

This report will be made public. If it contains confidential or sensitive information, please also provide a revised report for sharing with the public.

Section I. Project Information	
<b>Project Title:</b> Parsa National Park: the saviour of tigers.	
<b>Grantee Organisation:</b> Zoological Society of London-Nepal Office	
<b>Location of project:</b> Parsa National Park and its extended area.	
<b>Size of project area (if appropriate):</b> 128.39 Sq. Km	<b>No of tigers and / or Amur leopards in project area, giving evidence &amp; source:</b> 18 in PNP and 1 tiger camera trapped towards east of PNP
<p><b>Partners:</b> <i>(Please give details of partners, including communities, academic institutions etc. for this project.</i></p> <p><b>Department of National Parks and Wildlife Conservation (DNPWC)</b></p> <p>DNPWC is the main government authority providing oversight for conservation and management of wildlife in Nepal. It is responsible for the overall management of Nepal's PAs including the buffer zones. ZSL has a working MoU with DNPWC since 2014 renewed for five years in 2019 and has a very good professional relationship. Through DNPWC it also has a close working relationship with the PA managers at PNP. The DNPWC, through Programme Coordination Committee (PCC) facilitates implementation of the project activities and is responsible for overall monitoring and evaluation of the project. This is based on a monitoring mechanism established under the project. The proposed project has been formulated under the guidance of DNPWC and the required permission has been obtained. The project will help DNPWC gain valuable lessons to improve significant tiger habitat and mitigate HTC in other tiger-bearing PAs of Nepal.</p> <p><b>Mithila Wildlife Trust (MWT)</b></p> <p>MWT is non-profit non-governmental organisation established by a group of committed professional nature lovers. Social workers and volunteers in 2069 BS (2013 AD) registered with District Administration Office, Dhanusha, Nepal and affiliated with Social Welfare Council, Kathmandu, Nepal. MWT has been organizing and strengthening capacities of local volunteers for planning, implementing, and monitoring social development programs thereby facilitating their own and community's welfare through sustainable and wise use of natural resources. The trust has its office at Mithila Bihari Municipality-3 (Mithileshwor) Dhanusha, Province 2, Nepal.</p>	
<b>Project Contact Name:</b> Hem Sagar Baral	

**Email:** hem.baral@zsl.org

**Actual start date of project:** 1 February 2021

**Reporting period:** 1 February 2021 – 31 July 2021

## Section II. Project Progress

Prepared a habitat map that depicts the geographical distribution of different habitats within an extended area of PNP. Sites have been selected to manage 20 ha of grassland and construct one new waterhole in an extended area of PNP. Out of eighteen 3X3 Km grids across the designed project area, 17 camera traps (Panthera V6) have been set up in 16 grids with at least one camera within each grid cell. Data on HTC incidences and habitat management have been collected from the park.

**Summary of progress for the first 6 months:** *(please provide a summary for use in our communication materials)*

Chitwan-Parsa complex is currently home to 111 tigers, 93 in Chitwan and 18 in Parsa. As per the national tiger census in 2018 there has been more than a 250% increase in tiger numbers in Parsa. The ecological carrying capacity study of tigers in the Chitwan-Parsa complex concluded that 136 tigers can be supported in Chitwan and 39 in Parsa. Tigresses and their cubs have been continuously trapped by cameras in the extension habitat of the Parsa National Park since 2019. With a vision to secure and improve habitat in the extension area of PNP, a study on the distribution of habitat types has been conducted in an extended area of PNP. A strategic location to manage grassland and waterholes have been identified based on the distribution of different habitat in the area. The preliminary results from camera traps is included in the report which shows the evidence of 22 mammal species including endangered species like Bengal tiger, Asian wild elephant, dhole and striped hyena. In a bid to conduct hotspot/dispersal monitoring of tiger and prey population more systematically in an extended area of PNP, 3X3 km grid cells have been designed comprising a total of 18 grid cells. 17 remotely activated camera (Panthera V6) were installed in 16 grid cells with at least 1 in each grid cell.

