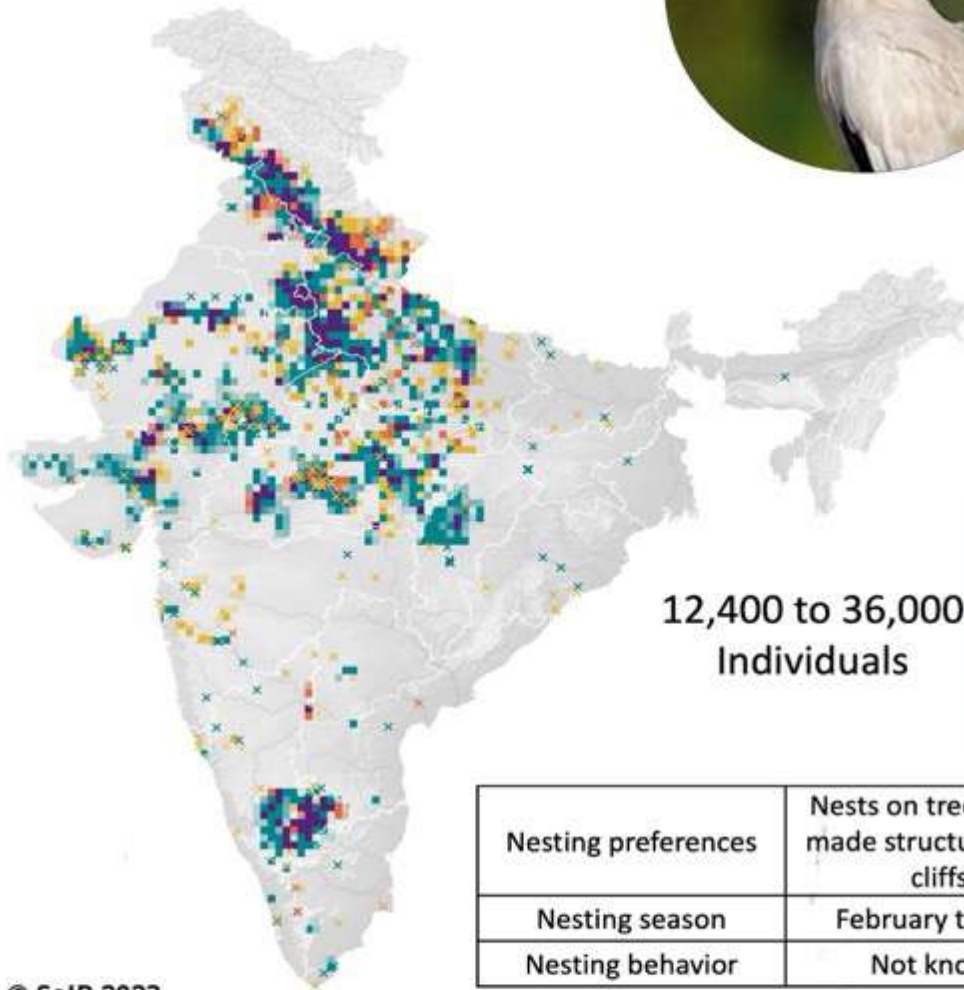
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 Year-round

Endangered

Egyptian Vulture *Neophron percnopterus*

Resident/Migratory



12,400 to 36,000
Individuals



Nesting preferences	Nests on trees, man-made structures, and cliffs
Nesting season	February to May
Nesting behavior	Not known

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Year-round Summer Spring/Autumn Winter

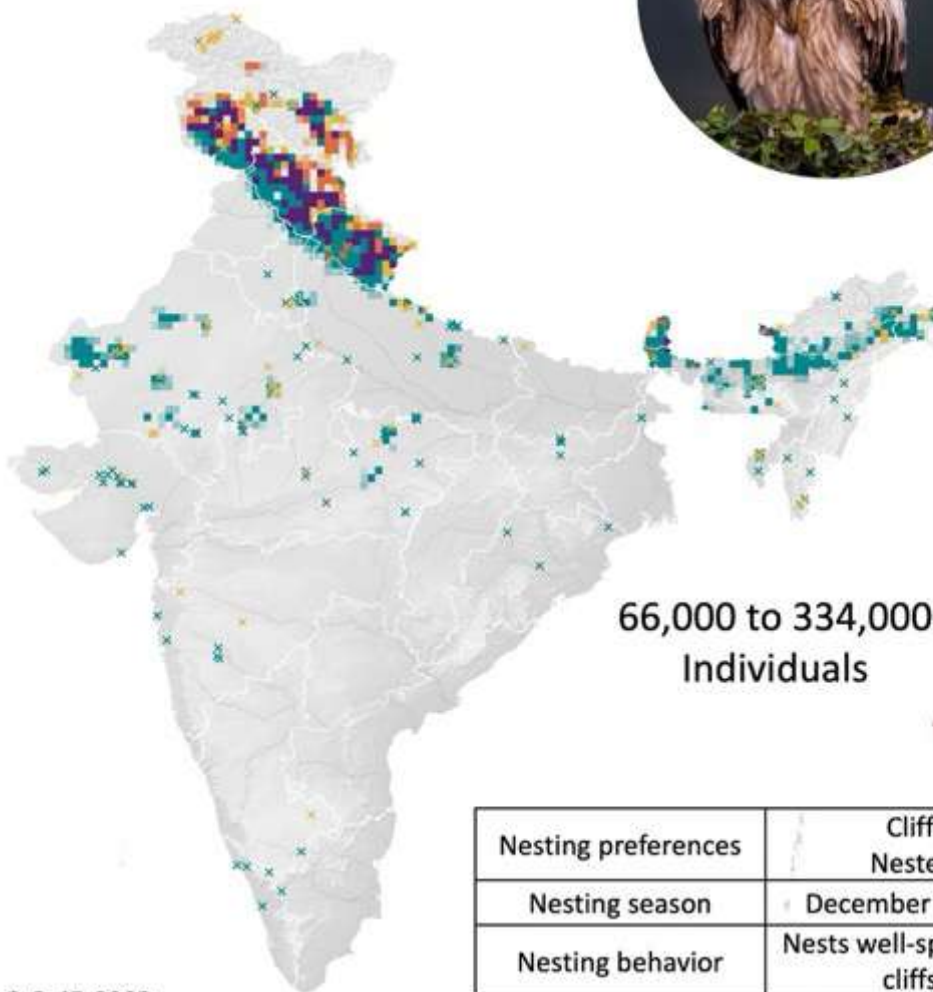
Near Threatened

Himalayan Griffon *Gyps himalayensis*

Resident/Migratory



© Swagata Ghosh



66,000 to 334,000
Individuals

Nesting preferences	Cliff Nester
Nesting season	December to July
Nesting behavior	Nests well-spaced on cliffs

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■ Year-round ■ Summer ■ Spring/Autumn ■ Winter

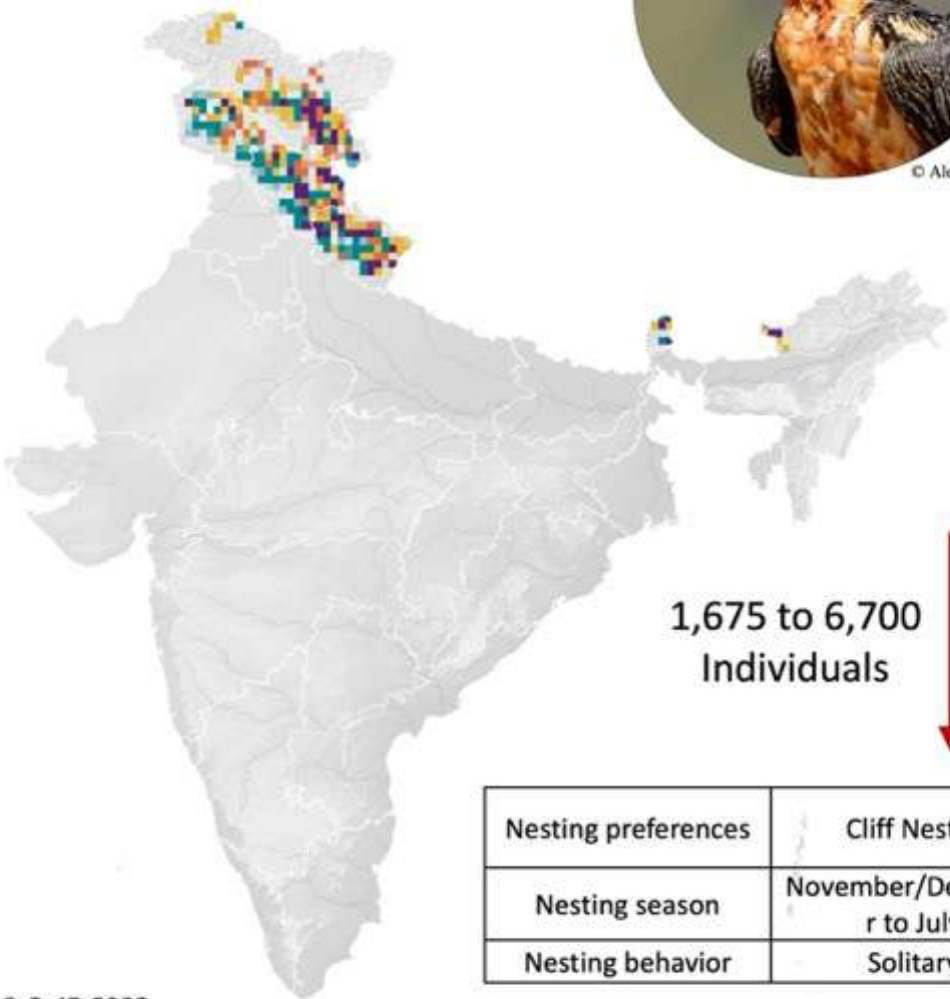
Near Threatened

Bearded Vulture
Gypaetus barbatus

Resident/Migratory



© Alexandr Junek Imaging



Nesting preferences	Cliff Nester
Nesting season	November/December to July
Nesting behavior	Solitary

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Year-round Summer Spring/Autumn Winter

Near Threatened

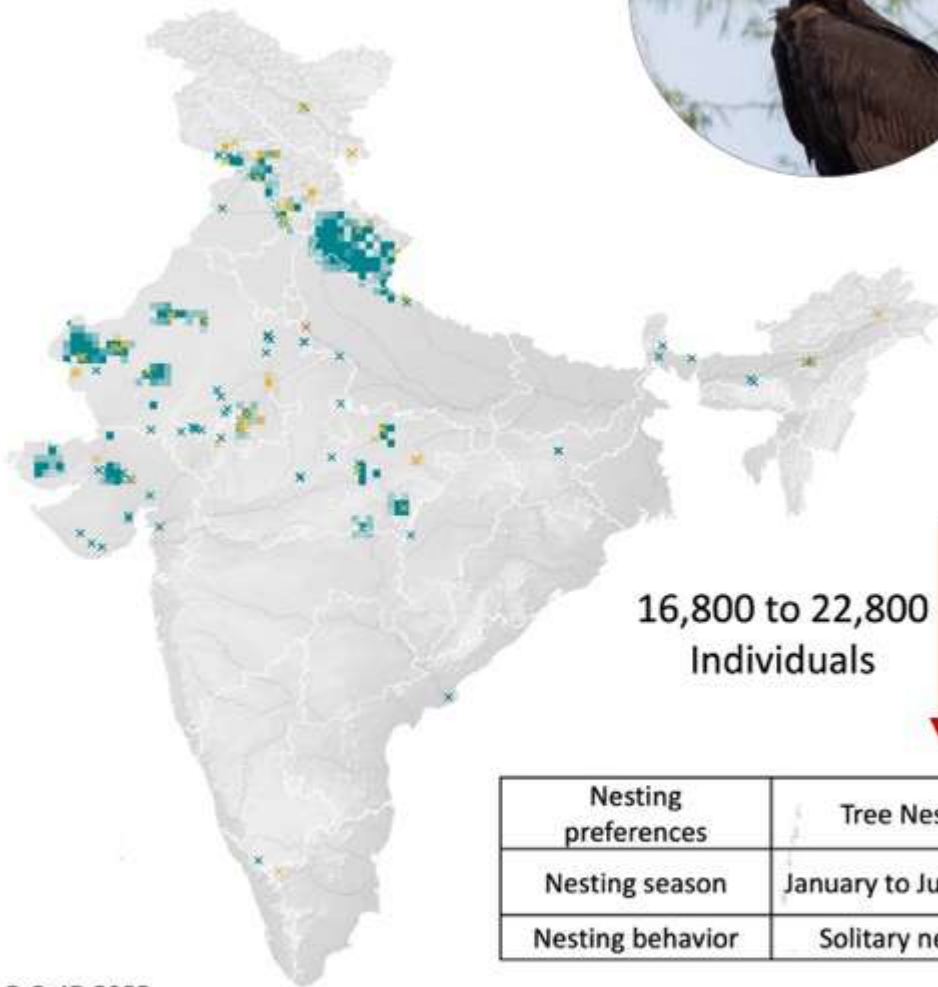
Cinereous Vulture

Aegypius monachus

Migratory



© Rajdeep Mitra



16,800 to 22,800
Individuals

Nesting preferences	Tree Nester
Nesting season	January to June/July
Nesting behavior	Solitary nester

