Darwin Initiative Main & Extra Annual Report

To be completed with reference to the "Project Reporting Information Note":
(https://www.darwininitiative.org.uk/resources/information-notes/)

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes)

Submission Deadline: 30th April 2025

Submit to: BCF-Reports@niras.com including your project ref in the subject line

Darwin Initiative Project Information

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Scheme (Main or Extra)	Darwin Main
Project reference	31-003
Project title	Securing critically endangered wildlife and human livelihoods in south-eastern Sénégal
Country/ies	Sénégal
Lead Organisation	Zoological Society of London
Project partner(s)	Direction des Parc Nationaux, Panthera, Am Bé Koun Solidarité, Antelope Conservation, IUCN/SSC Primate Specialist Group Section on Great Apes
Darwin Initiative grant value	£599,871
Start/end dates of project	1 Jul 2024 – 30 Jun 2027
Reporting period (e.g. Apr 2024 – Mar 2025) and number (e.g. Annual Report 1, 2, 3)	Jul 2024-Mar 2025 Annual Report 1
Project Leader name	Rosie Woodroffe
Project website/blog/social media	https://www.linkedin.com/company/projet-lycaon?trk=public_post_feed-actor-name
Report author(s) and date	Rosie Woodroffe 30 Apr 2025

1. Project summary

West Africa's last African wild dogs and giant eland, as well as critical populations of lions and chimpanzees, faced extinction when Sénégal's Niokolo-Koba National Park (Parc National du Niokolo Koba; PNNK) was devastated by poaching, illegal grazing, and gold mining. People outside the park, some of whom had been displaced decades ago when the park was expanded, saw few or no benefits from the park's presence, and there was little engagement between communities and park authorities. Understandably UNESCO, which had designated the park as a World Heritage Site in 1981, in 2007 placed it on the list of World Heritage in Danger.

Sénégal's rural south east, where Niokolo-Koba is located, is among the most deprived areas of the country, remote from the capital in Dakar, and with limited access to sanitation, healthcare, and veterinary care. People illegally hunt and graze livestock inside PNNK, livestock predation by wild carnivores is a source of human-wildlife conflict, and uncontrolled rabies threatens people, wildlife, and domestic animals. Gold deposits inside and to the east of PNNK provide a hope of wealth, but a reality of poison, pollution, and environmental devastation [1].

Despite these challenges, south-eastern Senegal has great potential for biodiversity conservation. PNNK itself is large (9,130km^2), and neighbouring areas support low human densities, with some already defined as community reserves (Figure 1). Moreover, protected areas in south-eastern

Senegal have the potential to connect to others in neighbouring Guinea and Guinea Bissau (Figure 1). Hence, if wildlife can be recovered within PNNK, there are opportunities for wider transboundary conservation, potentially via transfrontier conservation initiatives as envisioned by the European Union [2].
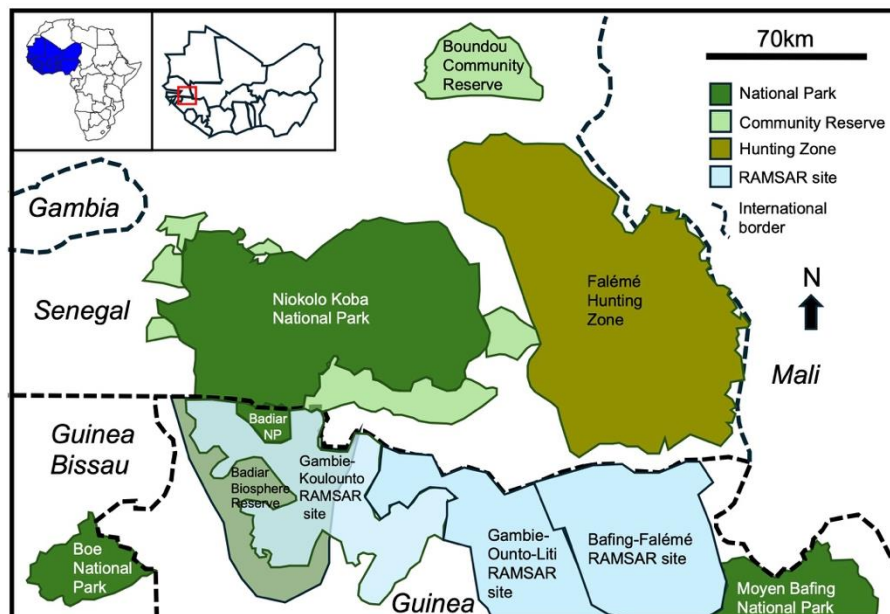
Figure 1 *Map of the project area and surrounding lands, including protected areas.*

This project aims to simultaneously help recover Niokolo-Koba, and improve the wellbeing of local people, through initiatives intended to provide alternatives to poaching and illegal grazing, to control rabies, and to combat snaring. Additionally, surveys of lands outside PNNK are seeking additional populations of key species facing imminent local extinction.

2.   Project stakeholders/ partners

This project represents a close collaboration between carefully chosen partners.

For several years before the start of this project, international NGO Panthera was working with DPN (the *Direction des Parcs Nationaux*, Senegal's national parks authority) to support the rehabilitation of the *Parc National du Niokolo-Koba* (PNNK; Niokolo-Koba National Park), motivated by the presence of one of the last lion populations in West Africa [3]. This collaboration entailed support for antipoaching patrols, restoration of park infrastructure, and ecological (primarily big cat) monitoring. ZSL became involved through its expertise in the conservation of African wild dogs [e.g., 4], and developed a three-way MoU with DPN and Panthera, focused initially on wild dog status assessment.

