

Status survey of Lesser Florican *Sypheotides indicus* for preparation of site wise conservation plan

Final report



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Disclaimer: Google Earth Maps provided in the report are based on observations carried out by the BNHS team. Actual size and structure of the size may vary on ground.

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Cover photo: Lesser Florican *Sypheotides indicus* by Sujit Narwade

Other photos – copyright provided to each photo

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Abbreviations

BNHS – Bombay Natural History Society; GIB – Great Indian Bustard; LF – Lesser Florican;
MDS University - Maharshi Dayanand Saraswati University, Ajmer; RF- Reserve Forest;
TCF – The Corbett Foundation, WII – Wildlife Institute of India, Dehradun;

Annex 2: PEP Project Reporting Format

REPORT AGAINST PROPOSED ACTIVITIES

Globally Threatened Species:	Lesser Florican <i>Sypheotides indicus</i>
Species Guardian:	BNHS
Date of report:	27/11/2017
REPORT AGAINST PROPOSED ACTIVITIES	
Activity 1: Compile baseline information on known Lesser Florican sites in Rajasthan, Gujarat, Madhya Pradesh, Maharashtra and Andhra Pradesh	<p>We conducted field surveys in Rajasthan, Gujarat, Maharashtra, Andhra Pradesh and Madhya Pradesh. Compiled list of sites of Lesser Florican with help of available secondary data. We run a habitat suitability model using Maxent software to demarcate the areas to be surveyed during breeding season in year 2017.</p> <p>Using the Maxent modelling results, vehicular surveys were conducted in important known Lesser Florican breeding sites throughout India in collaboration of Wildlife Institute of India (WII), The Corbett Foundation (TCF) and concerned state forest departments. BNHS team visited following sites during non-breeding season (January-February 2017) and breeding season (July-October 2017). Considering 1 sq km as territory size we covered 9 sq km area around the site where Floricans were detected.</p> <p>Rajasthan:</p> <ol style="list-style-type: none"> 1. Shokhaliya area, district Ajmer - Nasirabad, Malpura, Shokhaliya, Sarwar, Kekri 2. Bhilwada district - Shahapura, Gulabpura <p>Gujarat:</p> <ol style="list-style-type: none"> 1. Dahod - Rampura Grassland 2. Surendranagar – Rajpra, Anantpur 3. Naliya – Lala GIB Sanctuary and adjoining areas 4. Amreli - Manikpura, Nana Liliya, 5. Velavadar – Blackbuck National Park, Velavadar <p>Madhya Pradesh:</p> <ol style="list-style-type: none"> 1. Sailana Kharmor Sanctuary 2. Sardarpur Kharmor Sanctuary 3. Petlawad Florican Site <p>Maharashtra</p> <ol style="list-style-type: none"> 1. Akola district – Murtizapur and Barshi Takali tehsils 2. Washim – Karanja (Lad) 3. Yawatmal- Darwha, Ner <p>Andhra Pradesh</p> <p>Rollapadu</p>

<p>Activity 2: Identify gaps in knowledge of the status and ecology of Lesser Florican that need to be investigated by new research initiatives</p>	<p>We identified following gaps in the knowledge of status and ecology of LF</p> <ol style="list-style-type: none"> 1. National level population estimation (We conducted grid wise surveys at landscape level throughout Florican ranges in India to understand the population estimation and habitat status. In this report, we are providing total count of the Florican as final analysis will take time 2. Movement of birds during non-breeding season 3. Land use changes occurring near Florican sites 4. Impact of grazing by large herbivores 5. Impact of rampant use of pesticides
<p>Activity 3: Conduct regional, statewide consultations at important Lesser Florican sites to understand the local community perspectives and roles in the conservation of the species</p>	<p>We organized state wise meetings with help of the state Forest Department, to understand the perspective of local community about the conservation of species.</p> <p>Details of the workshop conducted</p> <ol style="list-style-type: none"> 1. National level orientation workshop for all participants/conservationists who will be part of Lesser Florican surveys to be carried out in all over India – 17-18th July 2017 2. Gujarat – Department of Marine Biology, Bhavnagar University, Bhavnagar on 16th July 2017 3. Rajasthan – Department of Environment, MDS University, Ajmer on 2nd August 2017 4. Madhya Pradesh – Office of the Chief Conservator of Forests, Ujjain on 24th July 2017 5. Maharashtra – Ampa Theatre, Vankuti, Akola on 17th September 2017 <p>Following issues were raised by the local people during the meeting.</p> <ol style="list-style-type: none"> 1. During the Lesser Florican survey in Rajasthan, Gujarat, Madhya Pradesh and Maharashtra the teams even interacted with the local communities such as shepherds, farmers and farm labourers. 2. There is no clear cut boundary demarcation for core areas and buffer zone 3. Villages falling under Florican areas are facing restrictions on development and many other necessary activities such as access to road, water and electricity 4. Core areas also include some revenue and private lands being used by local people 5. Crop raiding by large herbivores like Neelgai <i>Boselaphus tragocamelus</i> but no proper compensation policy at government level