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Summer Spring/Autumn Winter

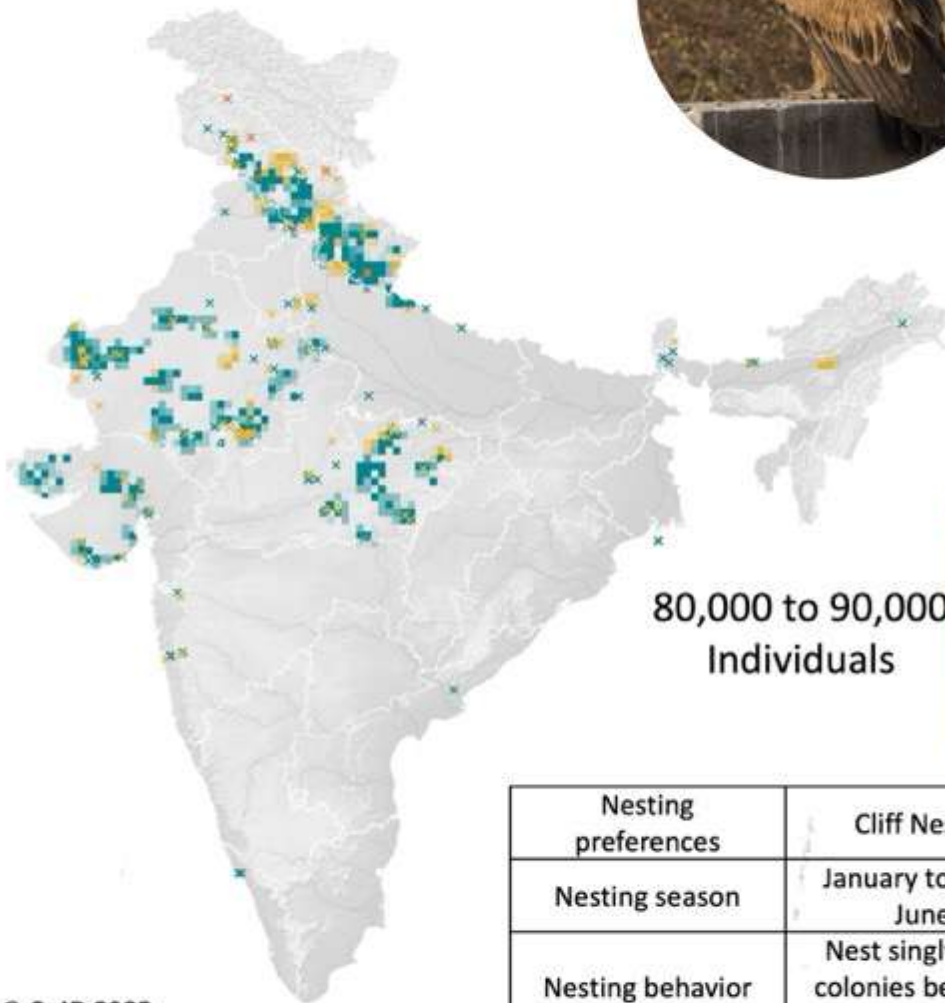
Least Concern

Eurasian Griffon *Gyps fulvus*

Migratory



© Rajdeep Mitra



80,000 to 90,000
Individuals

© SoIB 2023

Nesting preferences	Cliff Nester
Nesting season	January to May/ June
Nesting behavior	Nest singly or in colonies between 12 to 40 pairs.

Summer Spring/Autumn Winter



Methodology

As part of the planning for initiating the systematic survey, an understanding of known vulture nesting sites was required; this information was gathered through an extensive review of published literature. Subsequently, each site identified during the review was visited to assess the present nesting conditions. This was complemented by field-level insights gathered through personal communications with Forest Department personnel and NGOs actively working on vulture conservation, helping in the identification of nesting colonies not documented in the literature. For species nesting within Protected Areas (e.g., Red-headed Vulture), information was also sourced from local gypsy drivers and tour operators. Field visits were then carried out across identified sites in Andhra Pradesh, Assam, Chhattisgarh, Gujarat, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, and West Bengal.

At each site, direct nest counts were conducted during the peak nesting season, with surveys scheduled in the early morning or late evening to maximise detection. Both active (occupied with adults or chicks) and inactive nests were recorded, with one active nest representing a breeding pair. The population of each vulture species was estimated considering that the active nests represent the minimum number of breeding adults, while the maximum number was based on the total number of recorded nests (including both active and inactive). Thereby, the estimated population reported in the results is the minimum number of breeding adults to the maximum number of breeding adults of each species. In addition to nest counts, data on GPS location, habitat type, site protection status (e.g., Tiger Reserve (TR), National Park (NP), Wildlife Sanctuary (WLS), Reserve Forest (RF), or non-protected), and elevation were recorded. For tree-nesting species, tree species, girth at breast height (GBH), and tree height were measured. Potential threats to each site were also documented. Apart from this, opportunistic vulture sightings were noted down so as to locate any unknown/unreported nesting or roosting colonies.

Given the limitations of direct nest detection for some species, notably the Red-headed Vulture, which typically nests in dense woodlands and remote, less-accessible forested landscapes, which are often difficult to survey thoroughly, citizen science data were used as a supplementary source. Sightings reported during the peak breeding months (February to June) over the past two years were extracted from eBird and spatially analysed. Using QGIS, a kernel density estimation (KDE) was performed on the occurrence points to visualise the potential breeding range. The resulting distribution map was overlaid with India's Protected Area network to assess spatial overlap. As the majority of the sightings occurred within the Protected Areas, a conservative population estimate was attempted by assuming that each Protected Area within the core breeding range potentially supports at least one breeding pair, thereby enabling the calculation of a minimum number of breeding adults nationally for the species.

In parallel with the population assessment of resident vultures, this study also assessed the use of carcass dump sites by vultures and other migratory raptor species by surveying major carcass dump sites across nine states, including Rajasthan, Punjab, Gujarat, Uttar Pradesh, Maharashtra, Jammu & Kashmir, Himachal Pradesh, Jharkhand, and West Bengal, where livestock carcass dumping is a common practice. These sites were identified based on prior literature and expert consultation and were systematically visited during the study period. Each site was visited twice, and the maximum number of individuals of each vulture species was recorded. Additionally, observations were made on the presence and abundance of other migratory raptors, along with any potential threats affecting site quality or species use.







Results

A total of 425 vulture nesting sites were compiled from literature that were reported from across 25 states. The White-rumped Vulture nesting was reported from 238 sites, followed by Indian Vulture with 120, Slender-billed Vulture in 47 sites, Red-headed Vulture in 16 sites and Himalayan Griffon from four sites. Field surveys for the vulture population assessment conducted between February 2023 and January 2025 confirmed nesting in only 120 of the 425 historical sites and in 17 states. In addition to the 120 sites, vulture nesting was also recorded in 93 sites that were previously not known or reported. This accounts for a total of 213 sites where vulture nesting activity was observed, and 103 of these were found within PAs. The States of Madhya Pradesh and Rajasthan together have the highest number of vulture nesting sites (105 sites), and 75 of these are located within PAs (Table 1).

At 216 nesting sites located during this assessment, a total of 2410 vulture nests were recorded, with nesting activity observed in 1994 of them during the survey. Notably, the Indian Vulture was the most widespread, found at 110 sites with 1379 nests, 1029 of which were active. It retained 86 historical sites and added 24 new ones. The White-rumped Vulture, though historically most common with 238 known sites, was found at only 69 sites during the survey, out of which 39 were new, indicating that only around 13% of its earlier nesting areas remain in use. At these sites, a total of 945 nests were recorded, out of which 890 were active. In the case of the Slender-billed Vulture, all of the previously recorded 47 sites were lost. All 12 current nesting locations are new, with a total of 20 active nests. The Red-headed Vulture was recorded at five sites during the study; these were all newly identified locations, as no nests were found at the earlier known 10 nesting sites. At each of these five sites, a single nest was observed, all of which were active. The Himalayan Griffon was found at eight sites, of which four were previously known. A total of 35 nests were recorded at these sites, with 34 active nests. The Egyptian Vulture was recorded at 11 nesting sites, all of which were newly identified locations. At these sites a total of 24 nests were documented, of which 14 were active. The Bearded Vulture was recorded only at one new site with two active nests.

Table 1. State-wise distribution of vulture nesting sites across India, showing previously reported sites from literature, sites identified during the current assessment (including those within Protected Areas), and the breakdown of old and newly identified sites.

State	Nesting sites from literature (Inside PAs)	This Assessment		
		Nesting sites (Inside PA)	Reconfirmed Old Sites	Newly Identified Sites
Andhra Pradesh	27 (5)	3 (3)	3	-
Arunachal Pradesh	8 (2)	0	-	-
Assam	23 (5)	19 (1)	1	18
Bihar	8	0	-	-
Chhattisgarh	7 (2)	7 (6)	7	-
Delhi	10	-	-	-
Goa	2	-	-	-
Gujarat	33 (8)	9	8	1
Haryana	6	-	-	-
Himachal Pradesh	15 (2)	19	3	16
Jammu and Kashmir	1	5 (1)	-	5
Jharkhand	-	2	-	2
Karnataka	14 (3)	1 (1)	1	-
Kerala	15 (4)	2 (2)	2	-
Madhya Pradesh	29 (11)	56 (49)	34	22
Maharashtra	45 (3)	24 (1)	19	5
Meghalaya	2	-	-	-
Odisha	5 (3)	-	-	-
Punjab	1	-	-	-
Rajasthan	25 (7)	49 (26)	30	19
Sikkim	2	-	-	-
Tamil Nadu	22 (4)	4 (4)	4	-
Telangana	5 (1)	3 (3)	3	-
Uttar Pradesh	76 (2)	8 (5)	1	7
Uttarakhand	20 (3)	4	3	1
West Bengal	24 (2)	1 (1)	1	-
Total	425 (67)	216 (103)	120	96

*PA= Protected Area

Table 2. The nesting site distribution, nest counts, and estimated breeding population of vultures across India, combining literature records with findings from the current assessment.

Species	Nesting Sites (from Literature)	Reconfirmed Old Sites (this Assessment)	Newly Identified Sites (this Assessment)	Total Sites	Total Nests	Active Nests	Number of Breeding Adults
<i>Gyps indicus</i>	120	86	24	110	1379	1029	2058 - 2758
<i>Gyps bengalensis</i>	238	30	39	69	945	890	1780 – 1890
<i>Gyps tenuirostris</i>	47	Absent	12	12	20	20	40
<i>Sarcogyps calvus</i>	16	Absent	5	5	5	5	80*
<i>Gyps himalayensis</i>	4	4	4	8	35	34	Not estimated
<i>Gypaetus barbatus</i>	Not available	Not available	1	1	2	2	Not estimated
<i>Neophron percnopterus</i>	Not available	Not available	11	11	24	14	Not estimated

*= Estimate includes one breeding pair per 35 PAs identified via citizen science, plus 10 adults recorded during field surveys, totalling to 80 breeding individuals

Vulture Nesting Sites from Literature



425
Collated from
Literature

0 250 500 km

The information presented here is of nesting sites of the following species: Indian Vulture, White-rumped Vulture, Slender-billed Vulture, Red-headed Vulture, Himalayan Griffon, Bearded Vulture & Egyptian Vulture

Vulture Nesting Sites this Study

216

Total Sites

● Previously Known Sites
(Currently Active) - **120**

● New Sites - **96**

0 250 500 km







The following sections present species-wise findings on their nesting sites and number of nests recorded during the assessment, specifically providing detailed information on the population estimates of the four focal species. Further, the information on other vulture species is also provided, although comprehensive population estimation from nest counts could not be made due to low sighting numbers. For the migrant vulture species, information on their individual numbers based on the carcass dump surveys is presented. Along with this information on other large raptors encountered at the dump sites are also provided. Together, these accounts form a valuable foundation for future assessments of vultures, both resident and migrants in the Indian region, and provide for species-specific monitoring and conservation planning.

Indian Vulture

Gyps indicus



Indian vulture was recorded in 110 sites across 10 states, having a total of 1379 nests, of which 1029 were found to be in the active stage. The population based on the information is estimated to be a minimum of 2058 to 2758 breeding adults (Table 3). The population assessment further revealed that 63% of all the nesting sites of the species are located in Madhya Pradesh and Rajasthan State. The Madhya Pradesh State alone has 715 nests (52%) with 532 being active at 41 sites. Together this translates to a minimum of 1,064 to 1,430 breeding individuals, representing almost half the population of the species in the country. Other notable records are from Maharashtra with 126 nests (93 active), Uttar Pradesh with 71 nests (66 active), Chhattisgarh with 53 nests (36 active) and Gujarat with 48 nests (35 active). The southern Indian States had relatively very few nesting sites with only a few nests. In Andhra Pradesh, surveys in three sites where nesting was previously reported, no evidence of current nesting activity was found.