**Details of activities and results to date:** *(Please give details of progress made towards the objectives & outputs of your Logframe, and activities included in your Workplan. Please add any relevant charts, maps and images.*

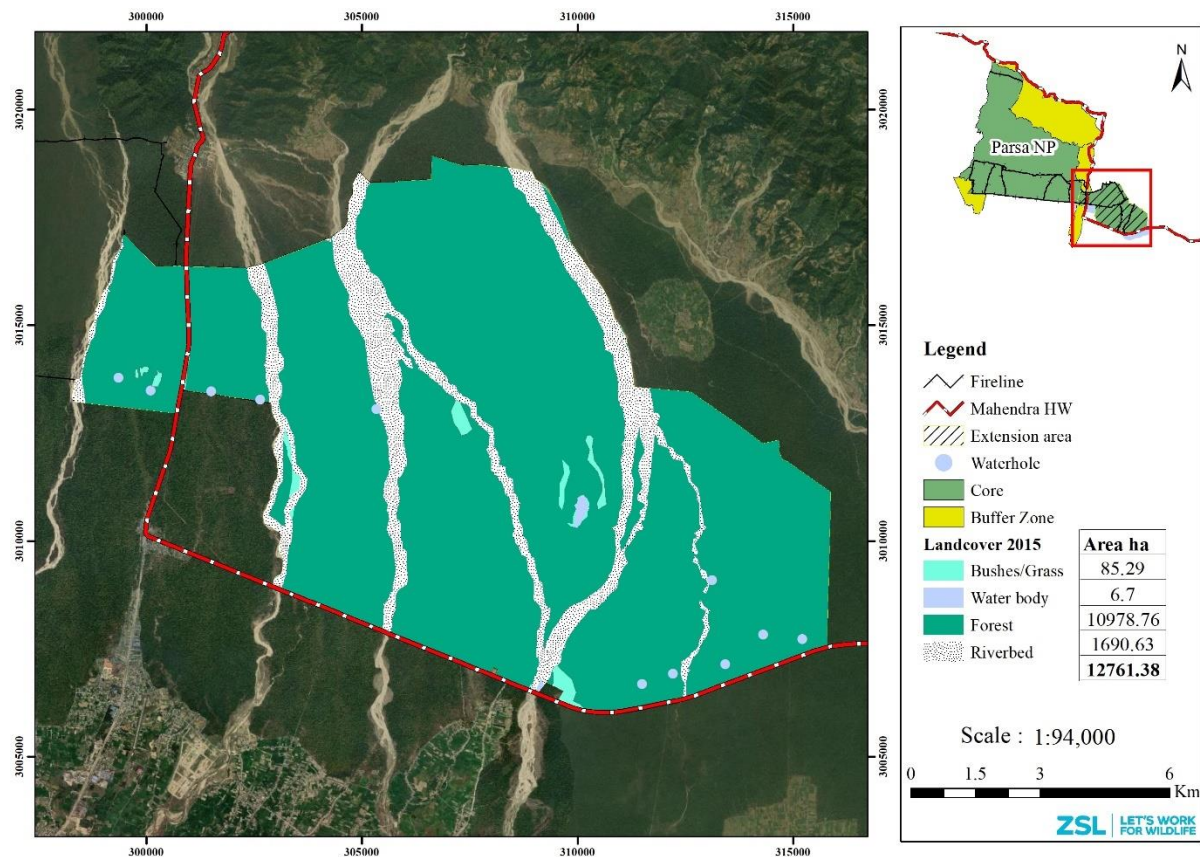
The project was given approval through Project Coordination Committee (PCC) at DNPWC. Prior to the implementation of the project activities, a Project Management Unit (PMU) meeting was conducted. The PMU is an established body between national parks and ZSL at the field level, that when required, can hold a meeting and decide to implement project activities at the site. The Chief conservation officer of the park is the coordinator of the PMU with NTNC-BCC and ZSL as members. The Park authority along with other stakeholders were informed about the project and its activities in detail in the PMU meeting before any project activities were initiated.

### 1.1 Conduct habitat mapping to identify the key habitat types of the extended area of PNP

A workshop was conducted at the park headquarter to identify the current habitat patterns in the extended area of PNP. The workshop was led by the Chief Conservation Officer (Annex 1) and included 11 participants from PNP and ZSL. The workshop was focused on the delineation of habitat types using field inspection and other appropriate methods. The outputs from the workshop will help feed into appropriate habitat management interventions in the future to secure and expand the key habitat of tigers and prey populations.

Based on project objectives and discussions in the habitat mapping workshop, a GIS based approach was selected for the determination of habitat networks. For habitat classification, satellite data from 2015 was used which was further processed using ArcGIS for identification of the habitat classes. The map was then produced using the same GIS software. The extended area of PNP is estimated to hold 10978.76 ha of forest making up 86.03% of the total expanse. This forested area comprises of sal forest, degraded sal forest, Cassia fistula, and riverine species such as Dalbergia sissoo and Acacia Catecha in the stream banks. The habitat mapping also identified riverbed cover of 13.25%, bushes/grass 0.67% and water body 0.05% of the total area. The field verification of the map will be carried out in the second half of the project period. All the reports were also shared, and brief explanation was given to the park authority regarding the distribution of habitat types within the extended area of PNP.

