Critical Habitat Assessment for a Proposed Solar Power Project in YSR (Kadapa) and Anantapur Districts

Project Location: SAEL SOLAR MHP1 PVT. LTD., YSR (Kadapa) and Anantapur Districts of Andhra Pradesh

Final Draft Report

October 2024

Client: SAEL Industries Limited

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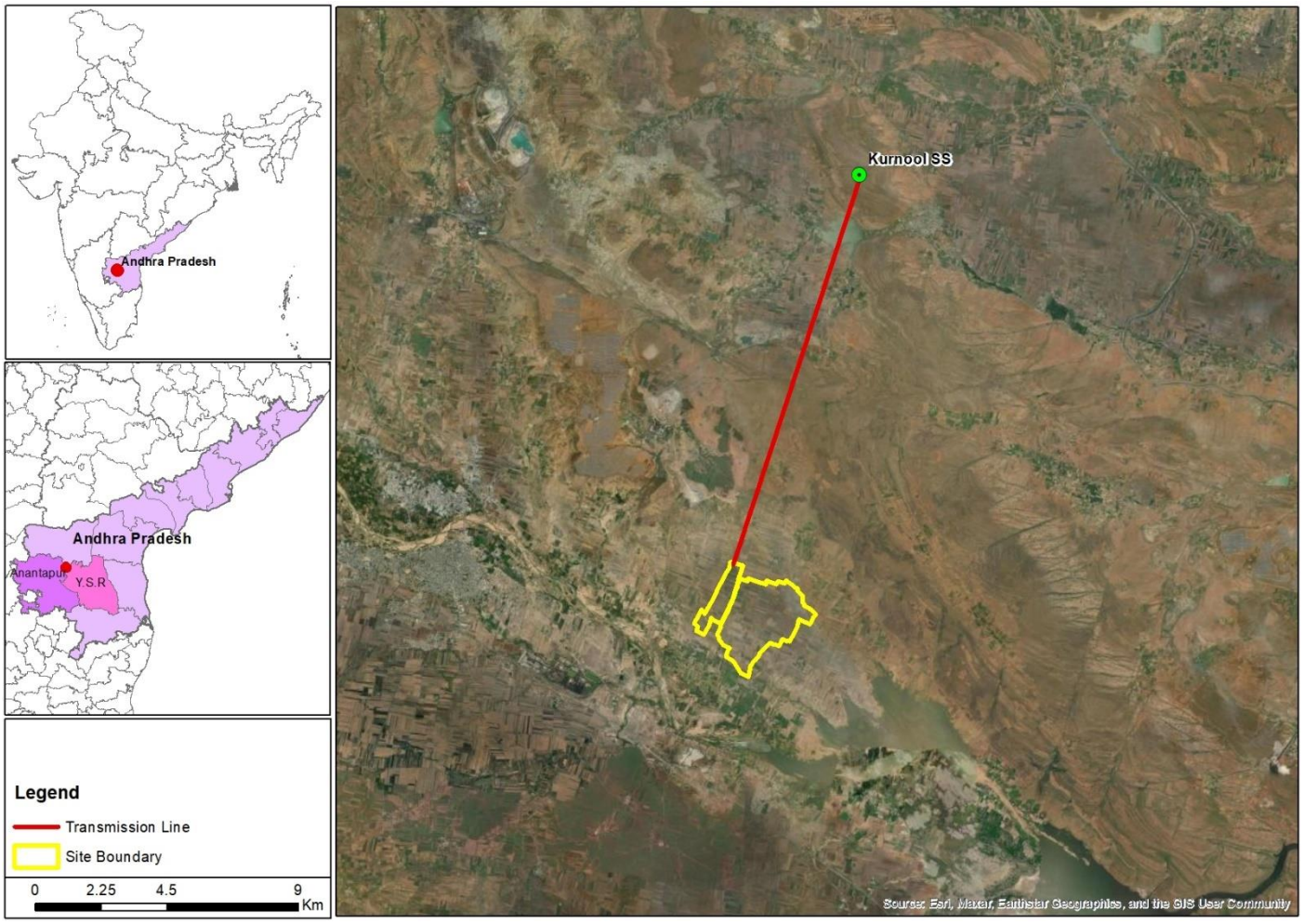
1 Introduction

SAEL Industries Limited (hereafter referred to as 'SAEL' or 'the Company' or 'Client') is currently developing and operating solar power plants across India. As per the requirement of Asian Infrastructure Investment Bank (AIIB) and New Development Bank (NDB), SAEL, intends to conduct a Critical Habitat Assessment for a solar power project proposed between YSR (Kadapa) and Anantapur Districts of Andhra Pradesh, India. Therefore, an E&S Advisor has been engaged by SAEL to conduct the Critical Habitat Assessment for SAEL solar energy facilities located between Koduru village, Kondapuram tehsil, YSR (Kadapa) District and Bodaipalle village, Tadipatri tehsil, Anantapur District of Andhra Pradesh, India.

The project is in its preconstruction phase, with a capacity of 300 MW in an area of about 1500 acres. The generated power will be transmitted to the Kurnool-III ISTS PSS 765/400kV/220KV substation, through overhead 220kV Double Circuit Transmission Line. The proposed project will be situated at an elevation ranging between 242 m to 255 m above mean sea level on flat to undulating agricultural land. The designated area for the project primarily covered with agricultural crops with some trees- primarily *Acacia nilotica* (L.) Delile, *Azadirachta indica* A.Juss., *Calotropis procera* (Aiton) Dryand., *Croton bonplandianus* Baill., *Prosopis juliflora* (Sw.) DC., *Prosopis cineraria* (L.) Druce, and *Ziziphus mauritiana* Lamk.. The project site can be accessed by NH 544F. The nearest town as well as railway station, Tadipatri is at an aerial distance of ~6 kms towards West (***Figure 1-1***).

Figure 1-1: Project location map



1.1 Objective

The objective of this study is to prepare a Critical Habitat Assessment report.

1.2 Scope of Work

The various stages to undertake the Critical Habitat Assessment as suggested in the Terms of Reference along with the approach to addressing the requirements of the study is provided in the section below,

Task 1: Desktop Review (Already completed during CH Screening)

- Review of existing literature such as (i) IESE/ESIA, existing environmental studies, scientific literature or other types of biodiversity assessments available for the project area and/or adjacent areas; (ii) national or regional plans (e.g., Strategic Environmental Assessments, National Biodiversity Strategies and Action Plans, management plans, if any, for the protected area and the Key Biodiversity Area within the area of influence; (iii) existing conservation programs or initiatives.
- Identification of an ecologically appropriate area(s) of analysis (EAAA) for the assessment, in accordance with the applicable PS6 Guidance Note (2019). The EAA will include but is not necessarily limited by, the project's area of influence, as well as the surrounding ecological boundary that considers the extent of biodiversity values and where such values may be negatively impacted by project activities within the broader landscape.
- Developing a list of candidates (species) which may trigger critical habitat
  - Key information sources (e.g. IUCN Red List, expert sources);
  - Rationale for inclusion or exclusion from further assessment;
  - Rationale on potential to trigger critical habitat criteria, where rationale exists for inclusion in further assessment;
  - Key information needs for biodiversity values where rationale and potential to trigger critical habitat criteria exists but existing data is inadequate to confirm the status
- Protected and internationally recognized areas: Review of available information related with the identified areas

Task 2: Stakeholder consultation

- Consultation with experts with relevant experiences or knowledge of the region or its biodiversity values to fill information gaps and understand the area of interest in terms of the potential occurrence of critical habitat values and other biodiversity values. Where possible, this should include consultation with foremost national academic experts for each species to help ensure that the results of unpublished data are accurately reflected and interpreted as appropriate.
- Consultation with protected area sponsors, managers, and other relevant government agencies and conservation organizations with responsibilities related to protected areas.

Task 3: Field Survey

- Based on findings of Task 1 (Desktop Review) the field survey will be conducted to verify the secondary information as well as collect primary data.

Task 4: Habitat characterization

- Using existing vegetation maps, land use maps, satellite imagery, aerial photography, and other supporting information, mapping the extent of PS6 defined modified and/or natural habitat in the EAAA.

Task 5: EAAA mapping and critical habitat determination

- Mapping the EAAA(s) to determine the presence of critical habitat (both global and regional) for species with regular occurrence in the project's area of influence, or ecosystem, covered by PS6 critical habitat Criteria 1-4. Identifying the boundaries of the EAAA(s) taking into account the area of distribution of species or ecosystems (within and often extending beyond the Project's area of influence) and the ecological patterns, processes, features, and functions that are necessary for maintaining them.
- Providing maps of the EAAA(s), including overlap with project boundaries.
- Screening of candidate biodiversity values identified against critical habitat criteria to assess critical habitat status. Application of the critical habitat criteria and thresholds to determine if this area is a critical habitat for the species or ecosystems concerned. Refer to GN63 – GN80 in Guidance Note 6 for further guidance.
- Preparation of a final listing of biodiversity values, in a table format that triggers critical habitat criteria. The determination must be justified according to definitions and thresholds described in PS6 Guidance Note 6. This listing must include each biodiversity value with details on:

- Information sources (e.g. IUCN Red List, expert sources)
- Critical Habitat criteria triggered and rationale
- Any remaining information needs to be required to confirm status as a critical habitat-qualifying value if this is not possible using existing data.

1.3 Applicable Reference Framework

Applicable reference framework for this assignment includes the following:

- IFC Performance Standards Framework, 2012.

1.4 Limitations

This report has been developed based on the Project level information provided by client, discussion during site visit and professional judgment to certain facts with resultant subjective interpretation. This report has been prepared considering the following limitations:

- The secondary data utilized for the purpose of baseline assessment is limited to that available in the public domain or made available during the consultations with the local community.
- The report has been prepared based on rapid survey of one week during 13th to 17th Jun. 2024.
- The project report has not been prepared for any regulatory submission (as part of any permitting process or otherwise).
- This is a non-assurance work with no audit/loan staffing services to be provided and there are no other client-side / other-side parties involved in this engagement.

1.5 Structure of the Report

Chapter 1	Introduction (This Section)
Chapter 2	Approach and Methodology
Chapter 3	Critical Habitat Screening
Chapter 4	Critical Habitat Assessment
Chapter 5	Conclusion

2 Approach and Methodology

2.1 Task 1: Desktop Review

The project site location will run/screen through various databases for IUCN listed threatened species (CR, EN, and VU Species) such as IBAT (Integrated Biodiversity Assessment tools), and citizen science platforms such as eBird, iNaturalist, etc.) to understand the presence and absence of the potential CH trigger species and their habitat values. The potential CH trigger species will be further screened to evaluate the possible presence or absence of the species and habitat values,

2.2 Task 2: Stakeholder consultation

Consultation with the following stakeholders was conducted,

1. Forest Officials
2. Wildlife Officials
3. Wildlife NGOs involved in the conservation of species
4. Researchers and/or Academicians involved in the species assessment and conservation

2.3 Task 3: Field Survey

Walkthrough Transects[1] sampling was conducted to collect primary information specifically for the Screened-In species identified in Critical Habitat Screening. A total of 04 transects were established in the area and marked using GIS in ***Figure 3-2***. Details of walk through transect are given below,

Walk Through Transects	Length	Date	Start Time	End Time	Habitat Covering
Walk Through Transect 1 (WT 1)	1.5 km	13.06.2024	6:10 am	7:00 am	Scrub Land
Walk Through Transect 2 (WT 2)	2.2 km	13.06.2024	7:50 am	8:25 am	Agricultural Land surrounded by Scrub Land
Walk Through Transect 3 (WT 3)	3.1 km	16.06.2024	6:00 am	7:20 am	Scrub Land
Walk Through Transect 4 (WT 4)	3.0 km	16.06.2024	6:10 pm	7:20 pm	Scrub Land

2.4 Task 4: Habitat characterization

We used the Survey of India Toposheet 1:50,000 scale, Satellite imagery along with the available presence and absence data from primary and secondary data, stakeholder consultations to facilitate delineation of natural and modified habitats in the EAAA with the help of GIS.

2.5 Task 5: EAAA mapping and critical habitat determination

EAAA maps was prepared to determine the presence of critical habitats for each habitat and/or for each of the CH candidate species. EAAA maps represent the regular occurrence of species / group of species in the project area as per PS6 Critical habitat criteria. The EAAA maps was overlapped with the project activity areas depicting various components along with the land use, habitat types, and key ecological features within the EAAA. Critical habitat assessment was undertaken based on IFC Performance Standard 6 and its guidance notes. The presence of species of conservation significance, established through the aforementioned methods, was screened to understand if they are critical habitat candidates within the identified EAAA.

2.6 Quantitative Thresholds for Critical Habitat

The final list of species identified within the EAAA, was undergo an evaluation based on the quantitative criteria outlined in the table below. If any of these threshold criteria are satisfied, the project site was designated as a 'Critical Habitat'. In cases where uncertainties persist during the assessment, these uncertainties was addressed and verified through a comprehensive site assessment as part of the Critical Habitat Assessment process.

[1] In the scrub lands, walkthrough surveys were conducted in dusk with the local forest guard to monitor activities of the targeted bird (Jerdon's Courser) in the area.

Table 2-1: Quantitative thresholds for critical habitat as per GN70 to GN83 of IFC PS6

Criterion		Thresholds
1: Critically Endangered and Endangered	Species threatened with global extinction and listed as CR and EN on the IUCN Red List of Threatened Species. Species that are listed nationally/regionally as CR or EN in countries that have adhered to IUCN guidance in consultation with competent professionals	a) Areas that support globally important concentrations of an IUCN Red-listed EN or CR species (0.5% of the global population AND 5 reproductive units of a CR or EN species); b) Areas that support globally important concentrations of an IUCN Red-listed VU species, the loss of which would result in the change of the IUCN Red List status to EN or CR and meet the thresholds at (a). c) As appropriate, areas containing nationally/regionally-important concentrations of an IUCN Red-listed EN or CR species.
2: Endemic and Restricted-range Species	The term endemic is defined as restricted range. Restricted range refers to a limited extent of occurrence (EOO): • For terrestrial vertebrates and plants, a restricted-range species is defined as those species that have an EOO less than 50,000 km^2. • For marine systems, restricted-range species are provisionally being considered those with an EOO of less than 100,000 km^2. • For coastal, riverine and other aquatic species in habitats that do not exceed 200 km width at any point (e.g., rivers), restricted range is defined as having a global range less than or equal to 500 km linear geographic span (i.e., the distance between occupied locations furthest apart).	a) Areas that regularly hold ≥10% of the global population size and ≥10 reproductive units of a species.

3: Migratory and Congregatory Species	Migratory species are defined as any species of which a significant proportion of its members cyclically and predictably move from one geographical area to another (including within the same ecosystem). Congregatory species are defined as species whose individuals gather in large groups on a cyclical or otherwise regular and/or predictable basis; examples include the following: • Species that form colonies. • Species that form colonies for breeding purposes and/or where large numbers of individuals of a species gather at the same time for non-breeding purposes (e.g., foraging, roosting). • Species that move through bottleneck sites where significant numbers of individuals of a species pass over a concentrated period of time (e.g., during migration). • Species with large but clumped distributions where a large number of individuals may be concentrated in a single or a few sites while the rest of the species is largely dispersed (e.g., wildebeest distributions). • Source populations where certain sites hold populations of species that make an inordinate contribution to recruitment of the species elsewhere (especially important for marine species).	a) Areas known to sustain, on a cyclical or otherwise regular basis, ≥1 percent of the global population of a migratory or congregatory species at any point of the species' lifecycle. b) Areas that predictably support ≥10 percent of the global population of a species during periods of environmental stress.
4: Highly Threatened or Unique Ecosystems	The IUCN is developing a Red List of Ecosystems, following an approach similar to the Red List for Threatened Species. The client should use the Red List of Ecosystems where formal IUCN assessments have been performed. Where formal IUCN assessments have not been performed, the client may use assessments using systematic methods at the national/regional level, carried out by governmental bodies, recognized academic institutions and/or other relevant qualified organizations (including internationally recognized NGOs).	a) Areas representing ≥5% of the global extent of an ecosystem type meeting the criteria for IUCN status of CR or EN. b) Other areas, not yet assessed by the IUCN, but determined to be of high priority conservation by regional or national systematic conservation planning

5: Key Evolutionary Processes	The structural attributes of a region, such as its topography, geology, soil, temperature and vegetation and combinations of these variables can influence the evolutionary processes that give rise to regional configurations of species and ecological properties.	No specific criterion available, however examples may include: • Landscapes with high spatial heterogeneity are a driving force in speciation as species are naturally selected on their ability to adapt and diversify. • Environmental gradients, also known as ecotones, produce transitional habitat which has been associated with the process of speciation and high species and genetic diversity. • Edaphic interfaces are specific juxtapositions of soil types (e.g., serpentine outcrops, limestone and gypsum deposits), which have led to the formation of unique plant communities characterized by both rarity and endemism. • Connectivity between habitats (e.g., biological corridors) ensures species migration and gene flow, which is especially important in fragmented habitats and for the conservation of meta populations. This also includes biological corridors across altitudinal and climatic gradients and from "crest to coast". • Sites of demonstrated importance to climate change adaptation for either species or ecosystems are also included within this criterion.

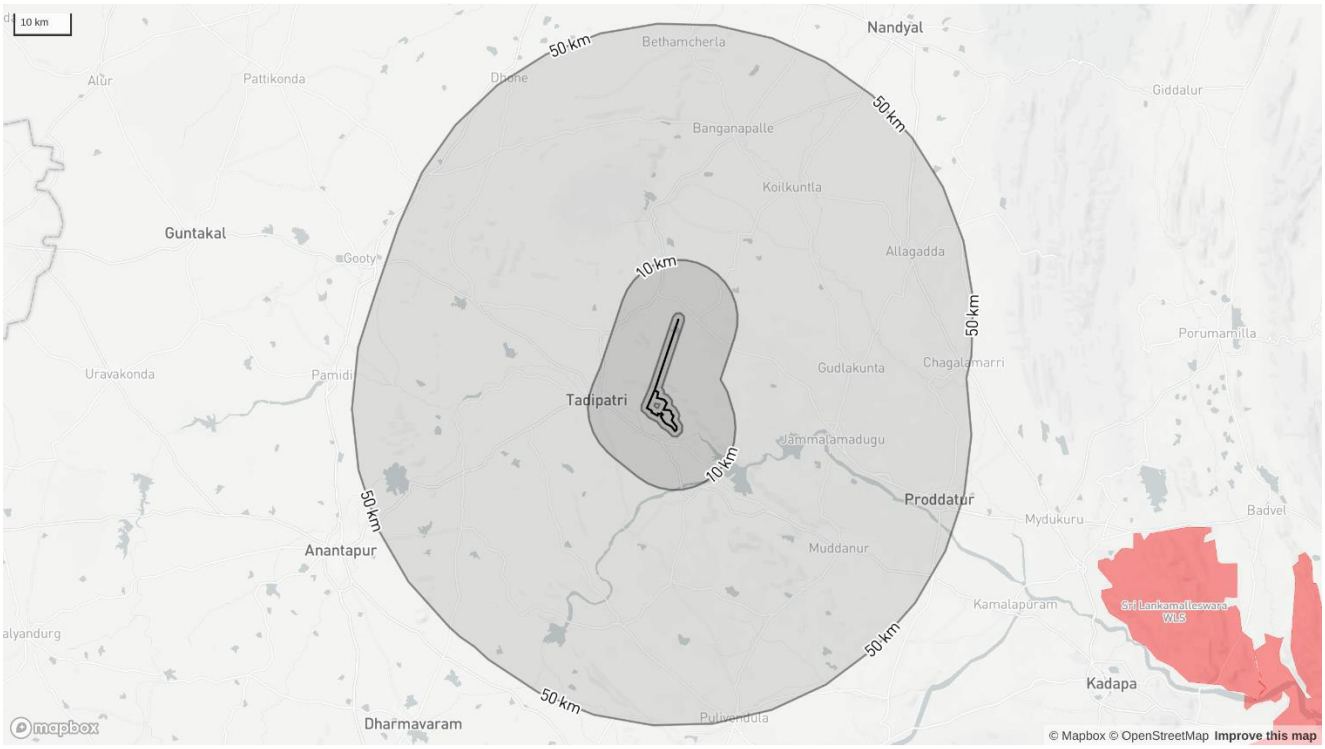
3 Results

3.1 Areas of Ecological Importance

The IBAT (Integrated Biodiversity Assessment Tool) analysis is a tool used in conservation efforts to identify the areas of ecological significance such as, wildlife sanctuaries, national parks, important bird areas, alliance for zero extinction sites and conservation/community reserves. Figure 3-1 displays a mapped representation of these ecologically significant areas identified by IBAT. No protected area has been identified by IBAT within the 50 km radius. The only identified protected area as well as Important Bird and Biodiversity Area (IBA), Sri Lankamalleswaram Wildlife Sanctuary is located about 73 km away from the project in East-Southeast direction.

Another protected area, Rajiv Gandhi National Park (not screened by IBAT), is situated approximately 46 km from the project location in East-Southeast direction.

Figure 3-1: Areas of Ecological Importance



Rajiv Gandhi National Park[2]

The area was originally noticed as Rameshvaram National Park on 19th Nov. 2005 and on 26th Dec. 2005 the name was changed to Rajiv Gandhi National Park[3]. The 500 meter eco-zone around the park was noticed on 15 May 2017[4]. Rajiv Gandhi National Park is located in the Kadapa District of Andhra Pradesh on the banks of Pennar river near Proddatur town and is spread over an area of 2.3952 km^2. Rajiv Gandhi National Park has sand dune ecosystem which supports naturally occurring *Tecoma* species (Tekoma), *Dalbergia sissoo* (Indian Teakwood, Sissoo, Shisham), *Eucalyptus* species (Jam Oil Tree, Nilagiri), *Borassus* species (Tali) species and other plant species which also harbours fauna like Black napped Hare (*Lepus nigricollis*), Peacock (*Pavo cristatus*), Parakket (*Psittacula krameri*) and reptiles includes like Russell's earth boa, Russell's viper, Common skink, etc.

[2] https://moef.gov.in/wp-content/uploads/2017/06/S.O.436(E)%20%5B04.02.2016%5D%20Draft%20Notification%20declaring%20Eco%20Sensitive%20Zone%20around%20Rajiv%20Gandhi%20National%20Park%2C%20Andhra%20Pradesh.pdf

[3] http://environmentclearance.nic.in/writereaddata/Form-1A/Minutes/301020180QAE6EFLApproved37thEACminutesofmeetingheldonOctober23-24,2018.pdf

[4] http://apegazette.cgg.gov.in/gazettes/1501671632560.pdf

Sri Lankamalleswaram Wildlife Sanctuary[5]

Sri Lankamalleswara Wildlife Sanctuary, located in the Lankamalai Hills about 30 km from Cuddapah, is named after the well-known Sri Lankamalleswara temple situated centrally within the sanctuary. This sanctuary was established primarily to protect the Critically Endangered Jerdon's Courser (*Rhinoptilus bitorquatus*), which was rediscovered in 1986[6]. Due to its small and declining population, the Jerdon's Courser is categorized as Critically Endangered on the IUCN Red List.
The sanctuary's forests are classified into Southern Tropical Thorn and Southern Tropical Dry Deciduous, based on Champion & Seth's 1968 classification. While the predominant natural vegetation type is dry mixed deciduous forest, there are various types and sub-types that vary significantly in terms of physiognomy, floristic composition, and dynamism due to differences in climate, topography, soil, and human interference. The higher elevations of the sanctuary feature dry deciduous forests, whereas the plains are characterized by scrub forests. The scrub forests are dominated by thorny species such as *Acacia*, *Ziziphus*, and *Carissa*, as well as non-thorny species like *Cassia*, *Hardwickia*, and *Anogeissus*. Additionally, the Red Sander (*Pterocarpus santalinus*), which is endemic to Andhra Pradesh, can also be found in this sanctuary.