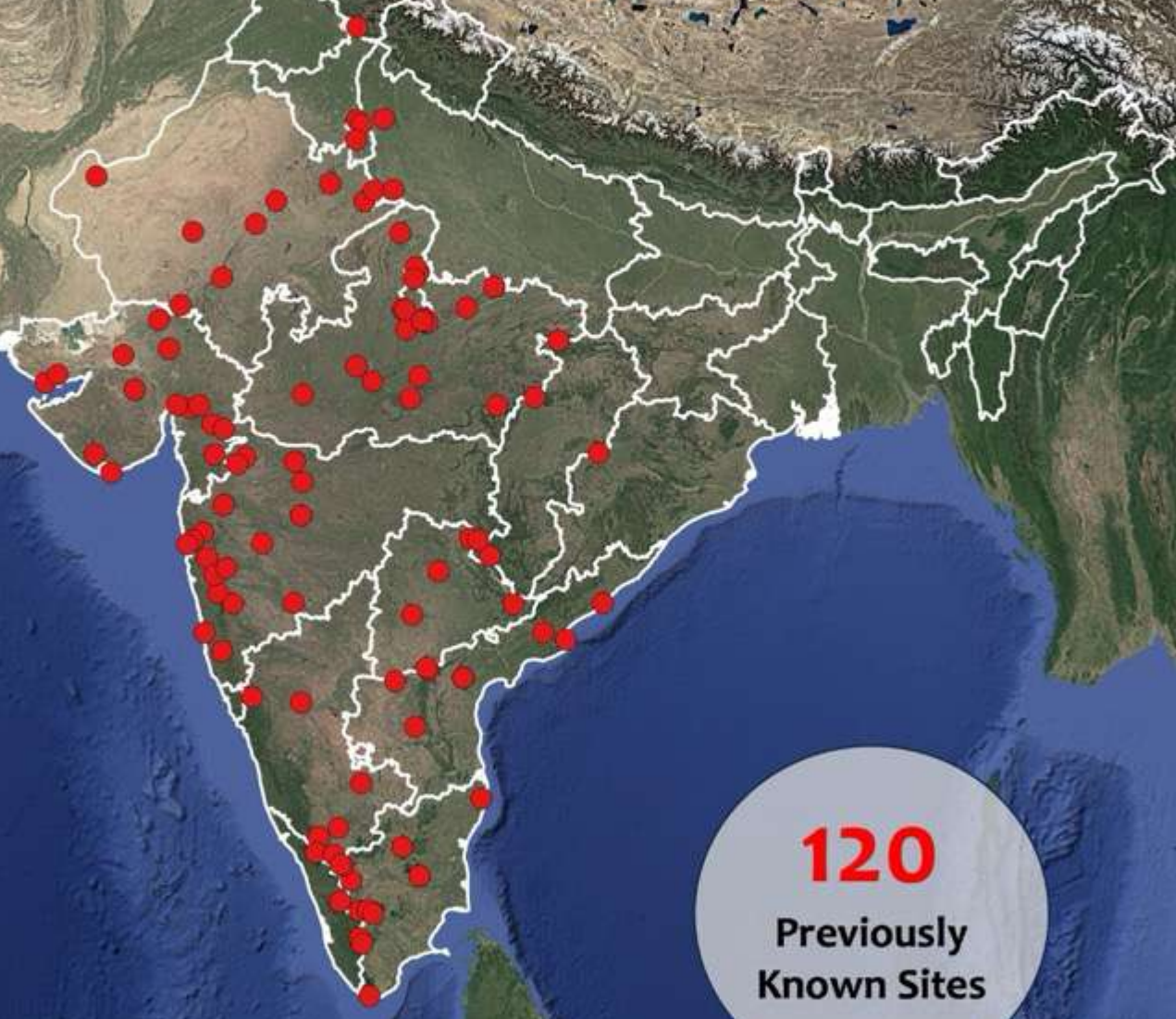
Of the 110 nesting sites recorded for the species 61 were located within PAs, and 32 of these were found in the eight PAs in Madhya Pradesh alone (Table 4), These sites together had 614 nests of the species, accounting for 62% of all nests within PAs in India. This is followed by the three PAs in Rajasthan that had a total of 288 nests, and this, together with Madhya Pradesh, accounts for 91% of nests in PAs of the species in India. The two nesting sites of Indian Vulture on the Chambal River gorge in Mukundra Hills TR with a total of 118 nests is notably the largest colony of the species currently in India. The southernmost nesting site of the species, which is in Sathyamangalam TR in Tamil Nadu continues to sustain a small population and during this assessment, six nests were recorded.

Table 3. State-wise nesting records, number of active nests, and estimated number of breeding adults of Indian Vultures across India.

S. No	States	Total Sites	Total Nest	Active Nest	Number of Breeding Adults
1	Madhya Pradesh	41	715	532	1064 - 1430
2	Rajasthan	29	352	259	518 - 704
3	Maharashtra	18	126	93	186 - 252
4	Uttar Pradesh	6	71	66	132 - 142
5	Chhattisgarh	5	53	36	72 - 106
6	Gujarat	3	48	35	70 - 96
7	Tamil Nadu	1	6	6	12 - 12
8	Karnataka	1	4	1	2 - 8
9	Telangana	3	4	1	2 - 8
10	Andhra Pradesh	3	0	0	0 - 0
	Total	110	1379	1029	2058 - 2758



Indian Vulture Nesting Sites



120

Previously
Known Sites

0 250 500 km



2058 - 2758

Breeding Adults

Mukundra Hills TR: Two colonies having the highest number of nests (118)

110

Total Sites

● **Previously Known Sites
(Currently Active) - 86**

● **New Sites - 24**

0 250 500 km

Table 4. The distribution of Indian Vulture nesting sites within various Protected Areas across India, including the number of nests, those active, and estimated breeding adults recorded during the current assessment.

S. No	Protected Areas	Total Sites	Total Nest	Active Nests	Number of Breeding Adults
Madhya Pradesh					
1	Panna TR	11	197	145	290 - 394
2	Satpura TR	10	167	125	250 - 334
3	Bandhavgarh TR	3	98	85	170 - 196
4	Kuno NP	3	83	60	120 - 166
5	Gandhi Sagar WLS	3	65	45	90 - 130
6	Orcha WLS	1	2	1	2 - 4
7	Madhav TR	1	2	2	4 - 4
Rajasthan					
8	Ranthambore TR	9	126	88	176 - 252
9	Mukundra Hills TR	2	118	91	182 - 236
10	Sariska TR	3	44	27	54 - 88
Chhattisgarh					
11	Indravati TR	1	23	14	28 - 46
12	Guru Ghasi Das TR	2	22	14	28 - 44
13	Achanakmar TR	1	8	8	16 - 16
Uttar Pradesh					
14	Mahavir Swami WLS	3	22	22	44 - 44
Telangana					
15	Kawal TR	1	4	1	2 - 4
16	Amrabad TR	2	0	0	0 - 0
Tamil Nadu					
17	Sathyamangalam TR	1	6	6	12 - 12
Karnataka					
18	Ramadevarabetta WLS	1	4	1	2 - 4
Andhra Pradesh					
19	Nagarjunasagar Srisailem TR	3	0	0	0 - 0
	Total	61	991	735	1470 - 1974



White-rumped Vulture

Gyps bengalensis



The White-rumped Vulture was recorded at 69 nesting sites across 12 states, with a total of 945 nests documented, of which 890 were found to be active. The population, based on the information, is estimated to be a minimum of 1780 to 1890 breeding adults (Table 5). The population assessment further revealed that of the 945 nests, about 625 nests alone were recorded in the State of Himachal Pradesh, which translates to an estimated 1234 - 1250 breeding individuals, over 67% of the total breeding population recorded during this assessment. Other notable records are from Madhya Pradesh with 95 nests (86 active), Assam with 29 nests (27 active) and Gujarat with 28 nests (26 active). In contrast, Kerala had only two nesting sites recorded during the assessment, while West Bengal had only one nesting site with eight nests (all active).

Of the 69 nesting sites, 25 were located within Protected Areas, collectively hosting 187 nests, of which 158 were active. Among these, 35% of all nests were located within PAs of Madhya Pradesh, with Gandhi Sagar Wildlife Sanctuary and Kanha TR in Madhya Pradesh, hosting 30 and 17 active nests, respectively. However, Mudumalai Tiger Reserve in Tamil Nadu supported the largest breeding population of the species inside PAs with 47 nests (46 active). These PA-based nests correspond to a minimum of 316 to 374 breeding individuals, accounting for only 19% of the breeding population in the country, as most of the nests are located beyond the PA boundary.

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Table 5. State-wise nesting records, number of active nests, and estimated number of breeding adults of White-rumped Vultures across India.

S. No	States	Total Sites	Total nest recorded	Active Nest	Number of Breeding Adults
1	Himachal Pradesh*	17	625	617	1234 - 1250
2	Madhya Pradesh	8	95	86	172 - 190
3	Tamil Nadu	3	47	46	92 - 94
4	Assam**	7	29	27	54 - 58
5	Gujarat	6	28	26	52 - 56
6	Chhattisgarh	2	27	13	26 - 54
7	Maharashtra	6	35	27	54 - 70
8	Uttar Pradesh	2	25	24	48 - 50
9	Rajasthan	13	18	12	24 - 36
10	West Bengal	1	8	8	16 - 16
11	Jharkhand	2	6	4	8 - 12
12	Kerala	2	2	0	0 - 4
	Total	69	945	890	1780 - 1890

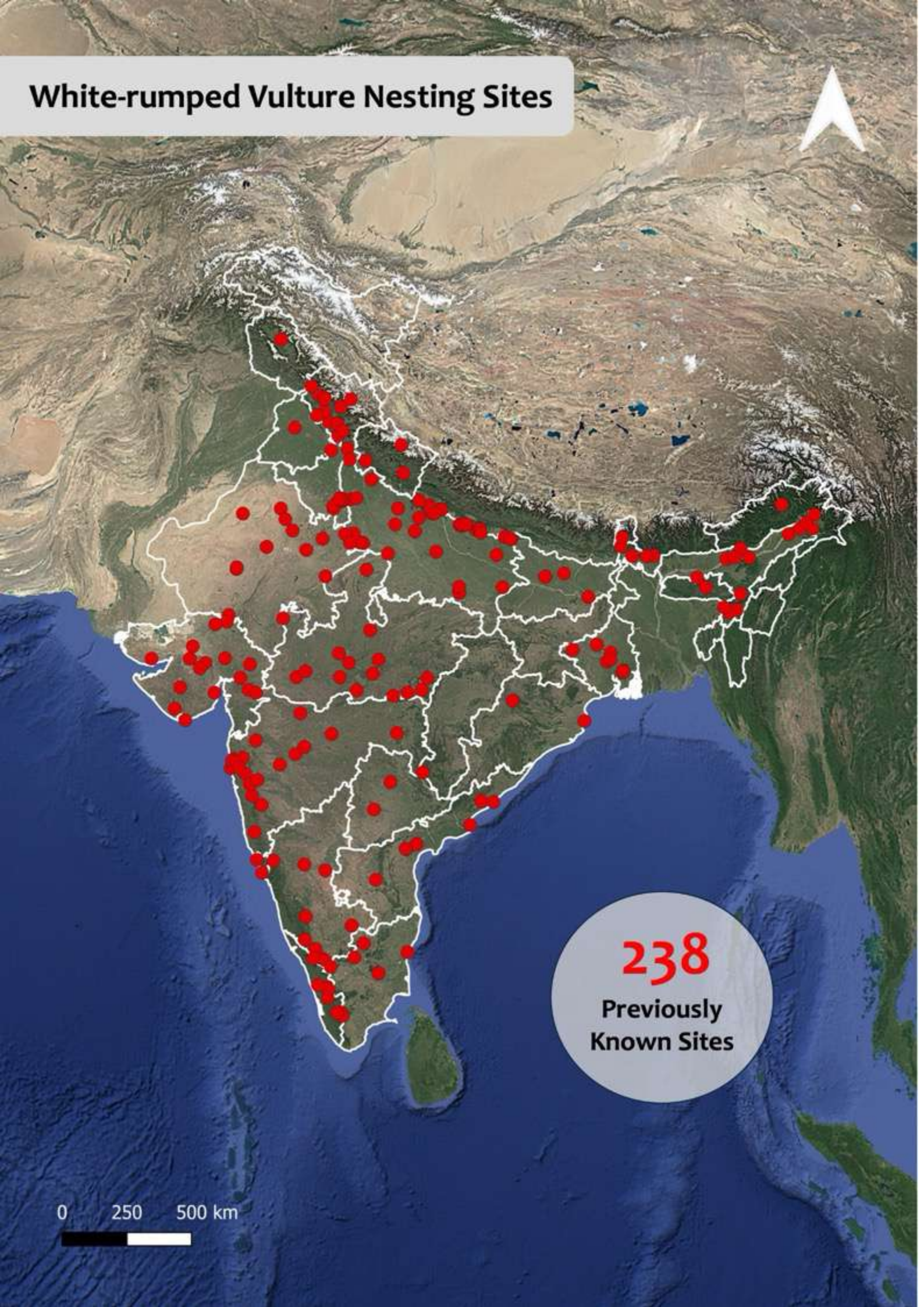
*= Nesting data for the State of Himachal Pradesh is based on findings reported by Bhattacharya and Talukdar (2024).