Activity 4: organize a meeting between BNHS, Wildlife Institute of India (WII) and other national and local organizations, to discuss the issues affecting Lesser Florican and its grassland habitat and the role of each organization in its conservation	<p>We organized meetings with concern forest departments and local organizations in Gujarat, Rajasthan Madhya Pradesh and Maharashtra during our visit. The details about local organizations is as follows:</p> <p>BNHS in collaboration with WII and TCF conducted state wise workshops in Gujarat, Madhya Pradesh, Rajasthan and Maharashtra. These workshops emphasized on the current status, threats and Lesser Florican surveys in above mentioned states. These workshops also involved the forest staff which helped in their sensitization.</p> <p>Post Lesser Florican survey, a workshop for all concerned agencies involved in survey was conducted at WII, Dehradun on 12-13th October 2017. Main objective was to share experience of working in collaboration in various Florican landscapes</p>
Activity 5: In collaboration with the state conservation agencies, WII and other organizations, draft a preliminary conservation plan for key Lesser Florican sites (both protected and unprotected), in line with the National Species Recovery Plan (MoEF & CC)	<p>Preliminary discussion on site wise conservation plan to be prepared for Lesser Florican is going on with concerned agencies. First post survey workshop was organised at WII, Deharadun in October 2017.</p>
Activity 6: In collaboration with WII or other government agency, attempt to leverage funding for the implementation of a new conservation project in least one key site for Lesser Florican	<p>We have approached Government of Madhya Pradesh and Rajasthan for additional funding.</p> <p>After getting population estimation in year 2017, we would try to approach for three year funding</p>
Other activities carried out	<p>We developed a whatsapp network of people working on Lesser Florican in India and started sharing relevant news among the group members</p>

Report against expected results

REPORT AGAINST EXPECTED RESULTS	
<p>Expected results 1: An overview of the relative importance of the known Lesser Florican sites for the survival of the species, with baseline information on the status of the species, threats, etc. available to help guide future conservation actions at these sites</p>	<p>Site wise Lesser Florican male sightings given below.</p> <p>I) Rajasthan (around 44 sightings)</p> <ol style="list-style-type: none"> 1. Shokhaliya Florican area from Ajmer district is spread across few villages with intensive agriculture 2. Kekri & Sarwar areas of Ajmer district is spread across few villages with intensive agriculture <p>Note - In Rajasthan Lesser Florican is mainly found in Ajmer and Bhilwara districts. It is entirely found on private or revenue lands which are basically croplands and private grazing lands. The mung bean <i>Vigna radiate</i> (alternatively known as the moong bean, green gram, or mung), Black gram or Urad Bean <i>Vigna mungo</i>, Jowar <i>Sorghum</i>, Til or Sesame <i>Sesamum indicum</i> and Maize <i>Zea mays</i> are the standing crops during the Lesser Florican's breeding season in this region. The birds were generally seen in large Moong & Urad fields.</p> <p>II) Gujarat (around 45 sightings)</p> <ol style="list-style-type: none"> 1. Naliya grassland and adjoining areas – 10 sightings 2. Blackbuck National Park, Velavadar – Around 35 sightings <p>Note - Apart from the protected areas like Blackbuck National park (Bhavnagar), Wild ass sanctuary (Little Rann of Kutch) and Rampura grasslands of Dahod Lesser Florican is also found in croplands and private/common grazing lands (Vadis) in Surendranagar, Junagadh and Amreli districts. It is also found in the croplands around Blackbuck National Park and Little Rann of Kutch. Cotton, Cumin, Jowar, Til and Maize are generally cultivated during Lesser Florican breeding season.</p> <p>Madhya Pradesh (2 sightings)</p> <ol style="list-style-type: none"> 1. Sailana Kharmor Sanctuary – Protected since 1983. In year 2016 about 8-10 Lesser Florican were sighted but this year only one. 2. Petlawad Florican Site – Regular sighting records of Lesser Florican in reserve forest from last few years and government of Madhya Pradesh recently declared part of areas as Florican Sanctuary. In year 2016, 4 males were reported from here but in year 2017 not a single bird seen here. 3. Sardarpur Kharmor Sanctuary – Protected since 1983. No sighting records from last 3 years in the sanctuary. During our survey also we could not see any birds. <p>Note - In Madhya Pradesh apart from the protected areas it may be</p>