ZSL recognised that, while DPN/Panthera monitoring was detecting substantial illegal use of PNNK by neighbouring communities, their only response to this threat was law enforcement. Indeed, although DPN agents recognised their duty to arrest those found illegally inside the park, they were reluctant to do so to avoid exacerbating tensions between DPN and local communities, dating back to the relocation of 18 villages when the park was extended in 1969 [5]. With a long history of working with local communities, ZSL recognised the value of balancing law enforcement inside PNNK with livelihood support on neighbouring land. It therefore drew in a local community development NGO, Am Bé Koun Solidarité, to build upon its preliminary work with communities around PNNK [6]. At the same time, it established a collaboration with Czech NGO Antelope Conservation, to draw on its expertise both with evaluating impacts on ungulates [especially the Western giant eland, e.g., 7], and with environmental education [e.g., 8]. It also initiated a collaboration with the IUCN Primate Specialist group, Section on Great Apes, to help with evaluating impacts on chimpanzees.

Through the first nine months of this project, these collaborations have grown and developed. As well as working together to deliver the project outputs, the collaborating partners have exchanged knowledge through both formal and informal activities. For example, in developing the baseline questionnaire is became clear that Senegal-based staff from ZSL and Am Bé Koun would benefit from some training in social science methodologies, and so Marketa Grunova from Antelope Conservation led a training workshop to meet this need. Likewise, ZSL's Rosie Woodroffe helped to share knowledge about large carnivore conservation both through informal coaching within PNNK and through a workshop on managing disease risks at DPN headquarters in Dakar. Recognising the value of close collaboration, DPN has seconded one staff member from its

Bureau de Suivi d'Ecologie (office of ecological monitoring) to ZSL, and another to Panthera, as well as providing ZSL with a point person at its headquarters in Dakar.

3. Project progress

3.1 Progress in carrying out project Activities

1.1 Establish Project Board with quarterly meetings including GESI, safeguarding, and risk register as standing items

> The Project Board was established and commenced its quarterly meetings as planned.

1.2 De-snaring teams operate across Niokolo-Koba, patrolling approximately 10 days per month throughout the project period

> As explained in our change request (CR24-114), there was a delay to the recruitment of the desnaring teams, caused by changes in DPN leadership, ultimately triggered by the 2024 presidential election. These teams were ultimately recruited right at the end of the reporting period, and were undergoing training. Hence, desnaring patrols were not yet in place at the end of the reporting period.

1.3 Provide training (or refresher training) to ensure rangers document encounters, including those with people, livestock, and domestic dogs inside Niokolo-Koba National Park

> Ranger training was underway at the end of the reporting period

1.4 Develop, agree, and implement response plan to detection of snares and snared wildlife

> The outline of the response plan to snares and snared animals was agreed at a workshop in Dakar at the end of the reporting period, and is being written up at the time of writing.

1.5 Develop, agree, and implement response plan to detection of domestic dogs inside Niokolo-Koba National Park

> The outline of the response plan to the detection of domestic dogs inside Niokolo-Koba National Park was agreed at a workshop in Dakar at the end of the reporting period, and is being written up at the time of writing.

1.6 Implement biennial park-wide camera traps surveys across Niokolo-Koba National Park

> Fieldwork for the 2024 park-wide camera trap survey was completed shortly before the project start date on 1 July 2024, and analysis continues. The next parkwide survey is scheduled for early 2026. Fieldwork for the 2025 density survey (targeting several of this project's priority species) was almost complete at the end of the reporting period.

1.7 Process camera trap data to automatically identify (Evans, 2023) and anonymise (Fennell, 2021) images of people

> Images of people were automatically identified and anonymised as planned.

1.8 Analyse anonymised park-wide camera trap data to estimate occupancy of key wildlife, poachers, illegal graziers, and domestic dogs, and incidence of snare-related injuries

> Occupancy analyses of the anonymised camera trap data from 2024 were in progress at the end of the reporting period.

2.1 Household surveys to quantify multiple dimensions of wellbeing, attitudes to wildlife, and (anonymously) illegal use of resources inside Niokolo-Koba National Park

> As planned, the household survey questionnaire was designed and deployed in 28 villages within the three target areas adjoining the park.

2.2 Review, update, and expand existing agreements between local communities and DPN in Linkering, Dialacoto, and Tomboronkoto

> During the review period, local communities were involved in a process of reviewing the park management plan for Niokolo Koba, which provides a framework for collaboration

between DPN and local communities all around the park, including the three targeted communities.

2.3   Establish three pilot livestock waterpoints outside Niokolo-Koba National Park

This activity was scheduled for Y2 of the project and, as planned, has not yet been started.

2.4   Monitor waterpoints inside and outside Niokolo-Koba National Park to evaluate impact of artificial waterpoints on park use

This activity was scheduled for Y2 of the project and, as planned, has not yet been started.

2.5   Provide agricultural and veterinary support and advice to encourage chicken farming among households in the three target areas

Community consent for this activity has been secured, the activity has been planned through a participatory approach, and a source of chickens has been agreed. Implementation is expected to commence imminently.