**= The actual number of nests in Assam may be higher than recorded, as core areas within Manas National Park and Kaziranga Tiger Reserve, which are likely to support nesting, could not be surveyed during this assessment due to the delay in receiving necessary permissions.

Table 6. The distribution of White-rumped Vulture nesting sites within various Protected Areas across India, including the number of nests, those active, and estimated breeding adults recorded during the current assessment.

S. No	Protected Areas	Total Sites	Total Nest	Active Nests	Number of Breeding Adults
Madhya Pradesh					
1	Gandhi Sagar WLS	1	31	30	60 - 62
3	Kanha TR	1	17	17	34 - 34
4	Pench TR	4	11	5	10 - 22
5	Panna TR	1	6	4	8 - 12
Uttar Pradesh					
6	Sohelwa WLS	1	24	24	48 - 48
7	Pilibhit TR	1	1	0	0 - 2
Tamil Nadu					
8	Mudhumalai TR	3	47	46	92 - 94
Chhattisgarh					
9	Indravati TR	2	27	13	26 - 54
West Bengal					
11	Buxa TR	1	8	8	16 - 16
Rajasthan					
12	Desert NP	7	11	11	22 - 22
Kerala					
13	Wayanad WLS	2	2	0	0 - 4
Assam					
14	Manas NP	1	2	0	0 - 4
	Total	25	187	158	316 - 374

White-rumped Vulture Nesting Sites



238

Previously
Known Sites

0 250 500 km



1780 – 1890

Breeding Adults

Kangra Valley: Highest
number of nests in India (625)

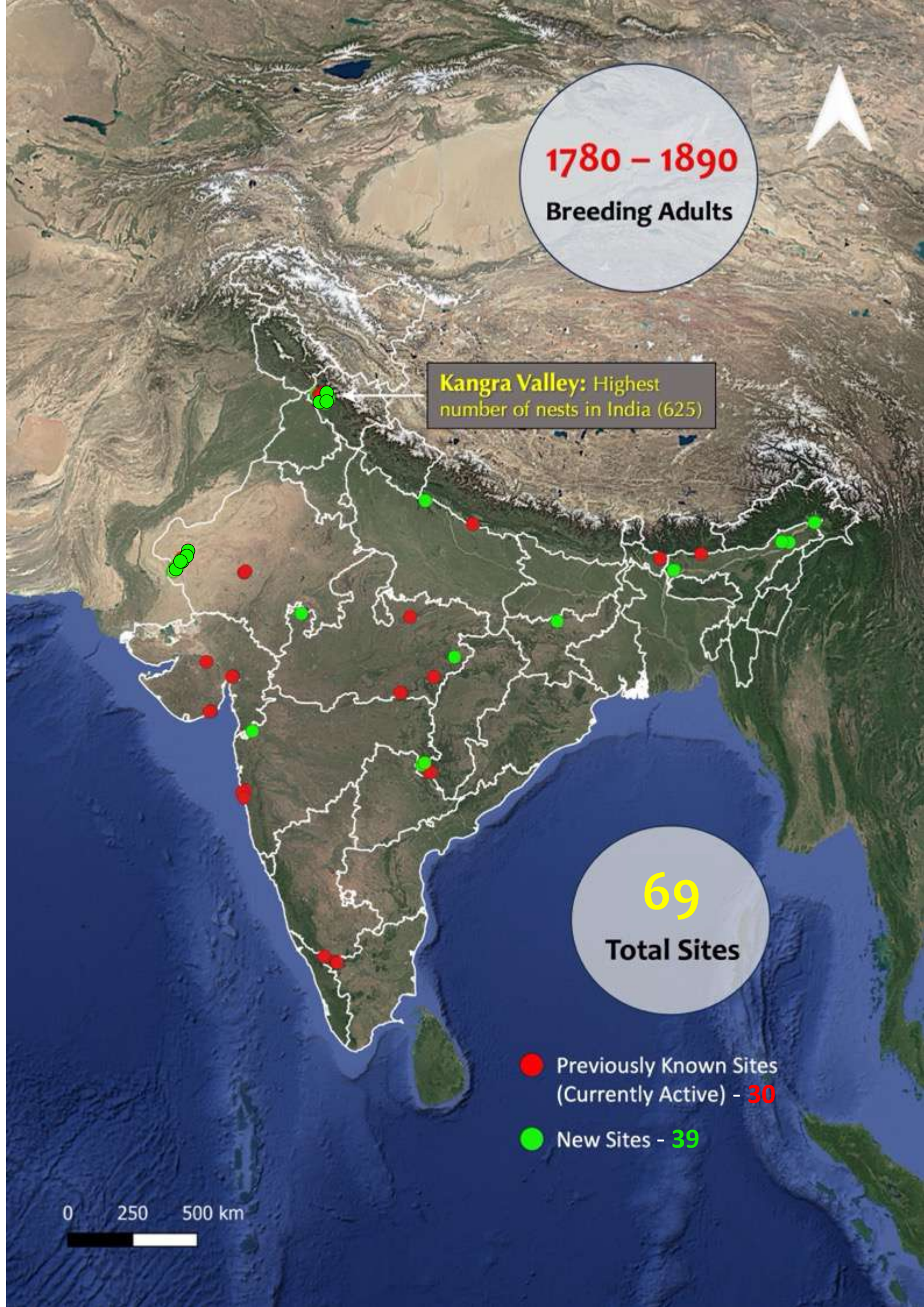
69

Total Sites

● Previously Known Sites
(Currently Active) - **30**

● New Sites - **39**

0 250 500 km



Nesting Tree Characteristics

The White-rumped Vulture, being a tree nesting species had its nest on 26 different tree species across India (Table 7). Madhya Pradesh, with 95 nests of the species, was the only State or region where the vulture nests were found on eleven different tree species. These were predominantly on *Shorea robusta*, *Terminalia arjuna* and *Terminalia elliptica* (25 nests in each). Across the species range in India, Chir Pine *Pinus roxburghii* topped the list with 552 trees, and all of these nests are from the Kangra Valley in Himachal Pradesh. The landscape there is dominated by the Chir Pine Forest, and the nests were placed on trees that had an average height of 33.4 m (27 - 42) and with an average GBH of 218.5 cm (105 - 314). *Terminalia arjuna*, a riverine tree species, was the second highest in the list with 72 nests placed on it. The average tree height was 34.5 m (20 - 43) and had a GBH of 378.5 cm (95 - 1200). Interestingly, the nesting of the White-rumped vulture in Tamil Nadu (47 nests), all of which were located in Mudhumalai TR, were only on *T. arjuna*. In Assam, vultures nested primarily on Sal trees (25 nests). Despite the relatively lower average GBH of 100.2 cm (35 - 138 cm), it had the tallest average height at 37 meters, with individual trees reaching up to 50 m. Meanwhile, in the coastal Gujarat and Maharashtra, the species was found to be nesting on exclusively on Coconut trees *Cocos nucifera*.



Table 7. Tree species used for nesting by the White-rumped Vulture, along with the number of trees, average tree height $\pm$ SD (with range), and average girth at breast height (GBH) $\pm$ SD and range across surveyed sites.

S. No	Tree Species	Number of Trees	Average Tree Height (Meters) $\pm$ SD, Range	Average GBH(cm) $\pm$ SD, Range
1	<i>Pinus roxburghii</i> *	552	33.4 $\pm$ 2.2 (27 - 42)	218.5 $\pm$ 41.8 (105 - 314)
2	<i>Terminalia arjuna</i>	45	34.5 $\pm$ 7.0 (20 - 43)	378.5 $\pm$ 258.4 (95 - 1200)
3	<i>Shorea robusta</i>	30	37 $\pm$ 6.5 (26 - 50)	100.2 $\pm$ 35.5 (35 - 138)
4	<i>Borassus flabellifer</i>	27	20.2 $\pm$ 0.8 (19 - 21)	121.4 $\pm$ 10.8 (105 - 137)
5	<i>Cocos nucifera</i>	26	18.3 $\pm$ 3.9 (16 - 21)	28 $\pm$ 6.0 (27 - 32)
6	<i>Haldina cordifolia</i>	25	49.7 $\pm$ 4.7 (32 - 54)	404.3 $\pm$ 76.3 (248 - 512)
7	<i>Azadirachta indica</i>	12	13.8 $\pm$ 1.5 (12 - 18)	77 $\pm$ 54.0 (34 - 227)
8	<i>Anogeissus latifolia</i>	12	29.6 $\pm$ 1.6 (26 - 31)	97.4 $\pm$ 3.2 (93 - 103)
9	<i>Bombax ceiba</i>	8	32.1 $\pm$ 7.8 (24 - 38)	554.1 $\pm$ 343.1 (112 - 944)
10	<i>Terminalia elliptica</i>	8	27.6 $\pm$ 1.4 (26 - 30)	119.6 $\pm$ 10.4 (104 - 134)
11	<i>Mangifera indica</i>	7	17.9 $\pm$ 1.1 (17 - 20)	126.4 $\pm$ 5.9 (118 - 137)
12	<i>Terminalia bellirica</i>	6	23.8 $\pm$ 2.5 (20 - 27)	164.3 $\pm$ 99.6 (87 - 304)
13	<i>Prosopis cineraria</i>	6	6.2 $\pm$ 0.8 (5 - 7)	134.8 $\pm$ 17.4 (124 - 153)
14	<i>Tectona grandis</i>	3	33.3 $\pm$ 2.5 (31 - 36)	107 $\pm$ 4.2 (104 - 112)
15	<i>Neolamarckia cadamba</i>	2	39 $\pm$ 3.0 (38 - 40)	282 $\pm$ 161.4 (97 - 467)
16	<i>Prosopis juliflora</i>	2	6 $\pm$ 1.4 (5 - 7)	39.5 $\pm$ 7.8 (34 - 45)
17	<i>Ficus religiosa</i>	2	24 $\pm$ 14.1 (14 - 34)	117.5 $\pm$ 54.4 (79 - 156)
18	<i>Caryota mitis</i>	2	32.5 $\pm$ 1.0 (32 - 33)	48.5 $\pm$ 2.1 (48 - 49)
19	<i>Alstonia scholaris</i>	2	24.5 $\pm$ 4.5 (22 - 27)	254.5 $\pm$ 140.8 (113 - 396)
20	<i>Lagerstroemia parviflora</i>	1	28	60
21	<i>Schleichera oleosa</i>	1	18	123
22	<i>Buchanania lanzan</i>	1	31	47
23	<i>Dalbergia sisso</i>	1	30	94
24	<i>Dalbergia latifolia</i>	1	42	218
25	<i>Terminalia anogeissiana</i>	1	27	96
26	<i>Terminalia tomentosa</i>	1	34	36

*For nests observed in Himachal Pradesh, the tree characteristics could be recorded only for 159 nesting trees, though vulture nesting was recorded in a total of 552 Chir Pine trees there.

Slender-billed Vulture

Gyps tenuirostris



The nests of the Slender-billed Vulture were recorded at only 12 sites, all located within the State of Assam. Once present across the lower Gangetic plains and Brahmaputra valley, the Slender-billed Vulture is now only recorded in Upper Assam, with nine nests recorded in Sivasagar and 11 in Tinsukia. This translates to a breeding population of around 40 individuals. Few additional nesting pairs of the species may likely occur in Kaziranga TR and Manas TR, though this requires further confirmation.

Nesting Tree Characteristics

The tree nesting Slender-billed Vulture had its nests on four different tree species (Table 8). The most frequently used nesting tree was the Indian Cotton Tree *Bombax ceiba*, which supported eight nests. Widely distributed across the Brahmaputra valley, this species is characterised by its tall height and stout structure. The trees used for nesting had an average height of 44.6 m (39 - 50), making them among the tallest in the landscape, and an average GBH of 105.4 cm (84 – 121). The second tree species in the list was Kadamb *Neolamarckia cadamba*, which supported three nests. These trees are native to moist deciduous forests and riverine tracts of Assam. Nesting Kadamb trees averaged 34.7 m in height (32 – 37 m) and 109.3 cm in GBH (106 – 113 cm). A single nest was also recorded on *Caryota mitis*, a palm species with a height of 34 m and a GBH of 52 cm.

Table 8. Tree species used for nesting by the Slender-billed Vulture, along with the number of trees, average tree height $\pm$ SD (with range), and average girth at breast height (GBH) $\pm$ SD and range across surveyed sites.

