Promoting human-tiger coexistence in Parsa National Park

[Final Report]

March 2026

Submitted to

WildCats Conservation Alliance

Reporting Period

1 February 2025 – 31 Jan 2026

WildCats final (end of year) report template

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

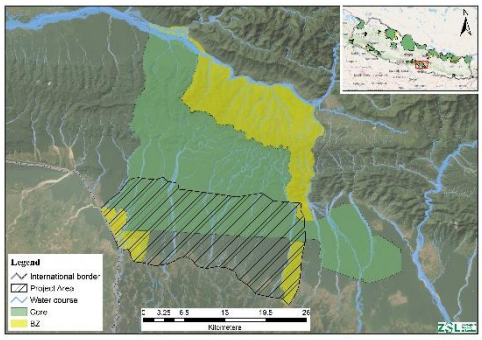
Section I. Project Information

Project Title: Promoting human-tiger coexistence in Parsa National Park

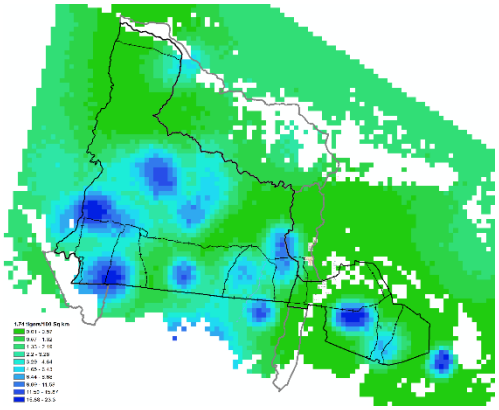
Grantee Organisation: Zoological Society of London

Location of project: Southern part of PNP and its buffer zone, adjoining national, collaborative forests (27.223384N, 84.820104E)

Size of project area (if appropriate): This project is implemented in Parsa National Park, which has a total area of 627.39km^2 (including 30 km^2 settlement), adjoining collaborative forest (109 km^2) and adjoining settlement (33 km^2)



No of tigers and / or Amur leopards in project area, giving evidence & source: 41 (95% CI = 38-50) estimated tigers in PNP and adjoining forest (DNPWC and DFSC, 2022)



Partners: *(Please give details of partners, including communities, academic institutions etc. for this project.*

The Department for National Parks and Wildlife Conservation (DNPWC)

The DNPWC is the government authority responsible for managing all the Protected Areas (PAs) of Nepal. ZSL has signed a MoU with DNPWC collaboration and has a close working relationship with PA managers and staff. DNPWC facilitates project implementation and is responsible for oversight by providing strategic guidance and monitoring and evaluation of the project as stated in the MoU between DNPWC and ZSL through Project Coordination Committee (PCC) (detailed in monitoring and evaluation section). The project was prepared under the guidance of DNPWC and facilitates in contributing to important policy documents such as Tiger Conservation Action Plan (2023 – 2032), Management plan of PNP and its buffer zone (2023/24 – 2027/28), TAL Strategy and Action Plan (2015 – 2025).

Parsa National Park (PNP)

In 1984 PNP was gazetted as a wildlife reserve, primarily aiming to preserve the wild Asian elephant and their remaining habitat. Moreover, the park holds estimated 41 wild tigers along with some other globally important wildlife species such as dhole, sloth bear, sambar deer, etc. It is one of the important areas which connected with Chitwan National Park (CNP) and Valmiki Tiger Reserve (VTR) in India to form Chitwan-Parsa-Valmiki Complex. The complex is a vast expanse of protected forested land, spans 100 km of the Terai Arc landscape and has been designated as a crucial and prominent territory for tiger conservation. CNP in Nepal boasts a thriving tiger population which serves as a source for both VTR in India and Parsa National Park, demonstrating the transboundary nature of this landscape. The 2015 expansion of PNP was significant, extending PNP's area to 627.39 sq.km from 499 sq. km, and in 2017 its status was upgraded to a National Park, ensuring additional protections. ZSL has established Project Management Unit (PMU) at PNP, chaired by the Senior Conservation Officer of PNP and members including officer of ZSL, facilitate and implement project activities jointly. Moreover, the PMU is responsible for coordination, facilitating project activities, monitoring progress, and reporting to the Project Coordination Committee (PCC).

Buffer Zone User Committee (BZUC) and Collaborative Forest User Groups (CoFUG)

Five southern BZUCs (Janahit BZUC, Panchamukhi BZUC, Sunakhari BZUC, Nirmal BZUC, and Kusumbatika BZUC) of PNP and 3 CoFUGs (Brindabaseni, Koelabhar, Badhniyar CoFUG, and Gadimai CoFUG) were key CSOs for the project. These CSOs played important role in identifying Bagh Mitra volunteers for the project.

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Reporting period: 1 February 2025 to 31 January 2026

Please ensure that your report relates to the objectives and activities detailed in your proposal and logframe. Please include results data in Section II and Section III.

Section II. Project Results

Long Term Impact: (*How has this work contributed to the vision and long-term impact that your project aims to achieve?)*

This project has significantly contributed in promotion of Human-Tiger Coexistence in buffer zone of Parsa National Park (PNP) by working on two key outcomes viz., management of habitat in core tiger habitat and raising the awareness among vulnerable communities residing near tiger habitats. A total of 15 ha grassland was managed and Kalidaha lake was restored. The grassland management ensured the availability of quality forage for tiger prey species while restored Kalidaha lake ensures the availability of drinking water for wildlife in the core habitat during dry season. Additionally, 1402 vulnerable communities were reached through science-led 120 events of awareness sessions.

The availability of quality forage and drinking water inside the core habitat will help keep tiger and prey-base inside while the core habitat thereby reducing the tiger movement towards the human settlement in search of food and water. Additionally, aware people near the tiger habitat have knowledge of HTC avoidance strategies in case tiger come around human settlement.

Conservation Outcome: (*What are the actual changes that this project has achieved?)*

The project has successfully documented the effect of grassland management intervention as per habitat management guideline of Nepal government. The result showed that, grassland vegetation structure and effect of management interventions which will help managers on grassland management decision-making.

Similarly, the database on tiger use pattern of fringe areas for pre-monsoon and post-monsoon is also documented to identify tiger activity pattern in these seasons and identify vulnerable communities. This helped conservation authorities to proactively sensitise and aware communities near the fringe areas.

Summary of activities and achievements: *(Please provide a narrative summary for use in our communication materials Max 300 words)*

The project was initiated through a PCC meeting at DNPWC, followed by two site-level inception meetings in PNP and the Division Forest Office (DFO) Parsa. The site level inception meetings helped key stakeholders understand about the project's goals, objectives, and planned activities. Habitat management interventions, and conservation awareness were a key focus of the project. A total of 15 hectares of grassland were restored across two sites, Mahadev (12 ha) and Jamuniya (3 ha), through a systematic process that included site selection and pre- and post-monitoring. Initial results indicated that managed sites helped in creating suitable foraging conditions for herbivores compared to unmanaged areas. In addition, Kalidaha Lake was restored and reinforced with a check dam to reduce siltation which helped in improving water availability for wildlife. To strengthen human–tiger coexistence, 15 "Bagh Mitra" volunteer groups were formed and trained to raise awareness on conflict avoidance strategies in the communities at the forest edge. These groups have reached over 1,402 individuals (638 women) from vulnerable households, improving awareness and preparedness. The project also enhanced wildlife monitoring by deploying 20 camera traps in the fringe areas to track tiger movement patterns across seasons. The information generated has been used to provide timely alerts to nearby communities, helping to reduce risks and improve response

measures. Overall, the project integrates habitat restoration, community engagement, and evidence-based monitoring to support long-term human–tiger coexistence in PNP.

Details of activities and results: (*Please give detailed narrative of the results of each objective & output. Please include measures for example patrol numbers and distances covered, #people trained or #people attending meetings/workshops or refer to figures in your tables below)*

Cross-cutting Activity

Activity 1.1: PPC and Inception workshops

A Project Coordination Committee (PCC) meeting was conducted at DNPWC. The meeting was chaired by Deputy Director General of DNPWC and participated by senior ecologists, ecologists, planning and monitoring officers. Presentation on overall goals, objectives, activities, and the budget of the project was made. The PCC endorsed the project (a requirement as per MoU between DNPWC and ZSL Nepal) allowing ZSL Nepal to formally implement the project activities in the field in coordination with PNP.

Two site level inception meetings (one at PNP, and another at DFO Parsa) were conducted at project sites. In the meeting, project goals, objectives, activities, budget, and project sites were shared. The inception meetings helped in developing common understanding of the project and its implementation modalities.

The inception meeting at PNP was chaired by senior conservation officer of PNP. A total of 8 individuals participated in the inception meeting representing PNP and ZSL Nepal. PNP senior conservation officer highlighted that PNP shares 23 km long border with government managed forest under DFO Parsa in the south and the area is suitable habitat for tiger as reported by the last national tiger survey – 2022. The best part of the project is that it has envisioned incorporated adjacent forest area outside PNP to promote human-tiger coexistence.

In order to onboard relevant stakeholders from the part of DFO Parsa, the second inception meeting was held with them where the Chairperson of Paterwa Sugauli Rural Municipality (PSRM) ward – 2 chaired the session, Chairperson of Sakhuwa Prasauni Rural Municipality (SPRM) ward – 2, Chairperson of SPRM ward – 3, Chairperson of Gaadimai Collaborative Forest Users Group (CoFUG), Bhumari Mai tourism board, executive committee members of PSRM and SPRM wards, staff of DFO Parsa posted in Rangpur Sub-Divisional Forest Office (SDFO), Basantpur SDFO, Sabaiya SDFO, Badnitar SDFO, and staff of PNP participated.

Objective 1: Improved habitat for tigers and prey base within the core areas of Parsa National Park

Output 1: 15 hectares of grassland and one water retention pond maintained, with monitoring of these restored sites and scientific data and evidence gathered on its effectiveness.