2.6   Conduct annual surveys to assess whether participants have adopted livelihood approaches for which they received support

The baseline survey has been completed; annual surveys will commence after the livelihood intervention has commenced.

2.7   Deliver annual rabies vaccination to domestic dogs in the three target areas, tracking progress with the Mission Rabies app

As explained in our change request CR24-114, we discovered that we would be unable to recruit our project veterinarian during Y1; as agreed, she is scheduled to start in Jul 2025. We had hoped to nevertheless initiate domestic dog vaccination during Y1, working with a veterinary consultant from Kenya to get things started. Two factors led to unexpected further delays. First, the veterinary consultant secured another job and became unavailable. Second, the process of obtaining all the necessary approvals proved more complex than we had anticipated; we had understood that permissions for such work operated at the local (district) level; however, in confirming these approvals we were directed to the High National Council for Global Health Security "One Health", which is located within the Prime Minister's office in Dakar. Meetings with this High National Council have proven highly productive, our domestic dog vaccination work is being incorporated into the national health strategy, and a commitment has been made to require district governors to support our efforts. Given the imminent arrival of our veterinary officer and the difficulty of initiating this work with a consultant when our Kenyan colleague became unavailable, we chose to delay this work until our veterinary officer is in post. Our community liaison and education officers have started to prepare local communities for this activity.

2.8   Estimate rabies vaccine coverage in targeted areas using mark-resight

As explained above, our rabies vaccination work has not yet commenced, therefore estimation of rabies vaccination coverage is not yet appropriate.

2.9   Establish monitoring system for human dog bites (anonymised but segregated by age and sex), working through local clinics and dispensaries

The dog bite monitoring system has been discussed with the High National Council for Global Health Security "One Health", and will be established in parallel with the domestic dog rabies vaccination.

2.10   Investigate reports of human-wildlife conflict, using case-control approaches (Woodroffe et al., 2007) to identify locally appropriate and effective mitigation measures

Community liaison officers have initiated investigation of human-wildlife conflict shortly after completing the baseline questionnaire in 28 villages close to the PNNK boundary. To date, only two cases of livestock predation have been reported. Case control questionnaires are being developed, based on a template developed for a parallel project in Kenya. However, as livestock husbandry practices differ, some modifications are being made.

2.11 Use community meetings, posters, and other media to share knowledge on reducing human-wildlife conflict, drawing on new and existing evidence of effective mitigation measures

Knowledge about reducing human-wildlife conflict will be shared during Y2 when we expect to have a more informed understanding of the local situation and importance of this issue.

2.12 Establish monitoring system for human-wildlife conflict based on a selected sample of "sentinel" livestock keepers to be contacted monthly

The "sentinel" livestock keepers are being identified now (10 months into the project start) following completion of the baseline questionnaire.

3.1 Train and equip DPN rangers to conduct de-snaring operations

As noted above, recruitment of the de-snaring rangers was delayed by changes in leadership within DPN, including PNNK. The brigade of desnaring rangers was recruited right at the end of the reporting period, and their initial training had just started.

3.2 Provide training for DPN veterinarian by sending them on a wildlife capture course

As agreed in Change Request CR24-114, recruitment of the veterinarian was delayed until Y2, as was their training on a wildlife capture course. Incoming veterinarian Awa Kanoute has been learning English to prepare herself for participating in the course, as we have been unable to identify a course which accepts francophone trainees.

3.3 Further training for DPN veterinarian through wildlife health placement elsewhere in Africa

As agreed in Change Request CR24-114, the veterinarian's wildlife health training placement was delayed until Y2.

3.4 Field training for Senegalese students through internships as components of wildlife survey and monitoring activities

Our first field (male) intern joined the team at the end of the reporting period; the first (female) intern of Y2 will start shortly.

4.1 Conduct occupancy surveys (with camera traps and interviews) on lands outside Niokolo-Koba, to establish species status and evaluate threats

Occupancy surveys have been conducted in the Boundou Community Reserve, the northern part of the Falémé Hunting Zone, and the corridor that connects the two. Approximately half of the land to be targeted has now been surveyed, with the remainder to be completed during Y2 and Y3. Additionally, collaborators in neighbouring Guinea have agreed to adopt the same survey methodology, to allow comparable data from the wider transboundary area.

4.2 Analyse and publish results of occupancy surveys

Images from the Boundou and Falémé occupancy surveys are being analysed, although this analysis is not yet complete. Initial results suggest that ungulates and mesopredators remain widespread in this area. A particularly interesting find was a record of a red-fronted gazelle, evidence of a range expansion for this globally threatened species.

5.1 Conduct environmental education in schools around Niokolo-Koba, including new and existing materials about the priority species

Environmental education work in schools was approved by the local inspectorate of schools and had just commenced at the end of the reporting period. The programme has been designed to target teachers as well as pupils, so that teachers in the schools initially targeted in Y1 will be able in Y2 to continue the education work with subsequent year groups of pupils, while our education officer moves on to other schools within the target areas, expanding the reach of our messages.

5.2 Use community meetings to share knowledge about local wildlife and its value

Environmental education work in schools was approved by the local inspectorate of schools and had just commenced at the end of the reporting period. The programme

5.3   Engage with mining companies to share survey findings and encourage sustainable practices

Engagement with mining companies started with a meeting with the head of the Mako gold mine in Kedougou (close to our Tomborokoto target area) to discuss our education and livelihoods initiatives. The mining company also agreed to in-kind support for our camera trap surveys, providing a perfect opportunity to share survey findings as they emerge, and to discuss sustainable mining practices.