	<p>sparsely found in croplands and grazing lands (<i>gauchars</i>) around Sailana Kharmor sanctuary (Ratlam district), Sardarpur Kharmor sanctuary (Dhar district) and Reserve Forest area of Petlawad (Jhabua district). Soybean and Maize are the primary cultivated in the Lesser Florican season.</p> <p>Maharashtra (3 sightings)</p> <ol style="list-style-type: none"> 1. Mosaics of grasslands and croplands of Akola and Washim districts are being used by Florican from last few years. 2. This year there was only one male sighted near Sisa-Masa village of Akola district. 3. Most of the areas area outside protected area. <p>Note - In Maharashtra, apart from the grasslands under control of forest department, the Lesser Florican habitat is sparsely found in croplands around Ner, Darwha of Yawatmal district, Karanja, Washim, Akola of Akola district. Soybean <i>Glycine max</i> is the major crop in this region but Maize <i>Zea mays</i> cultivation can also be seen in some parts of this region.</p> <p>Threats</p> <p>After the survey in the above mentioned states we could narrow down to the following threats-</p> <ul style="list-style-type: none"> • Habitat loss due to anthropogenic activities • Tremendous Grazing pressure by livestock • Invasion of <i>Prosopis juliflora</i> in grasslands and gauchars • Hunting • Free ranging dogs <p>Intensive agriculture and changing crop patterns</p> <p>Andhra Pradesh (2 sightings)</p> <p>We could not get permission from the state forest department of Andhra Pradesh and therefore, did not conduct surveys in Rollapadu and adjoining areas.</p> <p>From local birdwatchers and ground staff of the Rollapadu WLS, we came to know that two males were seen regularly in October 2017.</p>
Expected results 2: Preliminary research to fill critical gaps in knowledge of Lesser Florican distribution and conservation requirements	A thorough survey with Wildlife Institute of India and The Corbett Foundation was carried in Rajasthan, Gujarat, Madhya Pradesh and Maharashtra and the report for the same is in the process of compilation.
Expected results 3:	We conducted awareness programmes during survey period at

Increased awareness amongst local communities at key sites of the global importance of Lesser Florican, and local community perspectives integrated into site conservation planning	almost all the sites with help of local volunteers and NGOs
Expected results 4: Site specific conservation plans developed for Lesser Florican in line with the National Species Recovery Plan	Based on expected results 1, a sitewise conservation plan will be prepared
Expected results 5: Landscape approach for conservation of Florican	A wider landscape based approach is necessary to conserve the vast mosaic of grasslands, farmlands, villages, small and bigger cities and the upcoming industrial areas, rather than a patchy approach focusing only on the meager protected areas in the region. Through this project, we initiated a landscape approach for conservation of the species surviving in human dominated areas
Expected results 6: Study of Cumulative Impact Assessment using existing and upcoming development projects in florican areas.	Intensive mining was seen in Shokhaliya area. Activities such as intensive agricultural, proposed, new renewable energy power plants, mining and other developmental projects are responsible for fragmentation of the landscape. We have collected GPS locations of such developments, proposed in Lesser Florican areas to understand the Cumulative Impact Assessment.
Expected results 7: To provide recommendations to avoid or minimize the probable impacts on birds due to proposed new renewable energy projects.	We provided recommendation to stop wind mills in Sailana Florican Sanctuary area. Government of Rajasthan and Madhya Pradesh initiated the process to stop further instalment of wind turbines in bustard and Florican areas respectively.
Other results achieved	

FUTURE PLAN OF WORK

FUTURE PLAN OF WORK

1. For any kind of conclusion about population estimation, nationwide surveys to be conducted with help of collaborating agencies for status assessment of Lesser Florican in next two years (July-October of year 2018 and 2019)
2. Regional level consultative meetings to be organized to strengthen the network of local people
3. Preparation of site wise conservation plan
4. GIS mapping of the Florican sites
5. Strengthening the collaboration

CHANGES IN STATUS/DISTRIBUTION/THREATS

Please provide your views on whether the status of the species and/or its habitat has changed since the last report and the reasons for this. If this is backed-up by monitoring activities, please provide details. - NO

OTHER INFORMATION

Please use this section to provide other information or comments relating to this project.

