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: Strengthening community involvement in anti-poaching efforts to protect tigers and leopards in Northeast China
Grantee Organisation: Wildlife Conservation Society (WCS)
Location of project: Hunchun Nature Reserve (HNR) and adjacent lands within Northeast China Tiger and Leopard National Park (NCTLNP), Hunchun County, Jilin Province, China, at approximately 42.41972 N, 129.86416 E.

Size of project area (if appropriate): About 5,000 square kilometres	**No of tigers and / or Amur leopards in project area, giving evidence & source:** Hunchun Nature Reserve: 45 Amur tigers and 30 leopards, based on our camera trap analysis of 2023. Dahuanggou: 9 Amur tigers and 4 leopards, based on our camera trap analysis of 2023.

Partners: *(Please give details of partners, including communities, academic institutions etc. for this project.)* The NCTLNP administration is our primary partner, especially the Hunchun Municipal Bureau Branch (also called the Hunchun Municipal Forestry Bureau, HMFB). We've been working on monitoring projects with them since before they became park branches, and are a trusted partner. For this project, we cooperated with them to carry out community patrol work and community education activities.
Project Contact Name: (*main contact via email*) Aimin Wang, Jonathan Slaght, Scott Waller
Email: awang@wcs.org; jslaght@wcs.org; swaller@wcs.org
Reporting period: April 1, 2023 - January 31, 2024

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.

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

Our overall vision is to safeguard the global population of Amur leopards and recover a viable population of tigers in northeast China. Encouraging the participation of local communities in the conservation of these cats is a critical part of this vision, as these are the people whose acceptance or intolerance can determine whether these species persist or are extirpated. Through this grant and support from other donors, we continued to support community patrol teams in seven villages as a demonstration to the administrative staff of the national park the potential value of integrating villages into conservation efforts in and around the national park, with the hope that we can expand this effort with more park support. The goal of this approach is to strengthen habitat protection by encouraging community villagers to participate in conservation activities like removing snares and by enhancing their awareness of the importance of conservation. In turn, these community rangers are able to lead further education efforts for their communities on the importance of tiger and leopard conservation.

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

We continued work with our team of collaborators to engage seven local communities within NCTLNP in the conservation of Amur tigers and leopards. Over the past year, we further strengthened and improved community patrol work, clearing 173 snares from the collective forest around the village. This work helps provide a safer and healthier environment for tigers, leopards, and their prey, as well as for the people living in surrounding communities. At the same time, through our public education campaigns, community residents acquired knowledge about the need to protect wildlife, as well as how to reduce chances of conflict with big cats and other wildlife. More broadly, the community patrol teams we established and supported served as a model for broader community-based conservation efforts throughout NCTLNP and the rest of the Amur tiger and leopard range in China. These teams have already been a great success, and already the program is growing to more communities within NCTLNP.

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

With the support of the WildCats Conservation Alliance and other donors, WCS China, in cooperation with the Hunchun Municipal Forestry Bureau (HMFB), coordinated community patrol teams across seven villages to carry out 255 daily patrols in 2023, covering a total distance of 1,373 km across prime Amur tiger and leopard habitat in the Northeast China Tiger and Leopard National Park. During these patrols, patrol teams removed a total of 173 snares placed by poachers, which remain a key threat in the region to the recovery of tigers, leopards, and their prey. We also conducted five public education campaigns, engaging about 200 members of local communities on topics such as the importance of coexistence with tigers and leopards and how to deal with human-tiger conflicts. In addition, at the beginning and the end of the project, we conducted a community

survey in Hunchun to understand what changes have occurred in the community's awareness of conflict prevention. We found conservation awareness in villages with patrol teams is higher than those without community patrol teams, suggesting that our community-based project has played a role in promoting the conservation awareness and support for conservation within communities where it has been deployed.