Activity 1.2. Management of 15 hectares of grassland

Grassland selection

In consultation with PNP officials, three potential sites for grassland management namely Charbhaiya grassland (3 ha), Jamuniya grassland (3 ha), and Mahadeva grassland (34 ha) in PNP were identified (figure 1) as potential grassland patches for the management. Following the identification, a preliminary monitoring of these grasslands was jointly conducted by a team consisting of PNP officials and ZSL field staff in March. Considering project requirement of managing 15 ha grassland, Jamuniya grassland and Mahadev grassland which are 12 km apart from each other were selected for management.

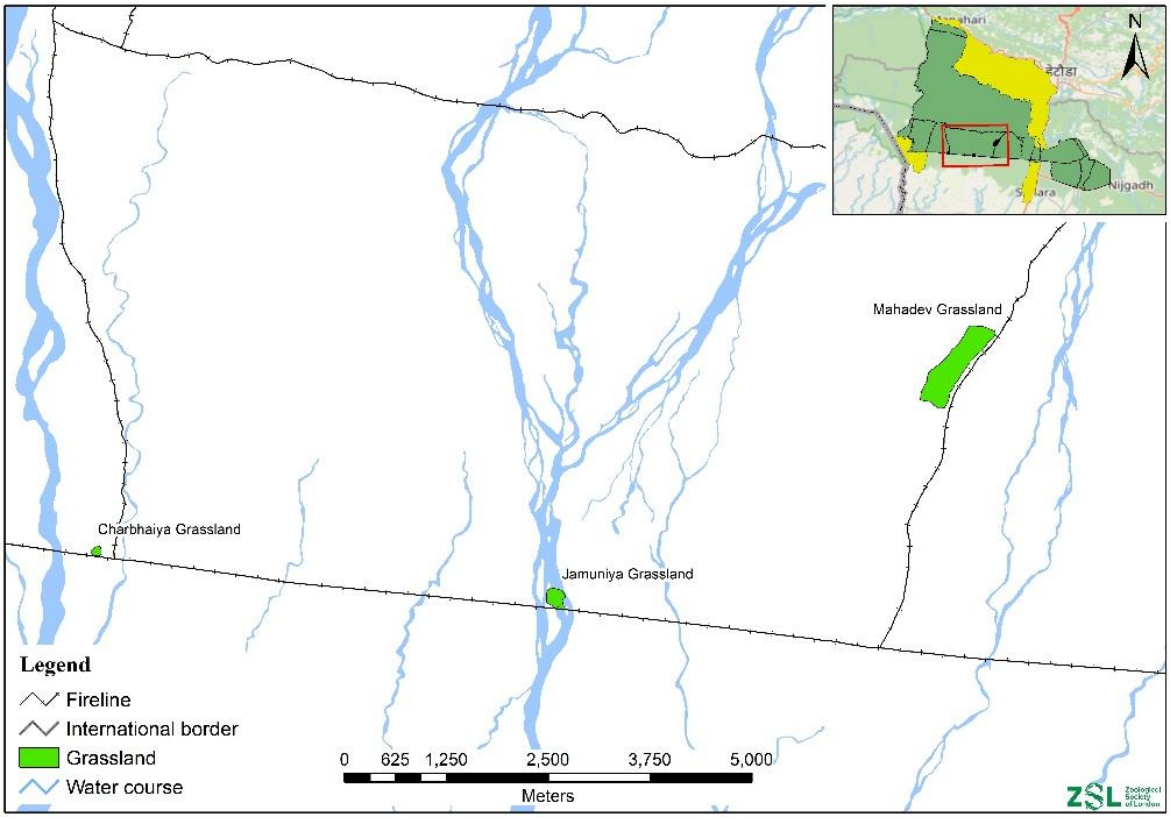

Figure 1: Map showing location of three grassland identified through KII

Pre-management monitoring

In April 2025, a preliminary assessment of selected grasslands was carried out. The main aim of the preliminary assessment was to record grass species present in the selected grasslands (to serve a baseline for comparison).

Sampling effort assessment will help determine the number of samples required to obtain representative vegetation data from sampling areas. We randomly laid down 1x1 m quadrants (with equally spaced grids of 10x10cm) in different direction within the selected grassland patches. We recorded two main features of the grassland viz. physical features (including bare ground, litter, animal dropping, and fire), and biological features (including vegetation species) from each quadrant. Within each quadrant, we used the point intercept method at 100 sampling points to record both the physical and biological features. The sampling effort curve analysis showed that a total of 12 sampling efforts (quadrants) would be required to capture a representative sample from the selected grassland patches in PNP. Hence, a total of 12 quadrants in managed area and 12 quadrants in unmanaged areas for each grassland were considered to assess and compare the effect

of grassland management interventions. Nearby unmanaged grassland patches were considered as control plot which helped in comparing the effect of grassland management interventions.

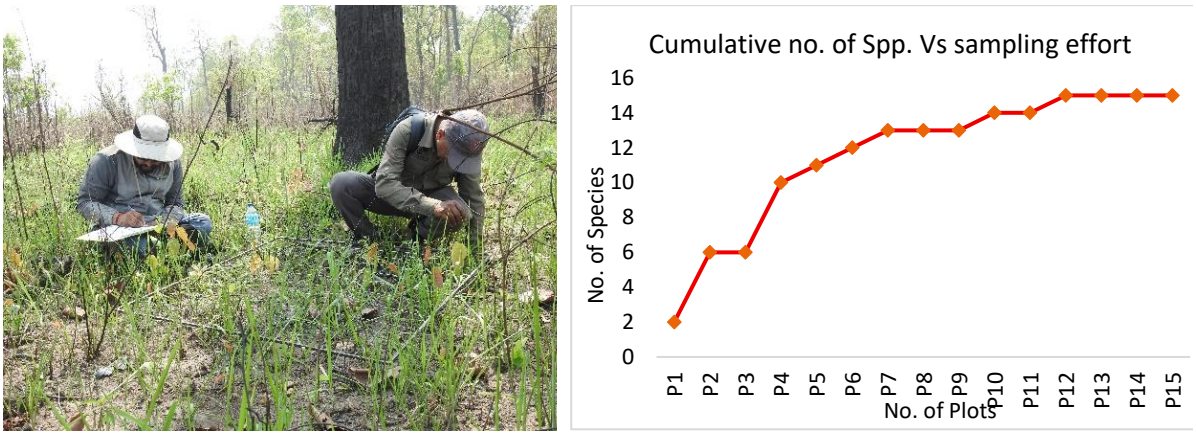

Figure 2: field staff conducting vegetation survey (left), Survey effort analysis curve (right)

During this pre assessment, a total 15 plant species in Mahadev and 6 (including 2 unknown species which were removed later) species in Jamuniya were documented. In Mahadev grassland *Imparata cylindrica* and *Desmostachya bippinnata* species were dominant while in Jamuniya grassland *Saccharum spontaneum* was dominant. Three species namely, *Imparata cylindrica*, *Grewia Sapida*, and *Millettia extensa* were common in both the grassland patches (Table 1). Pre-intervention survey provided a valuable information to set baseline on vegetation condition. The average height of the vegetation was found 25.7 cm in Mahadev while 48.25 cm in Jamuniya.

Table 1: List of species recorded in the survey

SN	Species	Family	Grassland
1	Imperata cylindrica	Poaceae	Both
2	Murdanhia Edulis	Cammelinaceae	Mahadev
3	Desmostachya bipinnata	Poaceae	Mahadev
4	Cyperus Esculentus	Cyperaceae	Mahadev
5	Cyperus Niveus	Cyperaceae	Mahadev
6	Saccharum bengalnses	Poaceae	Jamuniya
7	Grewia Sapida	Malvaceae	Both
8	Xeromphis Spinosa	Rubiaceae	Mahadev
9	Eupatorium Odoratum	Asteraceae	Mahadev
10	Murraya Koenigii	Rutaceae	Mahadev
11	Lepidagathis Incurva	Acanthaceae	Mahadev
12	Vetiveria zizanioides	Poaceae	Mahadev
13	Shorea Robusta	Dipterocarpoceae	Mahadev
14	Millettia Extensa	Fabaceae	Both
15	Indigofera Heterantha	Fabaceae	Mahadev
16	Phoenix Humilis	Arecaceae	Mahadev

Grassland management

After the preliminary survey, 6 plots of 2-hectare each were established in Mahadev grassland covering 12 hectares (figure 3) while the whole 3-hectare block of Jamuniya grassland was considered for management. A mosaic of 2 ha patches was considered based on the habitat management guideline where it was assumed that the mosaics will also facilitates in fulfilling the ecological needs of other grassland dependent species including small mammals, birds and

herpetofauna. In Mahadev each plot was demarcated with four 2.5 feet tall concrete pillar numbered as ABCD for establishing permanent plot (figure 4).

Figure 3: Layout of 2-hectare plots to be established in Mahadev grassland

Figure 4: Staff installing a concrete pillar

Figure 5: Photo of C pillar of plot number 2

Figure 6: Mahadev grassland patches visible in GoogleEarth imagery

After the establishment of plots, management intervention was performed inside the plot. This activity aligns with the Parsa National Park's annual target of managing 100 hectares of grassland. Grassland management activities were performed following the GoN wildlife habitat management guidelines 2080 which included removal of invasive species, cutting, drying and burning. As per the work plan, selected grasslands have to be managed two times in a year.

The first cycle of management was performed during last week of April to second week of June 2025 and the second cycle of management was performed during October 2025. During this period, several joint monitoring by the team composed of PNP officials and ZSL field staff were conducted to ensure proper execution of the intervention.

The long-term outcome of these interventions extends beyond simple grassland management. This will improve the quality forage for herbivores which helps in maintaining their population and ultimately benefiting tigers due to availability of abundant prey-base. Beyond direct species conservation, these interventions are expected to reduce human-wildlife conflict by keeping wildlife within the park. Moreover, mosaic intervention methods are expected to maintain species diversity by providing habitats for other grassland dependent species.