5.4   Use local radio to provide general information on environment and conservation as well as updates on project progress

Work with local radio has not yet started.

5.5   Establish new @TeamWildDog and @ProjetLycaon social media profiles in English and French

Like many environmentally conscious organisations, we moved away from posting on X and so have not promoted our @*TeamWildDog* profile. Our French-language *Projet Lycaon* profile on LinkedIn has 846 followers, mostly within Senegal.

5.6   Encourage visits to the project from local, national, and international journalists to encourage media coverage

Although thus far journalists have not visited the project specifically, team members have engaged with local journalists covering the development of the PNNK park management plan, and the removal of PNNK from the list of World Heritage in Danger.

3.2   Progress towards project Outputs

Output 1 Niokolo-Koba National Park provides more effective protection for priority wildlife species

We have made reasonable progress towards achieving Output 1, considering that the project has only been running for 9 months (CR24-10) and certain activities have been delayed due to constraints outside our control (CR24-114). By the end of the reporting period, the de-snaring brigade was in place and undergoing training, and the outline of a snare response plan had been agreed via a workshop at DPN headquarters. Baseline work with local communities to form the foundations of work to reduce dependence on poaching and illegal grazing had commenced in the three focal areas outside the park.

Output indicator 1.1   The number of active snares found per unit effort during de-snaring operations by end of Y3 (baseline to be established in Y1; target is zero snares by Y3, as this is a new poaching practice in Niokolo-Koba, and we hope to stamp it out)

As described above, de-snaring patrols had not commenced by 30th March, due to changes in DPN leadership and delays to recruiting the required rangers. This unit is now in place, and a baseline will be established during the first 12 months of the project (noting that this report covers only the first 9 months)

Output indicator 1.2   The proportion of wild animals observed with snare injuries (species-specific baselines to be established in Y1; target is zero by Y3, as this is a new poaching practice in Niokolo-Koba, and we hope to stamp it out)

The baseline proportions of animals with snare injuries will be calculated from the 2025 camera trap survey. This survey was still in progress at the end of the reporting period (as fieldwork in Niokolo Koba is restricted to the dry season due to flooding). Hence, the estimate ill itself become available during Y2.

Output indicator 1.3   Number of new/improved species management plans available and endorsed (response plan to injured/snared wildlife, baseline=0 plans, target=1 plan)

The outline of the snare response plan was agreed at a workshop in Dakar during the reporting period. The plan itself is now being drafted and will be complete during the first 12 months of the project.

Output indicator 1.4   Frequency of illegal entry to the park by poachers (occupancy by poachers within the targeted area declines; baseline from 2022 biennial park-wide camera trap survey, target 40% reduction by 2026 survey (end of Y2)

> This indicator is not scheduled for delivery during the reporting period.

Output indicator 1.5   Frequency of illegal entry to the park by livestock (occupancy by livestock within the targeted area declines; baseline from 2022 biennial park-wide camera trap survey, target 40% reduction by 2026 survey (end of Y2)

> This indicator is not scheduled for delivery during the reporting period.

Output indicator 1.6   Frequency of illegal entry to the park by domestic dogs (occupancy by domestic dogs within the targeted area declines; baseline from 2022 biennial park-wide camera trap survey, target 40% reduction by 2026 survey (end of Y2)

> This indicator is not scheduled for delivery during the reporting period.

Output indicator 1.7   Percentage of domestic dogs accompanying people apprehended in the park which are unvaccinated (baseline in targeted area =100%, target ≤80% by Y1, ≤50% by Y2, ≤30% by Y3)

> DPN has reported no domestic dogs apprehended in the target area during the reporting period. Protocols for dealing with domestic dogs in the park were agreed at a workshop in Dakar as part of developing the disease management plan. This plan is now being drafted and should improve reporting and responses to domestic dogs in the park.

Output indicator 1.8   Drivers of biodiversity loss assessed to have been reduced or removed (baseline=0, target=3 (poaching, illegal grazing, domestic dog disease all under control in the targeted area)

> This indicator is not scheduled for delivery during the reporting period.

Output 2. The wellbeing of people living outside Niokolo-Koba National Park improves as their impacts on the park are declining

We have made reasonable progress towards achieving Output 2, considering that the project has only been running for 9 months (CR24-10) and certain activities have been delayed due to constraints outside our control (CR24-114). By the end of the reporting period, baseline surveys had been conducted within all the target communities, seeking consent and gauging interest in the livelihood and animal health interventions that we had planned. Planning for livelihood work was well-advanced, and the outline of a disease management plan (involving both DPN and the High National Council for Global Health Security-One Health) had been agreed, providing the basis for rabies control efforts to start early in Y2.

Output indicator 2.1   New assessments of community use of biodiversity resources published (Baseline survey to quantify illegal use of resources inside Niokolo-Koba National Park, disaggregated by gender, household type, proximity to the park boundary, location, type of resource (hunting/grazing/water/thatching/ honey/other) completed during Y1)

> The baseline survey was conducted by ABK in 28 villages (12 villages in Dialocoto, eight villages in Tomboronkoto, and eight villages in Linkering). Analysis of these baseline data is a priority for Y2 Q1 (months 10-12 of the project).