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*)

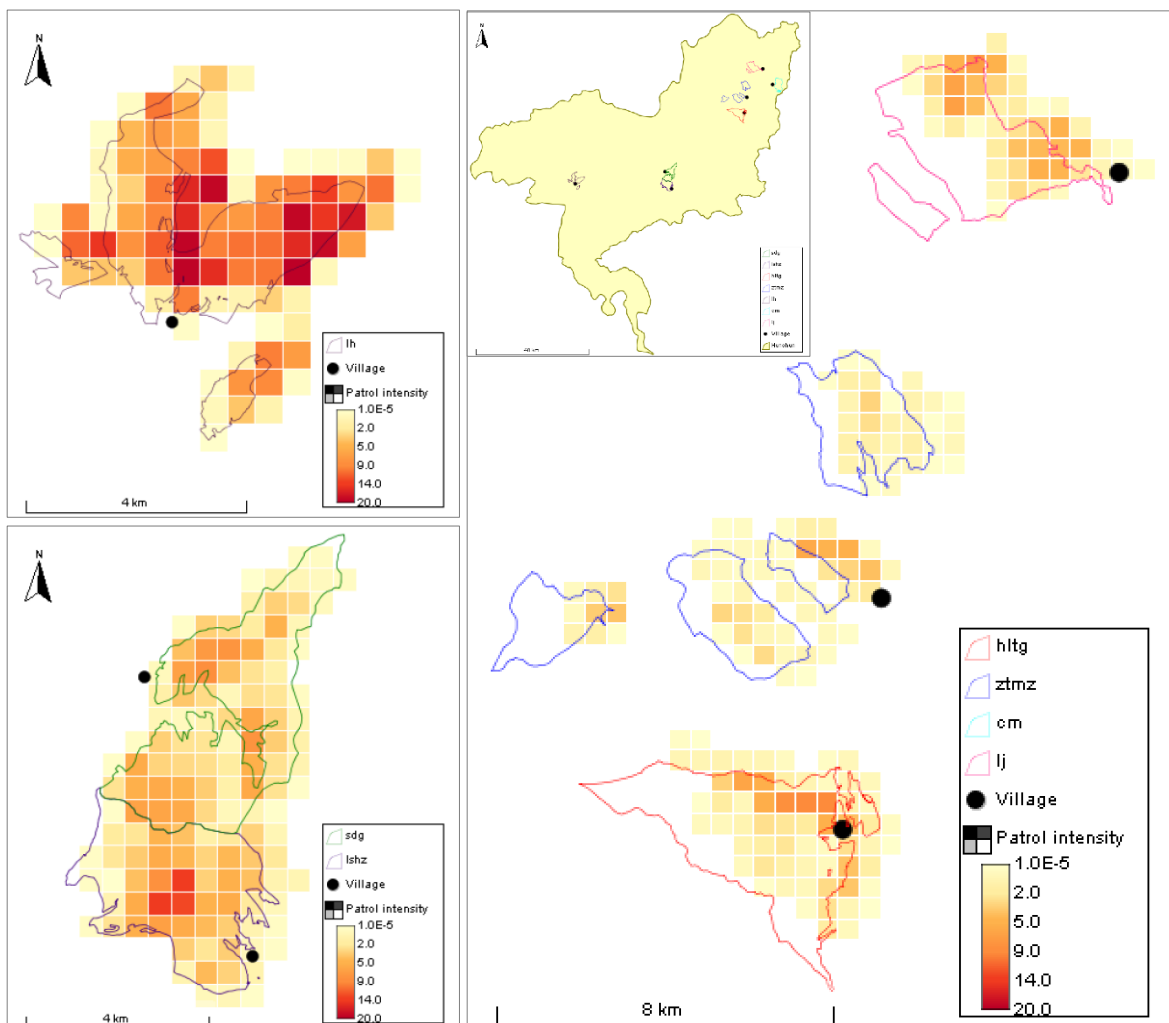Objective 1: Promote Community Participation in Wildlife Conservation