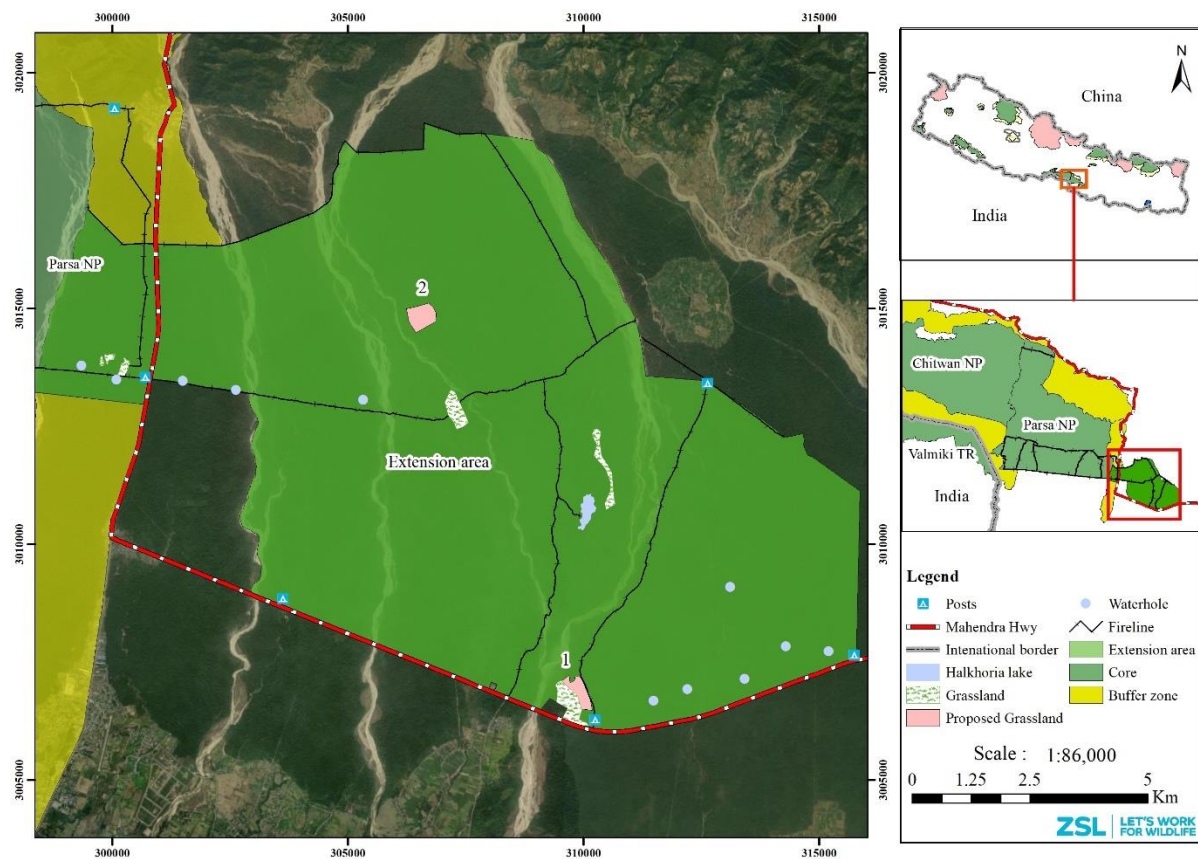
The habitat map of the extended area is given below:



## 1.2 Support PNP to manage 20 ha of grassland in an extended area

To provide technical support for the expansion of 20 ha of grassland habitat at a strategic location to support increasing numbers of tiger prey base in the extended area of PNP, an agreement has been signed with ZSL's conservation partner organisation Mithila Wildlife Trust (MWT). A strategic location has already been identified based on the habitat mapping, results from hotspot monitoring, and suggestions from park authorities. We proposed two strategic sites for grassland management based on the result of hotspot monitoring, field verification and habitat mapping to the park. The Park authorities recommended proposal 1 (27°10'7.65"N and 85° 4'46.53"E) for grassland management from the two proposed sites (proposed 1 shown in the map below). As per the project workplan, this activity was planned to be initiated between May to July, but which has now changed owing to torrential rainfall that occurred during the early monsoon season, inhibiting conduction of the activity in the projected timeline. Thereby, according to the suggestion given by the chief conservation officer of the park, and for allowing effective implementation of the activity, we have adjusted the implementation timeframe. This activity will now be implemented in the second half of the project period.