S. No	Tree Species	Number of Trees	Average Tree Height (m) $\pm$ SD, Range	Average GBH (cm) $\pm$ SD, Range
1	<i>Bombax ceiba</i>	6	44.6 $\pm$ 4.0 (39-50)	105.4 $\pm$ 14.0 (84-121)
2	<i>Neolamarckia cadamba</i>	3	34.7 $\pm$ 2.5 (32-37)	109.3 $\pm$ 3.5 (106-113)
3	<i>Alstonia scholaris</i>	2	29.5 $\pm$ 4.9 (26-33)	115.5 $\pm$ 12.0 (107-124)
4	<i>Caryota mitis</i>	1	34.0	52 .0

Slender-billed Vulture Nesting Sites



40

Breeding Adults

12

New Sites

● Previously Known Sites
(None Active) - **47**

0 250 500 km





Red-headed Vulture

Sarcogyps calvus



The solitary nesting Red-headed Vulture was recorded nesting at only five sites, four sites in Madhya Pradesh and at one site in Rajasthan. In Madhya Pradesh, a total of four nests (all active) were recorded inside Madhav TR, while in Rajasthan, one nest (active) was recorded inside Desert NP, translating to a minimum of 10 breeding adults. In addition to this, based on citizen science reports (eBird), the species presence during the breeding season of this two-year study period was found in 35 other PAs across the country. Considering a minimum of one pair nesting in each of the 35 PAs and together with the 10 breeding adults located during this assessment, translates to 80 breeding adults of the species. It is important to note, however, that this figure likely underrepresents the true breeding population, as the species' solitary nesting behaviour, preference for remote forested habitats, and low detectability may lead to underreporting in both field and citizen science-based approaches.

Nesting Tree Characteristics

The Red-headed Vulture had its nests on four different tree species. Among the four nests recorded inside Madhya Pradesh, two were on Baheda *Terminalia bellirica*, a common tree species in the dry deciduous forests of Central India; both with a uniform height of 23 meters and a GBH of 46 cm. The single nest in Rajasthan inside the arid landscape of Desert NP was found on Khejri *Prosopis cineraria*, with a height of 6 m and GBH of 124 cm.

Table 9. Tree species used for nesting by the Red-headed Vulture, along with the number of nests per tree, average tree height $\pm$ SD (with range), and average girth at breast height (GBH) $\pm$ SD and range across surveyed sites.

S. No	Tree Species	Number of Trees	Average Tree Height (Meters) $\pm$ SD, Range	Average GBH(cm) $\pm$ SD, Range
1	<i>Terminalia belerica</i>	2	23	46
2	<i>Diospyros melanoxylon</i>	1	12	45
3	<i>Terminalia anogeissiana</i>	1	15	57
4	<i>Prosopis cineraria</i>	1	6	124

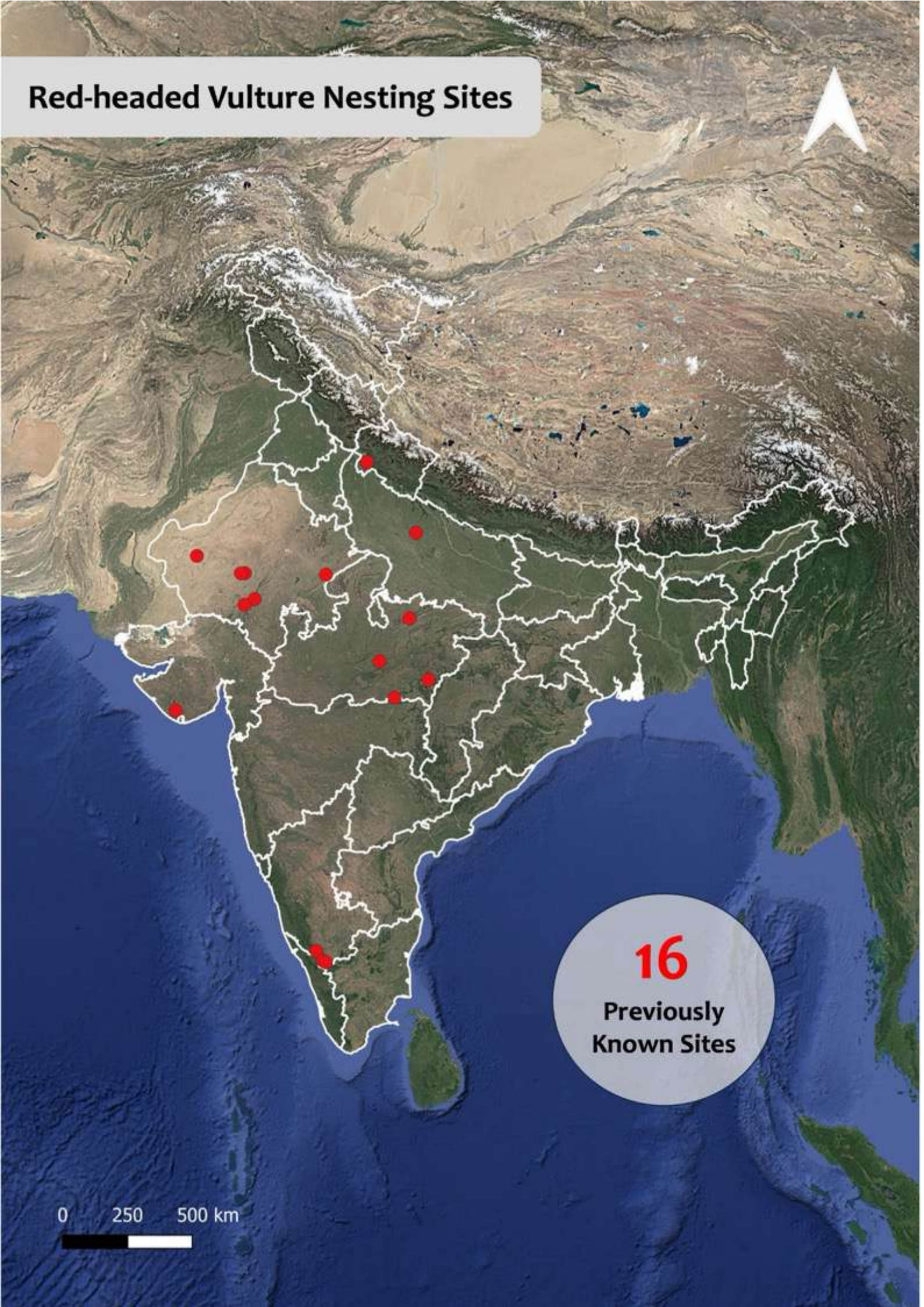
Red-headed Vulture Nesting Sites

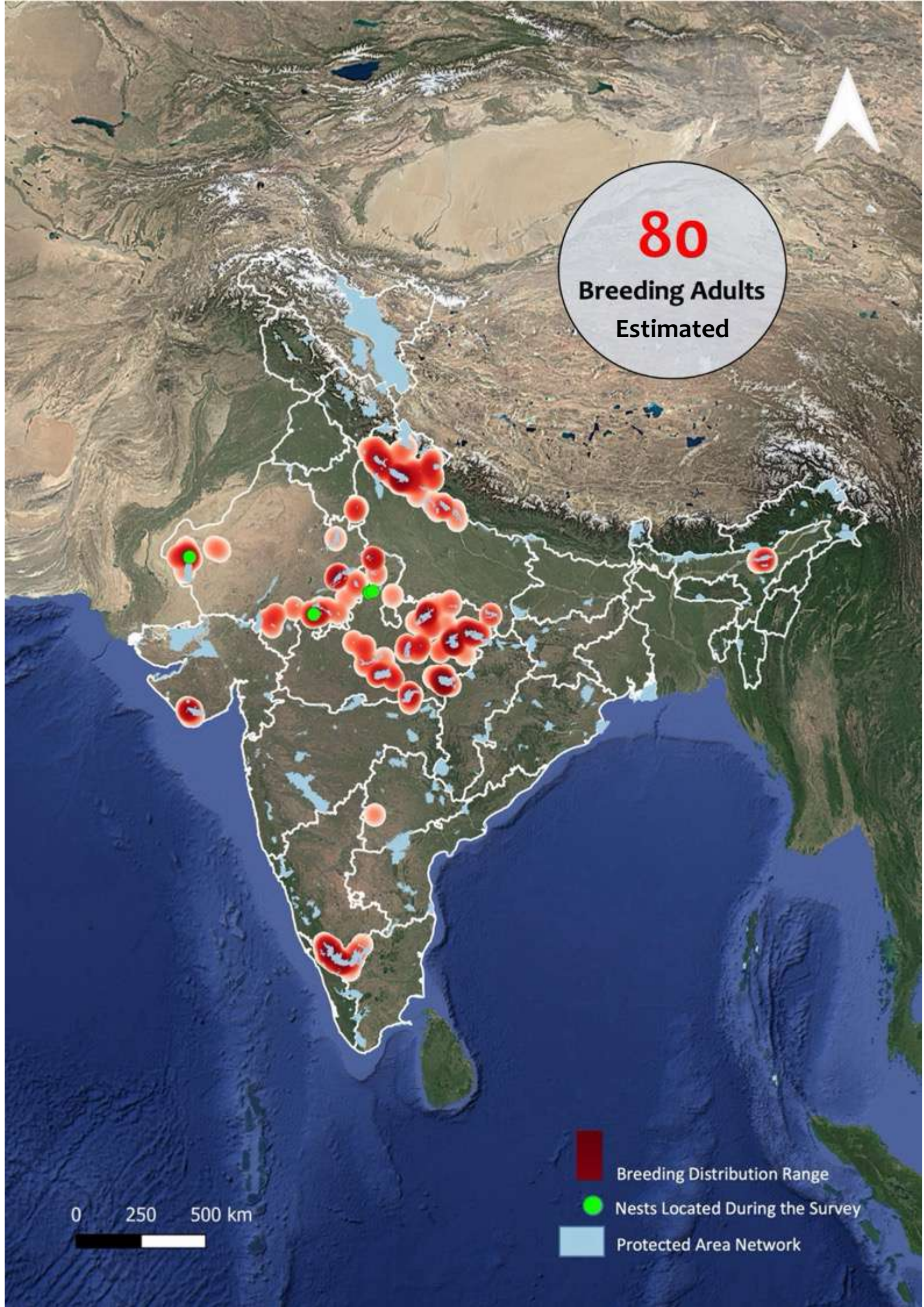


0 250 500 km

16

Previously
Known Sites





80

Breeding Adults
Estimated

0 250 500 km



Breeding Distribution Range



Nests Located During the Survey



Protected Area Network

Additional Vulture Species



The number of nests of other vulture species: Himalayan Griffon *Gyps himalayensis*, Bearded Vulture *Gypaetus barbatus*, and Egyptian Vulture *Neophron percnopterus* recorded during this assessment was relatively few and therefore, estimates of their population are not made. The remote, mountainous and high-altitude terrain in the Himalayas, where the Himalayan Griffon and Bearded Vulture breed an effective and systematic search to locate nests of the species was not possible. A total of 35 (34 active) nests of the Himalayan Griffon were located across eight sites in the States of Jammu & Kashmir, Himachal Pradesh and Uttarakhand. Two nests of the Bearded Vulture were recorded in the Kishtwar area of Jammu & Kashmir, though the species very likely nests throughout the Himalayas in the higher elevations. The Egyptian Vulture, on the other hand, the resident populations of which are widely distributed across much of the country, posed a challenge in the location of their nests as these are dispersed far and wide. During this assessment, a total of 24 (14 active) nests were located in eleven sites, primarily in the States of Rajasthan and Madhya Pradesh.



Other Vulture Nesting Sites



20

Total Sites

-  **Himalayan Vulture - 8**
-  **Bearded Vulture - 1**
-  **Egyptian Vulture - 11**

0 250 500 km



Table 10. State-wise distribution of nesting sites of the Himalayan Griffon, Egyptian Vulture, and Bearded showing total sites, total nests, and active nests documented during the current assessment.

Species	State	Total Sites	Total Nests	Active Nests
Himalayan Griffon	Himachal Pradesh	2	13	13
	Uttarakhand	3	12	12
	Jammu and Kashmir	3	10	9
Egyptian Vulture	Rajasthan	6	12	6
	Madhya Pradesh	3	7	3
	Jammu and Kashmir	1	4	4
	Uttarakhand	1	1	1
Bearded Vulture	Jammu and Kashmir	1	2	2



Migratory Vultures & Other Raptors



During the nationwide vulture population assessment survey, 35 carcass dump sites were documented across nine states to record the presence of migratory vultures and other raptor species. Of these, 30 were major carcass dumping grounds used by local communities to dispose of dead cattle, while the remaining five were designated ‘vulture restaurants’ actively managed by the respective State Forest Departments. Rajasthan recorded the highest number of carcass dumping sites (12), Gujarat (4) and Uttar Pradesh (3). Notably, Uttar Pradesh had the highest number of vulture restaurants (2). States like Himachal Pradesh, Maharashtra, Jammu, Jharkhand, and Madhya Pradesh also had carcass dumps, although these sites were fewer in number and varied in their reliability. Details of these sites across different regions are given in Annexure 7.

The carcass dumping site surveys across Rajasthan revealed Egyptian Vulture as the most abundant species, with a total of 7,715 individuals recorded across the surveyed sites. Significant populations were found at Keru (4,056 individuals), Jorbeed (1450 individuals), and Bhadariya (758 individuals). Similarly, the Himalayan Griffon was widely observed, with 890 individuals recorded across all sites. The highest numbers of Himalayan Griffons were found at Bhadariya (391 individuals) and Keru (205 individuals). The Eurasian Griffon, a migratory vulture in India, was also documented in large numbers, with a total of 2,800 individuals, most notably at Jorbeed (911 individuals) and Keru (966 individuals). Additionally, a total of 70 Cinereous Vultures and seven Red-headed Vultures were recorded across the survey sites, with Keru having the maximum numbers for Cinereous Vultures (22) while Machia Biological Park for the Red-headed Vultures (5).