Figure 7: Photo of grassland during first cycle of management

Figure 8: Photo of grassland after first cycle of management

Figure 9: Photo of grassland before second cycle of management

Figure 10: Photo of grassland during second cycle of management

Figure 11: Monitoring of grassland management

Figure 12: Drone-based monitoring of grassland

Post-management surveys

To document the impact of management intervention, post management surveys were conducted after the intervention. The first post-management monitoring was conducted 20 days after the first management intervention. In the first survey, a detailed survey was conducted from 10 – 12 July. A total of 48 quadrants, 12 in managed plots and 12 in unmanaged area, were surveyed in both the grasslands. The second survey employed the same method as performed in the pre-management assessment after 25 days of management intervention.

Figure 13: Staff conducting first vegetation survey in unmanaged area (left)

Figure 14: Staff testing camera trap deployed in managed grassland

Figure 15: Field member conducting second vegetation survey in unmanaged grassland

Figure 16: Staff conducting second vegetation survey in managed grassland

Impact of management intervention

The comparison of species richness across grassland types indicates a consistent pattern of higher diversity in unmanaged areas relative to managed ones. In Mahadev grassland, unmanaged sites supported substantially greater species richness (47 species) compared to managed sites (30 species). A similar trend was observed in Jamuniya grassland, where unmanaged areas recorded about 32 species, slightly higher than the managed sites with 29 species. When data from both sites are pooled, unmanaged grasslands collectively exhibited markedly higher species richness (approximately 67 species) than managed grasslands (around 46 species). Overall, these results suggest that reduced intervention or natural regeneration processes in unmanaged grasslands may promote higher species diversity compared to managed systems.

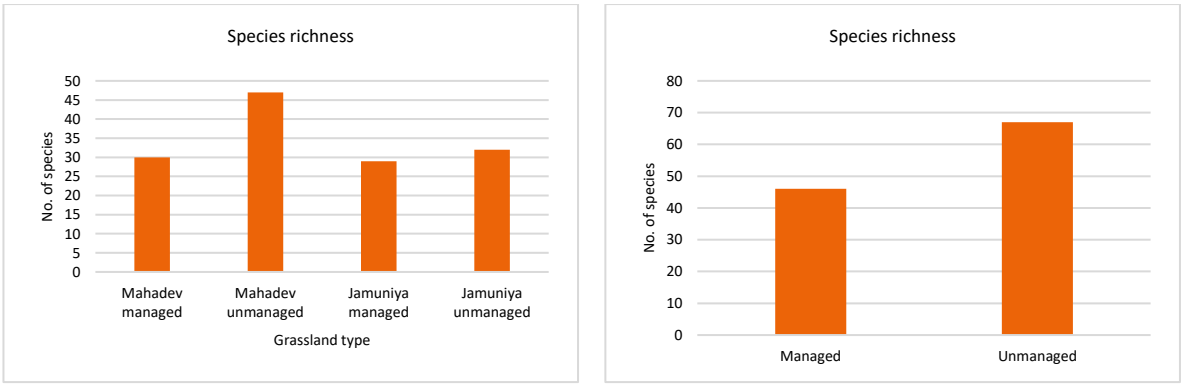

Figure 17: Vegetation species richness

The comparison of Shannon diversity indices across sites indicates higher diversity in unmanaged sites relative to managed ones. In Mahadev grassland, unmanaged sites supported substantially greater diversity (2.21) compared to managed sites (1.79). in contrast, in Jamuniya grassland, managed areas recorded a diversity index of about 2.40, notably higher than the unmanaged sites at roughly 2.14. When data pooled from both sites, unmanaged grasslands collectively exhibited markedly higher diversity index (2.53) than managed grasslands (2.30).

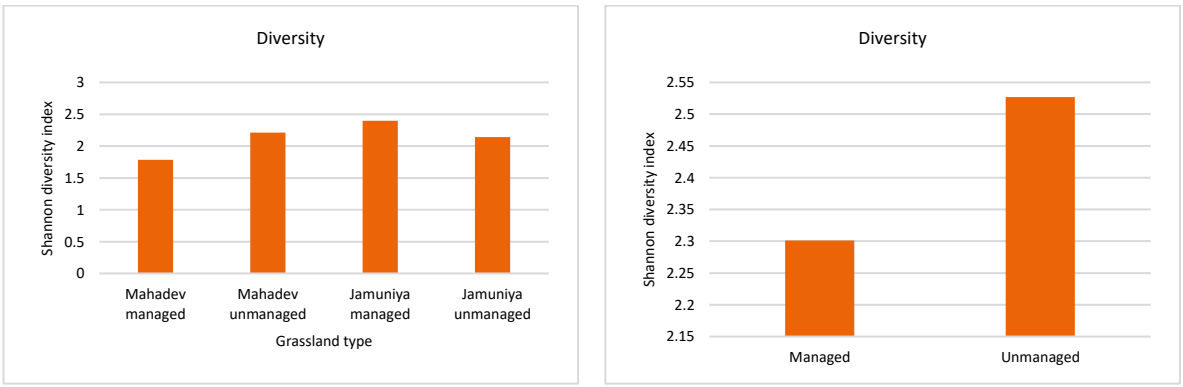

Figure 18: Vegetation species richness after first management (left) and second management (right) in Jamuniya grassland

Analysis of vegetation composition further highlights the effect of management. In Mahadev grassland in the first survey, climber species dominated the managed site while shrub species dominated the unmanaged site. In the second survey, grass species dominated managed site while climber, shrub and trees were equally dominant in unmanaged areas with. In Jamuniya grassland in the first and second surveys, grass species dominated the managed and unmanaged sites. However, in the second survey, an increased number of grass species and decrease in number of climber and tree species as compared to first survey in the managed site.

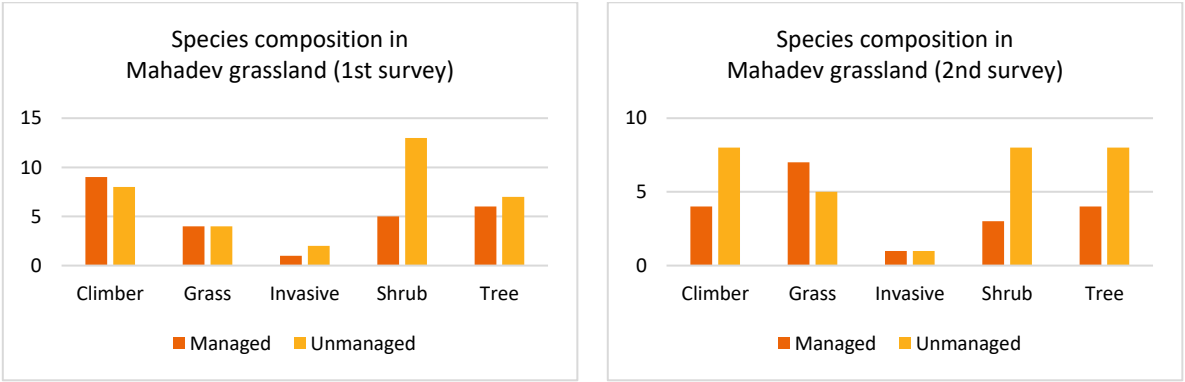

Figure 19: Species composition after first management (left) and second management (right) in Mahadev grassland

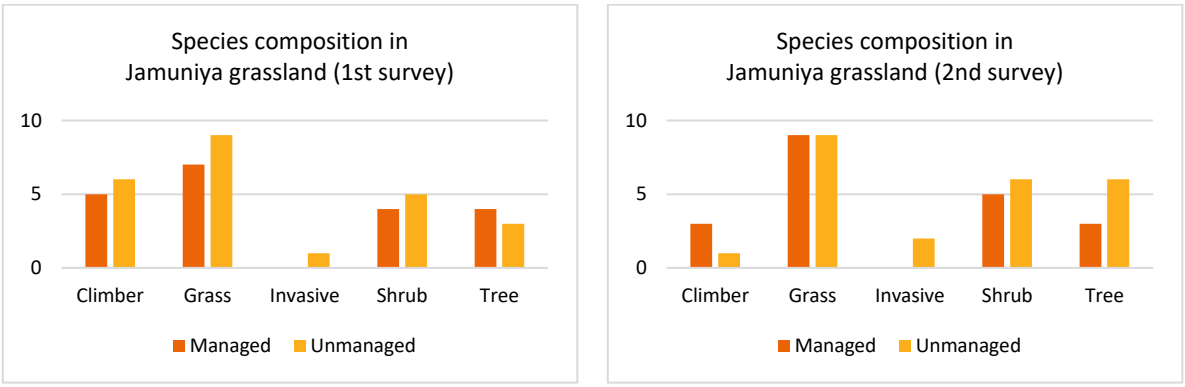

Figure 20: Species composition after first management (left) and second management (right) in Jamuniya grassland

The comparison of vegetation height across sites reveals a consistent pattern of taller vegetation in unmanaged sites relative to managed ones. In Mahadev grassland, unmanaged sites have substantially grasses (138 cm) compared to managed sites (74 cm). A similar trend was observed in Jamuniya grassland, where managed areas recorded an average height of about 68 cm, notably shorter than the unmanaged sites at 145 cm. When data from both sites are pooled, unmanaged grasslands collectively showed markedly taller vegetation (approximately 71 cm) than managed grasslands (around 142 cm).