Proposed sites are shown in the map given below:



The GPS coordination of selected strategic location for grassland management is given below:

SN	POINT_X	POINT_Y	Name
1	309730	3006537	Proposed1
2	309509	3007076	Proposed1
3	309693	3007222	Proposed1
4	309710	3007061	Proposed1
5	309809	3007108	Proposed1
6	309823	3007203	Proposed1
7	309917	3007205	Proposed1
8	309988	3007094	Proposed1
9	310146	3006684	Proposed1
10	310190	3006476	Proposed1
11	309730	3006537	Proposed1
12	306861	3014719	Proposed2
13	306442	3014484	Proposed2
14	306294	3014714	Proposed2
15	306245	3014988	Proposed2
16	306447	3015033	Proposed2
17	306590	3015074	Proposed2
18	306716	3015109	Proposed2
19	306819	3015018	Proposed2
20	306877	3014890	Proposed2



21	306861	3014719	Proposed2
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### 1.3 Support PNP to construct and manage one new waterhole in an extended area

To construct and manage one new waterhole, an agreement has been signed with MWT. Provision of water to wildlife is crucial in the PNP as the park's landscape is mostly dry. We monitored wildlife water provisioning at one artificial waterhole (Baagh Pokhari) in the western region of the Parsa National Park. We documented daily waterhole visitation patterns of mammals/birds during the wet and dry season using camera traps. We recorded 12 mammal species at the waterhole with tiger, leopard, gaur, sambar deer, spotted deer, wild boar etc. More animals visited waterhole in the dry season compared to the wet season (monsoon). The Park has recommended for us to construct the waterhole close to the areas of proposed grassland management. The site is yet to be selected.

### 1.4 Conduct hotspot/dispersal monitoring in an extended area of PNP throughout the project period

We have been deploying remotely activated cameras in 7 different strategic locations since the beginning of this project. The locations were selected based on real time SMART patrolling data analysis, experiences of PNP patrol team at site and a quick reconnaissance survey to provide enough information of a place where promising signs of tiger's and other wildlife were observed. We installed cameras in 7 different locations since February. The report includes only one camera trapping survey from February 2021 to Mid-June 2021 from 7 multiple locations in an extended area which resulted in > 5,000 photographs. 22 mammal species were captured on cameras. The species include globally endangered species Bengal tiger, Asian wild elephant, striped hyena, dhole and other species like spotted deer, sambar deer, barking deer, wild boar, Indian bison, large Indian civet, Asian palm civet etc.

We recorded tigers on every camera that we have installed in the 7 different strategic locations.

The list of mammal species is given in the table below:

S. N.	Common Name	Scientific Name	Global Status	National Status	Remarks
1	Common palm civet	<i>Paradoxurus hermaphroditus</i>	LC	LC	
2	Nilgai	<i>Boselaphus tragocamelus</i>	LC	VU	
3	Common leopard	<i>Panthera pardus</i>	VU	VU	
4	Indian grey mongoose	<i>Herpestes edwardis</i>	LC	VU	
5	Four-horned antelope	<i>Tetracerus quadricornis</i>	VU	DD*	
6	Honey badger	<i>Mellivora capensis</i>	LC	EN	
7	Indian crested porcupine	<i>Hystrix indica</i>	LC	DD	
8	Bengal Fox	<i>Vulpes bengalensis</i>	LC	LC	
9	Jungle cat	<i>Felis chaus</i>	LC	LC	
10	Large Indian civet	<i>Viverra zibetha</i>	LC	NT	

11	Leopard cat	<i>Prionailurus bengalensis</i>	LC	VU*	
12	Masked palm civet	<i>Paguma larvata</i>	LC	LC	
13	Rhesus macaque	<i>Macaca mulatta</i>	LC	LC	
14	Sambar	<i>Rusa unicolor</i>	VU	VU	
15	Spotted deer	<i>Axis axis</i>	LC	VU	
16	Terai Grey langur	<i>Semnopithecus hector</i>	NT	LC	
17	Bengal tiger	<i>Panthera tigris tigris</i>	EN	EN*	
18	Wild boar	<i>Sus scrofa</i>	LC	LC	
19	Asian Elephant	<i>Elephas maximus</i>	EN	EN*	
20	Gaur	<i>Bos gaurus</i>	VU	VU	
21	Dhole	<i>Cuon alpinus</i>	EN	EN*	
22	Striped Hyena	<i>Hyaena hyaena</i>	VU	VU	