Activity 1.1 Organize patrol teams to carry out daily patrol work.
In 2023, together with HMFB, we cooperated with HMFB to support five communities (Lihua, Zhongtumenzi, Lanjia, Hulutougou, and Shangcaomao villages) in Hunchun to continue their community carry out daily patrols (**Figure 1**). We had agreed for HMFB to provide financial support to four of these villages, but unfortunately there were delays in these funds being provided, leading to three of these villages having a delayed start, and one village (Shangcaomao) just starting their community patrol teams now. Even still, during the reporting period, four of these five patrol teams conducted a total of 185 patrols, covering a total of 978 km, averaging 5.29 km per patrol, with 578 total hours spent patrolling (**Figure 2, Table 1**). During their patrols, the community teams removed a total of 79 large snares from the forest (**Figure 3**). The highest density of snares was 0.117/km in Lihua. 97.2% of snares found were old (We distinguish between old and new snares based on the marks on the tree – the marks of an old snare in the tree are deep). Thanks to the community patrol team in Lihua, there are now almost no poachers who set new snares. Community rangers also recorded many wildlife signs (tracks and scat) and direct sightings during their patrols. Roe deer were recorded the most (164 times), followed by wild boar (30 times), badgers (10 times), Amur leopards (2 times), black bear (2 times).

Beyond these five teams, we cooperated with HMFB in July 2023 to establish two additional new community patrol teams in Sandaogou and Liushuhezi villages, with funding matched by other sources (bringing the total number of communities to seven). From September to December 2023, these two community patrol teams conducted 70 patrols, covering a total of 395 km, averaging 5.64 km per patrol, and spent 231 hours patrolling (**Figure 2, Table 1**). During their patrols, the community teams removed a total of 94 large snares from the forest. The density of snares was higher than in the villages above: 0.275/km in Sandaogou and 0.2/km in Liushuhezi, with 89.36% being old snares. Community rangers also recorded many wildlife signs (tracks and scat) and direct sightings during their patrols. Roe deer were recorded the most (68 times), followed by wild boar (50 times), sika deer (31 times), badgers (9 times), Amur leopards (3 times), and Amur tigers (2 times).

Figure 1. Photos taken during community patrols. (Left: community members record data while on patrol; middle: a new snare is removed from a tree; right: two live roe deer is captured by a patrol member's mobile phone.)
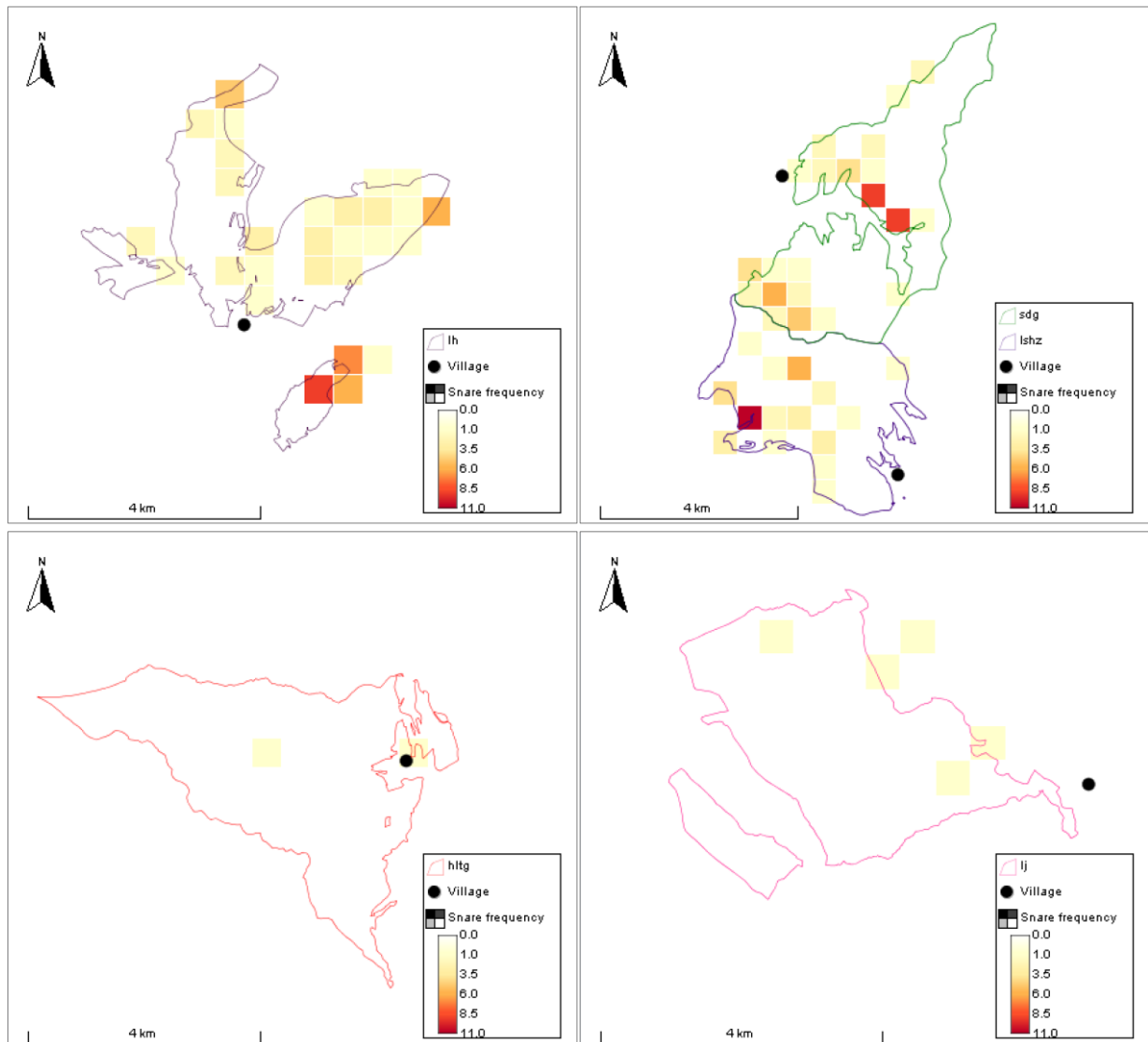