Nearly 200 bird species are found in Sri Lankamalleswara Wildlife Sanctuary. The sanctuary has been designated as an Important Bird Area (IBA) primarily due to the presence of the Jerdon's Courser, a single restricted-range species (restricted to a small patch of scrub jungle within this sanctuary). It serves as a secondary area for this critically endangered bird. The sanctuary's forests are home to various mammal species, including Leopard (*Panthera pardus*), Dhole or Indian Wild Dog (*Cuon alpinus*), Golden Jackal (*Canis aureus*), Sloth Bear (*Melursus ursinus*), Chital (*Axis axis*), Sambar (*Rusa unicolor*), Chinkara (*Gazella bennettii*), and Wild Boar (*Sus scrofa*). Additionally, small carnivores such as Jungle Cat (*Felis chaus*), Indian Grey Mongoose (*Herpestes edwardsii*), Asian Palm Civet (*Paradoxurus hermaphroditus*), and Small Indian Civet (*Viverricula indica*) are commonly seen within the sanctuary.

3.2 Conceptualisation of Ecologically Appropriate Areas of Assessment (EAAA)

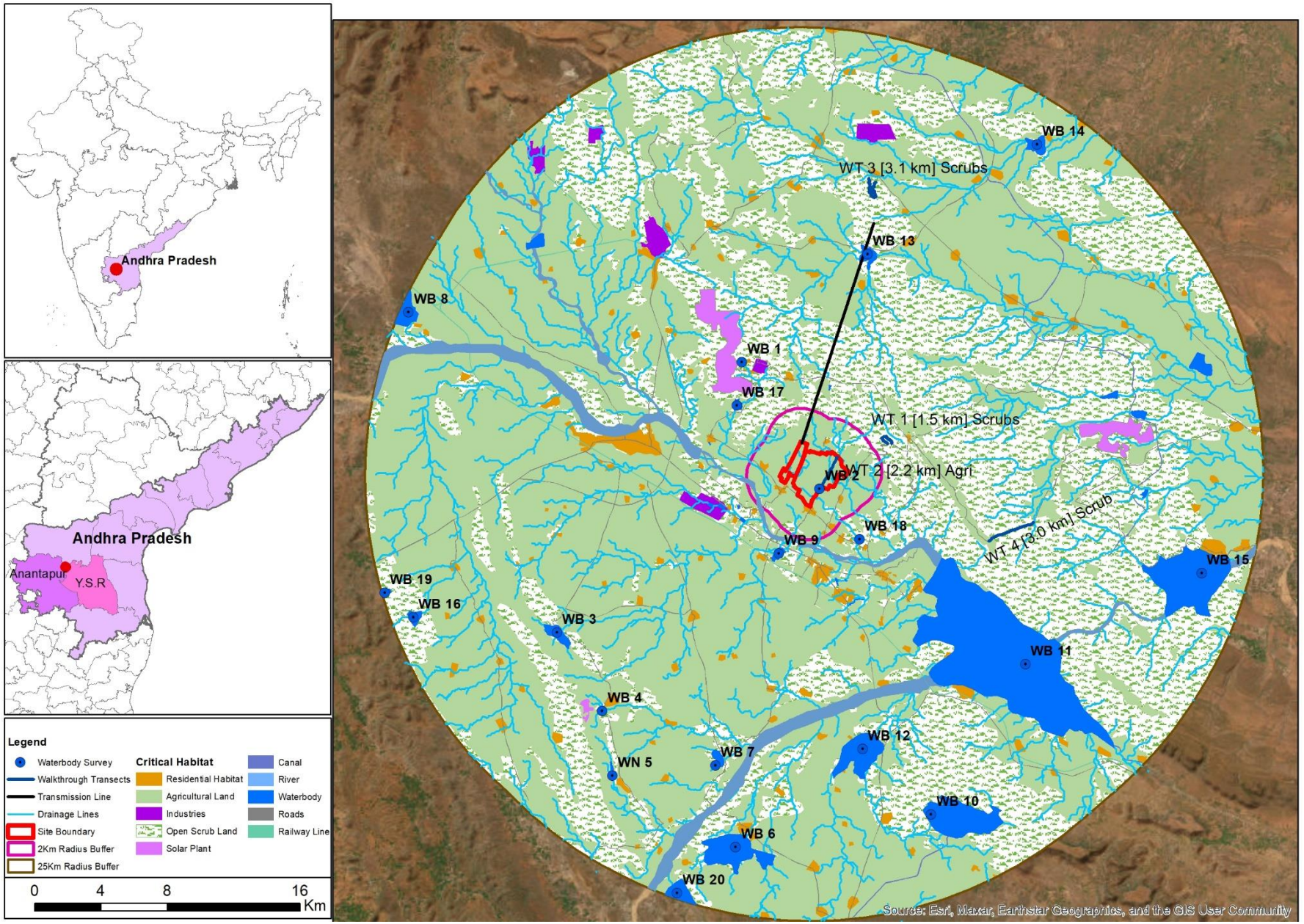
In accordance with paragraph 59 of IFC PS6, the determination of the ecologically appropriate area of analysis/assessment (EAAA) is crucial for identifying critical habitat presence. Therefore, a provisional EAAA with a 25-kilometer radius from the project's boundary was established. This decision was guided by considerations of species or ecosystem distribution, both within and occasionally beyond the project's area of influence (a 2-kilometer radius from the project boundary), as well as the ecological patterns, processes, features, and functions essential for their preservation.

No nationally or internationally recognized/notified area is present within the EAAA.

[5] Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). pp. 1992 + xii

[6] Bhushan, B. (1986) Rediscovery of the Jerdon's Courser Cursorius bitorquatus. JBNHS 83: 1–14.

Figure 3-2: Ecologically Appropriate Areas of Assessment (EAAA) with different Habitats with Sampling Efforts



3.3 Habitats

Different habitats within the EAAA were identified with the help of google earth satellite imagery. The EAAA consists of natural habitats (scrub land, waterbody, & River), and modified habitat (agricultural land, Residential Area, Solar Plant, Industries Land, Roads. Railway Line, & Canal). The scrub land of the region can be categorized as Southern Tropical Dry Deciduous Forests (5A) and Southern Tropical Thorn Forests (6A)[7] according to forest classification of Champion and Seth (1968)[8]. The distribution of identified habitats within the EAAA can be seen in ***Figure 3-2***. The area covered by different habitats in the EAAA has been provided in ***Table 3-1***. Among the natural habitats, scrub land is the dominating one by its cover area (821.80 km^2); while the agricultural land is the dominant modified habitat with about 54.72% (1238.21 km^2) of the total land of EAAA.

Table 3-1: Area covered by different habitats in the EAAA

Natural Habitats	Area covered		Modified Habitats	Area covered	
	km^2	%		km^2	%
Scrub Land	821.80	36.32	Agricultural Land	1238.21	54.72
Waterbody	94.92	4.19	Residential Area	34.95	1.54
River	38.53	1.70	Solar Plant	9.89	0.44
			Industries Land	9.89	0.44
			Roads	9.85	0.44
			Railway Line	2.43	0.11
			Canal	2.27	0.10

3.4 Species of Conservation Significance

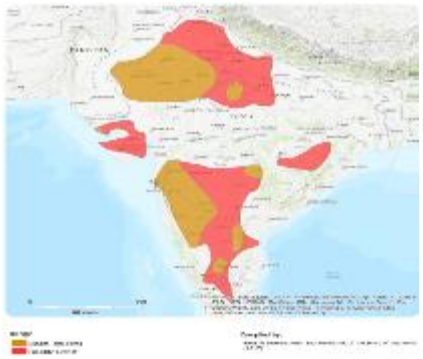
The Integrated Biodiversity Assessment Tool (IBAT) was used to identify threatened species likely to occur within or nearby the Project Area. Apart from IBAT, extensive publicly available documents and research materials were reviewed to identify additional sensitivities and finalize the checklist of species of conservation significance. An initial desk-based screening of species likely to occur in and around the project location is presented below,

[7] Forest Working plans of Kurnool, Ananthapuramu, Proddatur, and Kadapa Divisions.
[8] Champion H.G. and Seth S.K. (1968) A Revised Survey of Forest Types of India. Govt. of India Press, New Delhi, p. 404.

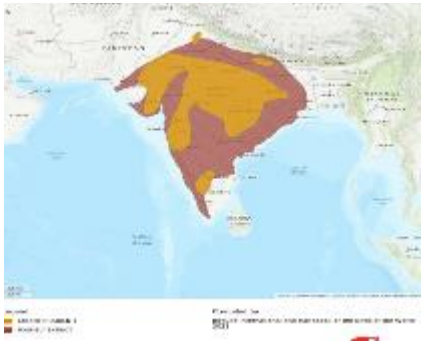
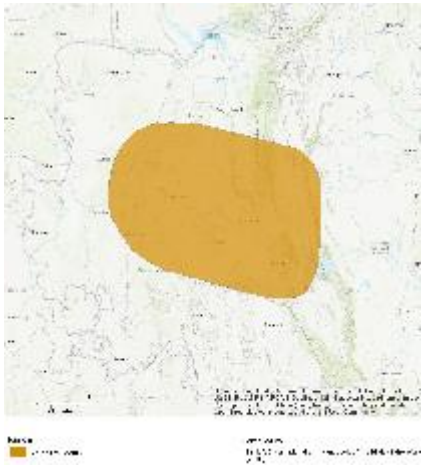
Table 3-2: Critical Habitat Screening

S.N.	Common English Name (Binomial Scientific Name) Distribution Map	IUCN[9]Categories IWP[10] Schedules Endemicity Migratory Status	CHA Criteria	Screening Argument	Screened In or Out
	Herpetofauna				
1	Leith's Softshell Turtle (*Nilssonia leithii*)  https://www.iucnredlist.org/species/2174/2778380	IUCN: Critically Endangered IWP: Not Listed Restricted range: No Migratory: No	1 a; 2 a	Leith's Softshell Turtle is endemic to peninsular India from south of the Ganges basin, Andhra Pradesh to Karnataka and Tamil Nadu (Das 1995, Das et al. 2014). In recent years it has disappeared from many places, and populations are now only known with certainty from the Kali River (Karnataka); and Manjira Wildlife Sanctuary and Siwaram Wildlife Sanctuary in Telengana. Now this species does not occur in Goa. Historically the species was common[11]; however, more comprehensive data provided by participants at the 2005 Lucknow Red List Workshop indicated that the species had declined by 90% over the preceding 30 years due to exploitation for regional trade. Populations in the southern part of its range are small, fragmented and scattered. This has been borne out by subsequent field surveys, where month-long sampling efforts in the Kali river in 2012 and 2013 yielded only four and two animals, respectively[12]. Even within protected areas the species is not common, and interview data indicate very steep declines of populations outside protected areas[13]. It occurs mainly in rivers, and has occasionally been recorded from reservoirs[14, 15, 16]. The species distribution map does not overlap with the boundary of the project's EAAA[17]. The absence of any secondary records[18, 19, 20] of the species also suggests that its occurrence in the EAAA is unlikely.	Screened-Out
	Birds				

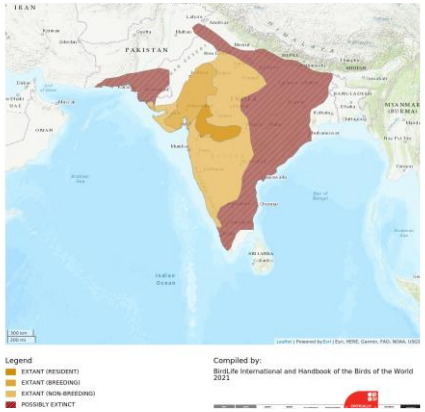
[9] IUCN RedList - Online Version 2024-1
[10] Indian Wildlife (Protection) Act. 1972
[11] Choudhury B.C., Bhupathy, S. and Hanfee, F. 2000. Status information on the tortoises and freshwater turtles of India. In: P.P. van Dijk, B.L. Stuart and A.G.J. Rhodin (eds), Asian Turtle Trade: Proceedings of a Workshop on Conservation and Trade of Freshwater Turtles and Tortoises in Asia. Chelonian Research Monographs 2: 86–94.
[12] Das, I., S. Sirsi, K. Vasudevan, and B.H.C.K Murthy. 2014. Nilssonia leithii (Gray 1872) - Leith's Softshell Turtle. Chelonian Research Monographs 5: 75.1-75.5.
[13] Praschag, P., Das, I., Choudhury, B.C. & Singh, S. 2021. Nilssonia leithii. The IUCN Red List of Threatened Species 2021: e.T2174A2778380
[14] Das, I. 1991. Colour Guide to The Turtles and Tortoises of the Indian Subcontinent. R&A Publishing Ltd, Postishead, U.K.
[15] Das, I. 1995. Turtles and Tortoises of India. Oxford University Press-India and WWF India.
[16] Das, I., S. Sirsi, K. Vasudevan, and B.H.C.K Murthy. 2014. Nilssonia leithii (Gray 1872) - Leith's Softshell Turtle. Chelonian Research Monographs 5: 75.1-75.5.
[17] https://www.iucnredlist.org/species/2174/2778380
[18] https://www.gbif.org/species/2442517
[19] https://indiabiodiversity.org/species/show/238648
[20] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=39551

2	Great Indian Bustard (*Ardeotis nigriceps*)  https://www.iucnredlist.org/species/22691932/134188105	IUCN: Critically Endangered IWP: Schedule I Restricted range: Yes Migratory: No	1 a, c; 2 a	Great Indian Bustard inhabits arid and semi-arid grasslands with scattered short scrub, bushes and low intensity cultivation in flat or gently undulating terrain. These birds congregate in traditional less disturbed grassland patches to breed during mid-summer and monsoon[21] Great Indian Bustard has been extirpated from 90% of its former range and is now principally confined to Rajasthan. In 2014 a survey of the Thar Desert, Rajasthan, estimated the species was present at a density of 0.61 ± 0.36 individuals/100 km^2. Smaller populations (likely to be considerably fewer than 15-20 birds[22]) are present in Gujarat, Maharashtra, Andhra Pradesh, and Karnataka states of India. In India, their population is confined mostly to Rajasthan and Gujarat. Small population occur in Maharashtra, Karnataka and Andhra Pradesh[23]. Historically the species was present in the grasslands of Anantapur and surrounding areas[24], but now only restricted in the Rollapadu Wildlife Sanctuary and its immediate surroundings[25], and there are no records of the species from the EAAA[26, 27, 28, 29]. Thus, the presence of the species in the EAAA is unlikely.	Screened-Out
3	Indian Vulture (*Gyps indicus*)	IUCN: Critically Endangered IWP: Schedule I Restricted range: No Migratory: No	1 a	Indian Vulture is found in cities, towns and villages near cultivated areas, and in open and wooded areas. This species feeds almost entirely on carrion, and often associates with White-rumped Vulture (*Gyps bengalensis*) when scavenging at carcass dumps and slaughterhouses. It nests almost exclusively in colonies on cliffs and ruins, and although reported nesting in trees, where cliffs are absent[30]. It was common until very recently, but since the mid-1990s has suffered a catastrophic decline (over 97%) throughout its range (peninsular India, south of the Gangetic plain, north to Delhi, east through Madhya Pradesh, south to the Nilgiris, and occasionally further south)[31]. As per the species distribution map, the EAAA and its surroundings comes under the “Possibly Extinct” range[32]. The nearest record of the species was reported from the outskirts of Ballari district (i.e. near Alur),	Screened-Out

[21] Dutta, S., Bhardwaj, G.S., Bhardwaj, D.K. and Jhala, Y.V. 2014. Status of Great Indian Bustard and Associated Wildlife in Thar. Wildlife Institute of India, Dehradun and Rajasthan Forest Department, Jaipur.
[22] Patil, P. 2011. Joint meeting to discuss conservation of Great Indian Bustard sanctuary. Protected Area Update 17(3): 13.
[23] https://www.wwfindia.org/about_wwf/priority_species/threatened_species/great_indian_bustard/#:~:text=Habitat%20and%20distribution&text=Its%20stronghold%20was%20once%20the,Maharashtra%2C%20Karnataka%20and%20Andhra%20Pradesh.
[24] https://www.iucnredlist.org/species/22691932/134188105
[25] Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii
[26] https://www.gbif.org/species/2474902
[27] https://indiabiodiversity.org/species/show/238974
[28] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=114
[29] https://ebird.org/species/indbus1/IN-AP
[30] BirdLife International. 2021. Gyps indicus. The IUCN Red List of Threatened Species 2021: e.T22729731A204672586
[31] Collar, N., Chen, H. and Crosby, M. 2001. Threatened Birds of Asia: the BirdLife International Red Data Book. BirdLife International, Cambridge, UK.
[32] https://www.iucnredlist.org/species/22729731/204672586

	 https://www.iucnredlist.org/species/22729731/204672586			which is >100 km from the project location, and there are no records of the species from the EAAA[33, 34, 35, 36]. Thus, the presence of the species in the EAAA is unlikely.	
4	Jerdon's Courser (*Rhinoptilus bitorquatus*) 	IUCN: Critically Endangered IWP: Schedule I Restricted range: Yes Migratory: No	1 a, c; 2 a	Jerdon's Courser is a rare and local endemic to the Eastern Ghats of Andhra Pradesh and extreme southern Madhya Pradesh, India[37]. Historically, it was known from just a few records in the Pennar and Godavari River valleys and was assumed to be extinct until its rediscovery around Lankamalai in 1986. It has since been found at six further localities in the vicinity of the Lankamalai, Velikonda and Palakonda hill-ranges, southern Andhra Pradesh, with all localities probably holding birds from a single population, the majority of which are contained within the Sri Lankamaleswara Wildlife Sanctuary[38]. The population at known sites numbers at least eight individuals, but unsurveyed habitat may support "hundreds". It is placed in the band 70-400 individuals[39]. It inhabits sparse, thorny (dominated by *Acacia*, *Zizyphus* and *Carissa*) and non-thorny (dominated by *Cassia*, *Hardwickia* and *Anogeissus*) scrub-forest and bushes, interspersed with patches of bare ground, in gently undulating, rocky foothills[40]. It calls and is active mainly at night. Secondary information available indicates the existence of this endemic species within the Anantapur district; however, there are no records of the species within the EAAA[41, 42]. Due to the presence of suitable habitats, such as scrubs and forests on rocky foothills within the EAAA and overlapping of its distribution range with the EAAA, it is recommended to assess the likelihood of the species' presence and movement in the project's EAAA as per the scope of critical habitat assessment.	Screened-In

[33] https://www.gbif.org/species/2480385
[34] https://indiabiodiversity.org/species/show/239132
[35] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=5369
[36] https://ebird.org/species/indvul1/IN
[37] BirdLife International. 2001. Threatened birds of Asia: the BirdLife International Red Data Book. BirdLife International, Cambridge, U.K.
[38] BirdLife International. 2017. Rhinoptilus bitorquatus. The IUCN Red List of Threatened Species 2017: e.T22694103A117189206
[39] https://www.iucnredlist.org/species/22694103/117189206#population
[40] https://www.iucnredlist.org/species/22694103/117189206#habitat-ecology
[41] https://www.gbif.org/species/2480736
[42] https://ebird.org/map/jercou1?neg=true&env.minX=74.69300048000348&env.minY=13.263225736823042&env.maxX=82.07581298000348&env.maxY=16.30091728277359&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

	https://www.iucnredlist.org/species/22694103/117189206				
5	Lesser Florican (*Sypheotides indicus*)  https://www.iucnredlist.org/species/22692024/199959007	IUCN: Critically Endangered IWP: Schedule I Restricted range: No Migratory: No	1 a, c	Lesser Florican breeds in India in Gujarat, Rajasthan, Maharashtra, Madhya Pradesh and Andhra Pradesh, with some dispersal to south-east India in the non-breeding season. It is a very rare summer visitor (<10 birds) to the terai of Nepal[43]. In India, the total population has been calculated from a recent and robust survey over most of the range which estimated 340 displaying males (95% CI 162–597)[44]. The Lesser Florican occurs in dry grasslands with scattered bushes, scrub and to a lesser extent in tall crops of millet and cotton. The species is a local migrant with movements apparently determined by rainfall patterns. As such migration is considered partial and opportunistic with birds concentrating in areas that receive more rainfall, however there is believed to be a high level of site fidelity among males[45]. Breeding coincides with the south-west monsoon, May-September, with birds congregating in north-central and west India for males to perform extraordinary leaping aerial displays. Sufficient grass cover is particularly important during the breeding season. As per the Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated Edition - 2016)[46], the species is reported from Rollapadu Wildlife Sanctuary and its immediate surroundings, The available secondary data also supports the above statement[47] and supports its presence from Penukonda[48]. All these reported habitats of the species are >90 km away from the project area. Thus, there is a less likelihood of this species in the EAAA.	Screened-Out
6	Red-headed Vulture (*Sarcogyps calvus*)	IUCN: Critically Endangered IWP: Schedule I Restricted range: No Migratory: No	1 a	Red-headed Vultures are widely distributed across India, Indian subcontinent, China, Thailand, Laos, Viet Nam, Cambodia, Malaysia, and Singapore. Historical reports indicate that it was widespread and generally abundant, but it has undergone a massive population and range decline in recent decades. Recent information indicates that in India the species started undergoing a rapid decline (41% per year) in about 1999 and declined by 91% between the early 1990s and 2003[49]. It frequents open country usually away from human habitation, well-wooded hills and dry deciduous forest with rivers, usually below 2,500 m. Nesting has been recorded in tall trees[50]	Screened-Out

[43] BirdLife International. 2021. Sypheotides indicus. The IUCN Red List of Threatened Species 2021: e.T22692024A199959007

[44] Dutta, S., Narwade, S., Bipin, C. M., Gadhavi, D., Uddin, M., *et. al*. 2018. Status of the Lesser Florican Sypheotides indicus and implications for its conservation. Dehradun: Wildlife Institute of India.

[45] Dutta, S., Narwade, S., Bipin, C. M., Gadhavi, D., Uddin, M., et. al. 2018. Status of the Lesser Florican Sypheotides indicus and implications for its conservation. Dehradun: Wildlife Institute of India.

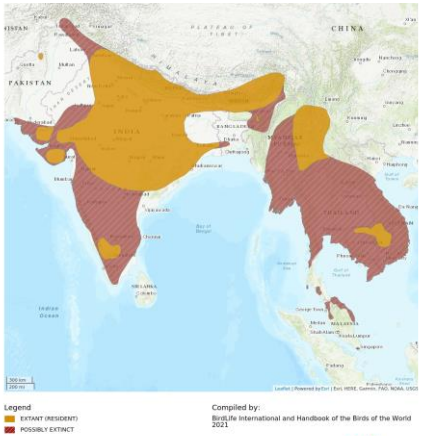
[46] Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii

[47] https://ebird.org/map/lesflo2?neg=true&env.minX=73.91685887683411&env.minY=13.372203111984243&env.maxX=81.29967137683411&env.maxY=16.408374906916738&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

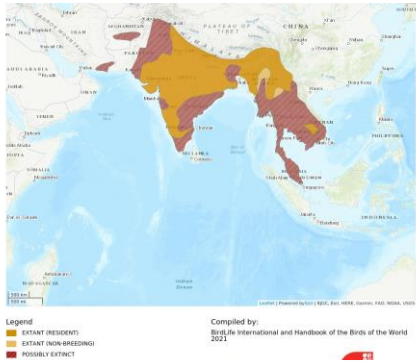
[48] https://indiabiodiversity.org/species/show/238976

[49] Cuthbert, R.; Green, R.E.; Ranade, S.; Saravanan, S.; Pain, D.J.; Prakash, V.; Cunningham, A. A. 2006. Rapid population declines of Egyptian Vulture (Neophron percnopterus) and Red-headed Vulture (Sarcogyps calvus) in India. Animal Conservation 9(3): 349-354.