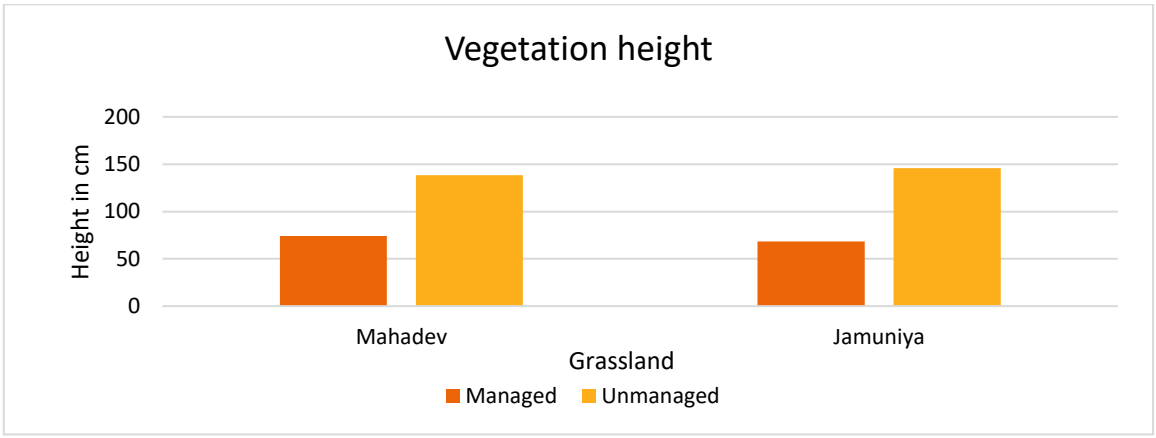

Figure 21: Average vegetation height comparison (managed Vs unmanaged sites)

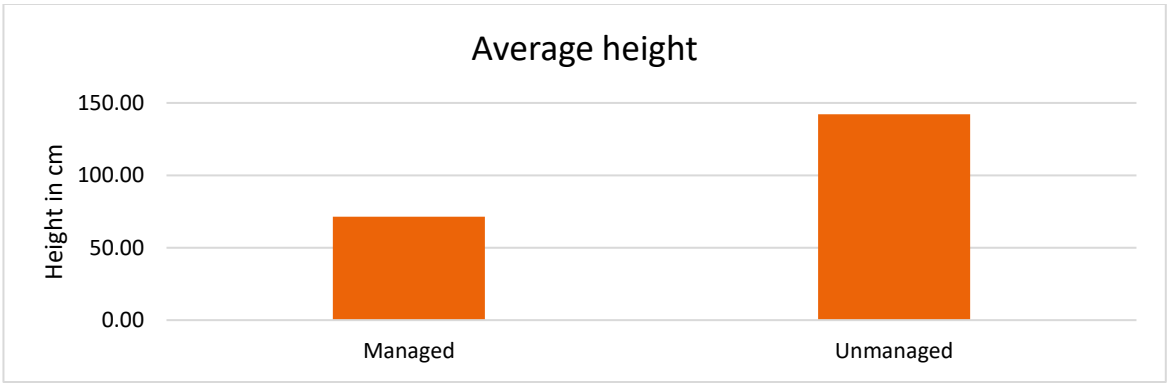

Figure 22: Average vegetation height comparison

In conclusion, the comparative analysis of Mahadev and Jamuniya grasslands across the two survey periods demonstrates clear and consistent difference between managed and unmanaged conditions. Unmanaged grasslands tend to have higher species richness and taller vegetations while managed

grassland has lower species richness and shorter vegetations. Management interventions created favourable conditions for grass species to grow by opening the ground cover. Presence of grass species dominant vegetation structures consisting of other vegetation species provides both forage and shelter for prey species thereby enhancing habitat suitability for supporting higher number prey. Since tiger population stability is closely related to prey abundance and availability, these management interventions will have direct consequences for tiger ecology.

Activity 1.3: Management of water retention pond

Waterhole selection

Based on the recommendation and tiger density distribution, Kalidaha (figure 23) was selected where a structure to retain water in the Kalidaha was constructed. The structure will capture water flowing through the Kalidaha, which will maintain and facilitate ground water recharge for wildlife and surrounding vegetation throughout the year.

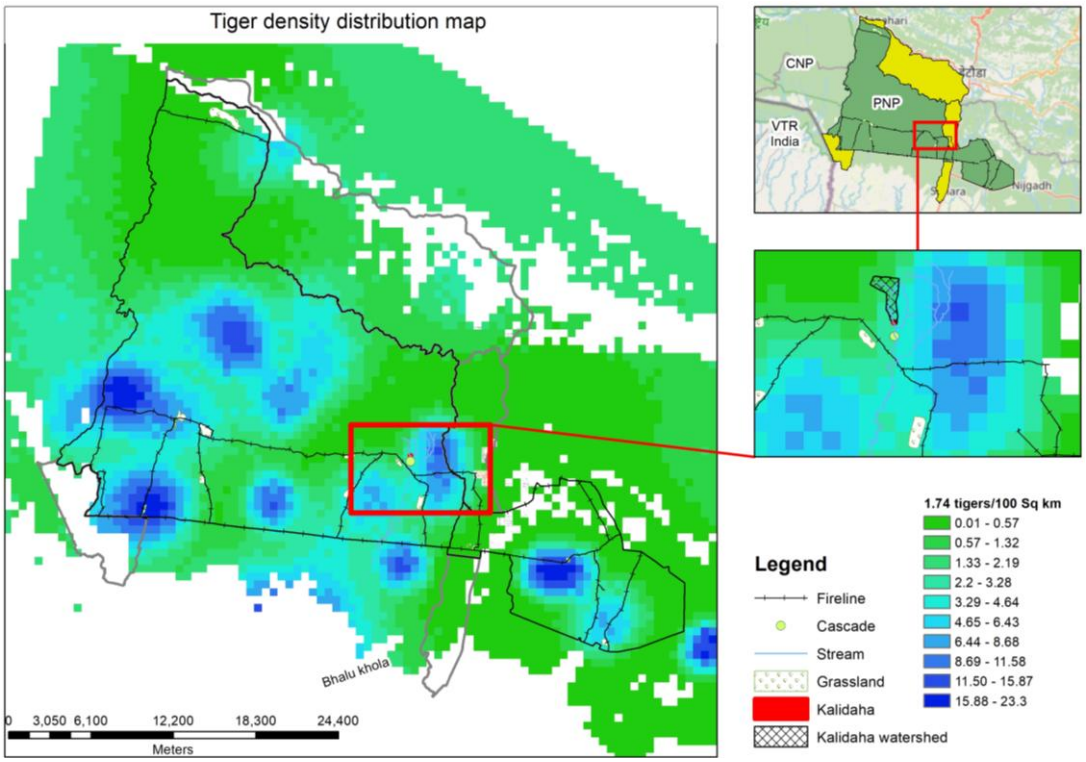

Figure 23: Map showing tiger density distribution in Parsa National Park (adopted from Status of Tiger and Prey in Nepal, 2022)

Additionally, a central level monitoring team led by the deputy director general of DNPWC visited the selected grassland and waterhole management site (Figure 24). During the monitoring visit, the team suggested to map out the overall waterhole of Kalidaha to maintain upstream areas to control sediments flow in the waterhole and expand the cascade system. As per the suggestion, a map was prepared and shared with the team (figure 25).

Figure 24: ZSL Nepal policy coordinator briefing at Kalidaha (left), joint monitoring of waterhole maintained through past WCCA project (right)

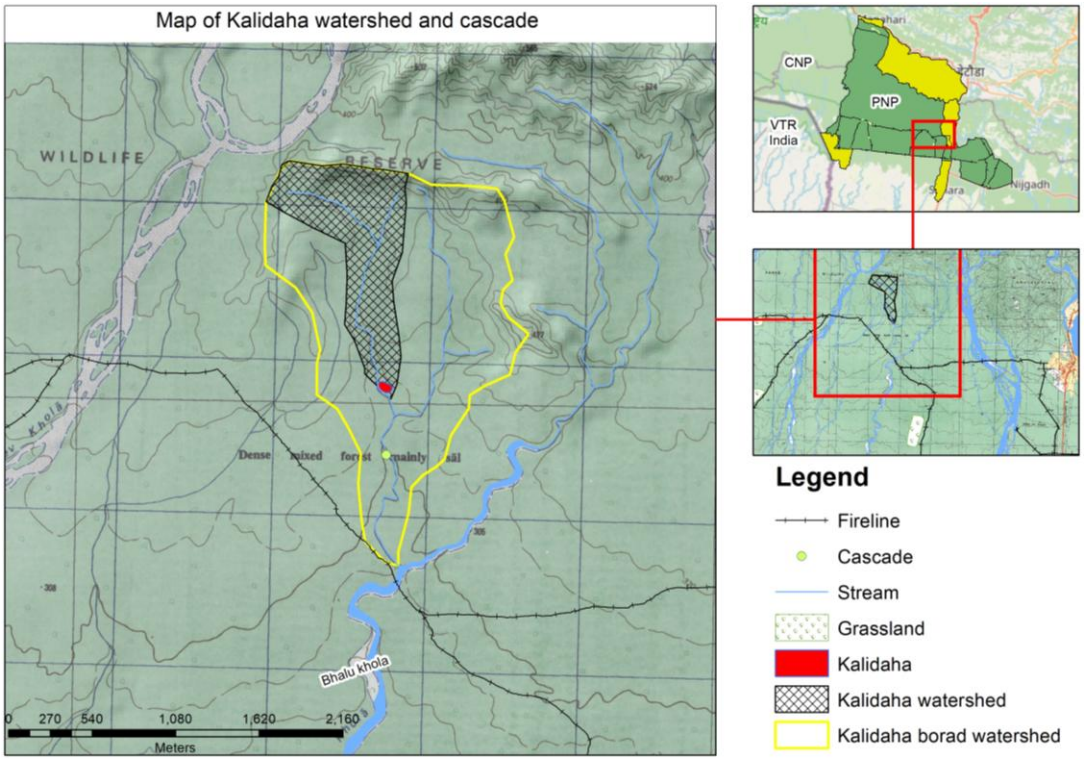

Figure 25: Map showing location of proposed waterhole maintenance site and Watershed of Kalidaha with Topo map as base layer

Waterhole management

The maintenance work included siltation removal and check dam construction activities which will improve water holding capacity of the lake supporting wildlife in the park. A seven-metre-long check dam was constructed to retain water in the lake (figure 27). This structure will help maintain water in one hectare area of the lake.