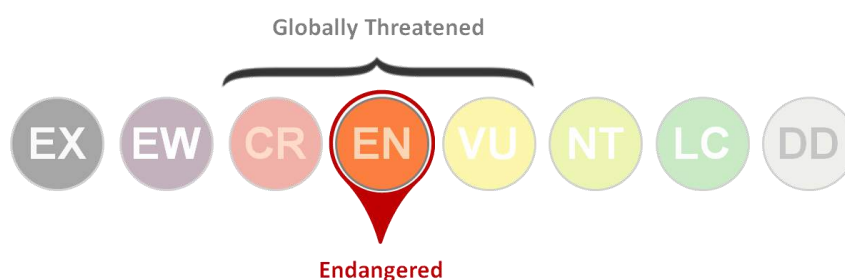
SPECIES FACTSHEET (to be submitted with annual reports)

Please download the species factsheet for this species from <http://www.birdlife.org/datazone/species/index.html>, paste it into word, and add any updates, additions and corrections using track changes. These will then be incorporated into the updated factsheet for the BirdLife website.

Family: Otididae (Bustards)

Authority: (Miller, 1782)

Red List Category



Criteria: A3cd+4cd

Justification of Red List category

This species qualifies as Endangered because it's very small and rapidly declining population is predicted to undergo a very rapid decline in the near future as pressure on remaining grasslands intensifies, and areas of its habitat are lost and degraded.

Population size: Based on total count, a population estimation will be calculated by February 2018 ((considering 1:1 ratio of male-female our total count was around 200 birds).

Population trend: Decreasing

Extent of occurrence (breeding/resident): 2,220,000 km²

Country endemic: India

Attributes

Land-mass type - continent

Realm - Indomalayan

IUCN Ecosystem -- Terrestrial biome

AEMPLAP

ANEXES

Annexe I) List of people involved in survey of Lesser Florican

Sr. No.	Name	Place	Surveys carried out in
1.	Mr. Anirudha Singh Rathor	Amba, Ratlam	Madhya Pradesh
2.	Mr. Vasudev Sharma	Indore	Madhya Pradesh
3.	Mr. Abhay Sakharkar	Akola	Maharashtra
4.	Mr. Milind Savdekar	Irrigation Department, Washim	Maharashtra
5.	Mr. Shubham Giri	Amravati	Maharashtra
6.	Mr. Pratik Khandare	Amravati	Maharashtra
7.	Mr. Laxmikant Rajaram Neve	Jalgao	Maharashtra
8.	Mr. Purushottam Ingle	Washim	Maharashtra
9.	Mr.	Surendra Nagar	Gujarat
10.			

Annexe II) List of collaborating agencies (individuals and institutions)

Sr. No.	Name	Organisation	Work area
1.	Dr. Sutirtha Dutta, Project Scientist	WII	Pan-India
2.	Mr. Bipin, C.M., Project Associate	WII	Pan-India
3.	Mr. Devesh Gadhavi, Deputy Director	The Corbett Foundation	Pan-India
4.	Dr. Praveen Mathur, Prof. and HoD, Department of Environment Science	Maharshi Dayanand Saraswati, University, Ajmer	Rajasthan
5.	Dr. Indra Gadhavi, HoD, Department of Marine Science	Maharaja Krishnakumarsinhji Bhavnagar University, Gujarat	Gujarat
6.	Mr. Ajay Gadikar	Individual	Madhya Pradesh
7.	Mr. Mukesh Bhatt	Individual	Gujarat
8.	Mr. Viral Shah	Individual, Amreli	Gujarat
9.	Mr. Govind Pande	Forest Department	Maharashtra
10.	Mr. Kaustubh Pandharipande, President	SAMVEDANA	Maharashtra
11.	Mr. Shatrughna Jebaliya	Individual, Surendranagar	Gujarat
12.	Mr. Nirav Bhatt	Individual, Surendra Nagar	Gujarat
13.	Mr. Yogendra Shah	Individual, Surendra Nagar	Gujarat