Figure 2. Patrol intensity in each community (patrol distance per grid, grid size is 500m). Shangcaomao village did not conduct patrols during the most recent reporting period because of funding delays from our partner, Hunchun Municipal Forestry Bureau, so this village is not shown in the close-up maps here.

Table 1. Summary statistics for each community patrol team, June – December 2023.

Patrol team	Number of Patrols	Distance (km)	Hours	Animal obs.	Snares removed
Lihua	113	614	346	126	72
Zhongtumenzi	24	112	75	28	0
Lanjia	24	124	78	11	5
Hulutougou	24	128	79	43	2
Shangcaomao[1]	0	0	0	0	0
Sandaogou	34	200	109	93	55
Liushuhezi	36	195	122	70	39
Total	**255**	**1373**	**809**	**322**	**173**

[1]No data due to delays in funding from the national park.

Figure 3. Total number of snares removed by community patrol teams. Please note that because Shangcaomao village did not conduct patrols due to funding delays with HMFB, and because Zhongtumenzi did not remove any snares, they are not included in the figure.

To assess the patrol work of the community teams, in October and December 2023, WCS and HMFB conducted two patrol inspections by counting the number of snares encountered along four transects near Lihua. The Lihua community patrol team demonstrated their mastery of the use of GPS, the recording of patrol forms, the identification of wildlife footprint and complete the relevant patrol work as required. A total of 10 large old snares were removed during the joint inspection. After the joint patrol inspections, we held a small review meeting with the village committee, summarized the patrol results and evaluation results (**Figure 4**). We invited the village committee, the rangers and the representatives of the villagers to participate in the review meeting, so that more people could know about the patrol and protection work, especially the villagers who could not directly participate in the protection work.

In November 2023, WCS and HMFB also conducted a mid-term inspection of the patrols in Sandaogou and Liushuhezi, during which we found and corrected the problems with GPS use and form recording.