Figure 26: Photos of Kalidaha lake siltation (left), silt removal (middle), and after (right)

Figure 27: Photos of check dam construction before (left), during (middle), and after (right)

Activity 1.4: Deploy camera traps along the fringes of the park to monitor wildlife activity and movement patterns

Camera trap deployment

Based on the series of consultations PNP and DFO, and as per the HTC incident record, southern part of PNP and adjoining collaborative forest stretching 32 km from Bhedaha Khola in the east to Sikaribas Khola in the west was selected for regular monitoring of wildlife movement. In the selected segment, 20 camera trap grids of 4 km^2 each, aligning with National Tiger Survey protocol was established for camera trap deployment (Figure 28). The main objective of the camera trap deployment was to capture tiger movement pattern in the fringe areas.

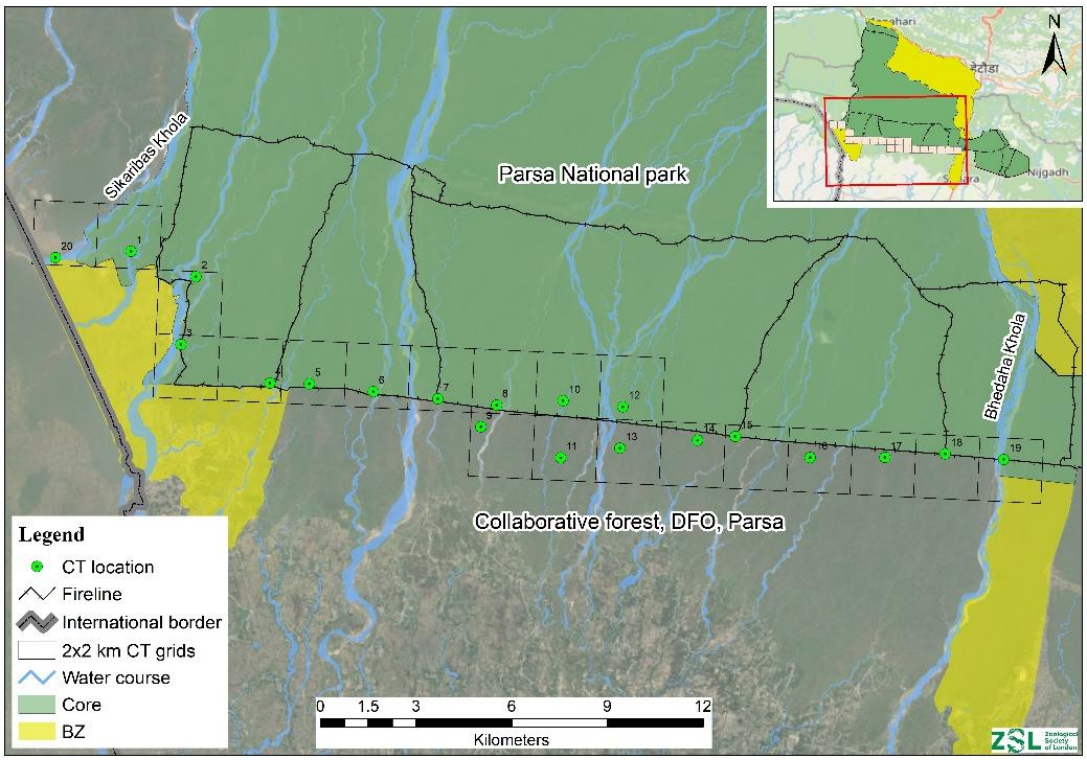

Figure 28: Map showing camera trap grids and distribution of camera trap.

The first set of camera traps were deployed from 22 April 2025 to 19 June 2025 to capture pre-monsoon activity and in second time, the cameras were deployed form 23 September 2025 to 5 December 2025. In pre-monsoon, 1,851 images of wildlife were captured while 1,405 images of wildlife were captured in post-monsoon. Among these, 20 images of tigers were capturing 18 events in 5 grids (3, 7, 15, 18, and 19) in the pre-monsoon and 35 images of tiger capturing 31 events in 9 grids (1, 2, 3, 4, 6, 7, 8, 15, and 20) in the post-monsoon were recorded.

Figure 29: Staff deploying first set of camera trap in PNP area (top left), staff retrieving data (top right), staff deploying camera in collaborative forest area (bottom left), camera damaged by elephant (bottom right).

Spatial pattern of tiger movement

Analysis of spatial patterns of the tiger across 20 grid cells suggested a clear seasonal variation in the detection pattern (Figure 30). During the pre-monsoon, that tigers were actively using two grid (18 and 19) in the eastern part while other grid show a little or no activity. In contrast, the post-monsoon period shows a broader and more dispersed distribution with increased detections at multiple grids, especially across five grids (3, 4, 6, 7, and 8). Such variations in spatial patterns can be explained by multiple factors including prey availability in the fringe area, maternal investment period, water availability, sub-adult dispersal, etc.

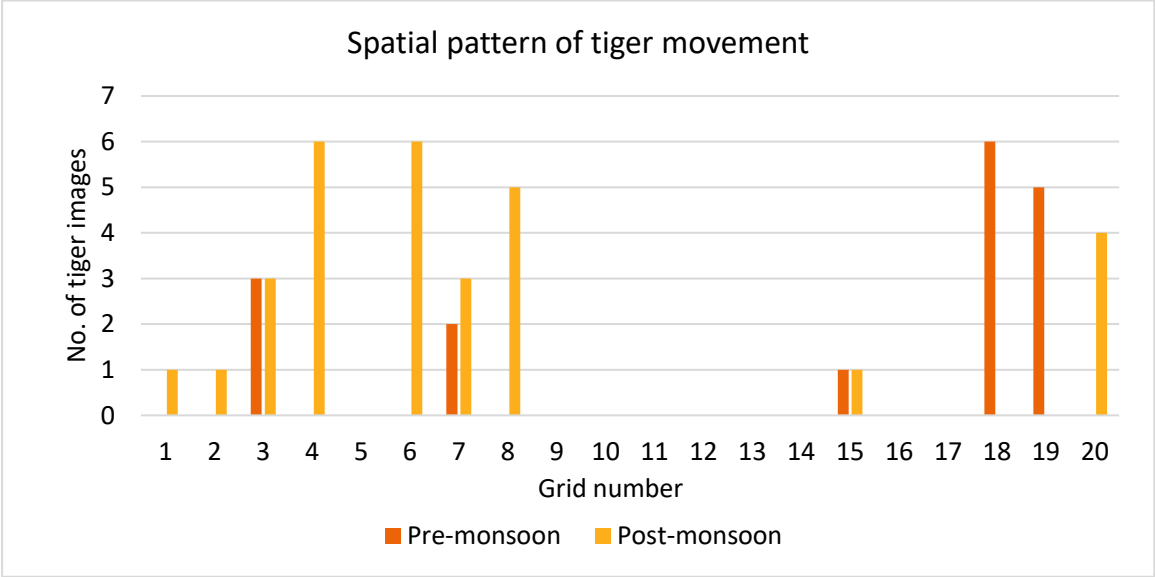

Figure 30: Distribution of tiger image captured in camera trap grids

Temporal pattern of tiger movement

The temporal pattern shows clear seasonal variations in activity with slight increase in post-monsoon season (Figure 31). During the pre-monsoon season, tiger activity is relatively low in April (2 events), sharply increased in May (10 events) and then declines moderately in June (6 events). In contrast, the post monsoon season exhibits a stronger and more consistent increase in tiger activity. After relatively low activity in September (4 events), moderate in October (12 events) and reaches its peak in November (15 events). This could be due to the timing of camera traps deployment. For pre-

monsoon, cameras were deployed on 22 April and recovered on 19 June and for post-monsoon the cameras were deployed on 23 September while retrieved on 10 December.

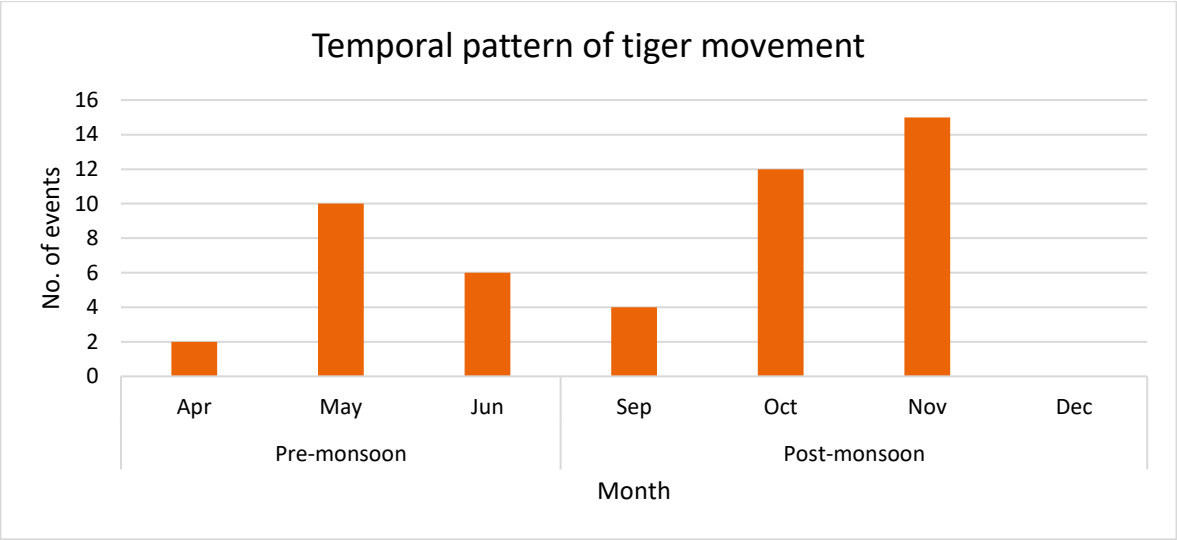

Figure 31: Tiger activity pattern during pre-monsoon season

The diurnal activity pattern analysed from the camera trap photographic events shows a clear predominance of nocturnal and crepuscular behaviour with notable seasonal variation between pre-monsoon (Figure 32) and post-monsoon (Figure 33) periods. During the pre-monsoon period, tiger activity is highly concentrated in the late night and early morning with activity reaching peak around 02:00 and 03:00 and the highest detection accruing near 03:00. Moderate activity is recorded shortly after midnight (between 00:00 and 02:00) along with secondary peak in the evening around 19:00 and 21:00. In contrast, daytime activity from 07:00 to 18:00 is absent indicating strong avoidance of daytime conditions.