Output indicator 2.2   Number of new/improved sustainable livelihoods/ poverty reduction management plans available and endorsed (Existing agreements between local communities and park authorities about successful ways to develop sustainable livelihoods outside the park [6] are updated and expanded)

> The agreement between local communities around PNNK, and the DPN responsible for running the park, is being updated (with our involvement) in the course of updating the PNNK management plan. This process is led by DPN but involves local communities.

> In related efforts, we have also (i) agreed a plan with the head of education in each region to allow our environmental education work to proceed in the 14 schools within the target communities, and (ii) agreed the outline of a plan with local mayors and the national One

Health high council to allow rabies vaccination of domestic dogs in these same communities.

Output indicator 2.3   Number of people with improved access to services or infrastructure for improved well-being (Establishment of two pilot livestock waterpoints outside the park, as requested by UNESCO [9], to assess whether they reduce or increase livestock entry to the park; baseline=0, target=3, accessible to 600 people)

> The baseline survey explores, among other things, community support for the construction of pilot livestock water points. Analysis of the survey data will allow us to assess community support and determine next steps for this indicator

Output indicator 2.4   Number of people benefitting from improved sustainable agriculture practices and are more resilient to weather shocks and climate trends (Number of households (disaggregated by household type and location) actively supported by agricultural and veterinary advice to improve or adopt chicken farming as a locally appropriate reliable source of protein and income (as an alternative to hunting wild meat), which disproportionately benefits women [10], but is currently constrained by vaccine-preventable Newcastle disease [11]; baseline=0 households, target=300 households actively supported, with guidance to a further 600 households)

> The baseline survey explores, among other things, community support for the chicken farming project. Analysis of the survey data will allow us to assess community support and target this intervention. ABK has also conducted an exhaustive evaluation of appropriate chicken varieties, identified a supplier of the chosen variety, and developed a way of targeting households to maximise the sustainability of the approach.

Output indicator 2.5   Proportion sustainable livelihood enterprises established that are functioning at project end (at least a year after establishment). (Proportion of people, disaggregated by sex, age, and location, who are still keeping chickens at least a year after being introduced to the practice, target=60%)

> This indicator is scheduled to be achieved by the end of Y3 so is not relevant at the current time.

Output indicator 2.6   Number of domestic dogs vaccinated against rabies (baseline=0, target=1,000 in Y1, 5,000 by Y2, 10,000 by Y3); targets based on local human population and regional estimates of human-to-dog ratios [12]

> The initiation of domestic dog vaccination has been delayed by three factors. (i) As agreed in CR-24-114, we delayed recruitment of our project veterinarian until Y2, meaning that the person to be tasked with managing this work package was not yet in post; (ii) the veterinary consultant whom we aimed to engage to initiate this work secured another job in Kenya, and became unavailable; (iii) the process of securing local and national approval to start this work has been slower than expected.
>
> Although vaccination has not itself started, we have made substantial progress by
> - Securing agreement for this activity from the High National Council for Global Health Security-One Health, a council within the Prime Minister's office charged with controlling zoonotic diseases. The One Health team participated in our infectious disease workshop, and committed both to adding our domestic dog vaccination work to Senegal's health strategy, and to directing regional governors to support and facilitate the work (see photo in Annex 4)
> - Securing agreement for this activity from the mayors of the three communities, which is essential.
> - Purchasing the specialist equipment (e.g., 12V refrigerators) needed for the work to proceed
>
> With these partnerships in place, as soon as our disease management plan is finalised (during Y2 Q1) and our project veterinarian joins the team (during Y2 Q2) we will be well placed to make a rapid start to this activity.

Output indicator 2.7   Percentage of unvaccinated domestic dogs within 5km of the park boundary (baseline=100% in targeted area, target ≤80% by Y1, ≤50% by Y2, ≤30% by Y3); this is a standard

indicator recognised by the World Health Organisation as indicating that rabies is likely to be eradicated locally [13]

> As domestic dog vaccination has not yet commenced (see output indicator 2.6), this indicator remains at its baseline level.

Output indicator 2.8   Number of people inhabiting areas receiving free rabies vaccination of domestic dogs (baseline=0, target=2,000 in Y1, 10,000 by Y2, 20,000 by Y3)

> As domestic dog vaccination has not yet commenced (see output indicator 2.6), this indicator remains at its baseline level.

Output indicator 2.9   Number of dog bites reported to local hospitals and clinics (baseline to be established in Y1, target=decline by 20% per year based on experience from Kenya (Darwin project DI 28-013); this has been shown to be a reliable indicator of human rabies risk [14]

> As domestic dog vaccination has not yet commenced (see output indicator 2.6), this indicator remains at its baseline level.

Output indicator 2.10 Number of incidents of human-wildlife conflict investigated by project team (number of livestock attacks investigated in a case-control framework to identify effective and locally appropriate husbandry methods increases from 0 in 2023 to 100 by 2025 (each case with 3 matched controls to maximise statistical power), target set based on refs [15] and [16])

> To date, only two incidents of livestock attacks have been reported to our community liaison officers. Analysis of the baseline questionnaire should help us to determine the incidence of livestock predation. Protocols for investigating livestock predation incidents are being refined and will be in place during Y2 Q1 (months 10-12 of the project).