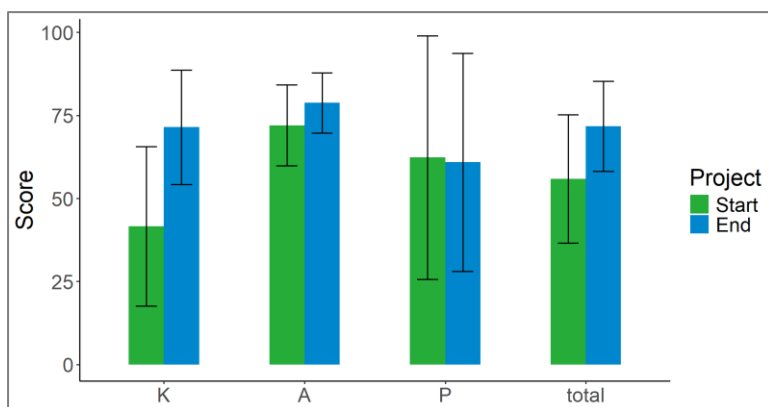**Figure 4.** WCS and HMFB carried out patrol work inspection and small summing-up meeting in Lihua Village.

In the early and middle of May 2023, WCS and HMFB of NCTLNP conducted a "Knowledge, Attitudes, and Practice (KAP)" survey in 28 administrative villages in Hunchun (**Figure 5**). Among them, three villages had community patrol teams, accounting for 10.71% of the total villages surveyed. The purpose of the survey was to understand the level of community awareness of conservation work within NCTLNP. Here, "conservation work" means all activities done by NCTLNP or partners (such as WCS) to improve/restore the natural conditions of the park, including efforts to improve Amur tiger and leopard survival and reproduction through snare and law enforcement patrols, habitat restoration, and livestock grazing policies. We designed three kinds of questions to understand local people's knowledge about conservation work (Knowledge), their attitude towards conservation work (Attitude) and the degree to which they participate in conservation work (Practice). We assigned scores to each answer, with the higher the score, the stronger the tendency towards conservation (more knowledge of conservation, better attitudes towards conservation, and more participation in conservation work). These three scores are then summarized into a single KAP index of the community's relationship with conservation efforts.

Among the 322 respondents, attitudes scored highest, followed by knowledge and finally practice. Total KAP scores ranged from excellent and good (accounting for 24%), moderate (23%), and poor (53%). Preliminary statistics also found that people from villages with a community patrol team scored higher than those from villages without a community patrol team (total KAP score of 67.35 ± 19.54 versus 55.20 ± 16.12).

Figure 5. WCS cooperated with HMFB to carry out the community survey on Knowledge Attitude Practice

To assess the impact of the project, we conducted the KAP survey again in December 2023 for five of the seven community villages: Lihua, Lanjia, Zhongtumenzi, Sandaogou and Liushuhezi: two were not included because of funding delays with our partner HMFB (please see "obstacles to success", below). We used the Shapiro-Wilk test and found that the four KAP metrics (knowledge, attitude, practice, and the total) were not normally distributed. Therefore, we used the Wilcoxon signed-rank test to determine the difference between two-level groups, and the Kruskal-Wallis test (followed by the Dunn's test) for groups with more than two levels. We considered 0.05 as the significance threshold. Lihua, Lanjia, and Zhongtumenzi are villages that already had community patrol teams before our project began. There was no significant change in the scores from the beginning to the end of our project ($p_{knowledge}$ = 0.869, $p_{attitude}$ = 0.602, $p_{practice}$ = 0.942, p_{total} = 0.937), or between the three villages ($p_{knowledge}$ = 0.611, $p_{attitude}$ = 0.268, $p_{practice}$ = 0.136, p_{total} = 0.675). The two new community patrol teams in Sandaogou and Liushuhezi were established after the start of our project (in June 2023). There was a significant increase in all the metrics except for practice between the beginning and end of our project (Figure 5, $p_{knowledge}$ < 0.001, $p_{attitude}$ = 0.044, $p_{practice}$ = 0.887, p_{total} = 0.004) (Figure 6).

Figure 6. Comparison of the KAP (knowledge, attitude, practice) metrics between the beginning and end of project in villages with newly formed community patrol teams. Error bars represent mean ± standard error.