Annexe III) List of forest officers who helped in providing permissions and logistics during the surveys

Sr. No.	Name	Designation	Area
1.	Dr. G.V. Reddy	PCCF, WL, Rajasthan	Rajasthan
2.	Shri G.K. Sinha	PCCF and Chief Wildlife Warden, Gujarat	Gujarat
3.	Shri Jitendra Agrawal	PCCF, WL, Madhya Pradesh	Madhya Pradesh
4.	Shri Pankaj Shrivastav	APCCF, Indore, Madhya Pradesh	Madhya Pradesh
5.	Shri B.S. Annigeri	CCF, Ujjain	Ratlam, Madhya Pradesh
6.	Shri Ajay Chittora	DyCF, Ajmer	Ajmer, Rajasthan
7.	Shri Kshitij Kumar	DFO, Ratlam	Ratlam, Madhya Pradesh
8.	Shri P.A. Vihol	DFO, Baria	Dahod, Gujarat
9.	Shri Parik	DFO, Bhilwada	Bhilwada, Rajasthan
10.	Shri Lonkar	DyCF, Akola-Washim	Akola and Washim districts of Maharashtra
11.	Shri Bhanudas Pingle	DFO, Yawatmal	Yawatmal district of Maharashtra
12.	Shri Y.P. Singh	DFO, Dhar	Sardarpur WLS, Dhar, Madhya Pradesh
13.	Shri Rajesh Khare	DFO, Jhabua	Petlawad, Jhabua, Madhya Pradesh
14.	Shri Mahesh Trivedi	ACF, Velvadar NP	Gujarat
15.	Shri Gujar	ACF, Yawatmal	Yawatmal district of Maharashtra

In addition to the above, as appropriate, please provide digital photos of project activities, copies of any awareness materials, and copies of other reports or papers which have been produced. These will help us promote the project.

Digital photos of project activities



Image 1 - Workshop conducted at Bhavanagar University, Gujarat © Balasaheb Lambture



Image 2 Workshop conducted at Ujjain, Madhya Pradesh © Balasaheb Lambture



Image 3 - Workshop conducted at MDS University, Ajmer, Rajasthan © Forest Division, Ajmer



Image 4 - Workshop conducted at Akola, Maharashtra © BNHS photo library



Image 5 - Post survey workshop organised at WII, Dehradun © WII photo library



Image 6 - Team BNHS explaining Lesser Florican and survey methodologies to the participants © Sujit Narwade



Image 7 - Regional universities and NGOs were involved in the survey © Parul Sen



Image 8 - Group photo of team BNHS taken during field survey © BNHS photo library



Image 9 - Stakeholder meeting conducted at Sailana © Range Forest Officer, Sailana



Image 10 - Team of BNHS and Forest Department conducting Florican surveys © Vikas Pisal



Image 11 - Mixed team of WII, The Corbett Foundation and BNHS preparing for a survey © Sujit Narwade



Image 12 - Interaction with local people during field surveys © BNHS photo library



Image 13 - At a grassland plot developed for conservation of Lesser Florican in Akola, Maharashtra © Govind Pande



Image 14 - Staff of BNHS in Florican landscape of Ajmer, Rajasthan © Sujit Narwade



Image 15 - Almost 95% area of Florican landscape in cropfields which usually get fenced during monsoon creating troubles to conduct the surveys © Vikas Pisal



Image 16 Habitat of Lesser Florican in Shokhaliya, Rajasthan © Sujit Narwade



Image 17 - Number of mines and quarries seen in Shokhalia, Rajasthan © Balasaheb Lambture



**Image 18 - Prosopis sp. invasion was seen in all grassland areas reserved for floricans in Rajasthan and Gujarat
© Sujit Narwade**



Image 19 - View of Rampura grassland area during winter in Dahod, Gujarat © Ameya Karulkar



Image 20 - View of Rampura grassland area during monsoon in Dahod, Gujarat © Ameya Karulkar



Image 21 - Lala GIB Sanctuary in Naliya, Gujarat surrounded by windmills © Balasaheb Lambture



Image 22 - Forest Department created agricultural plot in Lala GIB Sanctuary, Gujarat © Balasaheb Lambture