[50] BirdLife International. 2021. Sarcogyps calvus. The IUCN Red List of Threatened Species 2021: e.T22695254A205031246

	 https://www.iucnredlist.org/species/22695254/205031246			Although the species distribution map includes few of the coasts of the country (India), however as per the available secondary information, the species has been reported from the Gujarat state and not from the surroundings of Jamnagar area[51] As per the species distribution map, the EAAA and its surroundings comes under the "Possibly Extinct" range[52]. In the State, the species has been reported from Nagarjunasagar-Srisailam Rajeev National Park (Tiger Reserve) (Andhra Pradesh and Telangana) only[53, 54], which is >100 km away from the project location. The available secondary data[55, 56] also indicates the absence of this vulture species from the EAAA and its surroundings. Thus, the presence of the species in the EAAA is unlikely.	
7	White-rumped Vulture (*Gyps bengalensis*)	IUCN: Critically Endangered IWP: Schedule I Restricted range: No Migratory: No	1 a	White-rumped Vulture occurs mostly in plains and less frequently in hilly regions where it utilises light woodland, villages, cities, and open areas. It feeds on carrion, both putrid and fresh. While feeding considerable aggregations can form, and regular communal roost sites are used. It is social and usually found in conspecific flocks. It breeds in colonies in tall trees (e.g. in Himanchal Pradesh it is restricted to pine forest/plantations) [57], often near human habitation[58]. White-rumped Vulture occurs in Pakistan, India, Bangladesh, Nepal, Bhutan, Myanmar, Thailand, Laos, Cambodia and southern Viet Nam, and may be extinct in southern China and Malaysia. This species suffered dramatic population declines during the 1990s across its range. The total population is therefore estimated to be c. 6,000-9,000 individuals, equating to 4,000-6,000 mature individuals. There are now an estimated c.6,000 individuals in India[59]. Declines in the major part of the population throughout the Indian Subcontinent probably began in the 1990s and were very rapid, resulting in an overall population decline of greater than 99% over a 10-15 year period.	Screened-Out

[51] https://ebird.org/region/IN-GJ-JA
[52] https://www.iucnredlist.org/species/22695254/205031246
[53] Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii
[54] https://indiabiodiversity.org/species/show/239184
[55] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=5420
[56] https://ebird.org/map/rehvul1?neg=true&env.minX=70.97533711950885&env.minY=11.92858986582575&env.maxX=85.74096211950885&env.maxY=17.996460295377272&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[57] Thakur, M. L. 2015. Breeding ecology and distribution of Whiterumped Vultures (Gyps bengalensis) in Himachal Pradesh, India. J. Raptor Research 49(2): 183-191.
[58] BirdLife International. 2021. Gyps bengalensis. The IUCN Red List of Threatened Species 2021: e.T22695194A204618615
[59] Prakash, V., Galligan, T. H., Chakraborty, S. S., Dave, R., Kulkarni, M. D., Prakash, N., Shringarpure, R. N., Ranade, S. P. and Green, R. E. 2019. Recent changes in populations of Critically Endangered Gyps vultures in India. Bird Conservation International 29: 55-70.

	 https://www.iucnredlist.org/species/22695194/204618615			As per the species distribution map, the EAAA and its surroundings comes under the "Possibly Extinct" range[60]. As per the Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated Edition - 2016)[61], the species is reported from Coringa Wildlife Sanctuary, Horsley Hills, Kolleru Wildlife Sanctuary, Nagarjunasagar-Srisailam Rajeev National Park (Tiger Reserve), Pulicat Lake Wildlife Sanctuary, and Sri Venkateswara National Park, which are >100 km away from the project location. The available secondary data[62, 63] also indicates the unlikelihood of this species in the project's EAAA and surrounding area.	
8	Black-bellied Tern (*Sterna acuticauda*)	IUCN: Endangered IWP: Schedule I Restricted range: No Migratory: No	1 a, c	The Black-bellied Tern is widespread throughout India, but there are signs of local decline and regional extinction. It is found on large rivers (usually breeding on sand spits and islands) and marshes, occasionally on smaller pools and ditches, in lowlands (but not on the coast), up to 730 m[64]. The presence of Black-bellied Tern is uncertain, as per the Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated Edition - 2016)[65], the species is reported from Kolleru Wildlife Sanctuary, Nagarjunasagar-Srisailam Rajeev National Park (Tiger Reserve), Pocharam Wildlife Sanctuary, and Papikonda, which are >100 km away from the project location. As per the available records[66, 67], Rollapadu Wildlife Sanctuary is the nearest significant habitats for the species, which is >90 km from the project location. Thus, the presence of this species in EAAA, is less likely.	Screened-Out

[60] https://www.iucnredlist.org/species/22695194/204618615

[61] Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii

[62] https://ebird.org/map/whrvul1?neg=true&env.minX=70.97533711950885&env.minY=11.92858986582575&env.maxX=85.74096211950885&env.maxY=17.996460295377272&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

[63] https://indiabiodiversity.org/species/show/239129

[64] https://www.iucnredlist.org/species/22694711/207933556

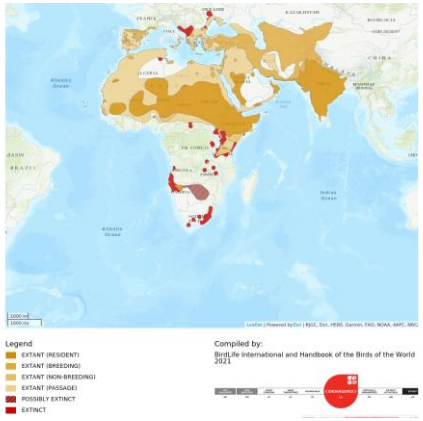
[65] Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii

[66] https://ebird.org/map/blbter1?neg=true&env.minX=70.97441357937109&env.minY=11.928758357280442&env.maxX=85.74003857937109&env.maxY=17.99662408024014&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

[67] https://indiabiodiversity.org/species/show/257556

	 https://www.iucnredlist.org/species/22694711/207933556				
9	Egyptian Vulture (*Neophron percnopterus*)	IUCN: Endangered IWP: Schedule I Restricted range: No Migratory: No	1 a, c	Egyptian Vulture occupies a large range with isolated resident populations in the Cabo Verde and Canary Islands in the west. In Europe, the breeding population is estimated to number 3,000-4,500 breeding pairs, equating to 6,100-9,000 mature individuals. Europe forms 25-49% of the global range, so a very preliminary estimate of the global population size is 12,400-36,000 mature individuals, roughly equating to 18,600-54,000 individuals, although further validation of this estimate is needed[68]. Egyptian Vulture forages in lowland and montane regions over open, often arid, country, and also scavenges at human settlements. It has a broad diet including carrion, tortoises, organic waste, insects, young vertebrates, eggs and even faeces[69, 70, 71]. Usually solitary, individuals congregate at feeding sites, such as rubbish tips, or vulture restaurants (i.e. supplementary feeding stations), and form roosts of nonbreeding birds[72]. As per the Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated Edition - 2016)[73], the species is reported from Horsley Hills, Kolleru Wildlife Sanctuary, Nagarjunasagar-Srisailam Rajeev National Park (Tiger Reserve), Sri Lankamalleswara Wildlife Sanctuary, Sri Penusila Narasimha Wildlife Sanctuary, Sri Venkateswara National Park, & Noorukuppalakonda. Undoubtedly the species has a presence in the surroundings of Anantapur[74], however based on available	Screened-Out

[68] BirdLife International. 2021. Neophron percnopterus. The IUCN Red List of Threatened Species 2021: e.T22695180A205187871
[69] Margalida, A.; Benitez, J. R.; Sanchez-Zapata, J. A.; Ávila, E.; Arenas, R.; Donázar, J. A. 2012. Long-term relationship between diet breadth and breeding success in a declining population of Egyptian Vultures Neophron percnopterus. Ibis 154: 184-188.
[70] Dobrev, V.; Boev, Z.; Oppel, S.; Arkumarev, V.; Dobrev, D.; Kret, E.; Vavylis, D.; Saravia, V.; Bounas, A.; Nikolov, S. C. 2015. Diet of the Egyptian vulture (Neophron percnopterus) in Bulgaria and Greece (2005-2013). Technical report under action A5 of the LIFE+ project "The Return of the Neophron" (LIFE10NAT/BG/000152). BSPB.
[71] Dobrev, V.; Boev, Z.; Arkumarev, V.; Dobrev, D.; Kret, E.; Saravia, V.; Bounas, A.; Vavylis, D.; Nikolov, S. C.; Oppel, S. 2016. Diet is not related to productivity but to territory occupancy in a declining population of Egyptian Vultures Neophron percnopterus. Bird Conservation International (in press).
[72] Ceballos, O.; Donázar, J. A. 1990. Roost-tree characteristics, food habits and seasonal abundance of roosting Egyptian Vultures in northern Spain. Journal of Raptor Research 24: 19-25.
[73] Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii
[74] https://ebird.org/region/IN-AP-AN/bird-list

	 https://www.iucnredlist.org/species/22695180/205187871			secondary information extracted from eBird Database[75] (which reports maximum 2 individual from the Sri Lankamalleswara Wildlife Sanctuary[76], and Rollapadu Wildlife Sanctuary[77]), it is less likely to meet the threshold i.e. 186-540 (≥1 percent of the global population[78]) for the EAAA.	
10	Steppe Eagle (*Aquila nipalensis*)	IUCN: Endangered IWP: Schedule I Restricted range: No Migratory: Yes	1 a, c	Steppe Eagle breeds east of 43°E in European Russia from the Republic of Kalmykia, across Kazakhstan into Kyrgyzstan, China and Mongolia[79]. The global population of the species has been estimated below 37,000 (26,014-36,731) pairs[80]. It inhabits areas of steppe and semi-desert and is recorded breeding up to 2,300 m in mountainous regions[81]. It feeds mainly on small mammals on its breeding grounds, with susliks forming the vast majority of its diet in some areas[82]. Undoubtedly the species has a presence in the surroundings of Anantapur[83], however based on available secondary information extracted from eBird Database[84] (which reports scattered solitary records of the species from the region), it is less likely to meet the threshold i.e. 370 (≥1 percent of the global population) for the EAAA.	Screened-Out

[75] https://ebird.org/map/egyvul1?neg=true&env.minX=74.36347767846438&env.minY=12.936960908404762&env.maxX=81.74629017846438&env.maxY=15.979138021369002&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

[76] https://ebird.org/hotspot/L3852010/bird-list

[77] https://indiabiodiversity.org/species/show/239175

[78] https://www.iucnredlist.org/species/22696027/203868747#population

[79] Meyburg, B.U. and Boesman, P. 2013. Steppe Eagle (Aquila nipalensis). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. and de Juana, E. (eds), Handbook of the Birds of the World Alive, Lynx Edicions, Barcelona.

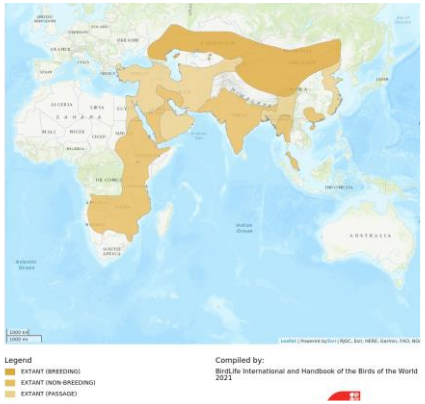
[80] Karyakin, I. V., Zinevich L. S., Schepetov D. M., Sorokina S.Y. 2016. Population Structure of the Steppe Eagle Range and Preliminary Data on the Population Genetic Diversity and Status of Subspecies. Raptors Conservation 32: 67-88.

[81] del Hoyo, J.; Elliott, A.; Sargatal, J. 1994. Handbook of the Birds of the World, vol. 2: New World Vultures to Guineafowl. Lynx Edicions, Barcelona, Spain.

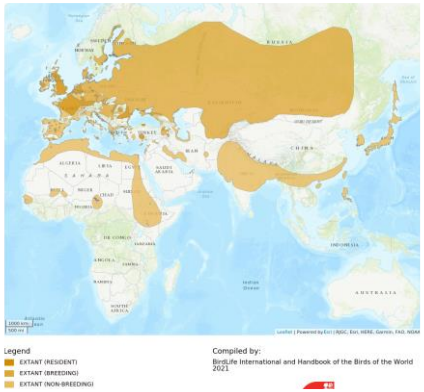
[82] BirdLife International. 2021. Aquila nipalensis. The IUCN Red List of Threatened Species 2021: e.T22696038A205452572

[83] https://ebird.org/region/IN-AP-AN/bird-list

[84] https://ebird.org/map/steeag1?neg=true&env.minX=74.43271927117931&env.minY=12.916526847900577&env.maxX=81.81553177117931&env.maxY=15.958981678467838&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

	 https://www.iucnredlist.org/species/22696038/205452572				
11	Wood Snipe (*Gallinago nemoricola*) 	IUCN: Vulnerable IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Wood Snipe breeds locally in the Himalayas of north-west and north-east India, Nepal, Bhutan and south-east Tibet, central Sichaun and perhaps Yunnan, China[85], as further suggested by a recent record from Pudacuo National Park. In winter, it occurs at lower altitudes in the Himalayas, as a regular visitor in small numbers to northern Vietnam, and as a vagrant (or perhaps irregular visitor) to the hills of central and southern India, Sri Lanka, Bangladesh, Myanmar, north Thailand and Laos. Historically, it was considered rare and local across much of its range[86]. The population is estimated to number 2,500-9,999 mature individuals, this equates to 3,750-14,999 individuals, rounded here to 3,500-15,000 individuals[87]. It breeds from April through to June, in alpine meadows and marshes with scattered low bushes, or in dwarf scrub in barren, boulder-strewn areas, generally between 3,000 and 5,000 m, and at least occasionally down to 2,100 m, with one historical breeding record from 1,200 m. In winter, it frequents swampy ground in and at the edge of evergreen forest and marshy grassland and scrub, below 3,000 m, sometimes down to lowland plains (below 100 m)[88]. Although the global distribution map of the species overlaps with the project's EAAA, but no records of the species is available in Andhra Pradesh[89, 90, 91]. Thus, the likelihood of the species in the EAAA is unlikely.	Screened-Out

[85] BirdLife International. 2001. Threatened birds of Asia: the BirdLife International Red Data Book. BirdLife International, Cambridge, U.K.
[86] BirdLife International. 2017. Gallinago nemoricola. The IUCN Red List of Threatened Species 2017: e.T22693082A117048348
[87] BirdLife International. 2001. Threatened birds of Asia: the BirdLife International Red Data Book. BirdLife International, Cambridge, U.K.
[88] https://www.iucnredlist.org/species/22693082/117048348#habitat-ecology
[89] https://www.gbif.org/species/2481826
[90] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=3913
[91] https://ebird.org/map/woosni1?neg=true&env.minX=72.51276187617977&env.minY=12.372748841724249&env.maxX=79.89557437617977&env.maxY=15.422454651386063&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

	https://www.iucnredlist.org/species/22693082/117048348				
12	Common Pochard (*Aythya ferina*)  https://www.iucnredlist.org/species/22680358/205288455	IUCN: Vulnerable IWP: Schedule I Restricted range: No Migratory: Yes	3a	Common Pochard breeds from western Europe through central Asia to south-central Siberia and northern China[92]. The global population is estimated to number 760,000-790,000 mature individuals, which equates to 1,140,000- 1,180,000 million individuals in total[93]. This species requires well-vegetated eutrophic to neutral freshwater swamps, marshes, lakes and slow-flowing rivers with areas of open water and abundant emergent fringing vegetation[94]. Sometimes it also breeds on saline, brackish and soda lakes and occasionally even in sheltered coastal bays[95]. Undoubtedly the species has a presence in the surroundings of Anantapur[96], however based on available secondary information extracted from eBird Database[97] (which reports maximum 285 individuals from the B. Yaleru Lake[98]), it is less likely to meet the threshold i.e. 11,400-11,800 (≥1 percent of the global population[99]) for the EAAA.	Screened-Out
13	Black-tailed Godwit (*Limosa limosa*)	IUCN: Near Threatened IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Black-tailed Godwit has a large discontinuous breeding range extending from Iceland to the Russian far east, with wintering populations in Europe, Africa, the Middle East and Australasia[100]. The global population is estimated at 614,000-809,000 individuals[101]. Its breeding range it mostly inhabits areas with high but not dense grass and soft soil, occasionally using sandy areas; although other information suggests it may prefer short vegetation. Its preferred habitats include cattle pastures, hayfields, lowland wet grasslands, grassy marshland, raised bogs and moorland, lake margins and damp grassy depressions in steppes. It winter in saline habitats such as sheltered estuaries and lagoons with large intertidal mudflats, sandy beaches, salt-marshes and salt-flats[102].	Screened-Out

[92] Carboneras, C. and Kirwan, G.M. 2014. Common Pochard (Aythya ferina). In: J. del Hoyo, A. Elliott, J. Sargatal, D.A. Christie and E. de Juana (eds), Handbook of the Birds of the World Alive, Lynx Edicions, Barcelona.
[93] https://www.iucnredlist.org/species/22680358/205288455#population
[94] BirdLife International. 2021. Aythya ferina. The IUCN Red List of Threatened Species 2021: e.T22680358A205288455
[95] Kear, J. 2005. Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.
[96] https://ebird.org/region/IN-AP-AN/bird-list
[97] https://ebird.org/map/compoc?neg=true&env.minX=69.6566529656542&env.minY=8.921256897710652&env.maxX=84.4222779656542&env.maxY=15.065056423552683&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[98] https://ebird.org/checklist/S79123274
[99] https://www.iucnredlist.org/species/22696027/203868747#population
[100] Van Gils, J., Wiersma, P., Christie, D.A. & Garcia, E.F.J. 2017. Black-tailed Godwit (Limosa limosa). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. & de Juana, E (ed.), Handbook of the Birds of the World Alive. Lynx Edicions, Barcelona.
[101] https://www.iucnredlist.org/species/22693150/111611637#population
[102] BirdLife International. 2017. Limosa limosa. The IUCN Red List of Threatened Species 2017: e.T22693150A111611637

		 https://www.iucnredlist.org/species/22693150/111611637			Undoubtedly the species has a presence in the surroundings of Anantapur[103], however based on available secondary information extracted from eBird Database[104](which reports maximum 2000 individuals from Singanamala Cheruvu[105] - about 44 km from the project site), it is unlikely to meet the threshold i.e. 6,140-8,090 (≥1 percent of the global population) for the EAAA.
14	Pallid Harrier (*Circus macrourus*)	IUCN: Near Threatened IWP: Schedule I Restricted range: No Migratory: Yes	3a	Screened-Out	Pallid Harrier breeds primarily in the steppes of Asiatic Russia, Kazakhstan and north-west China. Small populations breed in Azerbaijan, Romania, Turkey and Ukraine, however recent survey data suggest that these populations have almost disappeared[106]. A minority winter in south-east and central Europe, north Africa and the Middle East but most migrate to the Afrotropics and the Indian subcontinent[107, 108]. The global population is estimated at 9,000-15,000 pairs[109], equating to 18,000-30,000 mature individuals. It breeds in semi-desert, steppe and forest-steppe up to 2,000 m, where its favoured nesting sites are wet grasslands close to small rivers and lakes, and marshlands[110, 111]. The species has also been found to breed in agricultural areas, at least when agriculture is nonintensive[112]. A minority of the population breeds in the boreal forest and forest tundra zones, north of its main breeding range[113], where it nests in clearings and other open areas[114]. The species is migratory, with most birds wintering in sub-Saharan Africa or south-east Asia.

[103] https://ebird.org/region/IN-AP-AN/bird-list

[104] https://ebird.org/map/bktgod?neg=true&env.minX=76.17422397627719&env.minY=14.057868318275023&env.maxX=79.86563022627719&env.maxY=15.576619752939045&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

[105] https://ebird.org/checklist/S54860081

[106] Keller, V., Herrando, S., Voříšek, P., Franch, M., Kipson, M., Milanesi, P., Martí, D., Anton, M., Klvaňová, A., Kalyakin, M.V., Bauer, H.-G. and Foppen, R.P.B. 2020. European Breeding Bird Atlas 2: Distribution, Abundance and Change. European Bird Census Council & Lynx Edicions, Barcelona.

[107] Thiollay, J.-M. 1994. Family Accipitridae (Hawks and Eagles). In: del Hoyo, J.; Elliott, A.; Sargatal, J. (ed.), Handbook of the birds of the world, pp. 52-205. Lynx Edicions, Barcelona, Spain.

[108] Corso A. & Cardelli C. 2004. The migration of Pallid Harrier across the central Mediterranean with particular reference to the Strait of Messina. British Birds 97: 238-246.

[109] Galushin, V.; Clarke, R.; Davygora, A. 2003. International Action Plan for the Pallid Harrier (Circus macrourus).

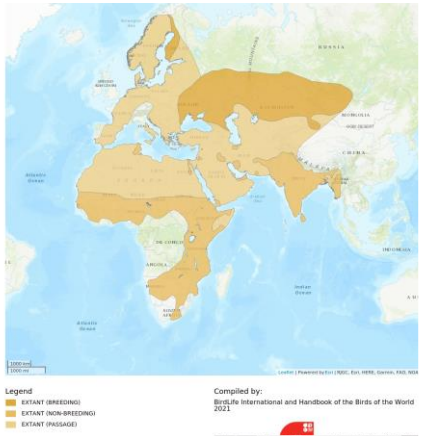
[110] Snow, D.W. and Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.

[111] Galushin, V.; Clarke, R.; Davygora, A. 2003. International Action Plan for the Pallid Harrier (Circus macrourus).

[112] Terraube, J.; Arroyo, B. E.; Mougeot, F.; Madders, M.; Watson, J.; Bragin, E. A. 2009. Breeding biology of the Pallid Harrier Circus macrourus in north-central Kazakhstan: implications for the conservation of a near threatened species. Oryx 43(1): 104-112.

[113] Kuznetsov, A. V. 1994. Birds of prey of the Kostroma lowland. In: Kurochkin, E.N. (ed.), Modern ornithology, pp. 86-93. Nauka, Moscow.