Activity 1.2. Conduct public education campaigns.

On July 27, 2023, WCS and HMFB jointly held a publicity event in the village of Paoziyan, in Hunchun County. This village was recommended to us by HMFB because of an increase in human-wildlife conflicts there last year. The theme of our outreach effort was protection of individuals' safety and livelihoods. About 40 people participated in the activity.

During the event, Mr. Aimin Wang, director of the WCS China program, interacted with and listened to the community residents. He encouraged them to participate in wildlife protection and emphasized the hope to solve the problems residents have with wildlife and/or conservation initiatives in NCTLNP through community projects, even if they are only small to start. Then a staff member of HMFB gave a wonderful lesson on the importance of wildlife conservation. He introduced the basic situation of NCTLNP, helping the villagers more clearly understand the importance of their home village for broader conservation efforts such as the recovery of Amur tigers and leopards in Northeast China. He then summarized the working model and effectiveness of the community anti-poaching program before providing key information on human-tiger conflict prevention. The activity ended with an interactive Q&A, and the staff handed out souvenirs and took photos for the villagers present.

In November and December 2023, WCS and HMFB jointly carried out four additional community publicity and education activities in Yangpao and Jingxin Townships (two of which were supported by matching funds for this project). Again, these communities were recommended by HMFB because of reports of an increasing number of human-wildlife conflicts there, and therefore a more urgent need to engage the community in education efforts. Activities included speaking events, video presentations, and handing out brochures (**Figure 7**). We also invited the community rangers to share their patrol and conservation experiences. These rangers explained how it is very meaningful to protect wild animals and the integrity of the forests surrounding their homes. The shared how every time they remove a snare, they feel relieved and a sense of pride in fulfilling their mission as community rangers. In order to evaluate the educational impact of this work with villagers, we conducted a questionnaire survey on the effects of our promotional content before and after the activities of the day. We collected 80 and 97 questionnaires from four villages, respectively, and results clearly show that villagers had a better understanding of and support for conservation after our efforts (**Table 2**).

Figure 7. In community publicity and education activities, community ranger shared their patrol and conservation experiences and villagers filled in questionnaires of promotional content.

Table 2. Comparison of questionnaire scores ($\bar{X}\pm S$; total score 10 points).

Village	Dongala	Yangmulin	Erdaopao	Jintang
Before publicity	4.52±2.18	4.91±1.33	5.21±1.81	5.62±2.47
After publicity	6.66±1.26	6.32±1.49	6.69±1.60	7.71±1.59

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 km²*)

- 7 Community patrol teams supported in prime Amur tiger and leopard habitat across Northeast China Tiger and Leopard National Park;
- 255 daily patrols covering 1,373 km carried about by community patrol teams;
- 173 large snares removed from forests patrolled by these teams;
- Significant increases in community members' support for conservation (as evidenced through KAP surveys) in villages with community patrol teams;
- 5 community education campaigns conducted throughout the park, reaching 200 people.

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*)

Our original plan was to work with HMFB to continue patrolling in five communities (Lihua, Zhongtumenzi, Lanjia, Hulutougou, and Shangcaomao): we would support daily patrols in one village (Lihua), while the other four would be supported by matching funds from HMFB. Unfortunately, during the reporting period, those four communities to be supported by HMFB were delayed in their patrol activities due to late funding availability from HMFB. Accordingly, the number of patrols was

much lower in three of these villages, and the other village did not begin patrols until after the end of this reporting period. Inspections of the patrol work of these four villages have therefore been postponed. At the beginning of 2024, we communicated with HMFB and confirmed that the patrol workload and patrol inspections that have not been completed as planned will be completed in 2024.