Table 11. Vulture species composition recorded at carcass dump sites across districts in the state of Rajasthan.

Site Name	Eurasian Griffon	Cinereous Vulture	Red-headed Vulture	Himalayan Griffon	Egyptian Vultures
Bikaner					
Deshnokh	0	0	0	0	122
Dungargad	310	7	0	80	115
Jorbeed	911	16	0	195	1450
Nokha	0	0	0	0	201
Jaisalmer					
Bhadariya	558	12	0	391	758
Chelak	14	4	2	6	21
Majylar	27	5	0	8	32
Tanot	0	0	0	0	12
Jodhpur					
Keru	966	22	0	205	4056
Machiya bio park	14	4	5	5	38
Kota					
City Dumpyard	0	0	0	0	535
Udaipur					
Balicha	0	0	0	0	375
Total	2800	70	7	890	7715









Other than vultures, a variety of raptor species were also recorded. Black Kites (*Milvus migrans*) were notably abundant, with 1,192 individuals observed across the sites, particularly at Keru (488 individuals) and Balicha (346 individuals). Raptors like Steppe Eagles (*Aquila nipalensis*) and Imperial Eagle (*Aquila heliaca*) were also observed in significant numbers at the carcass dump sites.

Table 12. Counts of other raptor species at carcass dump sites across different districts of Rajasthan, based on observations during field surveys.

Site Name	Black Kite	Steppe Eagle	Imperial Eagle	Greater Spotted Eagle	Buzzards	Tawny Eagle	Common Kestrel
Bikaner							
Deshnokh	0	0	0	0	0	0	0
Dungargad	0	45	0	0	0	0	0
Jorbeed	0	561	24	0	0	0	0
Nokha	0	55	0	0	0	0	0
Jaisalmer							
Bhadariya	0	172	5	0	0	0	0
Chelak	0	4	0	0	5	0	0
Majylar	0	3	0	0	2	1	2
Tanot	0	0	0	0	2	0	3
Jodhpur							
Keru	488	457	15	0	0	0	0
Machiya bio park	65	5	0	0	0	0	0
Kota							
City Dumpyard	293	16	0	2	0	0	0
Udaipur							
Balicha	346	20	0	6	0	0	0
Total	1192	1338	44	8	9	1	5

*Buzzards include both Common Buzzard and Long-legged Buzzard



Discussion

Highlighting the fact that much of the information on the vulture nesting sites and the number of individuals was poorly known, this PAN India vulture population assessment represents the first systematic nationwide effort to document current nesting populations of three resident *Gyps* vultures and one *Sarcogyps*. This assessment, while it recorded the continued presence of vulture nesting across the country, it also reveals the absence of nesting of vultures from nearly 72% of their previously known nesting sites. This widespread absence reflects the continued precarious state of vulture populations in the country. This raises serious concerns, as once vulture populations collapse at a site, natural recolonisation is often slow and uncertain. In this context, the dataset generated through this assessment serves as a crucial baseline for long-term monitoring and population trend analysis and offers site-specific insights into the status of vulture populations at a local scale, underscoring the urgent need for targeted conservation interventions.

The assessment highlights a notable variation in the scale of decline across vulture species, with the Slender-billed Vulture and Red-headed Vulture showing the most alarming losses, now being absent from all of their previously known nesting sites. Similarly, the White-rumped Vulture, once the most widespread and abundant of the resident vultures in the country, has also disappeared from nearly 90% of its historic nesting range and now persists only in small, fragmented pockets. The Indian Vulture, on the other hand, continues to occur in the Central Indian region primarily within the PAs, though it no longer nests in 30% of the previously known nesting sites. Importantly, some of these sites for different vulture species still have intact nesting habitats; yet their absence suggests that factors such as the presence of vulture toxic drugs and secondary poisoning of carcasses may still be hindering population recovery.

In addition to documenting extensive site-level losses, this assessment also reveals that nesting sites now appear increasingly concentrated in Central and North-western India, particularly in the States of Madhya Pradesh, Maharashtra and Rajasthan, where ecological conditions are more favourable. These regions support high livestock densities

(BAHS, 2014), consistent availability of carrion through traditional carcass disposal practices, and the presence of tall trees and cliffs, often within Protected Areas, that provide secure nesting habitats. Moreover, lower levels of human disturbance in these areas contribute to improved reproductive success (Zuberogitia et al., 2008). In contrast, Eastern India, despite having a large portion of the vultures' historical range, showed extensive site-level declines.

The loss of vulture nesting sites is particularly evident in the case of the Slender-billed Vulture, once widely distributed across the lower Gangetic plains and Brahmaputra valley, the current assessment found no sign of nesting at any of the 47 historically documented nesting sites, indicating that even after ban of vulture toxic drugs, the population has not recovered. Nesting activity is now entirely restricted to Upper Assam, marking the only remaining known breeding population in the country. Here, 40 breeding individuals were recorded at newly found 20 locations, indicating a modest yet encouraging increase over earlier road transect surveys by Prakash et al. (2024), reporting only 12 and 11 individuals in 2015 and 2022, respectively.

Despite the marginal improvement in the population, the Slender-billed Vulture remains in a critical state. Field observations revealed that Slender-billed Vultures are nesting predominantly on *Bombax ceiba*, often the tallest remaining trees with a broad canopy structure in the floodplains. However, these trees are frequently situated on private land, where development priorities pose significant threats. As a result, habitat degradation and deforestation continue to reduce nesting opportunities across much of the vultures' range, making the conservation of key tree species and landscapes critical for sustaining their breeding populations (Sharma, 2024). Additionally, secondary poisoning, particularly from pesticide-laced carcasses, continues to be a major mortality factor in the region (Ali et al., 2017). Targeted conservation action in Assam is therefore critical to prevent further declines.

The White-rumped Vulture, another tree-nesting species also had a major contraction in its nesting range, with only 13% of historically known nesting sites still supporting active colonies. The persistence of White-rumped Vulture colonies was found to be strongly

associated with landscapes that continue to provide key ecological conditions such as suitable nesting structures, consistent carrion availability, and low disturbance. Nowhere is this more evident than in Himachal Pradesh, particularly the Kangra Valley, which supports the largest remaining breeding populations of the species (Bhattacharya and Talukdar, 2024). Here, nesting is predominantly on Chir Pine, whose structural height, open canopy, and branch spread provide ideal conditions for colonial nesting (Kendall et al., 2018). However, Chir Pine forests are also highly fire-prone due to their resinous needle litter, leading to frequent forest fires in this region. These fires pose a serious threat to nesting success by directly causing loss of nests and nesting trees, thereby jeopardising the long-term stability of breeding colonies. White-rumped Vultures have also largely disappeared from areas where key habitat features and food availability have declined, underscoring its vulnerability to subtle changes in ecological conditions necessary for breeding and survival.

On the other hand, the continued survival of species such as the Indian Vulture and Red-headed Vulture was found to be closely tied to the Protected Area networks of the country. This assessment found that over 60% of all documented Indian Vulture nests were located within PAs. Similarly, all confirmed nesting records from this study and the vast majority of recent sightings of Red-headed Vultures from the citizen science platforms were also restricted to PAs. This further highlights the critical role that protected landscapes play in sustaining populations of these Critically Endangered species.

Nesting sites of the cliff-nesting Indian Vulture are now largely concentrated in the PAs of Madhya Pradesh and Rajasthan, where numerous vertical cliff faces of the Satpura and Vindhyan hill systems and Chambal River escarpments provide ideal nesting conditions, predominantly within the PAs. These topographic features not only offer physical security from terrestrial disturbances but also support efficient thermoregulation and soaring flight, essential for a large species like the Indian Vulture. Further, in TRs such as Panna, Satpura, and Bandhavgarh where high densities of large carnivores contribute to regular wild carcass availability also plays a crucial role in supporting colonies of Indian Vultures. Notably, in Bandhavgarh Tiger Reserve, this assessment revealed that the number of Indian Vulture nests under these favourable ecological conditions has increased

significantly from previous estimates. While Navaneethan et al. (2015) recorded 25 nests, the current survey documented 98 nests, indicating a substantial population growth within the reserve. This trend highlights the positive impact of well-managed PA habitats and adequate food availability on the recovery of the species. Together, these ecological factors have made Central and North-western India a vital refuge for the Indian Vulture's recovering population.

While the Indian Vulture demonstrates encouraging signs of recovery within well-managed Protected Areas, the Red-headed Vulture continues to pose a different conservation challenge. The species presents unique monitoring challenges due to its solitary, territorial nesting habits and preference for dense forest habitats. Its restricted distribution, largely within Protected Areas, reflects a strong dependence on well-preserved ecosystems that provide both suitable nesting sites and access to wild carrion relatively free from toxic veterinary drugs (Kumar, 2016). While its presence across multiple PAs suggests some level of ecological persistence, the overall population remains critically low and highly fragmented. The extremely limited number of confirmed breeding sites underscores the species' precarious status and indicates the urgent need for focused conservation interventions tailored to its specific ecological requirements.

Understanding the population status of vulture species beyond the four Critically Endangered residents remains a complex task, especially for high-altitude and wide-ranging taxa such as the Himalayan Griffon and Bearded Vulture. The Himalayan Griffon, although commonly seen in India during winter, breeds across a much broader transboundary range that includes southern Tibet and central China (Clark et al., 2020). Its migratory nature and preference for inaccessible cliff sites make breeding assessments especially challenging. The Bearded Vulture, with its solitary and territorial nesting behaviour, occurs at naturally low densities, further limiting detectability (Subedi et al., 2018). Current knowledge remains fragmentary and heavily reliant on opportunistic observations or small-scale studies. Addressing these gaps will require dedicated, well-resourced efforts, including targeted surveys in select high-altitude regions and the application of satellite telemetry to select individuals to identify and monitor nesting sites over time.

The Egyptian Vulture, in contrast, posed a different set of challenges. While its resident populations are broadly distributed across much of the Indian subcontinent, nests of this vulture are typically scattered and often solitary, located on cliffs, buildings, and isolated trees, making systematic detection highly impractical during a large-scale survey. Even though a comprehensive population estimate could not be derived for these three species, the nesting sites and individual nests recorded during this assessment provide valuable baseline data. These findings help confirm current breeding areas, inform species-specific distribution patterns, and highlight key habitats that warrant closer monitoring in future studies.

Beyond the nesting observations, the assessment of carcass dumping sites highlights the absence of resident vulture species such as the Indian Vulture and White-rumped Vulture, suggesting that their populations may have declined to such critical levels that they no longer utilise these sites. In contrast, these locations were predominantly used by migratory species, including the Eurasian Griffon and Egyptian Vulture. The presence of Eurasian Griffons in large numbers at these sites aligns with their rising global trends. Additionally, the presence of several other species of birds of prey highlights the ecological significance of these sites. However, the potential exposure of these migratory vultures to vulture-toxic NSAIDs remains poorly understood, as the origin and contamination status of carcasses arriving at these sites remain largely unverified.

One of the most pressing concerns identified during the survey is the proliferation of feral dogs at carcass dump sites. These dogs not only compete directly with vultures for carrion but may also disrupt feeding behaviour, deter site use, and pose predation risks, especially for ground-roosting or immature individuals. To maintain the utility of these sites for threatened and migratory scavengers, there is an urgent need to integrate carcass management into broader conservation planning. This includes regulation of carcass quality (ensuring NSAID-free remains), exclusion of feral dogs, and routine monitoring of species use and population trends.

Taken together, the insights from this assessment, ranging from species-specific nesting trends to the role of carcass dumping sites, establish a much-needed foundation for

coordinated conservation action. While this study focused solely on estimating the number of breeding adults for the resident vulture species, offering a conservative estimate of minimum population size, it serves as a valuable baseline for future studies and tracking population trends. Unlike localised, uncoordinated surveys or road transects that usually provide presence–absence data, this method offered more robust and repeatable insights into breeding activity and population viability of vultures across the country. Despite the limitation of excluding non-breeding individuals, this approach remains one of the most practical and effective methods for assessing vulture populations across large landscapes. Currently, much of the available information on vulture presence and nesting remains dispersed across records maintained by state Forest Departments, PA managers, and local organisations, making broader pattern analysis challenging.

This assessment reinforces the value of a synchronised, nationwide approach, demonstrating how systematic nest count methodologies can yield reliable and comparable data for long-term conservation planning. Further, this information becomes important in the captive vulture release plans. Vultures, specifically colony nesters such as the three Asian Gyps vultures often rely on social cues when selecting nesting sites, and new individuals are more likely to establish if they are released near existing colonies. As such, the nesting locations identified in this assessment may serve as potential sites for strategic releases aimed at increasing the wild populations. Additionally, the data generated from the assessment now feeds into the National Vulture Database, a centralised platform that will play a key role in long-term population tracking, conservation planning, and habitat management. This database needs to be updated at select intervals to include any new nesting locations and future survey findings. Lastly, the decline of India's vultures can be further arrested, ensuring their long-term survival across the subcontinent through continued monitoring and strategic interventions.

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Annexures

Annexure 1: Details of 110 nesting sites of Indian Vulture recorded during this assessment.