[114] Galushin, V.; Clarke, R.; Davygora, A. 2003. International Action Plan for the Pallid Harrier (*Circus macrourus*).

	 https://www.iucnredlist.org/species/22695396/201209093			During winter it prefer mosaics of forest/ shrubland and grassland and, to a lesser extent, and agricultural land[115]. Definitely, the species has a presence in the surroundings of Anantapur[116], however based on available secondary information extracted from eBird Database[117] (which reports maximum reports of the species around the Dharmavaran and Rollapadu Wildlife Sanctuary – located about 65 km and 93 km from the project site respectively), it is less likely to meet the threshold i.e. 180-300 (≥1 percent of the global population) for the EAAA.	
15	Amur Falcon (*Falco amurensis*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	The Amur falcon is a small raptor of the falcon family. It breeds in south-eastern Siberia and Northern China before migrating in large flocks across India and over the Arabian Sea to winter in Southern and East African coasts. The global population is estimated to number > c.1,000,000 individuals (Ferguson-Lees et al. 2001). During breeding it prefer Temperate Forests and Grassland as well as inland Wetlands (Bogs, Marshes, Swamps, Fens, Peatlands). While in non-breeding / migratory season it can winter in Dry Savanna, Tropical/Subtropical Dry Grasslands, Plantations and Arable land also. Although the global distribution map of the species overlaps with the project's EAAA, but no records of the species is available from the Anantapur and its surroundings[118, 119, 120]. Thus, the presence of the species in the EAAA is unlikely.	Screened-Out

[115] Limiñana, R., Arroyo, B., Terraube, J., McGrady, M., & Mougeot, F. 2015. Using satellite telemetry and environmental niche modelling to inform conservation targets for a long-distance migratory raptor in its wintering grounds. Oryx 49(2): 329-337.

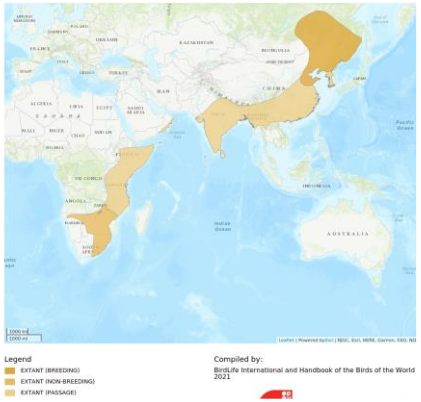
[116] https://ebird.org/region/IN-AP-AN/bird-list

[117] https://ebird.org/map/palhar1?neg=true&env.minX=77.47238813834045&env.minY=14.655869163533694&env.maxX=77.93381391959045&env.maxY=14.845777422531318&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

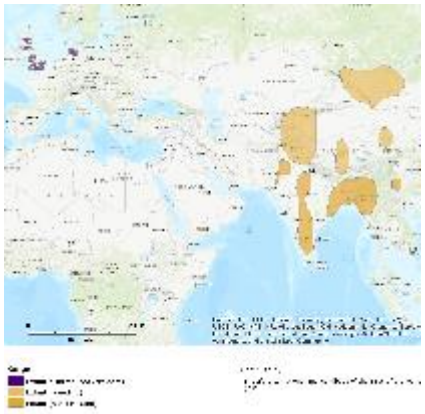
[118] https://www.gbif.org/species/2480998

[119] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=4686

[120] https://ebird.org/map/amufal1?neg=true&env.minX=78.14498013611386&env.minY=15.666388441329428&env.maxX=78.60640591736386&env.maxY=15.855385761138276&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

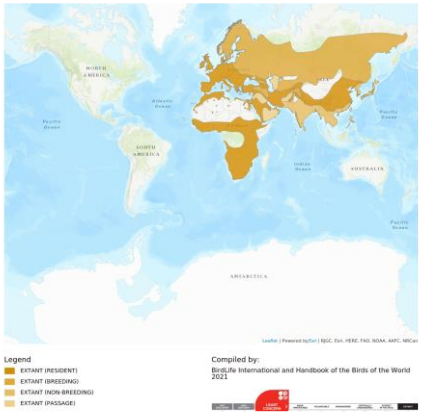
		 https://www.iucnredlist.org/species/22696437/205646027			
16	Bar-headed Goose (*Anser indicus*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Bar-headed Goose has scattered breeding populations across Ladakh, Mongolia and the Tibetan Plateau that migrate to South Asia during winter after crossing the high Himalayas. The Indian Subcontinent hosts nearly the entire global population of Bar-headed Goose in winter[121]. The species has increased greatly in abundance since the 1990s, reaching an estimated world population of 97,000–118,000, distributed across a fragmented breeding range throughout the high plains and plateaux of Central Asia[122, 123, 124]. They usually breed near mountain lakes; on wintering grounds, they prefer freshwater marshes, lakes, streams, or river wetlands, as well as mountain grasslands, cultivated fields, or flooded agricultural areas[125]. Definitely, the species has a presence in the surroundings of Anantapur[126, 127], however based on available secondary information extracted from eBird Database[128] (which reports maximum 200 individuals of the species from Mid Pennar Reservoir[129] - located about 73 km from the project site), it is less likely to meet the threshold i.e. 970–1,180 (≥1 percent of the global population) for the EAAA.	Screened-Out

[121] https://birdcount.in/migration-map/bahgoo/#:~:text=Bar%2Dheaded%20Goose%20(Anser%20indicus,Bar%2Dheaded%20Goose%20in%20winter!
[122] Liu D, Zhang G, Li F, Ma T, Lu J, Qian F. A revised species population estimate for the Bar-headed Goose (Anser indicus). Avian Res. 2017; 8:7.
[123] Fox AD, Leafloor JO. A global audit of the status and trends of Arctic and Northern Hemisphere goose populations. Akureyri: Conservation of Arctic Flora and Fauna International Secretariat; 2018.
[124] https://avianres.biomedcentral.com/articles/10.1186/s40657-020-00230-9
[125] https://www.animalia.bio/bar-headed-goose?collection=10
[126] https://ebird.org/region/IN-AP-AN/bird-list
[127] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=7008
[128] https://ebird.org/map/bahgoo?neg=true&env.minX=64.32022719583738&env.minY=9.320452799026476&env.maxX=93.85147719583738&env.maxY=21.413542092533255&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[129] https://ebird.org/checklist/S33451810

		 https://www.iucnredlist.org/species/22679893/131908564			
17	Common Greenshank (*Tringa nebularia*)	IUCN: Least Concern 3a IWP: Schedule IV Restricted range: No Migratory: Yes		The common greenshank species is distributed in central and northern Eurasia, southwest Europe, Africa, Indian subcontinent, southeast Asia, China and Australia. The global population is estimated to number c. 1,200,000-3,600,000 individuals[130]. During the breeding season this species inhabits damp areas in swampy, old pine, spruce or alder woodland and montane forest with many fallen and rotten tree stumps, marshy forest floors and heavy carpets of lichens and mosses, generally in the vicinity of rivers, streams, swamps, ponds, lakes and bogs[131, 132]. During winter the species shows a preference for a wider variety of inland freshwater habitats such as marshes, lake edges, sewage farms, small dams and ponds, ditches, riverbanks and forest streams, often near villages & cultivation and although less often in the vicinity of woodland[133, 134]. Very rarely it is also found in intertidal areas such as creeks and the channels of salt marshes[135, 136]. Definitely, the species has a presence in the surroundings of Anantapur[137], however based on available secondary information extracted from eBird Database[138] (which reports maximum 4 individuals of the species from Mid Pennar Reservoir[139] - located about 73 km from the project site), it is less likely to meet the threshold i.e. 12,000-36,000 (≥1 percent of the global population) for the EAAA.s	Screened-Out

[130] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org
[131] Johnsgard, P. A. 1981. The plovers, sandpipers and snipes of the world. University of Nebraska Press, Lincoln, U.S.A. and London.
[132] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
[133] Urban, E.K., Fry, C.H. and Keith, S. 1986. The Birds of Africa, Volume II. Academic Press, London.
[134] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[135] Johnsgard, P. A. 1981. The plovers, sandpipers and snipes of the world. University of Nebraska Press, Lincoln, U.S.A. and London.
[136] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[137] https://ebird.org/region/IN-AP-AN/bird-list
[138] https://ebird.org/map/comgre?neg=true&env.minX=76.93204370505649&env.minY=14.578838697403375&env.maxX=78.77774683005649&env.maxY=15.337736600961893&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[139] https://ebird.org/checklist/S79123272

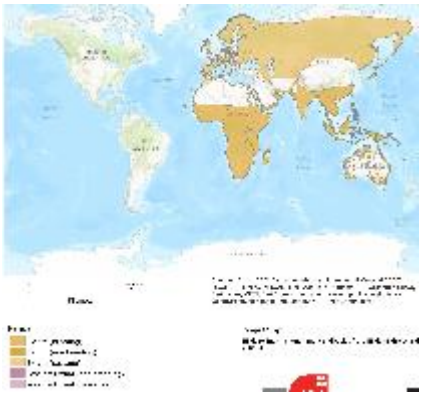
https://www.iucnredlist.org/species/22693220/86684205

18	Common Kestrel (*Falco tinnunculus*) 	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Common Kestrel occurs over a large range. It is widespread in Europe, Asia, and Africa, as well as occasionally reaching the east coast of North America[140]. These birds are sedentary but in the cold parts of their range, they migrate south in winter. The European population is estimated at 411,000-631,000 pairs (equates to 823,000-1,270,000 mature individuals). As Europe forms ca. 19% of the global range, a very preliminary estimate of the global population size is 4,330,000-6,680,000 mature individuals, therefore placed in the band 4,300,000-6,700,000 mature individuals[141]. The species can tolerate a wide range of open and partially forested habitats and has been recorded up to 4,500 m[142]. Undoubtedly the species has a presence in the surroundings of Anantapur[143], however based on available secondary information extracted from eBird Database[144] (which reports maximum 2 individuals from Anantapur town[145] and Benul Caves[146]), thus it is less likely to meet the threshold i.e. 240-440 (≥1 percent of the global population) for the EAAA.	Screened-Out

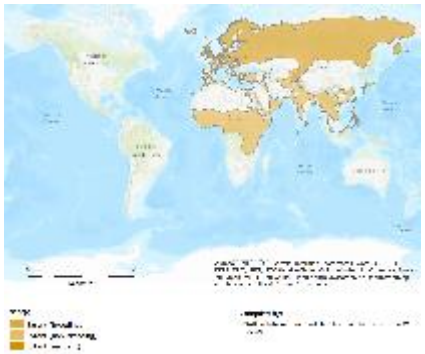
[140] https://www.beautyofbirds.com/commonkestrels.html
[141] https://www.iucnredlist.org/species/22696362/206316110#population
[142] del Hoyo, J.; Elliott, A.; Sargatal, J. 1994. Handbook of the Birds of the World, vol. 2: New World Vultures to Guineafowl. Lynx Edicions, Barcelona, Spain.
[143] https://ebird.org/region/IN-AP-AN/bird-list
[144] https://ebird.org/map/eurkes?neg=true&env.minX=76.00447803713011&env.minY=13.97272601877152&env.maxX=79.69588428713011&env.maxY=15.492070764078896&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[145] https://ebird.org/checklist/S50986646
[146] https://ebird.org/checklist/S25917368

	https://www.iucnredlist.org/species/22696362/206316110			
19	Common Redshank (*Tringa totanus*)  https://www.iucnredlist.org/species/22693211/86687799	IUCN: Least Concern 3a IWP: Schedule IV Restricted range: No Migratory: Yes	Common Redshank inhabit in Orkney, Shetland and N Scandinavia S to Iberian Peninsula, Italy, Tunisia and Turkey, and E to W Siberia; while winters from Mediterranean to tropical Africa, India and probably Indonesia[147]. The global population is estimated to number c. 1,300,000-3,100,000 individuals[148]. The species breeds on coastal saltmarshes, inland wet grasslands with short swards (including cultivated meadows), grassy marshes, swampy heathlands and swampy moors[149, 150]. On passage the species may frequent inland flooded grasslands[151] and the silty shores of rivers and lakes[152]. During the winter it is largely coastal, occupying rocky, muddy and sandy beaches, saltmarshes, tidal mudflats, saline and freshwater coastal lagoons, tidal estuaries, saltworks and sewage farms[153, 154]. Undoubtedly the species has a presence in the surroundings of Anantapur[155], however based on available secondary information extracted from eBird Database[156] (which reports maximum 6 individuals from Peruru Village[157] and 4 individuals from Vengallam Palle lake[158] - both the locations are >50 km from the project site), thus it is less likely to meet the threshold i.e. 13,000-31,000 (≥1 percent of the global population) for the EAAA.	Screened-Out
20	Common Sandpiper (*Actitis hypoleucos*)	IUCN: Least Concern 3a IWP: Schedule IV Restricted range: No Migratory: Yes	The Common Sandpiper is distributed in Arctic, subarctic and temperate regions of Europe and Asia. The wintering populations are distributed in Africa, Arabian Peninsula, Indian subcontinent, southeast Asia, southern China and Australia[159]. The global population is estimated to number c. 2,600,000-3,200,000 individuals[160]. During the breeding season this species shows a preference for pebbly, sandy or rocky margins of fast-flowing rivers, as well as small ponds, pools and dams, clear freshwater lake shores, sheltered sea coasts	Screened-Out

[147] https://birdsoftheworld.org/bow/species/comred1/cur/introduction
[148] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org
[149] Johnsgard, P. A. 1981. The plovers, sandpipers and snipes of the world. University of Nebraska Press, Lincoln, U.S.A. and London.
[150] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[151] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[152] Flint, V.E.; Boehme, R.L.; Kostin, Y.V.; Kuznetsov, A.A. 1984. A field guide to birds of the USSR. Princeton University Press, Princeton, New Jersey.
[153] Johnsgard, P. A. 1981. The plovers, sandpipers and snipes of the world. University of Nebraska Press, Lincoln, U.S.A. and London.
[154] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[155] https://ebird.org/region/IN-AP-AN/bird-list
[156] https://ebird.org/map/comred1?neg=true&env.minX=76.76828801786792&env.minY=14.491856712487516&env.maxX=78.61399114286792&env.maxY=15.251061012218917&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[157] https://ebird.org/checklist/S125759501
[158] https://ebird.org/checklist/S26786688
[159] https://indianbirds.thedynamicnature.com/2018/10/common-sandpiper-actitis-hypoleucos.html
[160] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org

	 https://www.iucnredlist.org/species/22693264/86678952			with rocky or sandy beaches, tidal creeks and estuaries, and often forages in patches of dry meadow[161, 162, 163]. In winter the species inhabits small pools, ditches, riverbanks, streams, dam shores, marshy areas, estuaries, freshwater seeps on coastal shores, tidal creeks in mangrove swamps and saltmarshes, harbours, docks and filtration tanks of sewage works[164, 165, 166, 167]. It will also forage on grassland along roadsides and occasionally in gardens, but it generally avoids large coastal mudflats[168, 169]. Undoubtedly the species has a presence in the surroundings of Anantapur[170], however based on available secondary information extracted from eBird Database[171] (which reports maximum 30 individuals from Vengallam Palle lake[172] - located >50 km from the project site), thus it is less likely to meet the threshold i.e. 26,000-32,000 (≥1 percent of the global population) for the EAAA.	
21	Common Snipe (*Gallinago gallinago*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Breeding populations of Common Snipe are distributed in Europe, northwest, northcentral and northeast Asia, Kyrgyzstan, Tajikistan, Uzbekistan, north Afghanistan and northwest India (Jammu & Kashmir). It winters in Africa, Middle east Asia, Indian subcontinent, and southeast Asia. The population of the species has been estimated as 15,000,000-29,000,000 mature individuals[173]. The species breeds in open fresh or brackish marshland with rich or tussocky vegetation, grassy or marshy edges of lakes and rivers, wet hay fields, swampy meadows and marshy tundra, in forest tundra and extreme northern taiga zones. The species breeds in general in areas providing combination of grassy cover and moist soils, rich in organic matter. Outside breeding season, generally occupies similar habitats, with more use of man-made habitats, e.g. sewage farms and rice fields, upper reaches of estuaries and coastal meadows[174].	Screened-Out

[161] Urban, E.K., Fry, C.H. and Keith, S. 1986. The Birds of Africa, Volume II. Academic Press, London.
[162] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[163] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
[164] Johnsgard, P. A. 1981. The plovers, sandpipers and snipes of the world. University of Nebraska Press, Lincoln, U.S.A. and London.
[165] Yalden, D.W. 1992. The influence of recreational disturbance on common sandpipers Actitis hypoleucos breeding by an upland reservoir, in England. Biological Conservation 61: 41-49.
[166] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[167] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
[168] Yalden, D.W. 1992. The influence of recreational disturbance on common sandpipers Actitis hypoleucos breeding by an upland reservoir, in England. Biological Conservation 61: 41-49.
[169] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[170] https://ebird.org/region/IN-AP-AN/bird-list
[171] https://ebird.org/map/comsan?neg=true&env.minX=76.87054805607016&env.minY=14.865755062486588&env.maxX=78.71625118107016&env.maxY=15.623629965831922&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[172] https://ebird.org/checklist/S132449465
[173] https://www.iucnredlist.org/species/22693097/155504420#population
[174] BirdLife International. 2019. Gallinago gallinago (amended version of 2017 assessment). The IUCN Red List of Threatened Species 2019: e.T22693097A155504420

		 https://www.iucnredlist.org/species/22693097/155504420		Definitely, the species has a presence in the surroundings of Anantapur[175], however based on available secondary information extracted from eBird Database[176] (which reports maximum 10 individuals from Rollapadu Wildlife Sabctuary[177] - located >90 km from the project site), thus it is less likely to meet the threshold i.e. 150,000-290,000 (≥1 percent of the global population) for the EAAA.	
22	Common Teal (*Anas crecca*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Common Teal migrates from Europe & formal USSR and winter in coasts of Northern Africa, East Africa, Central Asia, Indian Subcontinent, & Eastern Asia[178]. The global population is estimated at c. 2,800,000 mature individuals[179, 180]. The European population is estimated at 557,000-915,000 pairs, which equates to 1,110,000-1,830,000 mature individuals[181]. Its habitats include Forest, Shrubland, Wetlands (inland), Marine Intertidal, Marine Coastal/Supratidal, Artificial/Terrestrial, Artificial/Aquatic & Marine[182]. Definitely, the species has a presence in the surroundings of Anantapur[183], however based on available secondary information extracted from eBird Database[184] (which reports maximum 30 individuals from Rollapadu Wildlife Sanctuary[185], followed by 20 individuals from Pattikonda area[186] - located about 93 km and 80 km from the project site respectively), it is less likely to meet the threshold i.e. 11,100-18,300 (≥1 percent of the global population) for the EAAA.	Screened-Out

[175] https://ebird.org/region/IN-AP-AN/bird-list

[176] https://ebird.org/map/comsan?neg=true&env.minX=76.87054805607016&env.minY=14.865755062486588&env.maxX=78.71625118107016&env.maxY=15.623629965831922&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

[177] https://ebird.org/checklist/S41318053

[178] BirdLife International. 2020. Anas crecca. The IUCN Red List of Threatened Species 2020: e.T22680321A181692388

[179] Partners in Flight. 2019. Avian Conservation Assessment Database, version 2019. Available at: http://pif.birdconservancy.org/ACAD.

[180] Wetlands International. 2020. Waterbird Population Estimates. Available at: wpe.wetlands.org.

[181] BirdLife International. 2015. European Red List of Birds. Office for Official Publications of the European Communities, Luxembourg.

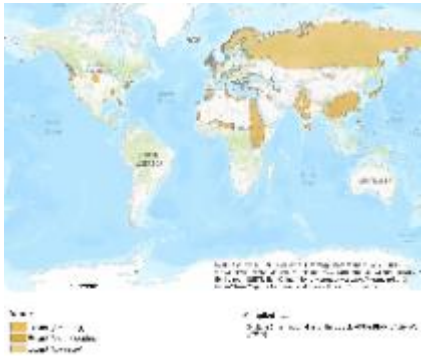
[182] BirdLife International. 2020. Anas crecca. The IUCN Red List of Threatened Species 2020: e.T22680321A181692388

[183] https://ebird.org/region/IN-AP-AN/bird-list

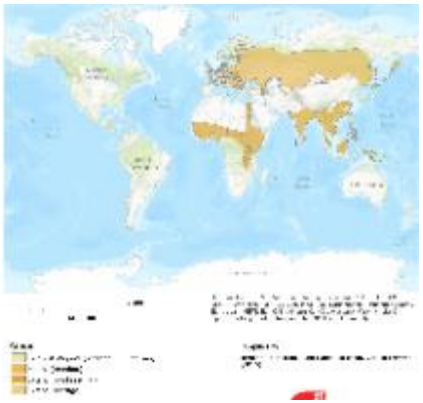
[184] https://ebird.org/map/gnwtea?neg=true&env.minX=74.48868698795322&env.minY=12.788199590736948&env.maxX=81.87149948795322&env.maxY=15.832389835622413&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

[185] https://ebird.org/checklist/S116608919

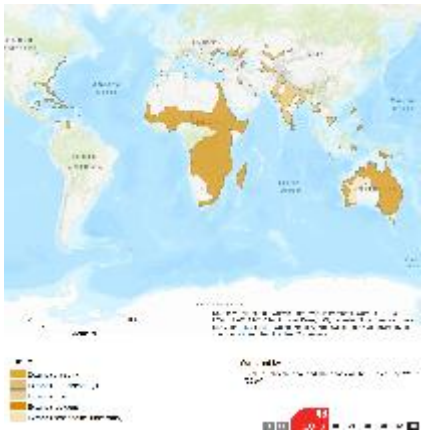
[186] https://ebird.org/checklist/S98788022

	 https://www.iucnredlist.org/species/22680321/181692388				
23	Eurasian Wigeon (*Mareca penelope*)  https://www.iucnredlist.org/species/22680157/111892532	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Eurasian wigeons breed in the northernmost areas of Europe and the Palearctic. They are strongly migratory and winters further south than their breeding range. They spend winter in southern Asia and Africa. The global population is estimated to number c. 2,800,000-3,300,000 individuals[187]. This species breeds in lowland freshwater marshes, slow-flowing large rivers[188] and shallow lakes and lagoons with ample submerged, floating and emerging vegetation[189]. Ideal wetland habitats for this species are those surrounded by sparse open forest, woodland and especially agricultural land. In the non-breeding season this species shows a preference for coastal salt-marshes, freshwater, brackish and saline lagoons, flooded grasslands, estuaries, intertidal mudflats, and other sheltered marine habitats [190, 191]. Indeed, the species has a presence in the surroundings of Anantapur[192], however based on available secondary information extracted from eBird Database[193] (which reports maximum 56 individuals from Rudravaram town[194] - located about 64 km from the project site), it is less likely to meet the threshold i.e. 28,000-33,000 (≥1 percent of the global population) for the EAAA.	Screened-Out

[187] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org.
[188] Kretchmar, A. V. 1994. Eurasian wigeon (Anas penelope) in north-eastern Asia. Zoologichesky Zhurnal 73(5): 68-79.
[189] Kear, J. 2005. Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.
[190] Cramp, S.; Simmons, K. E. L. 1977. Handbook of the birds of Europe, the Middle East and Africa. The birds of the western Palearctic, vol. I: ostriches to ducks. Oxford University Press, Oxford.
[191] Kear, J. 2005. Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.
[192] https://ebird.org/region/IN-AP-AN/bird-list
[193] https://ebird.org/map/eurwig?neg=true&env.minX=74.71209163591266&env.minY=12.962718829401659&env.maxX=82.09490413591266&env.maxY=16.0045453283973888&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[194] https://ebird.org/checklist/S127000974