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

Objective	Indicator	Monitoring Method	Completion Status	Additional planned work: early 2024	Plans for the year: 2024
Objective 1: Promote community participation in wildlife conservation	1) 540 patrols 2) 2 patrol inspections with 20 lines 3) 3 public education campaigns 4) Data analysis and summary	1) Conduct community patrol activities and publicity educations; 2) Community work inspection and acceptance.	1) 185 patrols 2) 2 patrol inspections with 4 lines 1 village) 3) 3 public education campaigns 4) Data analysis and summary	1) 70 patrols 2) 1 patrol inspection with 4 lines(2 villages) 3) 2 public education campaigns 4) Data analysis and summary	1) 336 patrols 2) 2 patrol inspections with 16 lines 3) 3 public education campaigns 4) Data analysis and summary

After resolving the issues of delayed funding, at the beginning of 2024, HMFB re-signed their patrol agreements with the four villages (Zhongtumenzi, Lanjia, Hulutougou, Shangcaomao) and will complete the patrol work as planned, according to our indicators above ("additional planned work: early 2024").

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

We will share the project results with HMFB, village committees, and community rangers in the form of written reports, and discuss the existing problems with the HMFB to summarize the experience and apply it to future community projects.

Budget Narrative:

Spending mostly followed our planned budget. However, some joint community patrolling activities were not carried out as planned because Northeast China Tiger Leopard National Park did not have sufficient patrolling funds during the project period. Instead, we carried out substitute activities. Therefore the field and local travel expenses were underspent

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)*

None

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

Y (See the attachments)

Have you provided at least 10 high quality images with details of the relevant credit? Y/N?

Y (See the attachments)

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 N	
If yes: **Total camera trap nights/days:**	**Total area surveyed:**
Numbers of tiger/leopard/prey recorded	**Please include data on other species recorded**
Are numbers of tigers/leopards/prey increasing or decreasing in your project area? Please show trends	
Did you carry out other surveys? Y/N N	
If yes: **Please give details**	
Did you carry out patrolling as part of this project? Y/N Y	

If yes: **Total distance patrolled:** foot, 1373 km **(please give figures for different methods, vehicle/foot/boat etc)**	**Total area patrolled:** About 7,300 hectares
Do you use Patrol Monitoring software such as SMART? Y/N Y	
If yes: **Total distance patrolled using patrol monitoring software?** 1373 km	**How do you collect data? Handheld devices/paper/other? Please give details?** We patrol with GPS and fill out the patrol record form(paper) to record the observation information.
Please provide comparison data on from your patrolling over time 2021, 1 village, 170 patrols with total distance of 882km. 2022, 5 villages, 615 patrols with total distance of 3321km. 2023, 6 villages, 255 patrols with total distance of 1373km.	
Please provide data on violations recorded/arrests/successful prosecutions Removed 173 snares placed by poachers.	

Does your project work with local communities? Y/N		
Y		

If yes: (please be as specific as possible and include gender split) **Who?** community rangers(male) community villagers	**What did you do? Was it successful?** We worked with HMFB to coordinate community patrol teams to carry out patrol work, and conduct public education campaigns.It was successful.	**How many people did you reach?** About 200 people

How do you measure the success of this activity? The number of patrols, the total distance of patrols, the number of cleaning snares,the number of education campaigns, the number of people receiving education, and questionnaire survey on the effects of our promotional content before and after the activities.		

Did you carry out educational activities with adults or children? Y/N		
Y		

If yes: (please be as specific as possible and include gender and numbers) **Who?** The community villagers	**What did you do?**	**How many people reached?** About 200 people

	We worked with HMFB to conduct public education campaigns, including speaking events, video presentations, and handing out brochures.	
Have you seen behaviour change from these activities? (Please give details of your results and of how this is measured) We conducted a questionnaire survey on the effects of our promotional content before and after the activities of the day. We collected 80 and 97 questionnaires from four villages, respectively, and results clearly show that villagers had a better understanding of and support for conservation after our efforts.		
Did you carry out training activities for any staff/community member on the project? Y/N N		
If yes: (please be as specific as possible and include gender split) **Who?**	**What did you do? Was it effective?**	**How many staff trained? How many others trained?**
How do you measure the effectiveness of this training?		
Did you carry out conflict mitigation activities with community members? N		
If yes:		

Who?	What?	How main people did this include?

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

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

If so, please give details or provide copies.