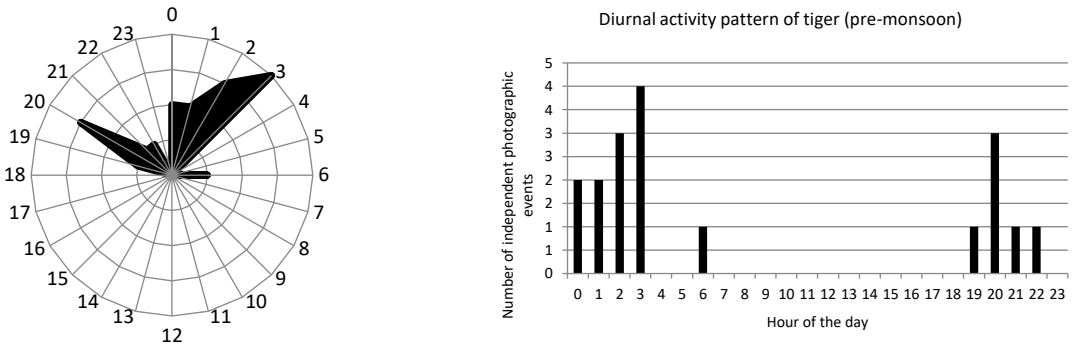

Figure 32: Tiger activity pattern during pre-monsoon season

In the post-monsoon period, in daytime 2 events of activity were recorded while nocturnal activity remains dominant. High activity persists during night hours (00:00 to 03:00), but noticeable increase in activity during the late day time (17:00 to 19:00), with peaks around 19:00. Early morning activity (04:00 to 06:00) is present but less pronounced.

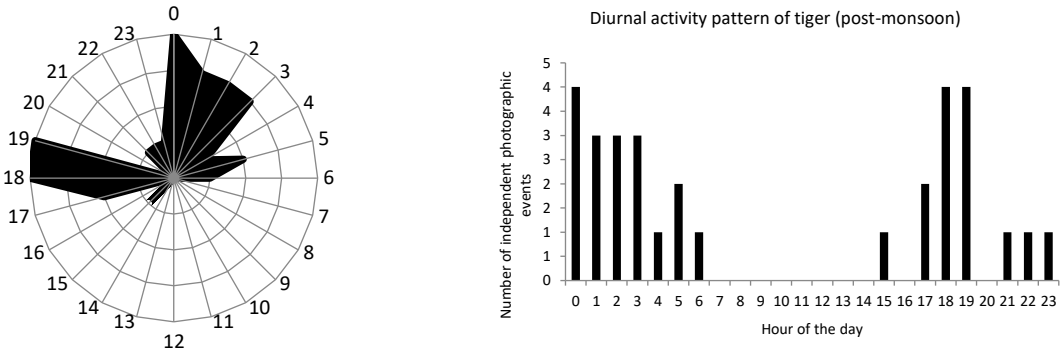

Figure 33: Tiger activity pattern during post-monsoon season

Figure 34: Photos of wildlife captured by the camera trap during the pre-monsoon season

Figure 35: Photos of wildlife captured by the camera trap in the post-monsoon season

More importantly, this small endeavour of fringe area monitoring helped us to infer that the spatial and temporal movement of tigers increases in post-monsoon season compared to pre-monsoon season. These seasonal shifts highlight the need for park management to anticipate heightened risks and proactively implement targeted measures to HTC in the post-monsoon period, particularly in vulnerable fringe zones. Such fringe area monitoring should be replicated and scaled up in other high human-carnivore conflict hotspots (e.g., in Chitwan and Bardia NPs) where a proactive measure can be undertaken to reduce HTC.

Individual tigers

Since camera trap survey was done with only one camera at each grid so only one side flank was used for individual tiger identification. Out of total 19 photos tiger with left flank, 12 individuals were identified in the fringe area.






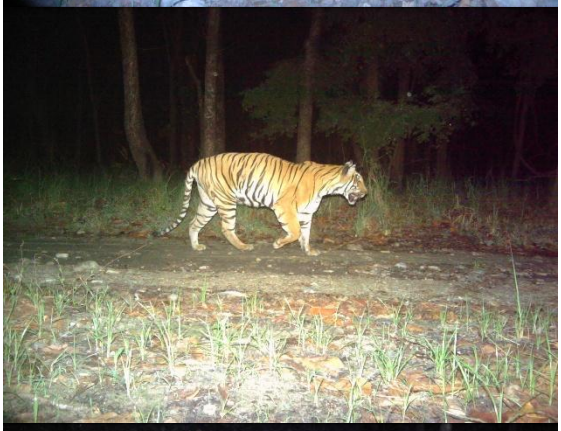

Figure 36: Photos of Individual tiger recorded in the fringe area

Objective 2: Reduce HTC and promote human tiger coexistence through mitigation and prevention strategy establishing and mobilising local citizen scientist (Bagh Mitra) and conservation technology

Output 2: Reduction in HTC incidents through increased awareness, use of conservation technology, effective mitigation measures and stakeholder coordination.

Activity 2.1: Training of Tutors (TOT) for fifteen local "Bagh Mitra" (citizen scientists)

Identification of Bagh Mitra

Prior to TOT, Bagh Mitra identification was one of the important activities. As agreed with the conservation authorities during the site level inception meetings, a total of six community level meetings were organized. Out of these six meetings, four were organized in the buffer zone of PNP and two were organized in the area of DFO Parsa. The sites for meeting were selected based on the past HTC incidents as well as covers the communities within the buffer zone of PNP in the south.

In the buffer zone of PNP, the first meeting was held at Panchamukhi Buffer Zone User Committee (BZUC), the second was held with the members of Kusumbatika BZUC and Nirmal BZUC, the third at Janahit BZUC, and the fourth at Sunakhari BZUC. In these meetings total 170 (119 male and 51 female) participants were present including chairman and executive committee members of respective BZUCs, representatives from Community Based AntiPoaching Units (CBAPU), homestay entrepreneurs, Officials from PNP, and staff of ZSL. Similarly, in community within DFO jurisdiction, the first meeting was held at Bhaata Basti and the second at Kataani village. Total 73 (58 male and

15 female) participants were present in the meetings including chairman of collaborative forests, executive committee members of local government, officials of DFO, and staff of ZSL.

The main aim of these meetings was to identify members of Bagh Mitra and their role in bridging gap between conservation authority and local community on delivering reliable information to promote human tiger coexistence in the locality. The meeting was facilitated by ZSL staff by delivering a brief presentation on overall project goals and objectives and criteria for identifying Bagh Mitra and awareness delivery mechanisms to reach wider audience. The criteria for Bagh Mitra included, past involvement in awareness activities, residents of the locality, and willingness to work as volunteer for tiger conservation. At the end of the meeting, 15 local youths (all male) were identified and formed as Bagh Mitra. Newly formed Bagh Mitra included 10 youths (2 persons from each BZUCs of PNP) and 5 youths from DFO Parsa area.

Figure 37: Meeting with Panchamukhi BZUC (top left), meeting with Sunakhari BZUC (top right), meeting with Janahit BZUC (middle left), joint meeting with Kusumbakita BZUC and Nirmal BZUC (middle right), meeting with Bhaata community (bottom left), and meeting with Kataani community (bottom right).

ToT for Bagh Mitra

A two-day training session and a one-day refresher training sessions to 15 identified Bagh Mitra were conducted. The first training was organised from 30-31 May 2025 at Subarnapur in the buffer zone of PNP (Figure 37) and the refresher training was organised on 27 December 2025 at Janahit BZUC (Figure 38). The training was formally inaugurated by Senior Conservation Officer of PNP, where he delivered the significance of the Bagh Mitra initiative in promoting HTCx. The first technical session covered the importance of wildlife including tiger in maintaining healthy ecosystem, wildlife conservation efforts of government of Nepal, role of PNP and local communities in wildlife conservation. The second and third technical sessions were focused on major problem causing wildlife and their behaviour, habitat type of wildlife and risk to nearby communities, situations when human and wildlife encounters, effective strategies to avoid wildlife attack, brief on wildlife rescue and handling process, access to wildlife information, process and necessary document for claiming wildlife damage relief fund, and Bagh Mitra communication standards. These sessions were delivered by conservation officer of PNP. In the fourth technical session, ZSL staff presented on wildlife monitoring techniques, dos and don'ts of Bagh Mitra, brief on the use of awareness delivery materials, code of conduct for delivering awareness session, and documentation of awareness session delivered, and Human-Wildlife Conflict (HWC) incidents. In the second day, the participants were taken to nearby forest to field exposure to know the wildlife presence signs and signals including pugmark, scratch, and scrap marks of carnivore signal call of deer, monkey, birds were distinguished. A refresher training to these Bagh Mitra will be conducted in the next reporting period.

Figure 38: Senior Conservation Officer of PNP delivering inaugural speech (top left), ZSL staff delivering technical session (top right), Bagh Mitra group photo after field demonstration (bottom left), group photo session at the end of the training (bottom right).

Figure 39: Conservation Officer of PNP delivering inaugural speech (top left), ZSL staff delivering technical session (top right), Bagh Mitra group photo during field visit (bottom left), group photo session at the end of the training (bottom right).

Activity 2.2: Engage "Bagh Mitra" (citizen scientists) in awareness delivery

Awareness delivery material

For an effective delivery of awareness, a handbook was prepared and printed and distributed to Bagh Mitra. The document has five chapters including the concept and origin of Bagh Mitra Initiatives (Chapter 1), the code of conduct for Bagh Mitra including dos and don'ts (Chapter 2), behaviour of four major species including tiger, leopard, elephant, and bear that may attack human and ways to avoid confrontation (Chapter 3), and things to consider while entering forest (Chapter four),and Calander and important days for wildlife conservation (Chapter 5).