24	Garganey (*Spatula querquedula*)  https://www.iucnredlist.org/species/22680313/86016410	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Garganey breed Europe and Northwest Asia. They move to Africa, Indian Subcontinent (particularly South India), Australia, New Zealand, New Guinea and neighbouring islands for wintering[195]. The global population is estimated to number c. 2,600,000-2,800,000 individuals[196]. In the breeding season this species frequents small, shallow ponds and lakes with abundant floating, emergent and fringing vegetation, grass dominated environments (i.e. swampy meadows, flooded fields), shallow freshwater marshes (Cramp and Simmons 1977, Johnsgard 1978, de Hoyo. 1992, Green 1998, Schricke 2001). During nonbreeding season the species shows a preference for large freshwater or occasionally brackish lakes, again with abundant floating, emergent and fringing vegetation (Kear 2005b), also shallow flood plains, shallow dams, pans and sewage ponds (in South Africa) (Hockey et al. 2005). The species also frequents coastal saltmarshes and lagoons on passage (de Hoyo. 1992) and may spend the day resting on marine inshore waters when migrating (Madge and Burn 1988). Indeed, the species has a presence in the surroundings of Anantapur[197], however based on available secondary information extracted from eBird Database[198] (which reports maximum 800 individuals from Rudravaram town[199] - located about 64 km from the project site), it is less likely to meet the threshold i.e. 26,000-28,000 (≥1 percent of the global population) for the EAAA.	Screened-Out
25	Glossy Ibis (*Plegadis falcinellus*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Glossy Ibis are found on every continent except for Antarctica[200]. Its wide discontinuous breeding areas distributes from South Europe, Africa and Madagascar (also Agalega in West Indian Ocean) to Central & South Asia, Philippines, Sulawesi and Java; South New Guinea and Australia (except arid interior); West Indies to North Central Venezuela; and also the Atlantic coast of North America[201]. The global population is estimated at 200,000-2,300,000 individuals[202]. The species feeds in very shallow water[203] and nests in freshwater or brackish wetlands with tall dense stands of emergent vegetation (e.g. reeds or rushes) and low trees or bushes[204, 205]. It shows a preference for marshes at the edges of lakes and rivers, as well as lagoons, floodplains, wet meadows, swamps, reservoirs, sewage ponds, rice fields and irrigated cultivation[206, 207, 208]. It less often occurs in coastal locations such as estuaries,	Screened-Out

[195] https://indianbirds.thedynamicnature.com/2015/03/garganey-spatula-querquedula.html#google_vignette
[196] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org.
[197] https://ebird.org/region/IN-AP-AN/bird-list
[198] https://ebird.org/map/gargan?neg=true&env.minX=74.1111691207159&env.minY=13.667879154277752&env.maxX=81.4939816207159&env.maxY=16.69987341483912&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[199] https://ebird.org/checklist/S127000974
[200] https://guides.nynhp.org/glossy-ibis/
[201] https://indiabiodiversity.org/species/show/239194
[202] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org
[203] Hancock, J. A.; Kushlan, J. A.; Kahl, M. P. 1992. Storks, ibises and spoonbills of the world. Academic Press, London.
[204] Marchant, S.; Higgins, P. J. 1990. Handbook of Australian, New Zealand and Antarctic birds, 1: ratites to ducks. Oxford University Press, Melbourne.
[205] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[206] Marchant, S.; Higgins, P. J. 1990. Handbook of Australian, New Zealand and Antarctic birds, 1: ratites to ducks. Oxford University Press, Melbourne.
[207] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[208] Hancock, J. A.; Kushlan, J. A.; Kahl, M. P. 1992. Storks, ibises and spoonbills of the world. Academic Press, London.

	 https://www.iucnredlist.org/species/22697422/155528413			deltas, saltmarshes[209] and coastal lagoons[210]. Roosting sites are often large trees that may be far from water [211, 212]. Definitely, the species has a presence in the surroundings of Anantapur[213], however based on available secondary information extracted from eBird Database[214] (which reports maximum 300 individuals from Singanamala Cheruvu[215], followed by 250 individuals from Rollapadu Wildlife Sanctuary[216] - located about 44 km and 93 km from the project site respectively), it is less likely to meet the threshold i.e. 2,000-23,000 (≥1 percent of the global population) for the EAAA.	
26	Greater Flamingo (*Phoenicopterus roseus*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Greater Flamingo is regularly seen from West Africa eastward throughout the Mediterranean to Southwest and South Asia, and throughout sub-Saharan Africa. In India it is a winter migrant but can be seen throughout the year in Rann of Gujarat. The overall population is estimated at 550,000-680,000 individuals[217]. The species inhabits shallow (c. 1 m deep over a large area) eutrophic waterbodies such as saline lagoons, saltpans and large saline or alkaline lakes (up to pH 11). It will also frequent sewage treatment pans, inland dams, estuaries and coastal waters, seldom alighting on freshwater but commonly bathing and drinking from freshwater inlets entering alkaline or saline lakes[218, 219]. It nests and roosts nests in large dense colonies on sandbanks, mudflats, islands or boggy, open shores[220, 221].	Screened-Out

[209] Hancock, J. A.; Kushlan, J. A.; Kahl, M. P. 1992. Storks, ibises and spoonbills of the world. Academic Press, London.
[210] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[211] Brown, L.H.; Urban, E.K.; Newman, K. 1982. The Birds of Africa, Volume I. Academic Press, London.
[212] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[213] https://ebird.org/region/IN-AP-AN/bird-list
[214] https://ebird.org/map/gloibi?neg=true&env.minX=76.03615215413558&env.minY=13.966415517556824&env.maxX=79.72755840413558&env.maxY=15.485804105184647&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[215] https://ebird.org/checklist/S54860081
[216] https://ebird.org/checklist/S66360279
[217] https://www.iucnredlist.org/species/22697360/155527405#population
218 Hockey, P.A.R.; Dean, W.R.J.; Ryan, P.G. 2005. Roberts Birds of Southern Africa. Trustees of the John Voelcker Bird Book Fund, Cape Town, South Africa.
219 BirdLife International. 2019. Phoenicopterus roseus (amended version of 2018 assessment). The IUCN Red List of Threatened Species 2019: e.T22697360A155527405
220 Brown, L.H.; Urban, E.K.; Newman, K. 1982. The Birds of Africa, Volume I. Academic Press, London.
221 del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.

	 https://www.iucnredlist.org/species/22697360/155527405			Manjira Wildlife Sanctuary (Telangana), and Pulicat Lake Wildlife Sanctuary (Andhra Pradesh) are the key habitats for this migratory species in Andhra Pradesh (including Telangana)[222]. Indeed, the species has a presence in the surroundings of Anantapur[223], however based on available secondary information extracted from eBird Database[224] (which reports maximum 300 individuals from Singanamala Cheruvu[225] followed by 132 individuals from Alaganuru Reservoir[226] - located about 44 km and 92 km from the project site respectively), it is less likely to meet the threshold i.e. 5,500-6,800 (≥1 percent of the global population) for the EAAA.	
27	Green Sandpiper (*Tringa ochropus*)	IUCN: Least Concern 3a IWP: Schedule IV Restricted range: No Migratory: Yes		The Green Sandpiper is distributed in subarctic Europe, subarctic Russia, Kazakhstan, Kyrgyzstan, northern Mongolia, and extreme northwest China. While winters in southeast and northeast China, tropical Africa, Arabian Peninsula, Indian subcontinent and southeast Asia. The global population is estimated to number c. 1,200,000-3,600,000 individuals[227]. During the breeding season this species inhabits damp areas in swampy, old pine, spruce or alder woodland and montane forest with many fallen and rotten tree stumps, marshy forest floors and heavy carpets of lichens and mosses, generally in the vicinity of rivers, streams, swamps, ponds, lakes and bogs[228, 229]. While in non-breeding migratory season, this species shows a preference for a wider variety of inland freshwater habitats such as marshes, lake edges, sewage farms, small dams and ponds, ditches, riverbanks and forest	Screened-Out

[222] Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii

[223] https://ebird.org/region/IN-AP-AN/bird-list

[224] https://ebird.org/map/grefla3?neg=true&env.minX=77.28614614704327&env.minY=15.294633324715386&env.maxX=79.13184927204327&env.maxY=16.050943825892478&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

[225] https://ebird.org/checklist/S54860081

[226] https://ebird.org/checklist/S42147405

[227] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org

[228] Johnsgard, P. A. 1981. The plovers, sandpipers and snipes of the world. University of Nebraska Press, Lincoln, U.S.A. and London.

[229] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.

	 https://www.iucnredlist.org/species/22693243/86680632		streams, often near villages and cultivation[230, 231]. It is very rarely found in the vicinity of woodland, and intertidal areas such as creeks and the channels of salt marshes[232, 233]. Definitely, the species has a presence in the surroundings of Anantapur[234], however based on available secondary information extracted from eBird Database[235] (which reports maximum 09 individuals from Anantgram Farms Phase 2[236] followed by 07 individuals from Mid Pennar Reservoir[237] - located about 82 km and 73 km from the project site respectively), it is less likely to meet the threshold i.e. 12,000-36,000 (≥1 percent of the global population) for the EAAA.	
28	Marsh Sandpiper (*Tringa stagnatilis*)	IUCN: Least Concern 3a IWP: Schedule IV Restricted range: No Migratory: Yes	The Marsh Sandpiper breeds in the Palearctic. It is a migratory species, with a majority of birds wintering in Africa and India, and some migrating to Southeast Asia and Australia. The global population is estimated to number c. 1,300,000-3,100,000 individuals[238]. The species breeds on coastal saltmarshes, inland wet grasslands with short swards (including cultivated meadows), grassy marshes, swampy heathlands and swampy moors[239, 240]. Non-breeding on passage the species may frequent inland flooded grasslands and the silty shores of rivers and lakes, but during the winter it is largely coastal, occupying rocky, muddy and sandy beaches, saltmarshes, tidal mudflats, saline and freshwater coastal lagoons, tidal estuaries, saltworks and sewage farms[241, 242, 243].	Screened-Out

[230] Urban, E.K., Fry, C.H. and Keith, S. 1986. The Birds of Africa, Volume II. Academic Press, London.
[231] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[232] Johnsgard, P. A. 1981. The plovers, sandpipers and snipes of the world. University of Nebraska Press, Lincoln, U.S.A. and London.
[233] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[234] https://ebird.org/region/IN-AP-AN/bird-list
[235] https://ebird.org/map/grnsan?neg=true&env.minX=74.50469134009529&env.minY=13.720497177215703&env.maxX=81.88750384009529&env.maxY=16.75173972163685&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[236] https://ebird.org/checklist/S130949429
[237] https://ebird.org/checklist/S129753338
[238] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org
[239] Johnsgard, P. A. 1981. The plovers, sandpipers and snipes of the world. University of Nebraska Press, Lincoln, U.S.A. and London.
[240] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[241] Johnsgard, P. A. 1981. The plovers, sandpipers and snipes of the world. University of Nebraska Press, Lincoln, U.S.A. and London.
[242] Flint, V.E.; Boehme, R.L.; Kostin, Y.V.; Kuznetsov, A.A. 1984. A field guide to birds of the USSR. Princeton University Press, Princeton, New Jersey.
[243] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.

	 https://www.iucnredlist.org/species/22693216/86691256			Definitely, the species has a presence in the surroundings of Anantapur[244], however based on available secondary information extracted from eBird Database[245] (which reports maximum 08 individuals from Anantgram Farms Phase 2[246] followed by 07 individuals from Chagalamarri Mahadevapuram Nandyal Road[247] - located about 82 km and 64 km from the project site respectively), it is less likely to meet the threshold i.e. 13,000-31,000 (≥1 percent of the global population) for the EAAA.	
29	Northern Pintail (*Anas acuta*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Northern Pintail is a duck species with wide geographic distribution that breeds in the northern areas of Europe and across the Palearctic and North America. It is migratory and winters south of its breeding range to the equator. The population is estimated to number 7,100,000-7,200,000 individuals[248]; while the European population is estimated at 210,000-269,000 pairs[249]. The species shows a preference for open lowland grassland, prairie or tundra habitats containing freshwater marshes, brackish & saline wetlands with shallow water (10-30 cm deep), marshy lakes, wet meadows, floodplains, sewage ponds, dense marginal vegetation and wetlands interspersed with brushy thickets or copses[250, 251, 252, 253, 254, 255]. During the winter, it frequents large inland lakes, brackish coastal lagoons,	Screened-Out

[244] https://ebird.org/region/IN-AP-AN/bird-list

[245] https://ebird.org/map/marsan?neg=true&env.minX=74.70950852076504&env.minY=13.873113765222802&env.maxX=82.09232102076504&env.maxY=16.902161832897885&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

[246] https://ebird.org/checklist/S130949429

[247] https://ebird.org/checklist/S125759772

[248] Wetlands International. 2006. Waterbird Population Estimates – Fourth Edition. Wageningen, The Netherlands.

[249] BirdLife International. 2015. European Red List of Birds. Office for Official Publications of the European Communities, Luxembourg.

[250] Johnsgard, P.A. 1978. Ducks, geese and swans of the World. University of Nebraska Press, Lincoln and London.

[251] Madge, S.; Burn, H. 1988. Wildfowl. Christopher Helm, London.

[252] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.

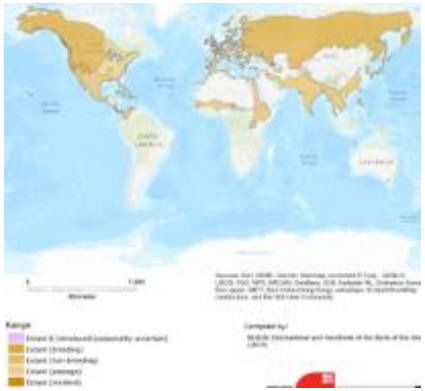
[253] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.

[254] Hockey, P.A.R.; Dean, W.R.J.; Ryan, P.G. 2005. Roberts Birds of Southern Africa. Trustees of the John Voelcker Bird Book Fund, Cape Town, South Africa.

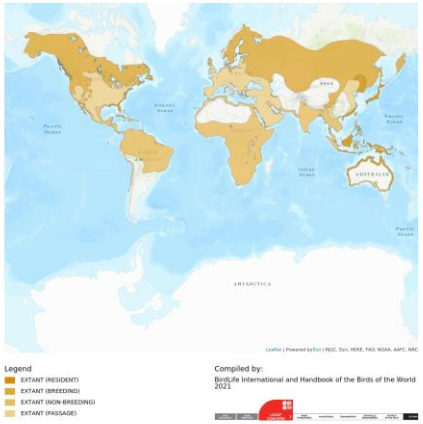
[255] Kear, J. 2005. Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.

	 https://www.iucnredlist.org/species/22680301/153882797			brackish & saline marshes, shallow fresh or brackish estuaries, tidal flats and river deltas with adjacent agricultural land (e.g. stubble fields) and scattered impoundments[256, 257, 258, 259, 260, 261, 262]. Kolleru Wildlife Sanctuary, Nellapattu Wildlife Sanctuary, and Pulicat Lake Wildlife Sanctuary are the key habitats for this migratory species in Andhra Pradesh (including Telangana) as per the Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated Edition - 2016)[263]. Undoubtedly the species has a presence in the surroundings of Anantapur[264], however based on available secondary information extracted from eBird Database[265] (which reports maximum 450 individuals from Rudravaram[266] followed by 132 individuals from Mid Pennar Reservoir [267] - located about 64 km and 73 km from the project site respectively), it is less likely to meet the threshold i.e. 71,000-72,000 (≥1 percent of the global population) for the EAAA.	
30	Northern Shoveler (*Spatula clypeata*)	IUCN: Least Concern 3a IWP: Schedule IV Restricted range: No Migratory: Yes		Northern Shoveler generally occur in North America, North Europe and North Asia during the breeding season. In winter, they migrate to Central and South America, Southern Europe, Africa, Indian Subcontinent, China and Southeast Asia. The global population is estimated to number 6,500,000-7,000,000 individuals[268]; while the European population is estimated at 170,000-233,000 pairs[269]. It inhabits from sea level up to 2,900 m (Ethiopia) in permanent shallow well-vegetated (surrounded by dense stands of reeds or other emergent vegetation) freshwater lakes & marshes/wetlands with muddy	Screened-Out

[256] Johnsgard, P.A. 1978. Ducks, geese and swans of the World. University of Nebraska Press, Lincoln and London.
[257] Brown, L.H.; Urban, E.K.; Newman, K. 1982. The Birds of Africa, Volume I. Academic Press, London.
[258] Madge, S.; Burn, H. 1988. Wildfowl. Christopher Helm, London.
[259] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[260] Scott, D. A.; Rose, P. M. 1996. Atlas of Anatidae populations in Africa and western Eurasia. Wetlands International, Wageningen, Netherlands.
[261] Steele, B.B., Reitsma, L.R., Racine, C.H., Burson, S.L. III., Stuart, R. and Theberge, R. 1997. Different susceptibilities to white phosphorous poisoning among five species of ducks. Environmental Toxicology and Chemistry 16(11): 2275-2282.
[262] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
[263] Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii
[264] https://ebird.org/region/IN-AP-AN/bird-list
[265] https://ebird.org/map/norpin?neg=true&env.minX=73.93961125026449&env.minY=13.405641421484635&env.maxX=81.32242375026449&env.maxY=16.4413447433161 54&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[266] https://ebird.org/checklist/S127000974
[267] https://ebird.org/checklist/S79123272
[268] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org.
[269] BirdLife International. 2015. European Red List of Birds. Office for Official Publications of the European Communities, Luxembourg.

	 https://www.iucnredlist.org/species/22680247/153875944			shores and substrates in open country (e.g. grasslands)[270, 271, 272, 273], oxbow lakes, channels and swamps[274, 275, 276, 277, 278, 279], artificial waters bordered by lush grassland such as sewage farms, rice-fields and fish ponds[280, 281, 282]. In the winter it can be found on coastal brackish lagoons, tidal muflats, estuaries, coastal shorelines, fresh and brackish estuarine marshes, inland seas and brackish or saline inland waters, occasionally occurring (briefly) on marine waters during migration (although it generally avoids very saline habitats)[283, 284, 285, 286, 287]. Undoubtedly the species has a presence in the surroundings of Anantapur[288], however based on available secondary information extracted from eBird Database[289] (which reports maximum 250 individuals from Singanamala Cheruvu[290] followed by 235 individuals from Rudravaram[291] - located about 44 km and 64 km from the project site respectively), it is less likely to meet the threshold i.e. 65,000-70,000 (≥1 percent of the global population) for the EAAA.	
31	Osprey (*Pandion haliaetus*)	IUCN: Least Concern 3a IWP: Schedule I Restricted range: No Migratory: Yes		Osprey is the second most widely distributed raptor species, after the peregrine falcon, and is one of only six land-birds with a worldwide distribution[292]. It is found in temperate and tropical regions of all continents,	Screened-Out

[270] Johnsgard, P.A. 1978. Ducks, geese and swans of the World. University of Nebraska Press, Lincoln and London.
[271] Brown, L.H.; Urban, E.K.; Newman, K. 1982. The Birds of Africa, Volume I. Academic Press, London.
[272] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[273] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
[274] Johnsgard, P.A. 1978. Ducks, geese and swans of the World. University of Nebraska Press, Lincoln and London.
[275] Brown, L.H.; Urban, E.K.; Newman, K. 1982. The Birds of Africa, Volume I. Academic Press, London.
[276] Flint, V.E.; Boehme, R.L.; Kostin, Y.V.; Kuznetsov, A.A. 1984. A field guide to birds of the USSR. Princeton University Press, Princeton, New Jersey.
[277] Madge, S.; Burn, H. 1988. Wildfowl. Christopher Helm, London.
[278] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[279] Kear, J. 2005. Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.
[280] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
[281] Kear, J. 2005. Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.
[282] Musil, P. 2006. A review of the effects of intensive fish production on waterbird breeding populations. In: G. Boere, C. Galbraith and D. Stroud (eds), Waterbirds around the world, pp. 520-521. The Stationary Office, Edinburgh, U.K.
[283] Johnsgard, P.A. 1978. Ducks, geese and swans of the World. University of Nebraska Press, Lincoln and London.
[284] Madge, S.; Burn, H. 1988. Wildfowl. Christopher Helm, London.
[285] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[286] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
[287] Kear, J. 2005. Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.
[288] https://ebird.org/region/IN-AP-AN/bird-list
[289] https://ebird.org/map/norsho?neg=true&env.minX=76.07195005379619&env.minY=14.798261942601666&env.maxX=79.76335630379619&env.maxY=16.311714221051602&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[290] https://ebird.org/checklist/S54860081
[291] https://ebird.org/checklist/S127000974
[292] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4650845

	 https://www.iucnredlist.org/species/22694938/206628879			except Antarctica. In North America it breeds from Alaska and Newfoundland south to the Gulf Coast and Florida, wintering further south from the southern United States through to Argentina[293]. The European population is estimated at 9,600-13,600 pairs, which equates to 19,200-27,200 mature individuals. As Europe forms ca. 14% of the global range, so a very preliminary estimate of the global population size is 137,000-200,000 mature individuals[294]. It inhabits the areas around shallow waters, being sufficiently tolerant of human settlement to persist in suburban and sometimes urban environments[295]. Undoubtedly the species has a presence in the surroundings of Anantapur[296], however based on available secondary information extracted from eBird Database[297] (which reports scattered solitary records of the species from the region), it is less likely to meet the threshold i.e. 1,370-2,000 (≥1 percent of the global population) for the EAAA.	
32	Pied Harrier (*Circus melanoleucos*)	IUCN: Least Concern IWP: Schedule I Restricted range: No Migratory: Yes	3a	The Pallid Harrier's geographic range encompasses various regions across Asia. Breeding occurs primarily in the Eastern Asian Russia, while non-breeding populations are found in places like Hong Kong, Indonesia, and the Philippines. Passage through Korea, Republic of, is noted during migration. Resident populations are established in Bangladesh, India, and China, among others. Vagrant sightings extend to Japan and Brunei Darussalam during non-breeding periods. This distribution highlights the species' adaptability to diverse habitats and its capacity for seasonal movements across vast areas of Asia[298]. The global population is estimated at 9,000-15,000 pairs[299], equating to 18,000-30,000 mature individuals. The European population is estimated at 1,000-2,200 breeding pairs, which roughly equates to 2,000-4,400 mature individuals[300]. The Pallid Harrier is a terrestrial bird primarily found in shrublands, grasslands, and wetlands, both during breeding and residency. It frequents temperate shrublands and grasslands, utilizing inland wetlands such as marshes and freshwater lakes during the breeding season. Additionally, it thrives in artificial or terrestrial habitats like arable lands. With a full migratory pattern, it congregates and disperses, likely due to habitat and seasonal resource availability. Despite its continuing decline in some areas, the extent and quality of its	Screened-Out

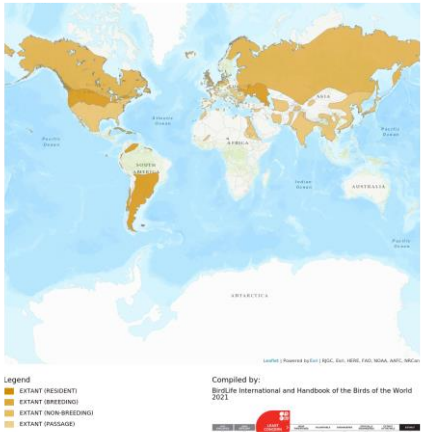
[293] https://archive.org/details/audubonsocietyfi0000bull/page/469
[294] BirdLife International. 2021. Pandion haliaetus. The IUCN Red List of Threatened Species 2021: e.T22694938A206628879
[295] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[296] https://ebird.org/region/IN-AP-AN/bird-list
[297] https://ebird.org/map/osprey?neg=true&env.minX=77.3101614914116&env.minY=14.695566113654948&env.maxX=79.1558646164116&env.maxY=15.45405010819615&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[298] https://www.iucnredlist.org/species/22695402/203542370#geographic-range
[299] Galushin, V.; Clarke, R.; Davygora, A. 2003. International Action Plan for the Pallid Harrier (Circus macrourus).
[300] BirdLife International. In prep.. European Red List of Birds. Deliverable to the European Commission (DG Environment) in 2021 under Service Contract ENV.D.3/SER/2018/0018.