Output indicator 2.11 Number of people engaged with outreach to share guidance on minimising human-wildlife conflict (number of people (disaggregated by age and sex) increases from 0 in 2023 to 200 in Y1 (with equal sex ratio and including both adults and youth), to 500 by Y2 and 1,000 by Y3

> The low numbers of community members reporting human-wildlife conflict means that, thus far, locally appropriate guidance on mitigating human-wildlife conflict has not yet been developed. It is not yet clear whether previously-reported incidents of livestock predation were occurring outside the park, or during illegal grazing of livestock inside the park. This issue is being investigated through continued engagement.

Output indicator 2.12 Net change in incidences of human wildlife conflict (a 40% decline in the number of attacks on livestock reported to project team by a standardised cohort of livestock-keepers, disaggregated by predator species, livestock type, location (e.g., inside/outside the park), and the age and gender of the livestock owner, as well as the number of wild animals reported killed due to human-wildlife conflict, disaggregated by species and location). Baseline rates taken from ref [15], achievable decline estimated from [16]

> This indicator is scheduled to be attained later in the project.

Output 3. Sénégal has increased capacity to manage, monitor, and conserve priority wildlife species

We have made good progress towards achieving Output 3, considering that the project has only been running for 9 months (CR24-10) and certain activities have been delayed due to constraints outside our control (CR24-114). By the end of the reporting period, all team members had been either recruited or identified, most initial training had been completed, and our internship program had commenced

Output indicator 3.1   Number of people from key national and local stakeholders completing structured and relevant training (DPN veterinarians who have completed wildlife capture training, baseline=0, target=1 (female if possible) by the end of Y1; DPN rangers trained to conduct de-snaring operations, baseline=0, target=12 (aiming for equal sex ratio) during Y1)

> As agreed in our change request (CR24-114), we delayed recruitment of our veterinarian until Y2. Dr Awa Kanoute, Senegal's first female wildlife veterinarian, is scheduled to join our team in Jul 2025. Her participation in wildlife capture training, now scheduled for Y2,

was impeded when we learned that the capture course would not accept a francophone participant, even when accompanied by an interpreter. We are therefore supporting English language training for Dr Kanoute in advance of her joining the project; her progress is sufficient that she should be able to participate in the wildlife capture training in Y2 as planned.

Other team members also found a language barrier was impeding their work; for example, ecological monitoring officer Assane Diouf, DPN ecologist Ousmane Thiaw, and Am Bé Koun Livelihoods Officer Moussa Sadaba, were unable to access the scientific literature, which is mostly in English. As agreed in our change request (CR24-114), we have therefore supported English language training for them, as well as for DPN veterinarian Dr Fall; all are making good progress.

Training for the 12 DPN rangers (disappointingly, all male) is taking place at the time of writing and will be completed during the project's first 12 months.

Output indicator 3.2   Number of secondments or placements completed by individuals of key local and national stakeholders (DPN veterinarians who have completed a wildlife health placement elsewhere in Africa; baseline=0, target=1 (female if possible) by the end of Y2; Sénégalese students who have completed a fieldwork placement with the project's survey or ecological monitoring efforts; baseline=0, target=6 (aiming for equal sex ratio) by the end of Y3)

As agreed in our change request (CR24-114), we delayed recruitment of our veterinarian until Y2, so the veterinary placement has been delayed.

We currently have one (male) Senegalese student conducting a fieldwork placement, with another (female) student lined up for the next internship. Hence, we are on track to complete 6 internships by the end of Y3 as planned.

Output indicator 3.3   Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training (target=15, 1 veterinarian (ideally female), 2 ecologists, 12 de-snaring rangers (aiming for equal sex ratio), by the end of Y2)

This indicator is not scheduled to be achieved until the end of Y2.

Output 4. Evidence of the status and distribution of African wild dogs, lions, giant eland, and chimpanzees across south-eastern Sénégal

We have made very good progress towards achieving Output 4, considering that the project has only been running for 9 months (CR24-10). By the end of the reporting period, we were approaching the end of the biennial density survey within PNNK, and had completed occupancy surveys across approximately half of the land to be targeted outside the park. The resulting data are undergoing analysis and will be published in due course.

Output indicator 4.1   Number of new conservation or species stock assessments published (baseline=0 as there is no published evidence from outside Niokolo-Koba, target=1 report for all 4 species)

Although not mentioned in the indicator wording, this indicator (publication of a conservation assessment) is scheduled to be achieved by the end of Y3. Nevertheless, we are making good progress towards this indicator. Our team has almost completed an initial evaluation of the whole area using remote sensing. Occupancy surveys have so far been conducted across approximately half of the land to be targeted, including most of the Falémé hunting zone, all of the Boundou Community Reserve, and the land between the two.

Output indicator 4.2   Number of unique papers submitted to peer reviewed journals (target=1 published paper)

Although not mentioned in the indicator wording, this indicator (submission of a scientific paper) is scheduled to be achieved by the end of Y3.

Output 5. Improved public knowledge of, and attitudes to, wildlife conservation in Sénégal, locally, nationally, and internationally

We have made good progress towards achieving Output 5, considering that the project has only been running for 9 months (CR24-10). By the end of the reporting period, the environmental

education programme had been designed, approved by local government, and commenced, and the media presence of the project and the area was growing as planned.