(Note: LC= Least Concern, DD= Data Deficient, VU= Vulnerable, NT= Near Threatened, EN= Endangered, \*= Protected under NPWC Act, 2029)

Some of the photos of mammal species triggered on remotely activated cameras are given below:



Bengal Tiger 1



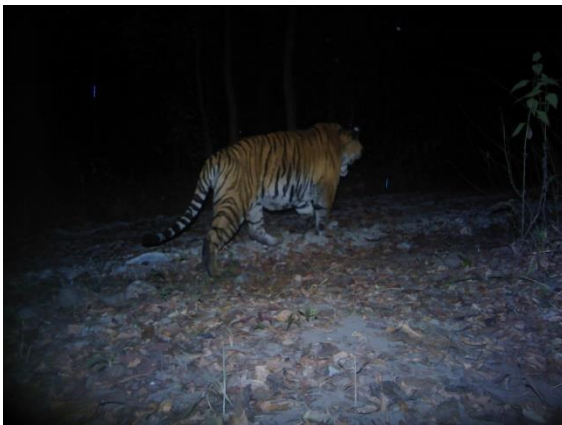
Bengal Tiger 2



Bengal Tiger 3



Bengal Tiger 4



Bengal Tiger 5



Bengal Tiger 6





Bengal Tiger 7



Bengal Tiger 8



Bengal Tiger 9