				habitat are yet to be fully understood. This species plays a crucial role in maintaining the ecological balance of its diverse habitats[301]. The species has clear presence in the state[302], however no record of the species is available from the surroundings of Anantapur[303], the available secondary information extracted from eBird Database[304] also suggest the same. Therefore the presence of the species in the EAAA is less likely and it is also unlikely to meet the threshold i.e. 180-300 (≥1 percent of the global population) for the EAAAs.	
	https://www.iucnredlist.org/species/22695402/203542370				
33	Ruddy Shelduck (*Tadorna ferruginea*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	The main breeding area of Ruddy Shelduck is from southeast Europe across the Palearctic to Lake Baikal, Mongolia, and western China[305]. Eastern populations are mostly migratory, wintering in the Indian subcontinent[306]. The global population is estimated to number c. 170,000-220,000 individuals[307]. This species frequents the shores of inland freshwater, saline and brackish lakes and rivers in open country, particularly those in open steppe, upland plateau and mountainous regions (reaching up to 5,000 m in Himalayas)[308 , 309, 310, 311, 312]. However, it is less dependent upon large water bodies for resting and feeding than most other Anatidae, and often occurs a considerable distance from water during the breeding season[313]. In the non-breeding season this species prefers streams, slow-flowing rivers, freshwater pools, flooded grasslands, marshes and brackish or saline lakes in lowland regions, and is also found on artificial reservoirs[314,]	Screened-Out

[301] https://www.iucnredlist.org/species/22695402/203542370#habitat-ecology
[302] https://ebird.org/region/IN-AP/bird-list
[303] https://ebird.org/region/IN-AP-AN/bird-list
[304] https://ebird.org/map/piehar1?neg=true&env.minX=76.41656362971104&env.minY=15.28953235741721&env.maxX=80.10796987971104&env.maxY=16.799330488865817&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[305] https://www.oiseaux-birds.com/card-ruddy-shelduck.html
[306] Stockley C.H. (1923) Some notes on Indian game birds. *The Journal of the Bombay Natural History Society* 29: 278–279.
[307] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org
[308] Cramp, S.; Simmons, K. E. L. 1977. Handbook of the birds of Europe, the Middle East and Africa. The birds of the western Palearctic, vol. I: ostriches to ducks. Oxford University Press, Oxford.
[309] Johnsgard, P.A. 1978. Ducks, geese and swans of the World. University of Nebraska Press, Lincoln and London.
[310] Brown, L.H., Urban, E.K. and Newman, K. 1982. The Birds of Africa, Volume I. Academic Press, London.
[311] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[312] Quan, R. C.; Wen, X.; Tang, X.; Peng, G. H.; Huang, T. F. 2001. Habitat use by wintering Ruddy Shelduck at Lashihai Lake, Lijiang, China. Waterbirds 24(3): 402-406.
[313] Scott, D. A.; Rose, P. M. 1996. Atlas of Anatidae populations in Africa and western Eurasia. Wetlands International, Wageningen, Netherlands.
[314] Cramp, S.; Simmons, K. E. L. 1977. Handbook of the birds of Europe, the Middle East and Africa. The birds of the western Palearctic, vol. I: ostriches to ducks. Oxford University Press, Oxford.

	 https://www.iucnredlist.org/species/22680003/86011049			[315, 316, 317, 318] in the vicinity of agricultural lands (Uzbekistan) (Kreuzberg- Mukhina 2006). It avoids coastal waters and tall, dense vegetation or emergent and floating aquatic plants[319]. Undoubtedly the species has a presence in the surroundings of Anantapur[320], however based on available secondary information extracted from eBird Database[321] (which reports maximum 70 individuals from Mid Pennar Reservoir[322] - located about 73 km from the project site), it is less likely to meet the threshold i.e. 1,700-2,200 (≥1 percent of the global population) for the EAAA.	
34	Short-eared Owl (*Asio flammeus*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Short-eared Owl breeds across the taiga and tundra zones in the northern hemisphere and in corresponding latitudes in South America. The Northern populations migrate south for the winter, specifically in the suitable grassland habitat across the Indian Subcontinent[323]. The Partners in Flight Science Committee[324] estimate the global population to be approximately 2,300,000 individuals. Short-eared Owls live in large, open areas with low vegetation, including prairie and coastal grasslands, heathlands, meadows, shrubsteppe, savanna, tundra, marshes, dunes, and agricultural areas. Winter habitat is similar, but is more likely to include large open areas within woodlots, stubble fields, fresh and saltwater marshes, weedy fields, dumps, gravel pits, rock quarries, and shrub thickets[325]. When food is plentiful, winter areas often become breeding areas.	Screened-Out

[315] Johnsgard, P.A. 1978. Ducks, geese and swans of the World. University of Nebraska Press, Lincoln and London.
[316] Brown, L.H., Urban, E.K. and Newman, K. 1982. The Birds of Africa, Volume I. Academic Press, London.
[317] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[318] Quan, R. C.; Wen, X.; Tang, X.; Peng, G. H.; Huang, T. F. 2001. Habitat use by wintering Ruddy Shelduck at Lashihai Lake, Lijiang, China. Waterbirds 24(3): 402-406.
[319] Madge, S.; Burn, H. 1988. Wildfowl. Christopher Helm, London.
[320] https://ebird.org/region/IN-AP-AN/bird-list
[321] https://ebird.org/map/rudshe?neg=true&env.minX=74.49944568386114&env.minY=13.857105027931372&env.maxX=81.88225818386114&env.maxY=16.88638427328264&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[322] https://ebird.org/checklist/S129971484
[323] https://birdcount.in/migration-map/sheowl/
[324] Partners in Flight. 2020a. Population Estimates Database, version 3.1. Available at: http://pif.birdconservancy.org/PopEstimates
[325] https://www.allaboutbirds.org/guide/Short-eared_Owl/lifehistory

	 https://www.iucnredlist.org/species/22689531/202226582			The species has clear presence in the state[326], however no record of the species is available from the surroundings of Anantapur[327], the available secondary information extracted from eBird Database[328] also suggest the same and reports the maximum 4 individuals of the species form Rollapadu Wildlife Sanctuary[329] - located about 93 km from the project site. Therefore, the presence of the species in the EAAA is less likely and it is also unlikely to meet the threshold i.e. 23,000 (≥1 percent of the global population) for the EAAAs.	
35	Tufted Duck (*Aythya fuligula*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Tufted Duck has a wide distribution throughout northern Canada and Eurasia, localised in parts of America, Africa, southern Europe, the middle east, India through to southern China and Japan[330]. The global population is estimated to number c. 2,600,000-2,900,000 individuals[331]. The species breeds in lowland regions and shows a preference for eutrophic waters 3-5 m deep (avoiding lakes deeper than 15 m) with open water, islands for breeding and abundant marginal and emergent vegetation[332, 333]. It is common on large, freshwater lakes, ponds, reservoirs, gravel-pits and quiet stretches of wide slow-flowing rivers during this season[334, 335]. During the winter the species frequents large freshwater lakes, reservoirs and sheltered coastal locations such as brackish lagoons, brackish inland seas (e.g. Caspian Sea), tidal bays and estuaries although it avoids strong	Screened-Out

[326] https://ebird.org/region/IN-AP/bird-list
[327] https://ebird.org/region/IN-AP-AN/bird-list
[328] https://ebird.org/map/sheowl?neg=true&env.minX=78.04975266475232&env.minY=15.71482881008744&env.maxX=78.51117844600232&env.maxY=15.903780986121642&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[329] https://ebird.org/checklist/S127804629
[330] https://www.brickfieldspark.org/data/ducktufted.htm
[331] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org.
[332] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[333] Kear, J. 2005. Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.
[334] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[335] Kear, J. 2005. Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.

	 https://www.iucnredlist.org/species/22680391/86013549			wave action and very exposed maritime conditions unless all inland freshwaters become frozen[336, 337, 338, 339, 340]. The species has clear presence in the state[341], however no record of the species is available from the surroundings of Anantapur[342], the available secondary information extracted from eBird Database[343] also suggest the same and reports the species >100 km from the project site. Therefore, the presence of the species in the EAAA is less likely and it is also unlikely to meet the threshold i.e. 26.000-29,000 (≥1 percent of the global population) for the EAAAs.	
36	Western Marsh-harrier (*Circus aeruginosus*)	IUCN: Least Concern IWP: Schedule I Restricted range: No Migratory: Yes	3a	Western Marsh-harrier has a wide breeding range from Europe and northwestern Africa to Central Asia and the northern parts of the Middle East. It breeds in almost every country of Europe but is absent from mountainous regions and subarctic Scandinavia[344]. In Europe, the breeding population is estimated to number 151,000-243,000 breeding females, which equates to 303,000-485,000 mature individuals[345]. Europe forms ca. 48% of the global range, so a very preliminary estimate of the global population size is 631,000-1,010,000 mature individuals, although further validation of this estimate is needed, thus, it is placed in the band 600,000 to 1,100,000 mature individuals. The species inhabits extensive areas of dense marsh vegetation, in fresh or brackish water, generally in lowlands but up to 2,000 m in Asia and 3,000 m on its wintering grounds in Cameroon[346]. Indeed, the species has a presence in the surroundings of Anantapur[347], however based on available secondary information extracted from eBird Database[348] (which reports maximum 10 individuals from	Screened-Out

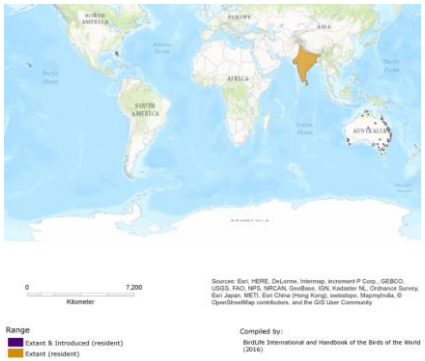
[336] Madge, S.; Burn, H. 1988. Wildfowl. Christopher Helm, London.
[337] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[338] Scott, D. A.; Rose, P. M. 1996. Atlas of Anatidae populations in Africa and western Eurasia. Wetlands International, Wageningen, Netherlands.
[339] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
[340] Kear, J. 2005. Ducks, geese and swans volume 2: species accounts (Cairina to Mergus). Oxford University Press, Oxford, U.K.
[341] https://ebird.org/region/IN-AP/bird-list
[342] https://ebird.org/region/IN-AP-AN/bird-list
[343] https://ebird.org/map/tufduc?neg=true&env.minX=74.45385476991716&env.minY=13.718802209672285&env.maxX=81.83666726991716&env.maxY=16.750069007896485&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[344] https://animalia.bio/western-marsh-harrier#distribution
[345] BirdLife International. In prep. European Red List of Birds. Deliverable to the European Commission (DG Environment) in 2021 under Service Contract ENV.D.3/SER/2018/0018.
[346] del Hoyo, J.; Elliott, A.; Sargatal, J. 1994. Handbook of the Birds of the World, vol. 2: New World Vultures to Guineafowl. Lynx Edicions, Barcelona, Spain.
[347] https://ebird.org/region/IN-AP-AN/bird-list
[348] https://ebird.org/map/wemhar1?neg=true&env.minX=69.09759445279873&env.minY=11.677089387057972&env.maxX=83.86321945279873&env.maxY=17.751929003471776&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

	 https://www.iucnredlist.org/species/22695344/203357709			Ahobilam area[349] - located about 62 km from the project site), it is less likely to meet the threshold i.e. 6,000 - 11,000 (≥1 percent of the global population) for the EAAA.	
37	Whiskered Tern (*Chlidonias hybrida*)	IUCN: Least Concern IWP: Schedule IV Restricted range: No Migratory: Yes	3a	Whiskered Tern has a wide distribution range covering four continents: Africa, Asia, Europe, and Australia. In South Asia, it is known as a breeding resident in the Gangetic Plains and is likely to breed in Afghanistan. It is a winter visitor and passage migrant in most of parts of the Indian Subcontinent[350]. The global population is estimated to number c. 300,000-1,500,000 individuals[351, 352]. The species utilises a variety of wetland habitats but shows a preference for freshwater marshlands with scattered pools, particularly where the surrounding vegetation is grazed by cattle or horses[353]. It frequents inland lakes, rivers, marshes, temporary pans, artificial fish-ponds and drainage-ponds covered with water-lilies, swamps, river pools, reservoirs, large dams, sewage-ponds, flooded saltmarshes, arable fields and rice-fields[354, 355]. It also occurs along the coast on estuaries, coastal lagoons, creeks in mangrove swamps[356] and tidal mudflats[357]. Definitely, the species has a presence in the surroundings of Anantapur[358], however based on available secondary information extracted from eBird Database[359] (which reports maximum 20 individuals from the	Screened-Out

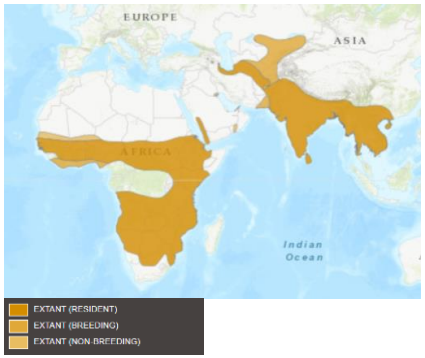
[349] https://ebird.org/checklist/S53316078
[350] https://indianbirds.in/pdfs/IB_17_1_Ranade_WhiskeredTern.pdf
[351] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org.
[352] https://www.iucnredlist.org/species/22694764/111750380
[353] Richards, A. 1990. Seabirds of the northern hemisphere. Dragon's World Ltd, Limpsfield, U.K.
[354] Higgins, P. J.; Davies, S. J. J. F. 1996. Handbook of Australian, New Zealand and Antarctic birds vol 3: snipe to pigeons. Oxford University Press, Oxford.
[355] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[356] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
[357] del Hoyo, J., Elliott, A., and Sargatal, J. 1996. Handbook of the Birds of the World, vol. 3: Hoatzin to Auks. Lynx Edicions, Barcelona, Spain.
[358] https://ebird.org/region/IN-AP-AN/bird-list
[359] https://ebird.org/map/whiter2?neg=true&env.minX=76.8051370332496&env.minY=14.689212338274539&env.maxX=78.6508401582496&env.maxY=15.447718943556167&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

	 https://www.iucnredlist.org/species/22694764/111750380		Alaganuru Reservoir[360]), it is less likely to meet the threshold i.e. 3,000-15,000 (≥1 percent of the global population) for the EAAA.	
38	Eurasian Spoonbill (*Platalea leucorodia*) 	IUCN: Least Concern 1 IWP: Schedule I Restricted range: No Migratory: No	Eurasian Spoonbill is distributed from the East Atlantic to India and China[361]. It has an extremely large range, and hence does not approach the thresholds for Vulnerable (extent of occurrence <20,000 km^2 with a declining or fluctuating distribution range size, habitat extent/quality, or population size i.e., <10,000 mature individuals)[362]. The global population is estimated to number ca. 63,000-65,000 individuals[363]. It shows a preference for extensive shallow (less than 30 cm deep) wetlands364 with mud, clay or fine sand substrates, generally avoiding waters with rocky substrates, thick vegetation or swift currents365. It inhabits either fresh, brackish or saline366, 367 marshes, rivers, lakes, flooded areas and mangrove swamps, especially those with islands for nesting or dense emergent vegetation (e.g. reedbeds) and scattered trees or shrubs368. It may also frequent sheltered marine habitats during the winter such as deltas, estuaries, tidal creeks and coastal lagoons [369, 370].	Screened-Out

[360] https://ebird.org/checklist/S24165809
[361] https://www.unep-aewa.org/sites/default/files/publication/ssap_eurasian_spoonbill_ts35_text_0.pdf
[362] BirdLife International. 2019. Platalea leucorodia (amended version of 2016 assessment). The IUCN Red List of Threatened Species 2019: e.T22697555A155460986
[363] Wetlands International. 2015. Waterbird Population Estimates. Available at: wpe.wetlands.org.
[364] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[365] Hancock, J. A.; Kushlan, J. A.; Kahl, M. P. 1992. Storks, ibises and spoonbills of the world. Academic Press, London.
[366] Hancock, J. A.; Kushlan, J. A.; Kahl, M. P. 1992. Storks, ibises and spoonbills of the world. Academic Press, London.
[367] Snow, D.W.; Perrins, C.M. 1998. The Birds of the Western Palearctic, Volume 1: Non-Passerines. Oxford University Press, Oxford.
[368] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.
[369] Hancock, J. A.; Kushlan, J. A.; Kahl, M. P. 1992. Storks, ibises and spoonbills of the world. Academic Press, London.
[370] del Hoyo, J.; Elliot, A.; Sargatal, J. 1992. Handbook of the Birds of the World, Vol. 1: Ostrich to Ducks. Lynx Edicions, Barcelona, Spain.

	https://www.iucnredlist.org/species/22697555/155460986			Definitely, the species has a presence in the surroundings of Anantapur[371, 372], however based on available secondary information extracted from eBird Database[373] (which reports maximum 150 individuals from the Singanamala Cheruvu [374] – loated ~42 km from the project in Southwest direction), it is less likely to meet the threshold i.e. 630-650 (≥1 percent of the global population) for the EAAA.	
39	Indian Peafowl (*Pavo cristatus*)  https://www.iucnredlist.org/species/22679435/92814454	IUCN: Least Concern 1 IWP: Schedule I Restricted range: No Migratory: No		Indian Peafowl has an extremely large range and native to Indian Subcontinent- Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka. It has also been introduced in Australia, Bahamas, New Zealand, and United States (Hawaiian Is.)[375]. The global population size of the species has not been quantified. However, it does not approach the thresholds for Vulnerable (population size, <10,000 mature individuals)[376] and reported to be common to locally very common[377] . Conservative estimates of the population put them at more than 100,000[378] facing the risk of Illegal poaching for meat and colourful feathers in parts of India[379]. The species prefers ground in dry, semi-desert areas, grasslands, scrublands, open & deciduous forests, and usually live below 1,800 meters in elevation[380]. They can live close to agricultural and human-occupied spaces, as long as there is a water source nearby and roost in trees or other high buildings (where trees are Threatened) at night[381, 382]. Definitely, the species has a presence in the surroundings of Anantapur[383, 384], however based on available secondary information extracted from eBird Database[385] (which reports maximum 10 individuals from the Singanamala Cheruvu [386] – loated ~42 km from the project in Southwest direction), it is unlikely to meet the threshold i.e. >1000 (≥1 percent of the global population) for the EAAA.	Screened-Out
40	Shikra (*Accipiter badius*)	IUCN: Least Concern 1 IWP: Schedule I		The shikra is a small bird of prey widely distributed throughout sub-Saharan Africa, the Arabian Peninsula and southern Asia[387]. Although resident throughout much of its range, birds breeding at the Palearctic edge	Screened-Out

[371] https://ebird.org/region/IN-AP-AN/bird-list
[372] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=3731
[373] https://ebird.org/map/eurspo1?neg=true&env.minX=76.8051370332496&env.minY=14.68921233827455&env.maxX=78.6508401582496&env.maxY=15.447718943556179&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[374] https://ebird.org/checklist/S24165809
[375] https://www.iucnredlist.org/species/22679435/92814454#geographic-range
[376] https://datazone.birdlife.org/species/factsheet/indian-peafowl-pavo-cristatus#:~:text=The%20population%20trend%20appears%20to,is%20evaluated%20as%20Least%20Concern.
[377] del Hoyo, J.; Elliott, A.; Sargatal, J. 1994. Handbook of the Birds of the World, vol. 2: New World Vultures to Guineafowl. Lynx Edicions, Barcelona, Spain.
[378] Madge S; McGowan, P (2002). Pheasant, partridges and grouse, including buttonquails, sandgrouse and allies. Christopher Helm, London.
[379] Ramesh, K.; McGowan, P. (2009). On the current status of Indian Peafowl *Pavo cristatus* (Aves: Galliformes: Phasianidae): keeping the common species common. Journal of Threatened Taxa 1(2): 106–108.
[380] https://www.natureinfocus.in/animals/all-about-the-indian-peafowl#:~:text=From%20Forests%20to%20Cities,is%20a%20water%20source%20nearby.
[381] https://www.jetir.org/papers/JETIR1902666.pdf
[382] http://envis.nic.in/WriteReadData/userfiles/file/newsletters/5-Lucknow%20university.pdf
[383] https://ebird.org/region/IN-AP-AN/bird-list
[384] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=1204
[385] https://ebird.org/map/compea?neg=true&env.minX=76.8051370332496&env.minY=14.68921233827455&env.maxX=78.6508401582496&env.maxY=15.447718943556179&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[386] https://ebird.org/checklist/S175804898
[387] https://datazone.birdlife.org/species/factsheet/shikra-accipiter-badius/text

	 https://www.iucnredlist.org/species/22695490/197951702	Restricted range: No Migratory: No		of the range regularly migrate south for the winter, departing in September/ October and returning mid-April to early May (Ferguson-Lees and Christie 2001). The global population of the species has been estimated around 1,000,000 individuals or 400,000 (minimum) breeding pairs which equates to 800,000 mature individuals[388, 389]. Thus, it is placed in the band 500,000 to 999,999 mature individuals[390]. The species inhabits a wide range of dry habitats with trees, including deciduous woodland, savanna, plantations and gardens, but avoids closed canopy or dense woodland [391]. It has been recorded from sea-level to 2,000 m, occasionally reaching altitudes of 3,000 m in Africa and Saudi Arabia[392, 393]. Indeed, the species has a presence in the surroundings of Anantapur[394], however based on available secondary information extracted from eBird Database[395] (which reports maximum 2 individuals from Thimampeta Village[396] and Cheruvu Katta[397] - located about 52 km from the project site), it is unlikely to meet the threshold i.e. 5,000 to 9,999 (≥1 percent of the global population) for the EAAA.	
	Mammals				
41	Dhole (*Cuon alpinus*)	IUCN: Endangered IWP: Schedule I Restricted range: No Migratory: No	1 a	Historically, Dholes occurred throughout South and East Asia, to as far north as the southern parts of the Russian Federation, and as far west as the mountains ranging from eastern Kazakhstan to northern Pakistan[398]. Undoubtedly, India contains the largest numbers of Dholes. Relatively high populations of Dholes are still found in the Western Ghats and central Indian forests, due to high prey numbers and extent of protected forests, whereas lower numbers of Dholes are found in the Eastern Ghats[399]. Dholes are also found in the north-eastern states, although numbers are low and decreasing in this region due to a decreasing prey base and retaliatory killings from livestock predation[400, 401]. Dholes are found in some areas	Screened-Out