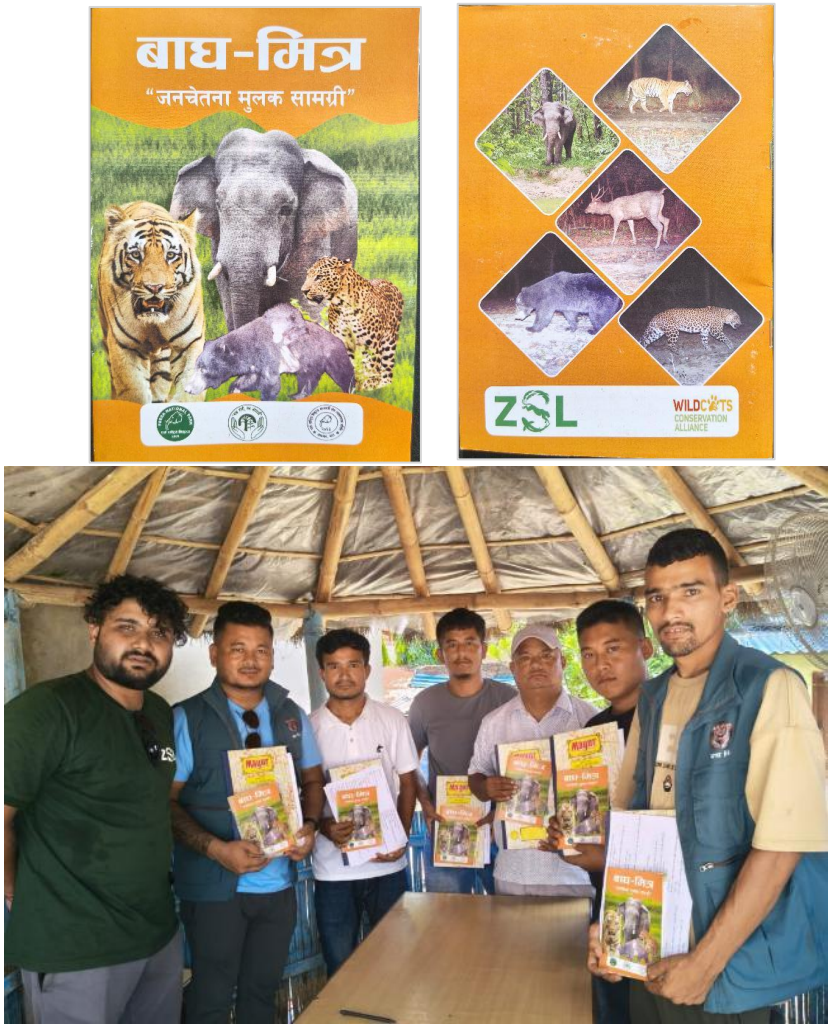

Figure 40: Bagh Mitra awareness handbook front cover (top left) and back cover (top right), handbook handover to Bagh Mitra (bottom)

Awareness delivery by Bagh Mitra

15 Bagh Mitra are actively involved in awareness delivery in their community through this project. Total 120 awareness events were conducted reaching 1,402 community members (764 male and 638 female). The awareness session focuses on HTC avoidance strategy which includes, information on behaviour of major conflict causing wildlife, wildlife signs to observe while in the forest, situation of human-wildlife encounter, signs wildlife shows before attacking, steps to avoid wildlife attack, and what to do if attacked by wildlife. An assessment of knowledge after the session delivery by the Bagh Mitra showed an increase of 80% as compared to pre-test.

Figure 41:Photos of Bagh Mitra awareness sessions.

By utilizing interactive methods such as role-playing and visual presentations, the project has successfully strengthened the community's capacity to coexist with wildlife while simultaneously promoting PNP as a premier destination for conservation-led tourism. The effectiveness of the Bagh

Mitra campaign was assessed through pre and post-test. The assessment showed that, there is more than 88% increase in the low knowledge category (Table 2).

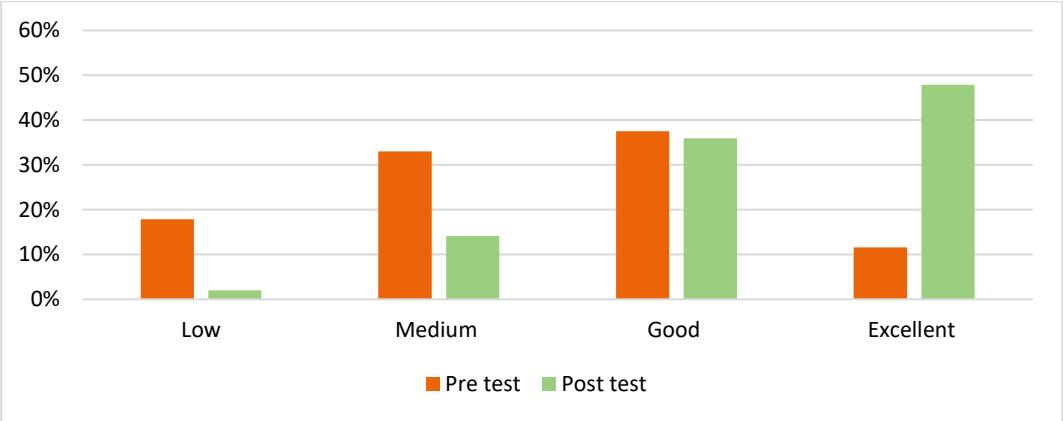

Figure 42: Result of pre and post-test assessment

Rapid action to prevent possible HTC

On 2 September 2025, real-time surveillance cameras were installed in the Gaadimai collaborative forest of DFO Parsa in the fringe for PNP. On 29 September 2025, one of the cameras sent image of a tigress with two cubs which was less than 900 metres away from the nearest settlement (Figure 43).

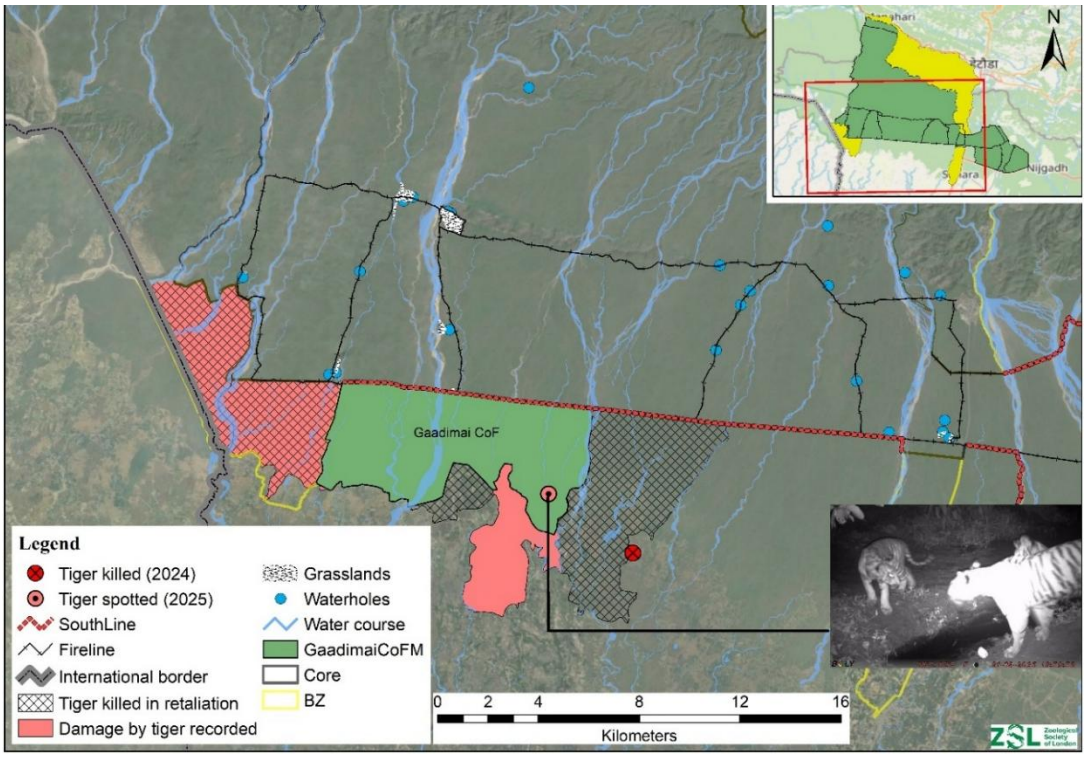

Figure 43: Map showing location of tiger sighting and other relevant information.

This was considered a risky situation considering the proximity of the settlement, tigress having cubs, and approaching Dashain festival (a big festal in Hindu religion). ZSL team performed vulnerability assessment through GIS and identified 14 high risk zones. Since the Dashain festival is near it is likely that the frequency and number of local people entering the forest will increase to

collect forest resources. The team organized informal meetings with PNP and DFO Parsa and shared the information with these officials and recommended to conduct rapid awareness campaign mobilizing the Bagh Mitra of the area. Total six Bagh Mitra of the areas were mobilized to conduct the awareness. These Bagh Mitra successfully conducted 14 awareness before Dashain festival, and no incident of HTC was recorded.

Activity 2.3: Establish coordination mechanism and coordination meetings

Communication standard (operation manual) for Bagh Mitra

A joint meeting-cum-workshop was organized by DFO Bara to prepare a communication/operating manual for these Bagh Mitra. Key participants included Senior Conservation Officer of PNP, officials of DFO Makawanpur, officials DFO Parsa, officials of DFO Bara, officials of DFO Rautahat, officer of ZSL, and officers of other conservation organization. The meeting formed a team under the chairmanship of conservation office of PNP with officer of ZSL and other conservation organization as members. ZSL took lead in establishing the communication standards for Bagh Mitra and initial draft.

On 3 February 2026, Bagh Mitra manual was officially endorsed by the DNPWC for Parsa National Park. The manual is a guiding document for Bagh Mitra awareness campaigns.