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
Andhra Pradesh									
1	Prakasam	Srisailem TR NSTR	Gaddal Sari	16.2107	79.1624	-	-	-	-
2	Prakasam	Srisailem TR NSTR	Jinkala Kayya	16.2252	79.1059	-	-	-	-
Telangana									
3	Prakasam	Amrabad TR	Parpa Bandal	16.2289	79.0911	-	-	-	-
Chhattisgarh									
4	Mungeli	Achanakmar TR	Aurapani Cliffs	22.4918	81.5238	8	8	-	16 - 16
5	Koriya	Gure Ghasidas TR	Padwa likha cliffs	23.7237	82.2704	4	-	4	0 - 8
6	Koriya	Gure Ghasidas TR	Lodakund Cliff	23.7931	82.1141	18	14	4	28 - 36
7	Bijapur	Indravati TR	Posadpalli	18.8037	80.4104	23	14	9	28 - 46
8	Mahasamund	-	Sishupal Cliff	21.2043	83.1132	-	-	-	-
Gujarat									
9	Junagadh	-	Girnar Hill	21.5271	70.5223	34	25	9	50 - 68
10	The Dangs	-	Don Hill	20.7299	73.8778	6	5	1	10 - 12
11	The Dangs	-	Chinchil	20.7246	73.9137	8	5	3	10 - 16

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
Karnataka									
12	Ramanagara	Ramadevarabett a Vulture Sanctuary	Ramdevarabett a Vulture Sanctuary	12.7466	77.2996	4	1	3	2 - 4
Madhya Pradesh									
13	Hoshangabad	Satpura TR	Jumbo deep	22.4808	78.4328	6	6	-	12 - 12
14	Hoshangabad	Satpura TR	Dhoopgard	22.4519	78.3758	10	8	2	16 - 20
15	Hoshangabad	Satpura TR	Silver Fall	22.4529	78.4471	11	8	3	16 - 22
16	Hoshangabad	Satpura TR	Kela gard	22.4866	78.4728	25	18	7	36 - 50
17	Hoshangabad	Satpura TR	Kala pahad	22.4094	78.4224	6	2	4	4 - 12
18	Hoshangabad	Satpura TR	Bhairo Gupha	22.4056	78.425	36	27	9	54 - 72
19	Hoshangabad	Satpura TR	Nandigard Cliff	22.4056	78.425	42	35	7	70 - 84
20	Hoshangabad	Satpura TR	Rodighat Cliff	22.4344	78.3574	18	12	6	24 - 36
Madhya Pradesh									
21	Hoshangabad	Satpura TR	Nishangard cliff	22.4526	78.3421	13	9	4	18 - 26
22	Umaria	Bandhavgarh TR	Bathan ke raha, Watchtower side	23.6782	81.0278	42	36	6	72 - 84
23	Umaria	Bandhavgarh TR	Main Bathan Camp side	23.6599	81.0344	31	26	5	52 - 62
24	Umaria	Bandhavgarh TR	Rajbhera Talab side	23.6627	81.0201	25	23	2	46 - 50
25	Chhatarpur	Panna TR	Kakar Sai	24.5329	79.8327	8	5	3	10 - 16

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
26	Panna	Panna TR	K.N.4 tower	24.5021	79.8632	13	7	6	14 - 26
27	Chhatarpur	Panna TR	Cliff in compartment 487	24.4859	79.8283	18	14	4	28 - 36
28	Chhatarpur	Panna TR	Cliff in compartment 488	24.4862	79.8269	9	5	4	10 - 18
29	Chhatarpur	Panna TR	Cliff in 493 PF	24.4768	79.826	4	4	-	8 - 8
30	Chhatarpur	Panna TR	Marka Sia	24.4837	79.805	9	4	5	8 - 18
31	Chhatarpur	Panna TR	Ambipani cliff	24.4852	79.8429	11	6	5	12 - 22
32	Panna	Panna TR	Gherighat camp	24.4725	79.8787	10	10	-	20 - 20
33	Panna	Panna TR	Deoradeo	24.5133	79.8801	31	26	5	52 - 62
34	Panna	Panna TR	Sakhri	24.5164	79.8819	46	38	8	76 - 92
35	Panna	Panna TR	Dhunduga seha	24.6254	79.972	38	26	12	52 - 76
36	Tikamgarh	Orcha WLS	Orcha Chattris	25.3438	78.6377	2	1	1	2 - 4
37	Shivpuri	Madhav TR	Gidhwali phadi	25.6065	77.6952	2	2	-	4 - 4
38	Shivpuri	-	Karibara	25.6054	77.7187	9	7	2	14 - 18
39	Shivpuri	-	Karibara, comp 938	25.6322	77.7243	8	6	2	12 - 16
40	Shivpuri	-	Karibara, comp 940	25.6294	77.6979	9	7	2	14 - 18
41	Shivpuri	-	Kedareshwar Temple	25.5199	77.3639	13	6	7	12 - 26
42	Shivpuri	-	Powri	25.5277	77.3591	16	10	6	20 - 32

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
43	Sheopur	Kuno NP	Moravan Range, Daulatpura	25.562	77.2245	43	30	13	60 - 86
44	Sheopur	Kuno NP	Giddh Dhah	25.8219	77.1919	21	18	3	36 - 42
45	Sheopur	Kuno NP	Nhor Dah	25.6958	77.2828	19	12	7	24 - 38
46	Shahdol	Ahrganva FD	Jugwari	23.0263	81.5488	16	13	3	26 - 32
47	Shahdol	Ahrganva FD	Kathautiya East	23.0613	81.4519	12	7	5	14 - 24
48	Shahdol	Ahrganva Forest Division	Kathautiya West	23.0634	81.4066	8	3	5	6 - 24
49	Neemuch	Gandhi Sagar WLS	Chaurasigard Cliff	24.6587	75.5847	23	18	5	36 - 46
50	Neemuch	Gandhi Sagar WLS	East Range Cliff near no.3 gate	24.6595	75.5902	34	21	13	42 - 68
51	Neemuch	Gandhi Sagar WLS	Cliff on Kulti river in Compartment 967	24.6165	75.4607	8	6	2	12 - 16
52	Chhindwara	-	Tamia	22.3548	78.6629	10	10	-	20 - 20
53	Hoshangabad	Satpura TR	Bagda buffer	22.5959	78.0234	-	-	-	-
Maharashtra									
54	Pune	-	Tamhini, Village	18.4469	73.4305	2	2	-	4 - 4
55	Pune	-	Nane Machi	18.2011	73.5604	10	8	2	16 - 20
56	Raigarh	-	Pali Sudhagad	18.5426	73.227	4	3	1	6 - 8
57	Raigarh	-	Fort Raigad	18.2347	73.4464	4	4	-	8 - 8

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
58	Pune	-	Tamhini Ghat, Behind Garud Machi	18.4511	73.4098	2	2	-	4 - 4
59	Nashik	-	Anjaneri Cliffs	19.9199	73.57	18	11	7	22 - 36
60	Nashik	-	Bhramagiri Cliffs	19.9152	73.5233	30	24	6	48 - 60
61	Nashik	-	Harihar Fort	19.9046	73.472	6	5	1	10 - 12
62	Nashik	-	Harihar Fort	19.9046	73.472	10	6	4	12 - 20
63	Nashik	-	Devgad fort, Ramshej	20.1257	73.7456	2	2	-	4 - 4
64	Nashik	-	Ahiwantvadi	20.4108	73.8619	6	4	2	8 - 12
65	Nashik	-	Salher	20.7223	73.9417	4	2	2	4 - 8
66	Nashik	-	Jawlya Fort	20.3738	73.9584	10	8	2	16 - 20
67	Palghar	-	Utwad Fort	19.9116	73.4231	10	6	4	12 - 20
68	Nashik	-	Chandwad Fort	20.3361	74.2556	8	6	2	12 - 16
69	Raigarh	-	Khandi	18.9357	73.4676	-	-	-	-
70	Pune	-	Nigade	18.8326	73.6642	-	-	-	-
71	Palghar	-	Basgad Cliffs	19.9042	73.4309	-	-	-	-
Rajasthan									
72	Bundi	Mukundra Hills TR	Geparnath Mahadev	25.0615	75.7209	67	49	18	98 - 134
73	Kota	Mukundra Hills TR	Garadhia Mahadev Chambal river Cliffs	25.1229	75.7269	51	42	9	84 - 102

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
74	Jodhpur	-	Dugar	26.2815	72.6553	5	-	5	0 - 10
75	Jodhpur	-	Meharangard fort	26.3031	73.0203	2	-	2	0 - 4
76	Jodhpur	-	Sid Nath Hills	26.2725	72.9549	4	2	2	4 - 8
77	Jodhpur	-	Golasani Hills	26.3113	72.9607	4	2	2	4 - 8
78	Sawai Madhopur	Ranthambore TR	Phalodi cliff	25.9719	76.3716	15	8	7	16 - 30
79	Sawai Madhopur	Ranthambore TR	Anatpur guest house cliff	26.0884	76.5572	12	10	2	20 - 24
80	Sawai Madhopur	Ranthambore TR	Kachitamata Mandir cliff	26.0903	76.5172	7	4	3	8 - 14
81	Sawai Madhopur	Ranthambore TR	Halomda village	25.9316	76.3775	9	4	5	8 - 18
82	Sawai Madhopur	Ranthambore TR	Bodal Cliff	25.9348	76.4155	5	3	2	6 - 10
83	Sawai Madhopur	Ranthambore TR	Guda Pahad	25.9632	76.439	45	37	8	74 - 90
84	Sawai Madhopur	Ranthambore TR	Cliff beside guda pahad	25.9709	76.4436	22	15	7	30 - 44
85	Sawai Madhopur	Ranthambore TR	Raan Cliff	25.9851	76.4352	4	4	-	8 - 8
86	Sawai Madhopur	Ranthambore TR	Lal Ghati Cliff	26.013	76.467	7	3	4	6 - 14
87	Alwar	Sariska TR	Garbaji	27.5572	76.477	16	12	4	24 - 32
88	Alwar	Sariska TR	Hawa Mehal	27.3143	76.4515	13	9	4	18 - 26
89	Alwar	Sariska TR	Naleshwar	27.4114	76.4486	15	6	9	12 - 30
90	Bharatpur	-	Bayana	26.8942	77.2775	19	19	-	38 - 38

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
91	Bharatpur	-	Gajjipar Nagla Ghansola	26.9051	77.2255	6	6	-	12 - 12
92	Dhaulpur	-	Damod	26.4822	77.4147	14	14	-	28 - 28
93	Jodhpur	-	Machia Biological Park	26.3132	72.9788	-	-	-	-
94	Pali	-	Sardar Samand	26.0107	73.3698	-	-	-	-
95	Barmer	-	lalji ki dungri	25.7531	71.3769	-	-	-	-
96	Barmer	-	Chohtan	25.4822	71.0492	-	-	-	-
97	Barmer	-	Dhava Dholi	26.0647	72.6607	-	-	-	-
98	Bikaner	-	Kolayat Tehsil of Bikaner	27.8431	72.9544	-	-	-	-
Tamil Nadu									
99	Erode	Sathyamangalam TR	Sathyamangalam TR	11.6042	77.1589	6	6	-	12 - 12
Telangana									
100	Adilabad	Kawal TR	Palla rapu cliff	19.213	79.9131	4	1	3	2 - 8
101	Mahbubnagar	Amrabad TR	Akamahadevi Caves	16.1573	78.8339	-	-	-	-
Andhra Pradesh									
102	Mahbubnagar	Srisailem TR NSTR	Cliff in front of Octopus point	16.1061	78.8809	-	-	-	-
Uttar Pradesh									
103	Jhansi	-	Sivra Cliff	25.7727	78.9673	13	8	5	16 - 26
104	Lalitpur	Mahavir Swami WLS	Rajghati	24.5136	78.2409	8	8	-	16 - 16

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
105	Lalitpur	Mahavir Swami WLS	Naharghati	24.5135	78.2427	10	10	-	20 - 20
106	Lalitpur	Mahavir Swami WLS	Rampura	24.5082	78.2521	4	4	-	8 - 8
107	Lalitpur	-	Munchkund caves	24.4885	78.2946	22	22	-	44 - 44
108	Lalitpur	-	Madanpur East beat	24.2416	78.72	14	14	-	28 - 28
109	Udaipur	-	Eklingji	24.7562	73.7181	5	5	-	10 - 10
110	Chittorgarh	-	Chittorgarh fort Ram Pol gate	24.8965	74.6436	5	5	-	10 - 10
	Total					1379	1029	350	2058 - 2758

Annexure 2: Details of the nesting sites of White-rumped Vulture recorded during this assessment.