Bengal Tiger 10



Leopard 1



Leopard 2



Indian Bison



Asian Palm Civet



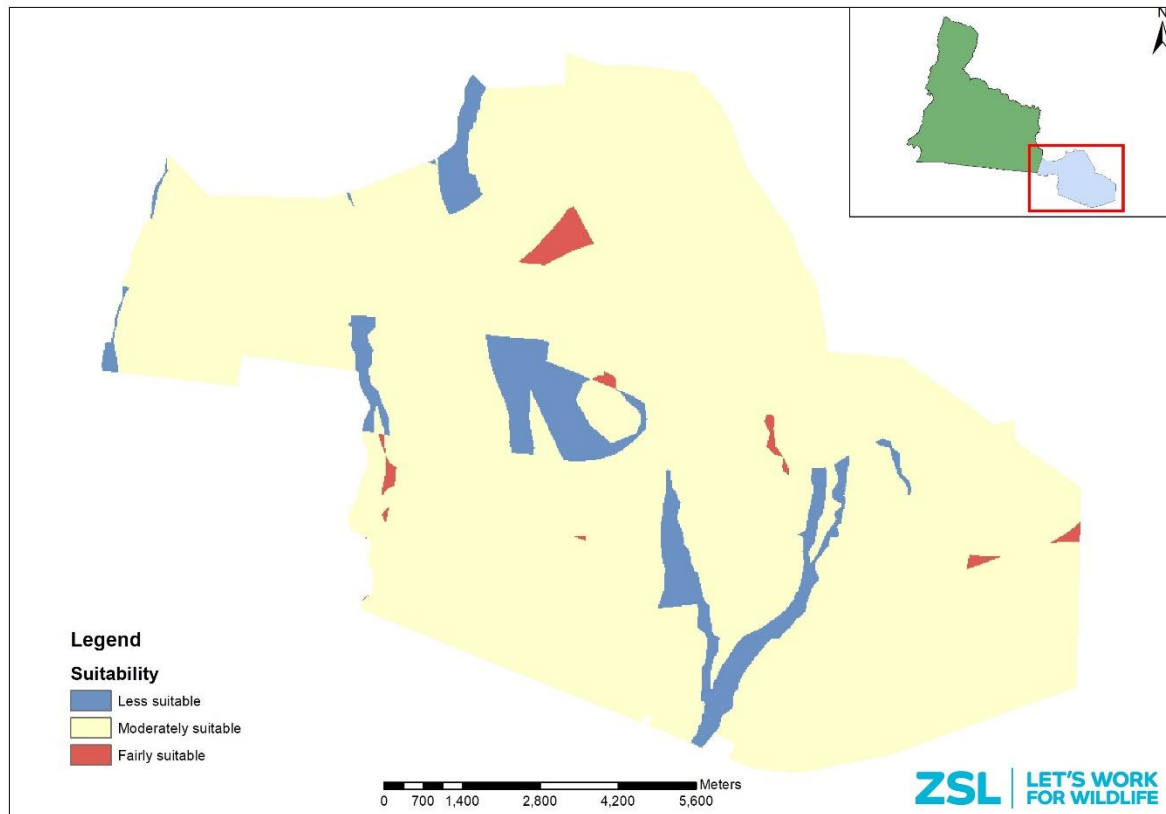
Bengal Fox



Striped Hyena

Based on the data extracted from the deployed cameras at 7 different locations in the extended area of PNP, we have assessed habitat suitability for tigers in the designed project areas.

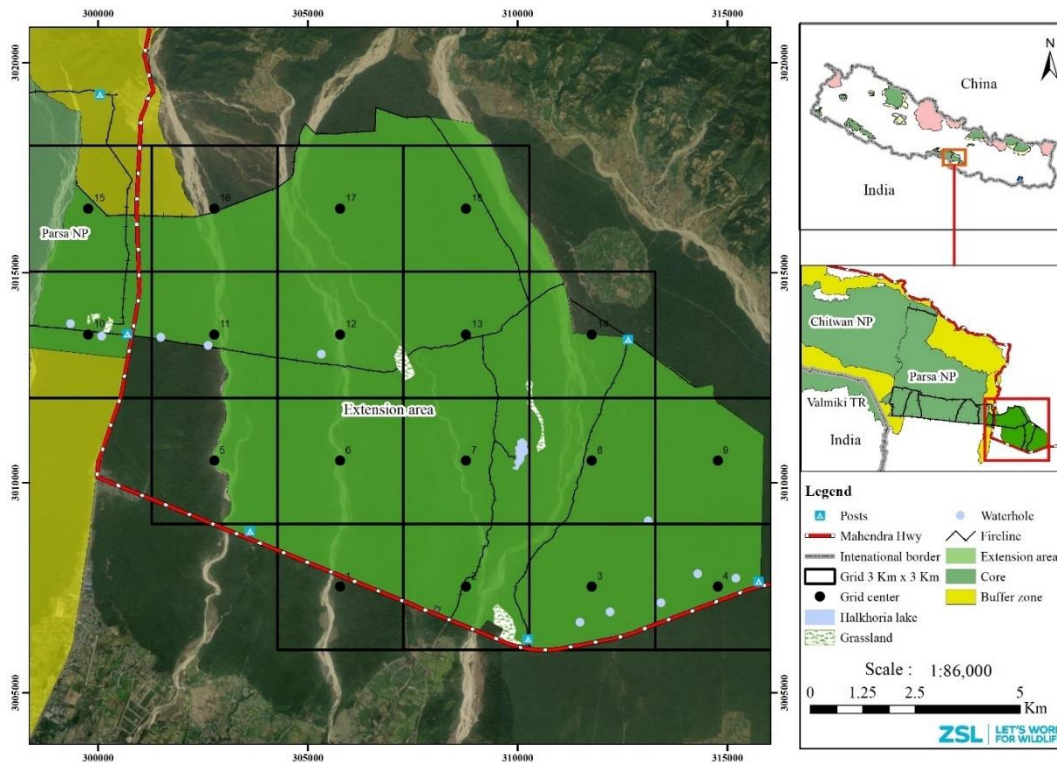
The habitat suitability for tiger in the area is given below:



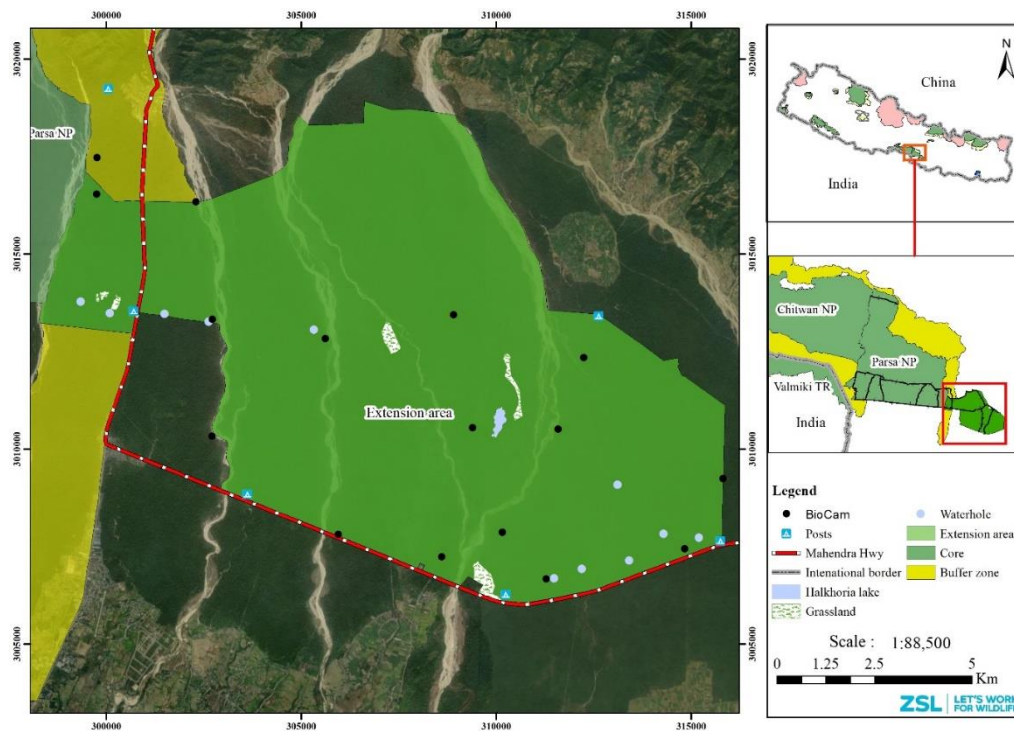
In a bid to conduct hotspot/dispersal monitoring of tiger and prey population more systematically in the area, we have divided the survey area into 3X3 Km grid cell comprising 18 total grid cells. This was settled after consultation with the park and ZSL Kathmandu office. At present, we have 17 remotely activated cameras (Panthera V6) installed in 16 grid cells with at least 1 in each grid cell. Due to heavy rainfall, most of the road networks inside the park got damaged, inhibiting us from installing cameras in the remaining 2 grid cells.



The map showing camera trapping grids in the extended area is given below:



Map showing the currently deployed camera locations is given below:





**Give details of any obstacles to success that the project has encountered over the last 6 months.**

*(Please provide detailed examples, explain what impact these will have on the project results and the changes to the budget and timetable of project activities)*

The monsoon season in Nepal usually starts in early June and ends in late September. This year we have been constantly receiving heavy rainfall from early March, which is hindering to the processes of grassland management and waterhole management in the projected timeline. Thereby, we have adjusted new workplan for both activities. Similarly, the second wave of coronavirus in the country caused the government to enforce lockdown across the country from late April 2021. The strict lockdown persisted till mid July 2021. This has also become one of the obstacles to carry out activities on time including those that need social gathering such as conducting habitat mapping workshops those that required field monitoring before implementation of project activities.

**Budget:** Is the spend on target? **If not, please give details and provide an updated budget sheet.**

Budget sheet is provided.

**Media:** Please provide a list of recent publications and media both local and national which mentions the work funded by this project and/or mentions WildCats Conservation Alliance

**N/A**

WildCats Conservation Alliance asks for at least 5 relevant high-resolution jpeg files of images of the project activities during this time period.

Please find the supplementary documents attached.

Annex 1

भारत मिति २०७८/११/१५ गतेको दिन पर्सो राष्ट्रिय निकुञ्जको प्रमुख संरक्षण अधिकृत श्री गजोरा कुमारी साह ज्यूको अध्यक्षतामा बसेको Project Management Unit (PMU) को बैठकले तयार पारेको निम्नलिखित कार्य निर्णय गरियो।

**उपस्थितहरू:**

१. श्री गजोरा कुमारी साह - प्र. सं. सं. पर्सो राष्ट्रिय निकुञ्ज  
२. श्री प्रकाश थापा - उपप्रधान - श्री पर्सो राष्ट्रिय निकुञ्ज  
३. श्री रमेश कुमार कार्की - सा. सं. सं. पर्सो राष्ट्रिय निकुञ्ज  
४. श्री राजु पौडेल - ले. सं. सं. पर्सो राष्ट्रिय निकुञ्ज  
५. श्री प्रदीप अधिकारी - फिडल शीमसा - ZSL नेपाल  
६. श्री विवेक शर्मा - रेजिस्टर - पर्सो राष्ट्रिय निकुञ्ज  
७. श्री विमल शर्मा - रेजिस्टर - पर्सो राष्ट्रिय निकुञ्ज  
८. श्री हिमाल पाठक - रेजिस्टर - पर्सो राष्ट्रिय निकुञ्ज  
९. श्री राजेश शर्मा - सा. सं. सं. पर्सो राष्ट्रिय निकुञ्ज  
१०. श्री राजु पौडेल - फिडल शीमसा - ZSL नेपाल