Output indicator 5.1   Number of people engaged with public education about wildlife and conservation (baseline=0 around Niokolo-Koba, increasing to 1,000 in Y1 (with equal sex ratio and including both adults and youth), disaggregated by role (e.g., farmer, herder, hunter, school pupil, artisanal miner, mining company staff), to 5,000 by Y2 and 10,000 by Y3

> Formal environmental education work commenced at the very end of the reporting period (9 months after the project start). This is an indicator which probably should have been revised when the start date was delayed by 3 months (change request CR24-010). We expect to have meaningful numbers to report at the time of our half-year report (after 15 months).

Output indicator 5.2   Social media presence (number and reach of social media posts about wildlife in south-eastern Sénégal from ZSL and project partners increases 10-fold, including https://www.facebook.com/PantheraAuSenegal, establishment of new @TeamWildDog account on twitter, as well as @ProjetLycaon posting en français)

> Like many environmentally conscious organisations, we moved away from posting on twitter (now X), and have been focusing our social media presence on LinkedIn, where Projet Lycaon has 845 followers, while Panthera Senegal has 1,800 followers on Facebook. The 10-fold increase in number and reach was the target for the end of the project, so we feel we are making good progress.

Output indicator 5.3   Number of Media related activities (Six-fold increase in print and broadcast media items presenting positive new stories about wildlife in SE Sénégal, from 1.5 newspaper articles per year in 2018-2023 to 9 per year in 2024-2026)

> During the 9-month duration of the project to date, we have counted eight English-language articles presenting positive news about Niokolo-Koba, and at least 15 such articles French, mostly focused on the removal of the park from the UNESCO list of World Heritage in Danger. As this decision was informed in part by our developing the "emergency programme for the Lycaon" demanded by UNESCO, our efforts have contributed to this positive press coverage. Hence, we view this target as achieved for this reporting period.

3.3   Progress towards the project Outcome

Outcome: Improved conservation status of wildlife in and around Niokolo-Koba National Park, especially African wild dogs, lions, giant eland, and chimpanzees, while local people experience improved wellbeing

Overall, given that the project has only been running for nine months, we are making good progress towards our planned Outcome. Biodiversity indicators show early signs of success, with a suggestion (requiring confirmation through repeated systematic surveys) of improving wildlife distribution and abundance within PNNK, and persistence of at least some of our priority species (or their prey) outside the park. Plans have been agreed for managing threats of snaring and disease. We are also making good progress in developing capacity, through excellent working relationships with partners DPN and Am Bé Koun, including embedding of staff for training and ongoing professional coaching. Livelihoods work in target communities has commenced with a baseline survey, providing a grounding for future interventions. Although desnaring patrols and domestic dog vaccination had not yet commenced by the end of the reporting period, in both cases these delays were foreseen, and agreed (at least in part) through change requests. We are therefore confident that our project has a strong likelihood of achieving its desired outcome by its end date.

Outcome indicator 0.1   Stabilised/ improved species population (relative abundance/ distribution) within the project area (occupancy of priority species in the 2026 biennial camera trap survey of Niokolo-Koba relative to the 2022 survey, targets 50% increase for African wild dogs, 30% increase for lions, 30% increase for giant eland, and stable for chimpanzees, including 0 animals detected with snare injuries; estimated population size changes 2022-6 in entire project

area (inside and outside the park): African wild dogs 3 packs to 6 packs, lions 30 to 45, giant eland 120 to 140, chimpanzees stable at approximately 500)

> This indicator is not scheduled for delivery until after the 2026 occupancy survey. Preliminary evidence from the 2024 occupancy survey suggests that there may be an improvement in occupancy relative to 2022, but this requires confirmation in 2026 with consistent methodology. The 2025 density survey is in progress at the time of writing.

Outcome indicator 0.2 *Frequency of patrols by law enforcement rangers supported through the project* (establishment of de-snaring unit, baseline=0, target = 10 days per month in Y1, Y2, and Y3)

> As described above, the de-snaring brigade was recruited just before the end of the reporting period, and was undergoing training prior to starting patrols.

Outcome indicator 0.3 *Number of households reporting improved wellbeing* (50% of targeted households, disaggregated by household type, indicate improved food security, human-wildlife conflict, and rabies risk), relative to a baseline to be measured in Y1)

> As planned, baseline surveys have been conducted in all three target communities, facilitating evaluation of this outcome in Y3.

Outcome indicator 0.4 *Number of individuals / households reporting a decrease in unsustainable practices as a result of project activities* (number of households reporting illegally accessing resources within Niokolo-Koba National Park (disaggregated by household type, proximity to the park boundary, location, type of resource (hunting/grazing/water/thatching/honey/other), and whether accompanied by a dog, relative to a baseline to be measured in Y1)

> As planned, baseline surveys have been conducted in all three target communities, facilitating evaluation of this outcome in Y3. Survey data are now being analysed to generate appropriate metrics for comparison.