Figure 44: ZSL staff presenting brief of the project and working modality of Bagh Mitra (left), group photo of the participants (right)

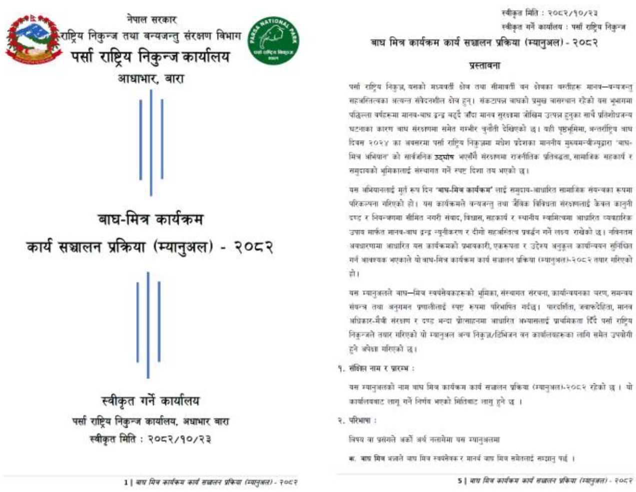

Figure 45: Front cover of approved Bagh Mitra Manual (left) and first preamble page of the manual (right)

Coordination meeting between Bagh Mitra and Conservation authorities

Three coordination meetings were convened with the aim to enhance coordination and communication between newly formed Bagh Mitra and conservation authority. First two coordination meetings were held at PNP headquarters while third coordination meeting was held at Janahit BZUC office. In the first meeting 29 participants, in second 44 participants, and in the third meeting 62 participants were present. In the meetings, Senior Conservation Officer of PNP, other officials of PNP, officials of DFO Parsa, Bagh Mitra, and staff of ZSL were present. The meetings were facilitated by officer of ZSL who presented overall progress of Bagh Mitra and shared the results of wildlife monitoring conducted through camera trap deployment in the fringe areas. In the discussion session, participants talked about the possible ways to avoid HTC in the area including early warnings, community awareness, and rapid response. Additionally, Bagh Mitra shared their experience of conducting awareness sessions such as it was not so easy in the first sessions now the flow is improved so much, people did not buy them initially now people are following their instruction on HTC avoidance strategy, etc. The meetings were concluded with a shared commitment to enhance coordination, regularly update conflict response manual, and support for active involvement of Bagh Mitra in the frontline in the community for HTC mitigation.

Figure 46: ZSL staff delivering presentation (top left), Bagh Mitra expressing their views during the discussion session (top right and bottom left), Senior Conservation Officer of PNP providing insights at the end of the meeting.

Figure 47: Photos of second coordination meeting

Figure 48: Photos of third coordination meeting

Key achievements of this project: (*Please give a bullet point list of key measurable outputs- for example xxx of staff trained in SMART monitoring techniques, xxx camera traps covering xxx km^2*)

- A total of 15 hectares of grassland successfully maintained twice in a year with systematic monitoring of effect of management interventions.
- Kalidaha lake was restored and reinforced with check dams.
- 20 camera traps were set up covering southern fringe areas of Parsa National Park and pre and post-monsoon movement pattern of tiger assessed. It was found that the fringe area is used by 12 different individual tigers.
- 15 Bagh Mitra volunteer identified and trained two times to deliver awareness on HTC avoidance.
- Bagh Mitra awareness handbook was published and shared with identified volunteers for awareness delivery.
- 120 community awareness sessions were conducted by the Bagh Mitra raising awareness of more than 1,402 (764 male and 638 female) HTC vulnerable community members.
- As a proactive measure, 14 rapid sensitization and awareness sessions were organised.
- Bagh Mitra operation manual for PNP and surrounding communities was endorsed by DNPWC.
- Three coordination meeting were conducted for sharing project progress with conservation authorities and communities.
- As part of stakeholder engagement, six types of stakeholders (PNP, DFO Makawanpur, DFO Parsa, DFO Bara, Five BZUCs, BZCFs, three CoFUG, and three local government) were actively engaged in the project activities.

Obstacles to success: Give details of any obstacles/challenges to success that the project has encountered. (*Any changes to the project that have affected the budget and timetable of project activities should have been discussed prior to the end of the project)*

The project has not encountered any significant obstacles during this reporting period, however, following were some challenges that the project teams faced.

- *The project necessitated the engagement of wide range of stakeholders, and it posed a considerable challenge in coordinating with stakeholders resulting in some delay in implementation. Frequent communication with key stakeholders helped to bring wide range of stakeholders together.*
- *Identified Bagh Mitra may migrate to other areas which result in selection of new individuals for the same role which will be time-consuming that may result in delayed delivery of awareness session. To mitigate this risk, additional youths were invited to participate in orientation sessions, creating a pool of backup volunteers for replacement.*
- *Loss and damage incurred to camera traps resulting in loss of valuable data and undermines the effort of implementation team. To minimize this risk, strategies included selecting secure sites, conducting regular monitoring of camera trap locations, and ensuring frequent data retrieval.*

Monitoring and Evaluation: (*Describe the methods used to monitor and evaluate the progress of the project)*

A central level monitoring by Deputy Director General (DDG) of DNPWC and Policy coordinator of ZSL was conducted to observe Kalidaha lake areas.

Shared learning: *(How will you share the outputs and learning from your project, in what format and with whom?)*

The learnings of this project were shared with DNPWC, PNP officials, and DFO Parsa officials through Presentation at various occasions.

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

a blog from the project "**What Happens When Tigers Come Back?**" https://conservewildcats.org/2025/07/28/bagh-mitra was published.

Have you provided at least 2 blogs? Y/N?

Yes.

Have you provided at least 15 high quality images with details of the relevant credit? Y/N?

Yes.

Section III. Appendix (Please populate this section with details from section II)	
Did you carry out camera trapping as part of this project? Y/N Yes.	
If yes: **Total camera trap nights/days:** 2,284 nights in total	**Total area surveyed:** Total 80 square kilometres along 30 kilometre stretch of southern fringe of PNP was survey.
Numbers of tiger/leopard/prey recorded 49 events of tiger images were captured	**Please include data on other species recorded** Tiger, leopard, sloth bear, Asian elephant, chital, barking deer, sambar deer
Are numbers of tigers/leopards/prey increasing or decreasing in your project area? Please show trends The surveyed area through this project covered only 20 grid cells and only one camera at each grid was installed for monitoring wildlife. So, the survey does not provide sufficient data to claim number of wildlife in the project area. However, there were only 4 tigers in 2009 which was increased to 41 in 2022.	
Did you carry out other surveys? Y/N Yes.	
If yes: Vegetation survey was carried out in the managed grassland to document effect of grassland management.	

Did you carry out patrolling as part of this project? Y/N No.	
If yes: **Total distance patrolled:** **(Please give figures for different methods, vehicle/foot/boat etc)**	**Total area patrolled:**
Do you use Patrol Monitoring software such as SMART? Y/N No.	
If yes: **Total distance patrolled using patrol monitoring software?**	**How do you collect data? Handheld devices/paper/other? Please give details?**
Please provide comparison data on from your patrolling over time	
Please provide data on violations recorded/arrests/successful prosecutions	
Does your project work with local communities? Y/N Yes.	

If yes: (please be as specific as possible and include gender split) **Who?** Youths of Buffer Zone User Committee and youths of Collaborative forests.	**What did you do? Was it successful?** The project identified 15 Bagh Mitra volunteer from the specified communities. Identified Bagh Mitras were provided with ToT to deliver HTC avoidance strategy awareness session to their communities. Additionally, a Bagh Mitra operation manual and awareness delivery material was also published to standardise awareness and information flow. These Bagh Mitra has delivered 120 awareness events and successfully increased awareness of more than 80% of low category participants.	**How many people did you reach?** 15 members of (10 from buffer zone user committee and 5 from Collaborative Forest)
How do you measure the success of this activity? Success of awareness events were assessed through knowledge assessment tool developed by ZSL.		
Did you carry out educational activities with adults or children? Y/N Yes.		
If yes: (please be as specific as possible and include gender and numbers) **Who?**	**What did you do?**	**How many people reached?**

120 awareness events (83 in Buffer zone of Parsa NP and 37 in Collaborative Forest) were conducted.	Bagh Mitra delivered awareness sessions in two modes viz, formal sessions among school children, BZUC members, CFUG members, and informal sessions among people who are entering into the forest, local tea stall, and nearby village gathering spots.	Total 1402 people were reached (764 male and 638 female).
Have you seen behaviour change from these activities? (Please give details of your results and of how this is measured) Behaviour change in terms of increase in knowledge was observed.		
Did you carry out training activities for any staff/community member on the project? Y/N Yes.		
If yes: (please be as specific as possible and include gender split) **Who?** Local youths University students	**What did you do? Was it effective?** Volunteer youths were identified and two sessions of TOT were delivered. The sessions were successfully conducted and found fruitful for the participants. University students were involved in vegetation survey, camera trap survey, data entry and cleaning	**How many staff trained? How many others trained?** 15 local youths (all male) living around PNP. 2 university students.
How do you measure the effectiveness of this training?		

The effectiveness of training of the local youths was measured through the number of awareness they delivered and review and sharing of effectiveness of Bagh Mitra campaign during trimester coordination and review meetings.

The effectiveness of the training delivered to university students was measured through the data collected from the survey and data entry sheets.

Did you carry out conflict mitigation activities with community members?

Yes.

If yes: **Who?**	**What?**	**How many people did this include?**
Local youths, school students, CF users, Collaborative Forest Users.	As an indirect approach to conflict mitigation, our trained Bagh Mitra conducted awareness sessions at schools, community buildings, forest entry points, tea stalls, etc. where conflict mitigation strategies were shared with these people.	This included 1402 members of HTC vulnerable community members.

Have you seen behaviour change from these activities? (Please give details of your results and how this is measured)

The change in behaviour was not measured during the project period, however the increase in overall understanding of the human-tiger conflict was increased among the participants. The change was measured by conducting pre and post training assessment of knowledge.

Were any scientific papers/articles published because of your project? Y/N

No.

If so, please give details or provide copies.