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
Assam									
1	Sivasagar	-	Gurukethan Nepali Gaon	27.1724	94.6639	1	1	-	2 - 2
2	Tinsukia	-	Jhiya Gaon	27.8721	95.6741	1	1	-	2 - 2
3	Tinsukia	-	Jhiya Gaon	27.8712	95.6755	1	1	-	2 - 2
4	Lakhimpur	-	Karhaghat	27.1936	94.3713	4	4	-	8 - 8
5	Dhubri	-	Mahamaya Mandir Sal Plantation	26.2033	90.1307	16	16	-	32 - 32
6	Dhubri	-	Mahamaya Mandir Teak Plantation	26.1882	90.0916	4	4	-	8 - 8
7	Baksa	Manas NP	Kokalibari sheed farm	26.7613	91.1807	2	-	2	0 - 4
Chhattisgarh									
8	Bijapur	Indravati TR	Posadpalli	18.8037	80.4104	18	10	8	20 - 36
9	Bijapur	Indravati TR	Dampaya	18.8130	80.4955	9	3	6	6 - 18

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
Gujarat									
10	Surendranagar	-	Baharad Village	22.8867	71.6021	15	15	-	30 - 30
11	Bhavnagar	-	Mauha Coconut plantation	21.0802	71.7792	4	4	-	8 - 8
12	Bhavnagar	-	Devalia Coconut Plantation	21.0641	71.7302	3	3	-	6 - 6
13	Anand	-	Kali Talavadi	22.3601	72.6486	2	-	2	0 - 4
14	Anand	-	Nagra-Neja road	22.3490	72.6146	3	3	-	6 - 6
15	Valsad	-	Sawarna	20.3468	73.4192	1	1	-	2 - 2
Himachal Pradesh									
Data for Himachal Pradesh is available with Bhattacharya & Talukdar (2024)									
Jharkhand									
16	Hazaribagh	-	Urwan More	24.3556	85.4756	3	2	1	4 - 6
17	Hazaribagh	-	Pathalgadda	24.3585	85.4815	3	2	1	4 - 6
Kerala									
18	Wayanad	Wayanad WLS	Kazhu Kan Kolli	11.7750	76.2586	1	-	1	0 - 2
19	Wayanad	Wayanad WLS	Churchad Junction	11.7811	76.2636	1	-	1	0 - 2

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
Madhya Pradesh									
20	Seoni	Pench TR	Turia Beat conjunction with allikatta beat	21.7539	79.3212	3	1	2	2 - 6
21	Seoni	Pench TR	Turia Beat conjunction with allikatta beat	21.7539	79.3212	2	1	1	2 - 4
22	Seoni	Pench TR	Turia Beat conjunction with allikatta beat	21.7539	79.3212	4	1	3	2 - 8
23	Seoni	Pench TR	Daudikund	21.7622	79.2754	2	2	-	4 - 4
24	Mandla	Kanha TR	Soaf beat	22.33693	80.6065	17	17	-	34 - 34
25	Chhatarpur	Panna TR	Barana river bridge	24.5187	79.6701	6	4	2	8 - 12
26	Shahdol	Ahrganva FD	Kauthiya East	23.0682	81.4216	30	30	-	60 - 60
27	Neemuch	Gandhi Sagar WLS	Parpadiya	24.6400	75.3656	31	30	1	60 - 62
Maharashtra									
28	Raigarh	Mhasla Forest	Chirgaon	18.1323	73.1402	9	7	2	14 - 18
29	Raigarh	-	Shrivardhan Plantation colony	18.048	73.019	18	15	3	30 - 36
30	Ratnagiri	-	Anjarle	17.8567	73.0966	-	-	-	-

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
31	Gadchiroli	-	Dechli	19.0888	80.1382	5	3	2	6 - 10
32	Gadchiroli	-	Velgur	19.1620	80.2358	2	1	1	2 - 4
33	Gadchiroli	-	Damrancha	19.1620	80.2358	1	1	0	2 - 2
Rajasthan									
31	Jodhpur	-	Guda Bishonai village	26.10588	73.0879	1	-	1	0 - 2
32	Jodhpur	-	Khejrali	26.1522	73.1488	2	-	2	0 - 4
33	Jaisalmer	Desert NP	sam	26.6205	70.6293	1	1	-	2 - 2
34	Jaisalmer	Desert NP	Myajlar	26.3195	70.4302	5	5	-	10 - 10
35	Jaisalmer	-	Satto	26.3198	70.4197	1	1	-	0 - 2
36	Jaisalmer	Desert NP	-	26.1545	70.2881	1	1	-	0 - 2
37	Jaisalmer	-	Satto	26.3177	70.4228	1	1	-	0 - 2
38	Jaisalmer	Desert NP	Myajlar	26.3162	70.3939	1	1	-	0 - 2
39	Jaisalmer	Desert NP	-	26.3075	70.3912	1	1	-	0 - 2
40	Jaisalmer	-	Maneri	26.5284	70.6089	1	-	1	0 - 2
41	Jaisalmer	Desert NP	-	26.1544	70.2882	1	-	1	0 - 2
42	Jaisalmer	Desert NP	-	26.1512	70.2834	1	-	1	0 - 2

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
35	The Nilgiris	Mudhumalai TR	Jaglikadu	11.5818	76.7026	13	13	-	26 - 26
36	The Nilgiris	Mudhumalai TR	Kotagaipatti	11.5674	76.7511	11	10	1	20 - 22
37	The Nilgiris	Mudhumalai TR	Giddal Patti	11.5458	76.7779	23	23	-	46 - 46
Uttar Pradesh									
38	Shravasti	Sohelwa WLS	Jharmouli	27.8103	82.1455	24	24	-	48 - 48
39	Pilibhit	Pilibhit TR	Campartment 11	28.6313	80.2617	1	-	1	0 - 2
West Bengal									
40	Jalpaiguri	Buxa TR	Buxa Forest	26.6043	89.5643	8	8	-	16 - 16
	Total					303	262	41	524 - 606

Annexure 3: Details of 12 nesting sites of Slender-billed Vulture recorded during this assessment.

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
Assam									
1	Sivasagar	-	Sukan Pakhuri	27.1667	94.7456	1	1	-	2 - 2
2	Sivasagar	-	Devbubi	27.1933	94.6875	1	1	-	2 - 2
3	Sivasagar	-	Singyoni	27.1885	94.6771	2	2	-	4 - 4
4	Sivasagar	-	Dhiyabari	27.1845	94.6704	2	2	-	4 - 4
5	Sivasagar	-	Dhiyabari	27.1898	94.6742	2	2	-	4 - 4
6	Sivasagar	-	Gurukethan Nepali Gaon	27.1835	94.6696	1	1	-	2 - 2
7	Tinsukia	-	Ghunti Bill	27.8717	95.7074	2	2	-	4 - 4
8	Tinsukia	-	8 mile Junction	27.8592	95.7654	2	2	-	4 - 4
9	Tinsukia	-	Majgaon	27.8588	95.7705	2	2	-	4 - 4
10	Tinsukia	-	Changchap	27.8574	95.7924	2	2	-	4 - 4
11	Tinsukia	-	Dolapani	27.8458	95.8295	1	1	-	2 - 2
12	Tinsukia	-	Nutan Blijan	27.8392	95.8582	2	2	-	4 - 4
	Total					20	20	-	40 - 40

Annexure 4: Details of the five nesting sites of Red-headed Vulture recorded during this assessment.

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
Madhya Pradesh									
1	Shivpuri	Madhav TR	Ambakunj Comp 41	25.4559	77.7134	1	1	-	2 - 2
2	Shivpuri	Madhav TR	Ambakunj Comp 47	25.4483	77.7266	1	1	-	2 - 2
3	Shivpuri	Madhav TR	comp 79, Central range	25.4904	77.86	1	1	-	2 - 2
4	Neemuch	Gandhi Sagar WLS	West range	24.6712	75.5247	1	1	-	2 - 2
Rajasthan									
5	Jaisalmer	Desert NP	sam	26.7113	70.6117	1	1	-	2 - 2
	Total					5	5	-	10 - 10

Annexure 5: Details of eight nesting sites of the Himalayan Griffon recorded during this assessment.

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
Himachal Pradesh									
1	Chamba	-	Chuil Pool	32.2946	76.0539	8	8	-	16 - 16
2	Kangra	-	Tahua	32.2348	76.3631	5	5	-	10 - 10
Jammu and Kashmir									
3	Kishtwar	Kishtwar NP	Parsan	33.5483	75.9724	4	4	-	8 - 8
4	Ramban	-	Patnitop	33.1248	75.2482	2	2	-	4 - 4
5	Kulgam	-	Tunnel Top	33.5149	75.1891	4	3	1	6 - 8
Uttarakhand									
6	Rudraprayag	-	Kaakda	30.4931	79.0776	8	8	-	16 - 16
7	Dehradun	-	Suwakholi	30.4464	78.1854	2	2	-	4 - 4
8	Chamoli	-	Tungnath trail	30.4862	79.2171	2	2	-	4 - 4
	Total					35	34	1	68 - 70

Annexure 6: Details of the 11 nesting sites of Egyptian Vulture recorded during this assessment.

S. No	District	Name of Protected Area	Name of Site	Lat	Lon	Total Nests	Active Nests	Inactive Nests	Number of Breeding Adults
Jammu and Kashmir									
1	Ramban	-	Teli	33.2711	75.1748	4	4	-	8 - 8
Madhya Pradesh									
2	Bhopal	-	kerwa dam	23.1636	77.3724	2	1	1	2 - 4
3	Chhatarpur	Panna TR	Cliff in compartment 488	24.4862	79.8269	2	1	1	2 - 4
4	Neemuch	Gandhi Sagar WLS	Chaurasigard Cliff	24.6587	75.5847	3	1	2	2 - 6
Rajasthan									
5	Kota	Mukundra Hills TR	Garadhia Mahadev Chambal river cliffs	25.1383	75.7906	6	4	2	8 - 12
6	Pali	-	Sanwalta Kalan	26.0541	73.2476	1	-	1	0 - 2
7	Pali	-	Chotila, Pali	25.8733	73.1846	2	-	2	0 - 4
8	Jodhpur	-	Charan mata mandir	26.2137	73.1178	1	-	1	0 - 2
9	Jaisalmer	Desert NP	sam	26.9000	70.5282	1	1	-	2 - 2
10	Jaisalmer	Desert NP	sam	26.8689	70.4592	1	1	-	2 - 2
Uttarakhand									
11	Dehradun	-	Cliff above lambhidhar mines	30.4436	78.0492	1	1	-	2 - 2
	Total					24	14	10	28 - 48

Annexure 7: Details of carcass-dumpsites and Vulture Restaurants recorded during this assessment.

Sr. No	State	District	Site	Lat	Long
1	Gujarat	Ahmedabad	Dabhala	23.094043	72.411287
2	Gujarat	Ahmedabad	Viramgam Panjrapol	23.14125	72.106806
3	Gujarat	Anand	Daheda	22.375689	72.534035
4	Gujarat	Valsad	Huda, Vulture Restaurant	20.296078	73.411247
5	Himachal Pradesh	Kangra	Chakban Salonl	32.130288	76.221367
6	Himachal Pradesh	Kangra	Maira	32.152186	75.965425
7	Himachal Pradesh	Kangra	Vulture Restaurant Pong dam	32.046273	76.066724
8	Jammu & Kashmir	Kathua	Galak	32.587465	75.354104
9	Jammu & Kashmir	Jammu	Rotore Dhok	32.772505	74.884838
10	Jammu & Kashmir	Ramban	Teli	33.271186	75.174796
11	Jharkhand	Kodarma	Gumo	24.413571	85.527558
12	Jharkhand	Hazirabaug	Gaida	24.379021	85.499301
13	Jharkhand	Hazirabaug	Urwan 2	24.363304	85.478177
14	Madhya Pradesh	Bhopal	City Dumping Site	23.263864	77.557303
15	Madhya Pradesh	Neemach	Parpadiya	24.641396	75.364105
16	Maharashtra	Shrivardhan	Pangloli	18.094202	73.081923
17	Maharashtra	Shrivardhan	Chandore	18.15742	73.174305
18	Maharashtra	Nashik	Kharipada, Vulture Restaurant	20.103636	73.464154
19	Rajasthan	Jodhpur	Keru	26.304023	72.898907
20	Rajasthan	Jodhpur	Machiya Biological Park	26.302328	72.984921
21	Rajasthan	Jaisalmer	Tanot	26.739942	69.559439
22	Rajasthan	Jaisalmer	Chelak	26.469109	70.902497
23	Rajasthan	Jaisalmer	Majylar	26.304625	70.419804
24	Rajasthan	Jaisalmer	Bhadariya	27.090987	71.562814
25	Rajasthan	Bikaner	Jorbeed	27.966079	73.378255
26	Rajasthan	Bikaner	Deshnokh	27.787727	73.351242
27	Rajasthan	Bikaner	Nokha	27.535405	73.490231
28	Rajasthan	Bikaner	Dungargad	28.152214	73.979617
29	Rajasthan	Udaipur	Balicha	24.50382	73.68404
30	Rajasthan	Kota	City Dumpyard	25.113567	75.881814
31	Uttar Pradesh	Balrampur	Tikuligad east	27.716948	82.247192
32	Uttar Pradesh	Balrampur	Vulture Restaurant Bankatwa Range	27.758369	82.152245
33	Uttar Pradesh	Shrawasti	Sukahaiya nala	27.822622	82.115211
34	Uttar Pradesh	Shrawasti	Vulture Restaurant Sohelwa West Range	27.82011	82.064125
35	West Bengal	Siliguri	Fulbari	26.6254465	88.4328744

*The highlighted section shows the Vulture Restaurants

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