[388] Ferguson-Lees, J. and Christie, D.A. 2001. Raptors of the World. Christopher Helm, London.
[389] https://datazone.birdlife.org/species/factsheet/shikra-accipiter-badius/text
[390] https://www.iucnredlist.org/species/22695490/197951702#population
[391] https://datazone.birdlife.org/species/factsheet/shikra-accipiter-badius/text
[392] Jennings, M. C. 2010. Atlas of the breeding birds of Arabia. Senckenberg Gesellschaft für Naturforschung and King Abdulaziz City for Science and Technology, Frankfurt am Main, Germany and Riyadh.
[393] https://datazone.birdlife.org/species/factsheet/shikra-accipiter-badius/text
[394] https://ebird.org/region/IN-AP-AN/bird-list
[395] https://ebird.org/map/shikra1?neg=true&env.minX=76.84767850532344&env.minY=14.473423042469033&env.maxX=78.69338163032344&env.maxY=15.232692051760795&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024
[396] https://ebird.org/checklist/S154540987
[397] https://ebird.org/hotspot/L8000556/bird-list
[398] Heptner, V.G. and Naumov, N.P. 1967. Mammals of the Soviet Union. Vysshaya Shkola Publishers, Moscow.
[399] Karanth, K.K., Nichols, J.D., Hines, J.E., Karanth, K.U. and Christensen, N.L. 2009. Patterns and determinants of mammal species occurrence in India. Journal of Applied Ecology 46(6): 1189-1200.
[400] Gopi, G.V., Habib, B., Selvan, K.M. and Lyngdoh, S. 2012. Conservation of the endangered Asiatic wild dog Cuon alpinus in Western Arunachal Pradesh: linking ecology, ethnics and economics to foster better coexistence. Dehradun DST Project Completion Report TR-2012. Wildlife Institute of India.
[401] Lyngdho, S., Gopi, G.V., Selvan, K.M. and Habib, B. 2014. Effect of interactions among ethnic communities, livestock and wild dogs (Cuon alpinus) in Arunachal Pradesh, India. Journal of Wildlife Research 60(5): 771-780.

	 https://www.iucnredlist.org/species/5953/72477893			of Terai region in northern India[402]. In the Himalayan region, Dholes were recently reported from Sikkim[403], and in 2008 near Tso Kar in Ladakh[404]. The total population of Dholes has been estimated as 4,500–10,500[405]. The Dhole is a habitat generalist, and can occur in a wide variety of vegetation types, including: primary, secondary and degraded forms of tropical dry and moist deciduous forests; evergreen and semievergreen forests; temperate deciduous forests; boreal forests; dry thorn forests; grassland–scrub–forest mosaics; temperate steppe; and alpine steppe. Consequently, their elevation range is from sea level to as high as 5,300 m asl in Ladakh. However, they have not been recorded in desert regions[406]. The global distribution map of Dhole includes the presence of the species from the Eastern Ghats. As per the available secondary information[407, 408, 409], the nearest known habitat of the species, i.e. Nallamala forests is located about >100 km from the proposed project location and there is no historical as well as recent records of the species from the project's EAAA. Thus, the present of the species in the EAAA is unlikely.	
42	Indian Pangolin (*Manis crassicaudata*)	IUCN: Endangered IWP: Schedule I Restricted range: No Migratory: No	1 a	Indian Pangolin is distributed in South Asia from northern and southeastern Pakistan through much of India south of the Himalayas (excluding far northeastern portions of the country), southern Nepal, and Sri Lanka[410]. The species is understood to occur in various types of tropical forests as well as open land, grasslands and degraded habitats, including in close proximity to villages. The species can adapt well to modified habitats, provided its ant and termite prey remains abundant. Indian Pangolin is widely distributed in India, except the arid region, high Himalayas and the North-East[411]. Although, the distribution map of Indian Pangolin includes the entire Andhra Pradesh state, however no information about the presence of the species has been reported from the protected areas present in the	Screened-Out

[402] Karanth, K.K., Nichols, J.D., Hines, J.E., Karanth, K.U. and Christensen, N.L. 2009. Patterns and determinants of mammal species occurrence in India. Journal of Applied Ecology 46(6): 1189-1200.
[403] Bashir, T. Bhattacharya, T., Poudyal, K., Roy, M. and Sathyakumar, S. 2014. Precarious status of the Endangered dhole Cuon alpinus in the high elevation Eastern Himalayan habitats of Khangchendzonga Biosphere Reserve, Sikkim, India. Oryx 48(1): 125-132.
[404] Kamler, J.F., Songsasen, N., Jenks, K., Srivathsa, A., Sheng, L. & Kunkel, K. 2015. Cuon alpinus. The IUCN Red List of Threatened Species 2015: e.T5953A72477893
[405] https://www.iucnredlist.org/species/5953/72477893#population
[406] https://www.iucnredlist.org/species/5953/72477893#habitat-ecology
[407] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=42101
[408] https://www.gbif.org/species/2434317
[409] https://indiabiodiversity.org/species/show/238442
[410] Mahmood, T., Challender, D., Khatiwada, A., Andleeb, S., Perera, P., Trageser, S., Ghose, A. & Mohapatra, R. 2019. Manis crassicaudata. The IUCN Red List of Threatened Species 2019: e.T12761A123583998
[411] https://www.wwfindia.org/about_wwf/priority_species/threatened_species/indian_pangolin/

	 https://www.iucnredlist.org/species/12761/123583998		surroundings of the Anantapur, i.e. Rajiv Gandhi National Park[412], Sri Lankamalleswara Wildlife Sanctuary[413], and has also not been recorded from the Project's EAAA[414, 415, 416]. Thus, the present of the species in the EAAA is unlikely.	
43	Bengal Fox (*Vulpes bengalensis*)	IUCN: Least Concern 1 IWP: Schedule I Restricted range: No Migratory: No	Bengal Fox is endemic to the Indian subcontinent. It ranges from the foothills of the Himalayas in Nepal to the southern tip of the Indian peninsula (but it is absent from the Western and Eastern Ghats). The species' range extends from Sindh province of Pakistan to north Bengal in the eastern part of India[417]. Occurs up to 1,500 m in Nepal and north-eastern India[418]. Although widespread, the Indian Fox is nowhere abundant in its range, with densities greatest in semiarid grasslands of peninsular India. Densities seem to track rodent abundance[419], which fluctuates widely between years in the species' prime habitat (arid and semi-arid zones)[420, 421]. Due to loss of short grassland-scrub habitat to intensive agriculture, industry and development projects the Indian Fox population is likely to be experiencing a slow decline. However, any decline is unlikely to be sufficient to warrant the listing of the species in a threatened category and the species is currently assessed as Least Concern[422].	Screened-Out

[412] http://moef.gov.in/wp-content/uploads/2017/06/Rajiv%20Gandhi%20National%20Park%2C%20Andhra%20Pradesh_0.pdf
[413] http://moef.gov.in/wp-content/uploads/2017/06/Sri%20Lankamalleswara%20Wildlife%20Sanctuary%2C%20Andhra%20Pradesh.pdf
[414] https://www.gbif.org/species/5219633
[415] https://indiabiodiversity.org/species/show/257364
[416] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=43362
[417] Johnsingh, A.J.T. & Jhala, Y.V. 2004. Indian Fox Vulpes bengalensis (Shaw 1800). In: Sillero-Zubiri, C., Hoffmann, M. & Macdonald, D. W. (ed.), Canids: Foxes, Wolves, Jackals and Dogs: Status Survey and Conservation Action Plan, pp. 219-222. IUCN , Gland, Switzerland and Cambridge, UK.
[418] Gompper, M.E. & Vanak, A.T. 2006. Vulpes bengalensis. Mammalian Species 795: 1-5.
[419] Johnsingh, A.J.T. & Jhala, Y.V. 2004. Indian Fox Vulpes bengalensis (Shaw 1800). In: Sillero-Zubiri, C., Hoffmann, M. & Macdonald, D. W. (ed.), Canids: Foxes, Wolves, Jackals and Dogs: Status Survey and Conservation Action Plan, pp. 219-222. IUCN , Gland, Switzerland and Cambridge, UK.
[420] Prakash, I. 1975. The population ecology of the rodents of the Rajasthan desert, India. In: I. Prakash and P. K. Ghosh (eds), Rodents in desert environments, pp. 75-116. Dr. W. Junk b.v. Publishers, the Hague, Switzerland.
[421] Tripathi, R. S., Jain, A. P., Kashyap, N., Rana, B. D. and Prakash, I. 1992. North Western India. In: I. Prakash and P. K. Ghosh (eds), Rodents in Indian agriculture, pp. 357-395. Scientific Publishers, Jodhpur, India.
[422] https://www.iucnredlist.org/species/23049/81069636#assessment-information

	 https://www.iucnredlist.org/species/23049/81069636			The Indian Fox prefers semi-arid, flat to undulating terrain, scrub and grassland habitats where it is easy to hunt and dig dens. It avoids dense forests, steep terrain, tall grasslands and true deserts[423]. The species is relatively common in areas of low rainfall, where the vegetation is typically scrub, thorn or dry deciduous forests, or short grasslands[424]. In the Indian peninsula, the species is restricted to plains and open scrub forest. Home ranges have been estimated at about 2 km^2 [425]. Diet mostly consists of arthropods, rodents, reptiles, fruits and birds[426]. As per the available secondary data[427, 428, 429] and information available in forest working plans[430], the species has a presence in the surroundings of Anantapur; however no quantitative data regarding the species is available for the EAAA and its immediate surroundings. The consultations with local villagers/shepherds, forest guards, and range officers reveals the presence of Bengal Fox in the EAAA (specifically from the scrubs and its surroundings). As per their inputs the total number of the species individuals will be up to 10-15, which is unlikely ≥1 percent of the global population of the species, thus unable to meet the threshold for the EAAA.	
44	Blackbuck (*Antilope cervicapra*)	IUCN: Least Concern 1 IWP: Schedule I Restricted range: No Migratory: No		The Blackbuck formerly occurred across almost the whole of the Indian subcontinent south of the Himalaya. Their range decreased during the 20th century, and they are now extinct in Bangladesh and Pakistan. Blackbuck are still present in the terai zone of Nepal[431]. The population in India increased from an estimated 22,000-24,000 in the 1970s to an estimated 50,000 (ca. 35,000 mature individuals) by 2000, with the largest numbers in the states of Rajasthan, Punjab, Madhya Pradesh, Maharashtra, and Gujarat[432]. The species inhabits open grassland, dry thorn scrub, scrubland and lightly-wooded country as well as agricultural margins, where it is often seen feeding in fields. Blackbuck require water daily, which restricts distribution to areas where surface water is available for the greater part of the year. Blackbuck are primarily	Screened-Out

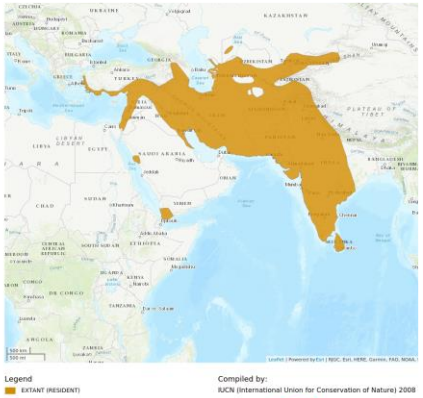
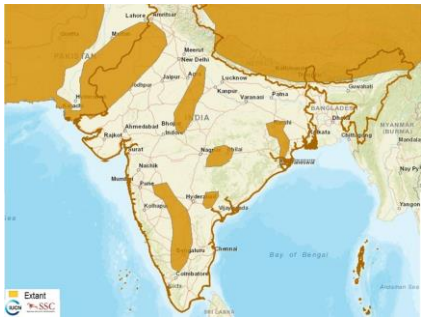
[423] Johnsingh, A.J.T. & Jhala, Y.V. 2004. Indian Fox Vulpes bengalensis (Shaw 1800). In: Sillero-Zubiri, C., Hoffmann, M. & Macdonald, D. W. (ed.), Canids: Foxes, Wolves, Jackals and Dogs: Status Survey and Conservation Action Plan, pp. 219-222. IUCN , Gland, Switzerland and Cambridge, UK.
[424] Rodgers, W. A., Panwar, H. S. and Mathur, V. B. 2000. Wildlife protected area network in India: a review (executive summary). Wildlife Institute of India, Dehra Dun, India.
[425] Maurya, K. K. 2012. Ecology of the Indian Fox (Vulpus bengalensis) in Kutch, Gujarat. Ph.D. thesis, Saurashtra University & Wildlife Institute of India.
[426] Home, C. & Jhala, Y.V. 2009. Food habits of the Indian Fox (Vulpes bengalensis) in Kutch, Gujarat, India. Mammalian Biology 74: 430–411.
[427] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=42056
[428] https://www.gbif.org/species/5219308
[429] https://indiabiodiversity.org/species/show/257340
[430] Forest Working plans of Kurnool, Ananthapuramu, Proddatur, and Kadapa Divisions.
[431] Bashistha, M., Neupane, B. K. and Khanal, S. N. 2012. Antilope Cervicapra Blackbuck in Nepal: Population Status, Conservation and Translocation Issues of Blackbuck in the Blackbuck Conservation Area, Bardiya, Nepal. LAP Lambert Academic Publishing, Saarbrücken.
[432] https://www.iucnredlist.org/species/1681/50181949#population

	 https://www.iucnredlist.org/species/1681/50181949			grazers, but browse when lack of grasses forces a greater dependency on leaf litter, flowers and fruits. They are mainly sedentary, but in summer may move longer distances in search of water and forage[433]. As per the available secondary data[434, 435, 436] and information available in forest working plans[437], the species has a presence in the surroundings of Anantapur; however no quantitative data regarding the species is available for the EAAA and its immediate surroundings. The consultations with local villagers/shepherds, forest guards, and range officers reveals the presence of Blackbuck in the EAAA (specifically from the scrubs and its surroundings agricultural lands). As per their inputs the total number of the species individuals will be up to 50, which it unlikely ≥1 percent of the global population of the species (i.e. 500), thus unable to meet the threshold for the EAAA.	
45	Golden Jackal (*Canis aureus*)	IUCN: Least Concern 1 IWP: Schedule I Restricted range: No Migratory: No		The Golden Jackal is a widespread species that is fairly common throughout most of its range with high densities observed in areas with abundant food and cover; its tolerance of different habitats, including those altered by humans, and omnivorous, opportunistic diet means that it can live in a wide variety of habitats[438]. In Europe, the Golden Jackal was historically limited to coastal regions along the Mediterranean and Black Sea[439]. Southwards, Golden Jackals range into Turkey, Syria and Iraq into the Arabian Peninsula, where the species is today restricted to a small part of eastern Saudi Arabia in the Hofuf area and around Al Asfah; however, there are also records from the last few decades from Qatar[440] and Jordan[441] and it is possible that it may occur in Kuwait[442]. The Golden Jackal then ranges eastwards through Iran, Central Asia and the entire Indian subcontinent east and south to Sri Lanka, Myanmar and parts of Indochina[443]. Population size for Europe was roughly estimated at 70,000 Golden Jackals[444]. There is a lack of knowledge on population densities for most areas in the eastern extent, where the species appears to be scarce and localized. In India, jackal populations achieve high densities in pastoral areas such as Kutch, Maharashtra,	Screened-Out

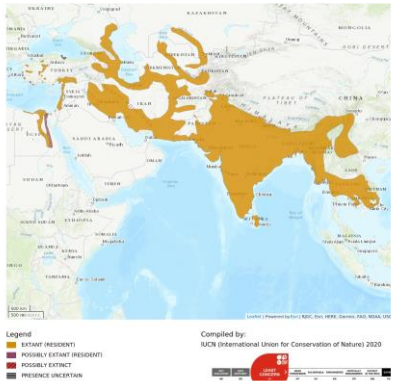
[433] Rahmani, A.R. 2001. India. In: D.P. Mallon & S.C. Kingswood (ed.), Antelopes. Part 4: North Africa, the Middle East, and Asia. Global Survey and Rgeional Action Plans, pp. 178-187. IUCN, Gland, Switzerland.
[434] https://www.inaturalist.org/observations?subview=map&taxon_id=42416
[435] https://www.gbif.org/species/2441065
[436] https://indiabiodiversity.org/species/show/238631
[437] Forest Working plans of Kurnool, Ananthapuramu, Proddatur, and Kadapa Divisions.
[438] Hoffmann, M., Arnold, J., Duckworth, J.W., Jhala, Y., Kamler, J.F. & Krofel, M. 2018. Canis aureus (errata version published in 2020). The IUCN Red List of Threatened Species 2018: e.T118264161A163507876.
[439] Krofel, M., Giannatos, G., Ćirovič, D., Stoyanov, S. and Newsome, T. 2017. Golden jackal expansion in Europe: a case of mesopredator release triggered by continent-wide wolf persecution? Hystrix, the Italian Journal of Mammalogy 28(1): 9-15.
[440] Hellyer, P. 2009. Golden jackal in Qatar. Tribulus 18: 70-71.
[441] Amr, Z., Baker, M. A. and Rifai, L. 2004. Mammals of Jordan. Denisia 14(2): 1-29.
[442] Mallon, D. and Budd, K. 2011. Regional Red List Status of Carnivores in the Arabian Peninsula. IUCN and Environment and Protected Areas Authority, Cambridge, UK; Gland, Switzerland; and Sharjah, UAE.
[443] Jhala, Y.V. and Moehlman, P.D. 2004. Golden Jackal Canis aureus Linnaeus, 1758. In: S. Sillero-Zubiri, M. Hoffmann and D.W. Macdonald (eds), Canids: Foxes, Wolves, Jackals and Dogs. Status Survey and Conservation Action Plan, pp. 156-161. IUCN, Gland.
[444] Ćirović, D., Penezić, A. & Krofel, M. 2016. Jackals as cleaners: Ecosystem services provided by a mesocarnivore in human-dominated landscapes. Biological Conservation 199: 51-55.

	 https://www.iucnredlist.org/species/118264161/163507876		Rajasthan, and Haryana. As per the regional studies[445, 446], a minimum population estimate of over 80,000 Golden Jackals would not be unreasonable for the Indian sub-continent. Due to its tolerance of dry conditions and its omnivorous diet, the Golden Jackal can live in a wide variety of habitats, exceeding 2,000 m in elevation, ranging from semi-arid environments to forested, mangrove, agricultural, rural and semi-urban habitats in India and Bangladesh[447, 448, 449]. As per the available secondary data[450, 451, 452] and information available in forest working plans[453], the species has a presence in the surroundings of Anantapur; however no quantitative data regarding the species is available for the EAAA and its immediate surroundings. The consultations with local villagers/shepherds, forest guards, and range officers reveals the presence of Golden Jackal in the EAAA (specifically from the scrubs and its close surroundings). As per their inputs the total number of the species individuals will be up to 10-15, which is unlikely ≥1 percent of the global population of the species (i.e. 800), thus unable to meet the threshold for the EAAA.	
46	Indian Crested Porcupine (*Hystrix indica*)	IUCN: Least Concern 1 IWP: Schedule I Restricted range: No Migratory: No	Indian Crested Porcupine has been recorded in Turkey and the eastern Mediterranean through southwest and central Asia (including Afghanistan and Turkmenistan) to Pakistan, India, Nepal, China and Sri Lanka. In the Himalayan mountains they reach altitudes of up to 2,400 meters[454]. Indian Crested Porcupine is a very widespread species. However, no data regarding the global population of the species is available. Status varies in different parts of the range, but in at least parts of the range it is common enough to be considered a pest[455]. This species has a broad habitat tolerance, occupying rocky hillsides, tropical and temperate shrubland, grasslands, forests, arable land, plantations, and gardens[456]. As per the available secondary data[457, 458, 459] and information available in forest working plans[460], the species has a presence in the surroundings of Anantapur; however no quantitative data regarding the species is available for the EAAA and its immediate surroundings. The consultations with local villagers/shepherds,	Screened-Out

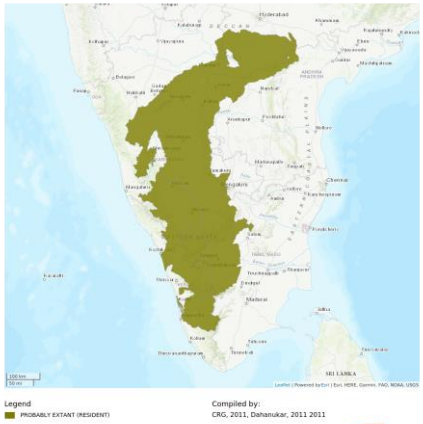
[445] Sharma, I. K. 1998. Habitat preferences, feeding behaviour, adaptations and conservation of the Asiatic jackals (*Canis aureus*) in the Indian Thar desert. Tiger Paper 25: 11-12.
[446] Jhala, Y.V. and Moehlman, P.D. 2004. Golden Jackal Canis aureus Linnaeus, 1758. In: S. Sillero-Zubiri, M. Hoffmann and D.W. Macdonald (eds), Canids: Foxes, Wolves, Jackals and Dogs. Status Survey and Conservation Action Plan, pp. 156-161. IUCN, Gland.
[447] Clutton-Brock, J., Corbet, G. B. and Hills, M. 1976. A review of the family Canidae, with a classification by numerical methods. Bulletin of the British Museum (Natural History), Zoology 29: 119-199.
[448] Prater, S. 1971. The Book of Indian Animals. Bombay Natural History Society, Bombay, India.
[449] Poche, R. M., Evans, S. J., Sultana, P., Haque, M. E, Sterner, R. and Siddique, M. A. 1987. Notes on the golden jackal (Canis aureus) in Bangladesh. Mammalia 51: 259-270.
[450] https://www.inaturalist.org/observations?subview=map&taxon_id=851014
[451] https://www.gbif.org/species/5219219
[452] https://indiabiodiversity.org/species/show/257359
[453] Forest Working plans of Kurnool, Ananthapuramu, Proddatur, and Kadapa Divisions.
[454] Gurung, K.K. and Singh, R. 1996. Field Guide to the Mammals of the Indian Subcontinent. Academic Press, San Diego, California, USA.
[455] https://www.iucnredlist.org/species/10751/197516522#population
[456] https://www.iucnredlist.org/species/10751/197516522#habitat-ecology
[457] https://www.inaturalist.org/observations?subview=map&taxon_id=44175
[458] https://www.gbif.org/species/5219884
[459] https://indiabiodiversity.org/species/show/257346
[460] Forest Working plans of Kurnool, Ananthapuramu, Proddatur, and Kadapa Divisions.

	 https://www.iucnredlist.org/species/10751/197516522			forest guards, and range officers reveals the presence of Indian Crested Porcupine in the EAAA (specifically from the scrubs and hillocks). As per their inputs the total number of the species individuals will be up to 20-30, which is unlikely ≥1 percent of the global population of the species, thus unable to meet the threshold for the EAAA.	
47	Indian Wolf (*Canis lupus pallipes*)  https://cza.nic.in/uploads/documents/studbooks/english/nswolf.pdf	IUCN: Least Concern[461] IWP: Schedule I Restricted range: No Migratory: No	1	The subspecies *Canis lupus pallipes* has a wide distribution range, extending from India in the east to Turkey in the west, with populations reported from Pakistan, Iran, Iraq, Syria and Israel[462, 463, 464]. In India, they inhabit scrublands in three biogeographic zones that include the hot desert, the semi-arid zone and the Deccan plateau[465]. A scientific population estimate in the country, conducted by the Wildlife Institute of India (WII) and published in 2022, reveals that only 3,100 Indian wolves currently remain in the wild[466, 467]. The Indian wolf inhabits areas dominated by scrub, grasslands and semi-arid pastoral agro-ecosystems[468]; however, in the eastern parts of its range extending across parts of Odisha, Bihar and West-Bengal they are known to inhabit moister low density forested habitats[469]. The availability of undisturbed patches that offer shade during the day and protection for whelping, denning and play areas for pups are crucial for habitat selection[470]. The small body size of Indian wolves allows them to sustain themselves on smaller ungulates, lagomorphs and rodents[471], thus allowing solitary individuals to survive.	Screened-Out