Image 23 Habitat of Lesser Florican and Great Indian Bustard in Anamat Area, Naliya, Gujarat © Ameya Karulkar



Image 24 - Sailana Florican Sanctuary surrounded by wind mills, MP © Sujit Narwade



Image 25 - Grassland of Sardarpur Florican Sanctuary, MP © Sujit Narwade



Image 26 - Cattle grazing seen in Sardarpur Florican Sanctuary, MP © Balasaheb Lambture



Image 27 - Mosaics of grassland and agriculture in Maharashtra © Sujit Narwade



Image 28 - Rollapdu WLS, AP where we could not conduct surveys in year 2017 © Sujit Narwade

Maps

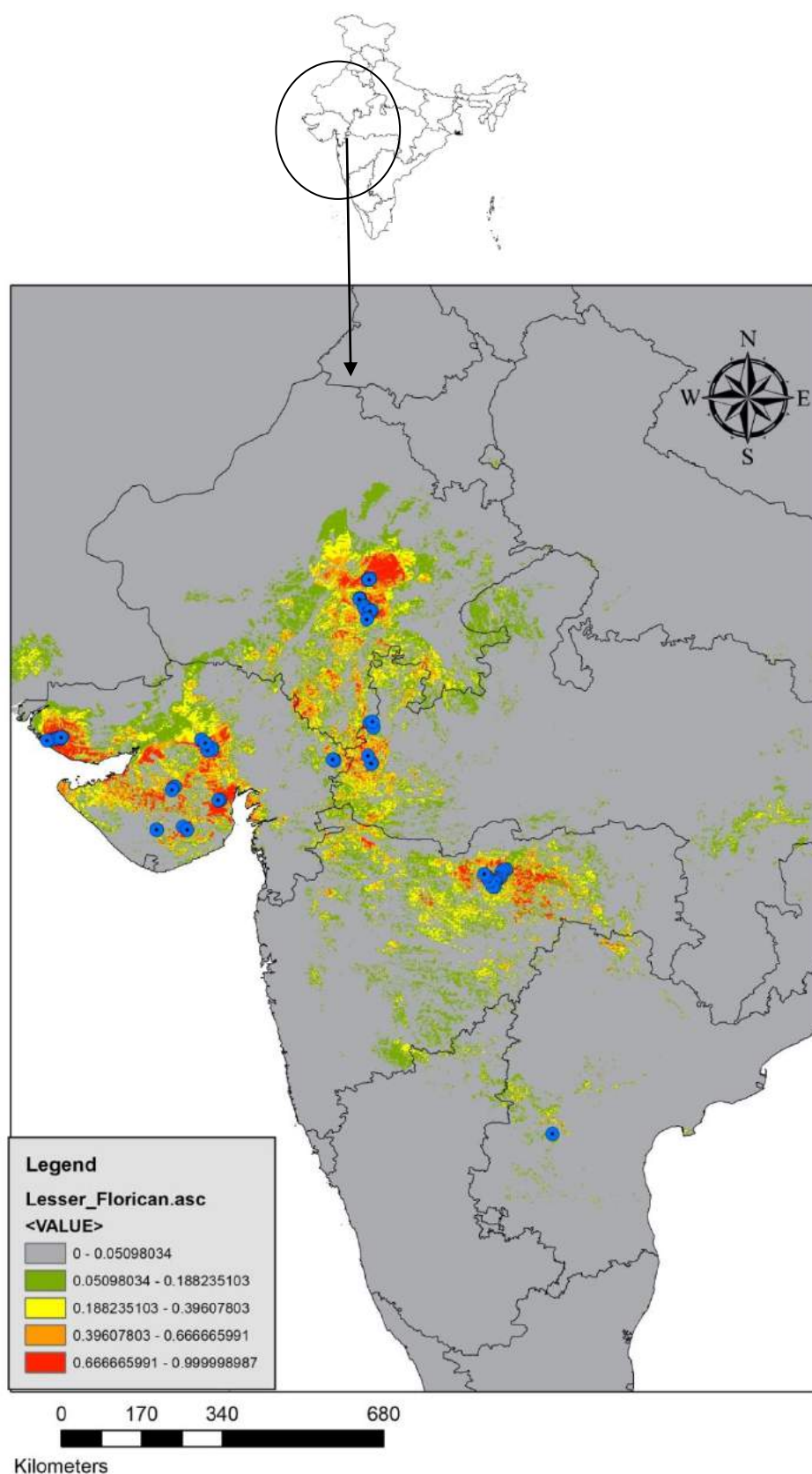


Figure 1 - Based on historical and current distribution data a habitat modelling done using Maxent software to demarcate the areas surveyed in year 2017