**निर्णय:**

१. पर्सो राष्ट्रिय निकुञ्जको क्षेत्र भित्र विभिन्न स्थानमा ZSL नेपाल को सहयोगमा निकुञ्जले deploy गरेको camera हरू "Biological monitoring" र "spy camera" निकुञ्ज क्षेत्रभित्र काममा प्रयोग गरिनेछ। र केहि समय भित्रै बनेको क्षेत्रको डेटाको camera हरू सुरक्षित स्थान उपर्युक्त रेटि हलहरूमा हाल बनेको क्षेत्रको डेटाको सुरक्षाको बारेमा जानकारी दिन उपर्युक्त स्थानहरू हेरि deploy गर्ने निर्णय गरियो।

२. पर्सो राष्ट्रिय निकुञ्जको विस्तारित क्षेत्रको बाथ तथा अन्य वन्यजन्तुको बासस्थान अभ्युत्थान र अनुगमन गर्ने हेतु ZSL नेपाल मा प्राप्त "The Saviour of Tigers" project को कामहरूको संघर्ष जानकारी निकुञ्जको डेटाको र सा. सं. सं. पर्सो राष्ट्रिय निकुञ्जको

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को प्रयोगहरूको कार्यवाहिका अनुसार निकुञ्ज क्षेत्रको कामहरूमा यसो कार्यवाहिका गर्ने निर्णय गरियो।

भारत मिति २०७८/११/१५

PMU minutes 1- 2<sup>nd</sup> page

भारत मिति २०७८/०८/२२ का दिन पर्सो राष्ट्रिय निकुञ्जको प्रमुख संरक्षण अधिकृत श्री गजोरा कुमारी साह ज्यूको अध्यक्षतामा बसेको Project Management Unit (PMU) बैठकले निम्नलिखित कार्य निर्णय गरियो।

**उपस्थितहरू:**

१. श्री गजोरा कुमारी साह - प्र. सं. सं. पर्सो राष्ट्रिय निकुञ्ज  
२. श्री प्रकाश थापा - उपप्रधान - श्री पर्सो राष्ट्रिय निकुञ्ज  
३. श्री रमेश कुमार कार्की - सा. सं. सं. पर्सो राष्ट्रिय निकुञ्ज  
४. श्री राजु पौडेल - ले. सं. सं. पर्सो राष्ट्रिय निकुञ्ज  
५. श्री प्रदीप अधिकारी - फिडल शीमसा - ZSL नेपाल  
६. श्री विवेक शर्मा - रेजिस्टर - पर्सो राष्ट्रिय निकुञ्ज  
७. श्री विमल शर्मा - रेजिस्टर - पर्सो राष्ट्रिय निकुञ्ज  
८. श्री हिमाल पाठक - रेजिस्टर - पर्सो राष्ट्रिय निकुञ्ज  
९. श्री राजेश शर्मा - सा. सं. सं. पर्सो राष्ट्रिय निकुञ्ज  
१०. श्री राजु पौडेल - फिडल शीमसा - ZSL नेपाल

**निर्णयहरू:**

१. पर्सो राष्ट्रिय निकुञ्जको विस्तारित क्षेत्रको बासस्थानको विस्तारित क्षेत्रको अनुगमन गर्ने हेतु ZSL नेपाल मा प्राप्त "The Saviour of Tigers" project को कामहरूको संघर्ष जानकारी निकुञ्जको डेटाको र सा. सं. सं. पर्सो राष्ट्रिय निकुञ्जको

२. पर्सो राष्ट्रिय निकुञ्ज स्थित डाटाकोर कार्यवाहिका अनुसार बाथ तथा अन्य वन्यजन्तुको बासस्थान अभ्युत्थान र अनुगमन गर्ने हेतु ZSL नेपाल मा प्राप्त "The Saviour of Tigers" project को कामहरूको संघर्ष जानकारी निकुञ्जको डेटाको र सा. सं. सं. पर्सो राष्ट्रिय निकुञ्जको

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नेपाललाई अनुगमन गर्ने निर्णय गरियो।

भारत मिति २०७८/०८/२२

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