[461] As no assessment is available for subspecies, *Canis lupus pallipes*; IUCN status of the species, *Canis lupus* has been provided here in accordance with, https://www.iucnredlist.org/species/3746/247624660
[462] Mendelssohn H. (1982). Wolves in Israel. [In: Wolves of the world. F. H. Harrington and P. C. Paquet, eds]. Noyes Publications, Park Ridge, New Jersey: 173 - 195.
[463] Shahi, P.S. (1982). Status of gray wolf (Canis lupus pallipes) in India: a preliminary survey. J. Bomb. Nat. Hist. Soc. 79(3):493-50.
[464] Mech, L.D. and Boitani, L. (IUCN SSC Wolf Specialist Group). (2010). Canis lupus. The IUCN Red List of Threatened Species 2010: e.T3746A10049204. Downloaded on 16 September 2017.
[465] Jhala, Y.V., (2013). Indian Wolf: Canis lupus pallipes in Johnsingh, A.J.T., and N., Manjrekar, eds. 2013. Mammals of South Asia. Vol. 1. Hyderabad: Universities Press (India) Pvt Ltd.
[466] https://india.mongabay.com/2024/02/silence-of-the-wolves-how-human-landscapes-alter-howling-behaviour/#:~:text=A%20silent%20custodian%20of%20the,studying%20its%20long%2Dterm%20survival.
[467] https://www.frontiersin.org/journals/ecology-and-evolution/articles/10.3389/fevo.2022.814966/full
[468] Jhala, Y.V., (2013). Indian Wolf: Canis lupus pallipes in Johnsingh, A.J.T., and N., Manjrekar, eds. 2013. Mammals of South Asia. Vol. 1. Hyderabad: Universities Press (India) Pvt Ltd.
[469] Shahi, P.S. (1982). Status of gray wolf (Canis lupus pallipes) in India: a preliminary survey. J. Bomb. Nat. Hist. Soc. 79(3):493-50.
[470] Jhala, Y.V., (2013). Indian Wolf: Canis lupus pallipes in Johnsingh, A.J.T., and N., Manjrekar, eds. 2013. Mammals of South Asia. Vol. 1. Hyderabad: Universities Press (India) Pvt Ltd.
[471] Habib B, Shrotriya S, and Jhala YV. (2013) Ecology and Conservation of Himalayan Wolf. Wildlife Institute of India – Technical Report No. TR -2013/01, 46 pp http://www.speciesconservation.org/ grant-files/reports/report-244.pdf

			As per the available secondary data[472, 473, 474], no record of the species is available from the EAAA; however, the forest working plans[475] indicates the presence of species in the Eastern Ghats, specifically in Nagarjunasagar-Srisailam Tiger reserve, Rajiv Gandhi Wildlife Sanctuary, and Gundla Brahmeswaram Wildlife Sanctuary [476]. Most of the Andhra Pradesh's wild population of the species (i.e. 165) exists in and around these protected areas. As per the verbal information shared by forest officials, the total number of the species individuals will be up to 5-8, which is unlikely ≥1 percent of the global population of the species (i.e. 31), thus unable to meet the threshold for the EAAA.	
48	Jungle Cat (*Felis chaus*)  https://www.iucnredlist.org/species/8540/20639312	IUCN: Least Concern 1 IWP: Schedule I Restricted range: No Migratory: No	Jungle Cat has a broad but patchy distribution. In South Asia its distribution starts from Pakistan through almost all of India as well as Sri Lanka, Bangladesh, Bhutan and Nepal ranging up to 4,000 m in the Himalayan foothills[477]. It occurs through Southeast Asia including Myanmar, Thailand, Cambodia, Laos PDR and Viet Nam, to southern China[478]. No information about its global population is available, however, its current population trend is decreasing. Jungle Cat is considered common in some parts of its range, primarily in India[479, 480], but also in Pakistan and Bangladesh[481]. In Nepal its population is estimated to exceed 10,000 individuals[482, 483]. Chatterjee et al. (2020)[484] estimated population density of the species as 4.01 individuals / 100 km^2 for Central India. The Jungle Cat, despite its name, is not strongly associated with the classic rainforest "jungle" habitat, but rather with wetlands - habitats with water and dense vegetative cover, especially reed swamps, marsh, and littoral and riparian environments - scrubland, and deciduous dipterocarp forest[485]. Water and dense ground cover can be found in a variety of habitats, ranging from desert (where it is found near oases or along riverbeds) to grassland, shrubby woodland and dry deciduous forest, as well as cleared areas in moist forest[486]. They can also be spotted in agricultural fields close to scrubs / forest area.	Screened-Out

[472] https://www.inaturalist.org/observations?subview=map&taxon_id=567865
[473] https://www.gbif.org/species/6164181
[474] https://indiabiodiversity.org/species/show/262692
[475] Forest Working plans of Kurnool, Ananthapuramu, Proddatur, and Kadapa Divisions.
[476] https://www.frontiersin.org/journals/ecology-and-evolution/articles/10.3389/fevo.2022.814966/full
[477] Jnawali, S.R., Baral, H.S., Lee, S., Acharya, K.P., Upadhyay, G.P., Pandey, M., Shrestha, R., Joshi, D., Lamichhane, B.R., Griffiths, J. and Khatiwada, A. 2011. The Status of Nepal Mammals: The National Red List Series. Department of National Parks and Wildlife Conservation, Kathmandu, Nepal.
[478] Nowell, K. and Jackson, P. 1996. Wild Cats. Status Survey and Conservation Action Plan. IUCN/SSC Cat Specialist Group, Gland, Switzerland and Cambridge, UK.
[479] Mukherjee, S. 1998. Small Cats of India. Envis Bulletin. Wildlife Institute of India.
[480] Patel, K. 2011. Preliminary survey of small cats in Eastern Gujarat, India. Cat News 54: 8-11.
[481] Duckworth, J.W., Poole, C.M., Tizard, R.J., Walston, J.L. and Timmins, R.J. 2005. The Jungle Cat Felis chaus in Indochina: A threatened population of a widespread and adaptable species. Biodiversity and Conservation 14: 1263-1280.
[482] Jnawali, S.R., Baral, H.S., Lee, S., Acharya, K.P., Upadhyay, G.P., Pandey, M., Shrestha, R., Joshi, D., Lamichhane, B.R., Griffiths, J. and Khatiwada, A. 2011. The Status of Nepal Mammals: The National Red List Series. Department of National Parks and Wildlife Conservation, Kathmandu, Nepal.
[483] Ratnayaka A. 2018. Jungle cat and rusty-spotted cat conservation in Sri Lanka. Proceedings of the First International Small Wild Cat Conservation Summit, 11–14 September 2017: 36. United Kingdom.
[484] Chatterjee N, Nigam P, Habib B. 2020. Population density and habitat use of two sympatric small cats in a central Indian reserve. PLoS One, 15(6):e0233569 [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7271992/]
[485] Gray, T.N.E., Phan, C., Pin, C. and Prum, S. 2014. The status of jungle cat and sympatric small cats in Cambodia's Eastern Plains Landscape. Cat News Special Issue 8: 19-23.
[486] Nowell, K. and Jackson, P. 1996. Wild Cats. Status Survey and Conservation Action Plan. IUCN/SSC Cat Specialist Group, Gland, Switzerland and Cambridge, UK.

				As per the available secondary data[487, 488, 489], no record of the species is available from the EAAA; however, the forest working plans[490] indicates the presence of species in the Kurnool and Kadapa Forest Divisions. As per the consultation with forest officials and local farmers, the total number of the species individuals will be up to 15-20, which is unlikely ≥1 percent of the global population of the species, thus unable to meet the threshold for the EAAA.	
	Aquatic Fauna				
49	Red Canarese Barb (*Hypselobarbus thomassi*)  https://www.iucnredlist.org/species/169617/174789762	IUCN: Critically Endangered IWP: Not Listed Restricted range: No Migratory: No	1 a	The Red Canarese Barb (*Hypselobarbus thomassi*) is endemic to the Western Ghats[491]. There seems to be an uncertainty regarding the exact distribution of this species. Apart from Nethravati River (which is around the type locality)[492], *H. thomassi* has been recorded from Periyar[493], Kabini[494] and Kallada rivers[495] in Kerala. There is no information on the population status of Red Canarese Barb, nor are they any recent records from anywhere in Kerala or Karnataka. It is also known that an extensive search in South Canara turned up only one specimen[496]. It inhabits fast-flowing streams and rivers below the Ghats, in forested areas[497]. The distribution map of the species clearly indicates the absence of the species in the Penner/Penna River, flowing in the project's EAAA[498]. Absence of suitable habitat for the species and any record[499, 500] of the species from the surroundings of Anantapur as well as in the EAAA, also indicates the unlikelihood of the species in the EAAA.	Screened-Out
50	Nukta (*Schismatorhynchos nukta*)	IUCN: Endangered IWP: Not Listed	1 a	*Schismatorhynchos nukta* is endemic to the peninsular India and is found in Krishna and Kaveri River systems. It is found in Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu. In Maharashtra it is	Screened-Out

[487] https://www.inaturalist.org/observations?subview=map&taxon_id=41961
[488] https://www.gbif.org/species/2435066
[489] https://indiabiodiversity.org/species/show/238453
[490] Forest Working plans of Kurnool, Ananthapuramu, Proddatur, and Kadapa Divisions.
[491] Dahanukar, N., Raut, R. and Bhat, A. 2004. Distribution, endemism and threat status of freshwater fishes in the Western Ghats of India. Journal of Biogeography 31: 123-136.
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[493] Thomas, R.K. 2004. Habitat and Distribution of Hill Stream Fishes of Southern Kerala (south of Palghat Gap). Zoology, Mahatma Gandhi University.
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[496] Menon, A.G.K. 2004. Threatened Fishes of India and their Conservation.
[497] Menon, A.G.K. 1999. Check list - fresh water fishes of India.
[498] https://www.iucnredlist.org/species/169617/174789762
[499] https://www.gbif.org/species/2366508
[500] https://indiabiodiversity.org/species/show/232564

https://www.iucnredlist.org/species/165548/6062907

Restricted range: No
Migratory: No

recorded from Indrayani River near Mahalunge[501], Mula-Mutha River near Kharadegaon[502], Wadgaon on Bhima River[503], Ujni Wetland[504, 505], Neera river near Veer dam[506], Krishna river near Wai[507], Koyna river near Patan[508], Panchaganga river in Kolhapur[509] and Sangli[510]. In Karnataka, it is known from Bhadra River at Bhadravati[511], Tunga River at Hariharpur[512], Bagalkot[513] and Doora lake[514]. In Andhra Pradesh it is known from Lingalagattu at Sri Sailam and Manthralayam[515]. In Tamil Nadu it is known from Moyar river at Thengumarada[516].

Exact population structure of *Schismatorhynchos nukta* is not known but the species is rare, and its population is rapidly declining in the areas where it is currently found[517].

Schismatorhynchos nukta is found in rapid streams and rivers with sand and boulder bed (Menon 2004). It is also found in reservoirs[518].

The distribution map of the species clearly indicates the absence of the species in the Penner/Penna River, flowing in the project's EAAA[519]. Absence of suitable habitat for the species and any record[520, 521, 522] of the species from the surroundings of Anantapur as well as in the EAAA, also indicates the unlikelihood of the species in the EAAA.

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[503] Suter, M. 1944. New records of fish from Poona. Journal of Bombay Natural History Society 44(3): 408-414.
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[509] Kalawar, A.G. and Kelkar, C.N. 1956. Fishes of Kolhapur. Journal of Bombay Natural History Society 53(4): 669-679.
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[513] Jayaram, K.C. 1995. The Krishna river system bioresources study. Zoological survey of India, Occasional Paper No. 160, Kolkata.
[514] Prasad, A.G.D., Venkataramana, G.V. and Thomas, M. 2009. Fish diversity and its conservation in major wetlands of Mysore. Journal of Environmental Biology 30(5): 713-718.
[515] Jayaram, K.C. 1995. The Krishna river system bioresources study. Zoological survey of India, Occasional Paper No. 160, Kolkata.
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[517] Dahanukar, N. 2013. Schismatorhynchos nukta. The IUCN Red List of Threatened Species 2013: e.T165548A6062907
[518] Yazdani, G.M. and Singh, D.F. 1990. On the fish resources of Ujani wetland, Pune, (Mah.). Journal of Bombay Natural History Society 87: 157-160.
[519] https://www.iucnredlist.org/species/165548/6062907
[520] https://www.gbif.org/species/2365844
[521] https://indiabiodiversity.org/species/show/233441
[522] https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=1316076

Table 3-3: List of Species Screened-In for Critical Habitat Assessment

S.N.	Common English Name	Binomial Scientific Name	CHA Criteria
1	Jerdon's Courser	Rhinoptilus bitorquatus	1 a, c; 2 a

The above species was screened-in as critical habitat candidates. The further assessment for the species against the quantitative thresholds as provided in the IFC PS 6 Critical Habitat Assessment criteria shown in ***Table 2-1***.

4 Critical Habitat Assessment (as per Quantitative Threshold)

The identified (screened-in) species with the potential to trigger critical habitat listed in ***Table 3-3*** was further assessed based on available secondary information (species specific for the region), site survey, and Consultation with experts as well as other stakeholders. The critical habitat candidates and assessment against thresholds are summarised below in *Table 4-1*.

Table 4-1: Critical Habitat Assessment

S.N.	Common English Name (Binomial Scientific Name)	IUCN[523] Categories Migratory Status	CHA Criteria	Species information	Critical Habitat Justification
1	Jerdon's Courser (*Rhinoptilus bitorquatus*)	IUCN: Critically Endangered IWP: Schedule I Restricted range: Yes Migratory: No	1 a, c; 2 a	Jerdon's Courser is a rare and local endemic to the Eastern Ghats of Andhra Pradesh and extreme southern Madhya Pradesh, India[524]. Historically, it was known from just a few records in the Pennar and Godavari River valleys and was assumed to be extinct until its rediscovery around Lankamalai in 1986. It has since been found at six further localities in the vicinity of the Lankamalai, Velikonda and Palakonda hill-ranges, southern Andhra Pradesh, with all localities probably holding birds from a single population, the majority of which are contained within the Sri Lankamaleswara Wildlife Sanctuary[525]. The population at known sites numbers at least eight individuals, but unsurveyed habitat may support "hundreds". It is placed in the band 70-400 individuals[526]. The walkthrough surveys were conducted in dusk with the local forest guard to verify the bird presence / activities in the scrub lands present in the EAAA. No call and sighting were recorded during the survey. It was also observed that these scrub lands are facing a significant level of anthropogenic pressure. Consultations with the forest officials of Kurnool, & Ananthapuramu Forest Divisions; and Proddatur Wildlife Division, it was confirmed that currently the species is present in the YSR (Kadapa) Forest Division. Mr. P.V. Sandeep Reddy - DFO Kadapa, confirm the presence of Jerdon's Courser in the forests of Sri Lankamalleswaram Wildlife Sanctuary. He informed that the species was last time recorded during 2012. At present, the forest department is trying to estimate the population of the species with the help of experts from Wildlife Institute of India (WII).	Although project's EAAA is overlapping the distribution range of Jerdon's Courser, but not secondary information supports the presence of this Critically Endangered species in the EAAA[527, 528]. The team was unable to record any observation / call of the species from the EAAA. Consultation with the forest officials also confirm the absence of this species in the EAAA. Thus, Jerdon's Courser cannot be considered as a Critical Habitat Candidate for EAAA.

[523] IUCN RedList - Online Version 2024-1
[524] BirdLife International. 2001. Threatened birds of Asia: the BirdLife International Red Data Book. BirdLife International, Cambridge, U.K.
[525] BirdLife International. 2017. Rhinoptilus bitorquatus. The IUCN Red List of Threatened Species 2017: e.T22694103A117189206
[526] https://www.iucnredlist.org/species/22694103/117189206#population
[527] https://www.gbif.org/species/2480736
[528] https://ebird.org/map/jercou1?neg=true&env.minX=74.69300048000348&env.minY=13.263225736823042&env.maxX=82.07581298000348&env.maxY=16.30091728277359&zh=true&gp=false&ev=Z&excludeExX=false&excludeExAll=false&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2024

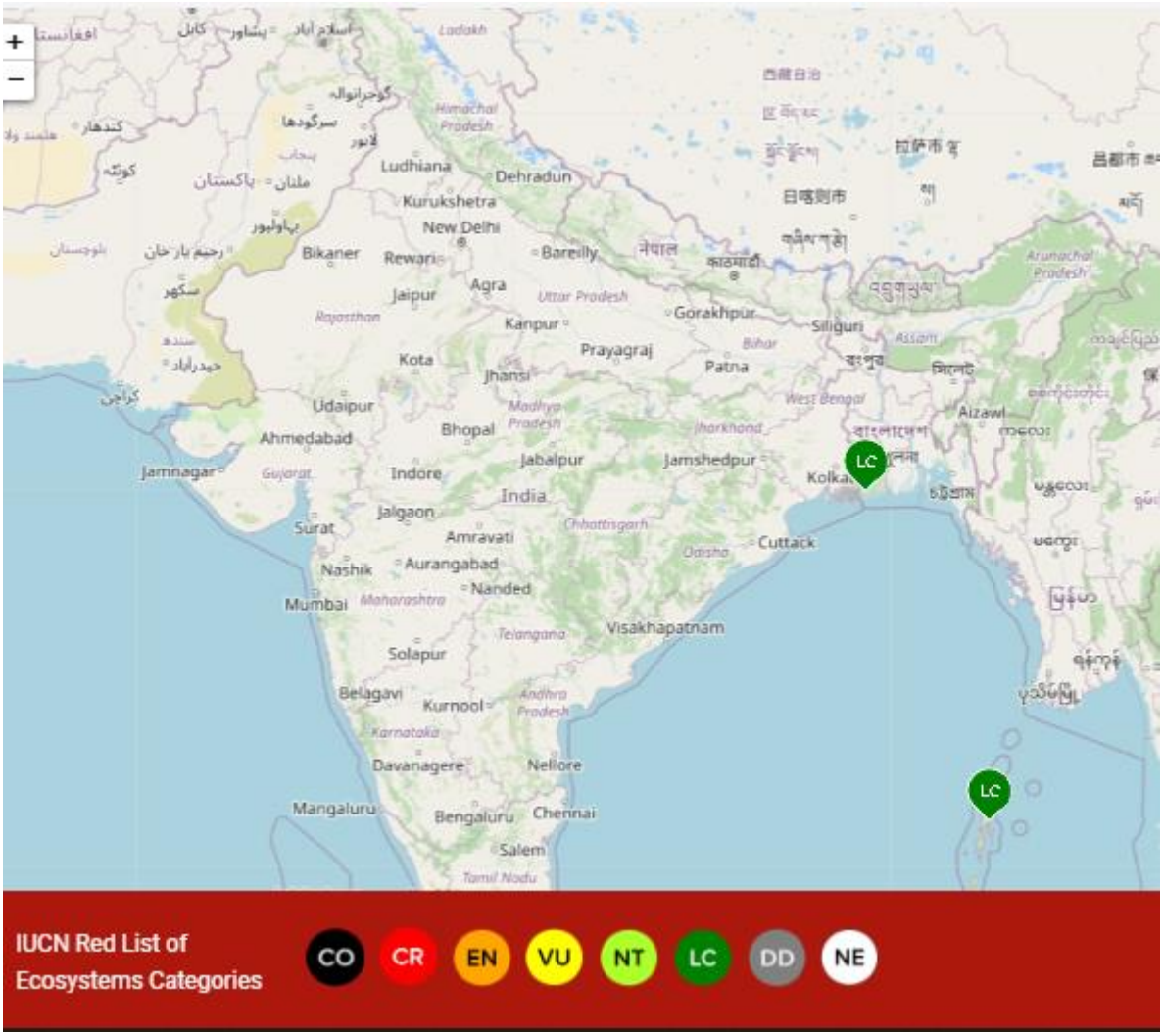
4.1 Assessment for Highly Threatened or Unique Ecosystems (Criterion 4)

According to IFC Guidance Note 6, the preferred method for assessing highly threatened or unique ecosystems worldwide is the IUCN Red List of Ecosystems (RLE)[529]. However, when a proper IUCN assessment is unavailable, evaluations conducted at the national or regional level by governmental bodies, recognized academic institutions, and other relevant qualified organizations (including internationally recognized NGOs) may be utilized.

India, based on the IUCN Red List of Ecosystems (RLE) database, currently has only two red-listed ecosystems: **i.** Mangroves of the Bay of Bengal, and **ii**. Mangroves of the Andaman (***Figure 4-1****Error! Reference source not found.*). Both ecosystems have been assessed as Least Concern (LC). No other ecosystems in India have been categorized in the RLE.
As of now, there has been no systematic national or regional assessment conducted for threatened or unique ecosystems in the country. Only certain fragile ecosystems have been identified by the Botanical Survey of India (BSI)[530].

Primary surveys and consultations with local residents and experts have indicated that the targeted species tend to inhabit away from the EAAA boundary, in the protected areas (particularly in Sri Lankamalleswaram Wildlife Sanctuary). Therefore, it is unlikely that Criterion 4 will be triggered due to the absence of any IUCN Red List of Ecosystems within the EAAA.

Figure 4-1: IUCN Red Listed Ecosystems in India



Source: https://assessments.iucnrle.org/search

[529] The IUCN Red List of Ecosystems (RLE) is a set of categories and criteria for assessing the risks to ecosystems and to focus attention on where ecosystems are threatened. It is part of a growing toolbox for analysing risks to biodiversity at all scales and it aims to support conservation, resource use and management decision making by identifying ecosystems most at risk. [https://assessments.iucnrle.org/]
[530] http://www.bsienvis.nic.in/Database/FragileEcosystems_23603.aspx

4.2 Assessment for Key Evolutionary Processes (Criterion 5)

Criterion 5 of the International Finance Corporation (IFC) Performance Standards focuses on Key Evolutionary Processes. This standard evaluates whether a proposed project area and its surroundings contain critical evolutionary mechanisms or serve as vital habitats for maintaining biodiversity over extended periods. These processes may encompass speciation, genetic diversity, transitional zones between ecosystems (ecotones), interfaces between different soil types (edaphic interfaces), habitat connectivity (biological corridors, etc.), and the long-term adaptation of species or ecosystems to climate change.

Comprehensive assessments specifically targeting key evolutionary processes are not currently available for the country. However, it can be conceptualized that areas exhibiting elevated levels of genetic diversity, ecological variability, and edaphic interfaces may play a significant role in evolutionary processes. Based on a review of secondary data, primary observations, and expert discussions, it appears unlikely that significant evolutionary processes occur within the EAAA. Consequently, it is improbable that Criterion 5 will be triggered for this assessment.

During the study, an investigation was conducted to ascertain whether any habitats possess social, economic, or cultural importance for the local communities. This investigation involved primary visual observations and consultations with locals. No significant social, economic, or cultural activities such as,- eco-tourism, cultural heritage sites, sacred groves, religious festivals sites, traditional ceremonies areas, gathering wild fruits, medicinal plants, other Non-timber forest products and row material for traditional crafts; supported by habitats (areas with biodiversity) have been identified. Therefore, no habitats of noteworthy social, economic, or cultural significance for local communities within the AoI were found.

5 Conclusion

The only Screened-In species, Jerdon's Courser was assessed against the critical habitat quantitative thresholds and not qualified as a critical habitat candidate species (under Criteria 1-3). There is also unlikelihood of criteria 4 and 5 to be trigger due to the unavailability of highly threatened or unique ecosystems and key evolutionary processes in the area. No areas having biodiversity of significant social, economic, or cultural importance to local communities have also been recorded. Thus, there is unlikelihood of critical habitat for the project.