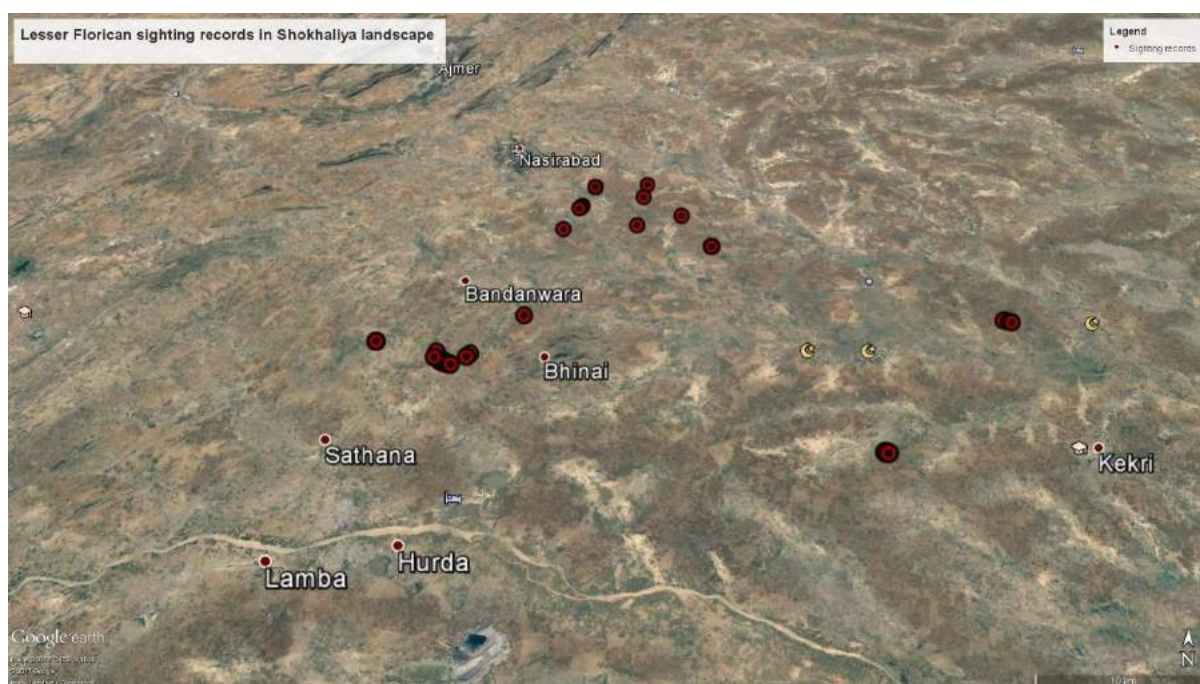


Figure 2 - Breeding sites of Lesser Florican in Shokhaliya area of Rajasthan

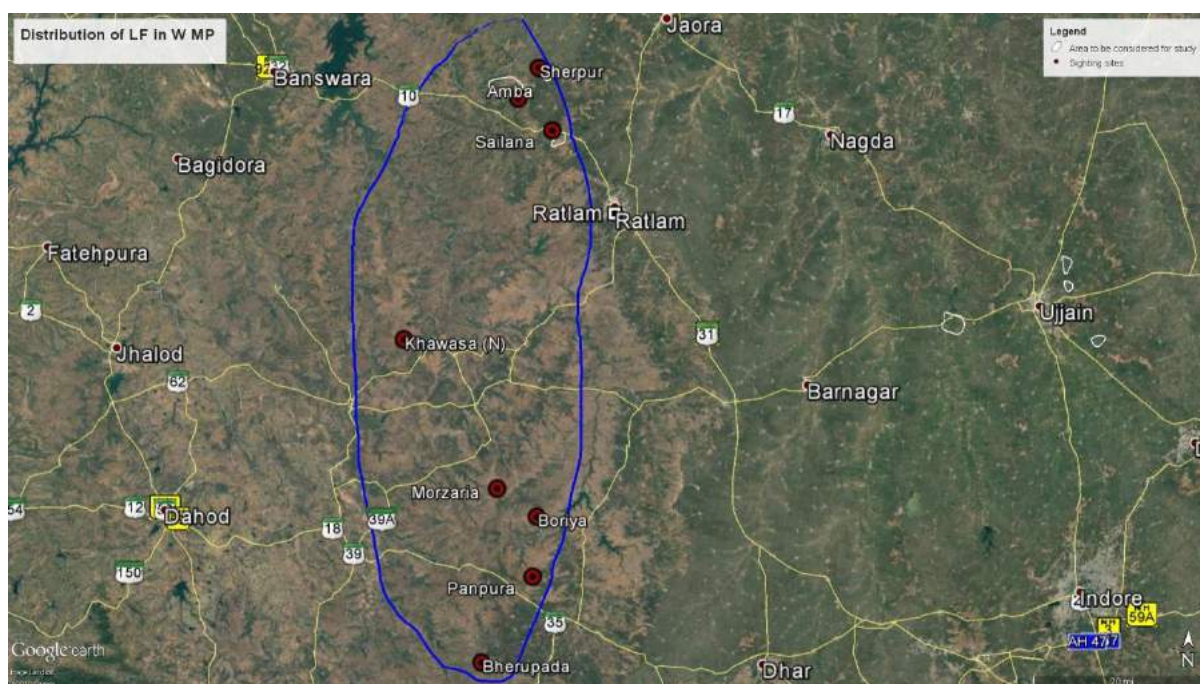


Figure 3 - Distribution of LF in Madhya Pradesh

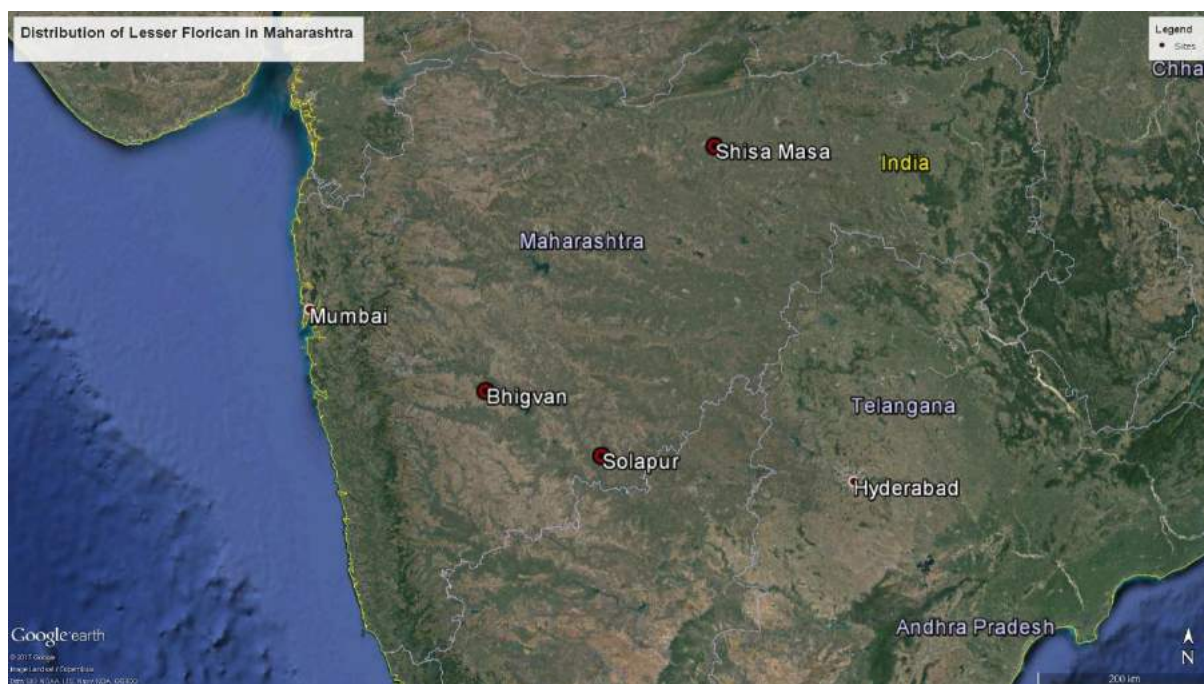


Figure 4 - LF distribution in Maharashtra



Figure 5 - LF distribution in Gujarat