Outcome indicator 0.5 *Number of local/national organisations with improved capability and capacity as a result of project* (target=2, DPN and Am Bé Koun; with the number of Sénégalese wildlife veterinarians increasing from one (male) to two (aiming for equal sex ratio), the number of de-snaring rangers increasing from zero to 12 (aiming for equal sex ratio), and the number of Sénégalese carnivore biologists increasing from one to two)

> As agreed in our change request (CR24-114), we have delayed recruitment of our veterinarian until Y2, although we confidently anticipate meeting this target by supplementing the one (male) wildlife veterinarian at DPN with a second (female) veterinarian, Dr Awa Kanoute, who is scheduled to join our team in Jul 2025. As planned, we have successfully recruited 12 de-snaring rangers to DPN although, on the insistence of the park's conservateur, members of this brigade are all male. We have successfully increased the number of Senegalese carnivore biologists, not only by training Assane Diouf in our team, but also by organising to have Ousmane Thiaw seconded from the DPN's office of ecological monitoring to our project. Ousmane is receiving the same training as Assane, meaning that we have already exceeded our target by increasing the number of Senegalese carnivore biologists from one to three. Although these specific changes refer to increased capacity at DPN, we have also developed capacity at Am Bé Koun by increasing their staff numbers by four (livelihoods officer and three community liaison officers) and providing them with logistical support, structured training, and mentoring.

Outcome indicator 0.6 *Area identified as important for biodiversity* (baseline=c. 3,500 sq km occupied by priority species in 2022, based on DPN/Panthera camera trapping (Figure 3), target ≥6,000 sq km by Y3 through improving habitat within Niokolo-Koba and identifying new occupied habitat outside the park)

> This indicator is not scheduled for delivery until after the 2026 occupancy survey. Nevertheless, preliminary evidence from the 2024 occupancy survey suggests that there may be an increase in the area identified within the park as important for wildlife relative to 2022. However, this requires confirmation in 2026 with entirely consistent methodology. Outside the park, occupancy surveys have been completed in Boundou community reserve,

the northern part of the Faleme hunting zone, and the corridor between the two, with data analysis ongoing. Preliminary evidence suggests the unexpected presence of the red-fronted gazelle in this corridor, a range expansion for this globally threatened species. The large area surveyed thus far, and the preliminary evidence emerging, provide encouraging early signs of progress towards this outcome.

Outcome indicator 0.7 *Proportion of people with positive attitudes to wildlife.* By Y3, the proportion of people in south-eastern Sénégal with positive attitudes to wildlife has increases from a baseline measured in Y1, disaggregated by age and sex as well as by role (e.g., herder, hunter, miner, farmer) and distance from Niokolo-Koba National Park

> As planned, baseline surveys have been conducted in all three target communities, facilitating evaluation of this outcome in Y3. Survey data are now being analysed to generate appropriate metrics for comparison.

3.4   Monitoring of assumptions

Thus far, we have little evidence to challenge the assumptions that we made in designing the project. Experience to date has suggested that most assumptions are well-founded, although some key assumptions can only be tested by evaluating the ultimate outcomes of the project. Only one assumption (that language would not be a barrier to staff training) has proven incorrect, and we have put in places measures to overcome this barrier.

Assumption 0.1: That the reasons for low wildlife numbers in Niokolo-Koba have been identified correctly

> Evidence thus far suggests that this assumption is likely to be correct: preliminary evidence from camera trap surveys suggests that the numbers and distribution of priority species may already be increasing in relation to improved protection. We are nevertheless exploring a possible additional threat, that planned burning as part of the park's fire management regime might be impacting African wild dog pup survival.

Assumption 0.2: That local people's reasons for illegally entering the park have been identified correctly

> This assumption is being tested through community outreach, including the baseline questionnaire. To date there is no evidence to suggest that it is incorrect.

Assumption 0.3: That a combination of strengthened law enforcement and efforts to improve wellbeing can effectively discourage people from accessing the park illegally

> This validity of this assumption is being tested through our project activities; the outcomes of the project will determine whether it was correct. Thus far there is no evidence to suggest that it is incorrect.

Assumption 0.4: That corruption will not undermine key project activities

> To date we have found no evidence of project activities being undermined by corruption.

Assumption 1.1: That a combination of law enforcement inside the park, with outreach outside the park, can discourage illegal use of Niokolo-Koba National Park

> This validity of this assumption is being tested through our project activities; the outcomes of the project will determine whether it was correct. Thus far there is no evidence to suggest that it is incorrect.

Assumption 1.2: That people illegally entering Niokolo-Koba National Park come from nearby villages rather than from origins remote from the park

> This assumption is being tested through community outreach, including the baseline questionnaire. To date there is no evidence to suggest that it is incorrect.

Assumption 1.3: That decreased illegal use of Niokolo-Koba National Park will allow wildlife to recover

> Evidence thus far suggests that this assumption is likely to be correct: preliminary evidence from camera trap surveys suggests that (i) wildlife numbers are lower where

illegal park use is most intense; and (ii) the numbers and distribution of priority species may already be increasing in relation to improved protection. Continued action, and continued monitoring, will allow this assumption to be tested further.

Assumption 1.4: That a sufficiently high proportion of domestic dogs in the area will be accessible for vaccination

> This assumption has not yet been tested, as domestic dog vaccination has not yet commenced. To date there is no evidence to suggest that it is incorrect.

Assumption 2.1: That local communities will be willing to engage with the project despite historical grievances against DPN

> Community engagement, including consent to the baseline questionnaire and participation in developing the PNNK park management plan, has been strong, suggesting that historical grievances (liked to the expansion of the par decades ago) have not impeded engagement with the project thus far.

Assumption 2.2: That provision of waterpoints for livestock outside the park will discourage livestock keepers from entering the park [9]

> This assumption will be formally tested during Y2.

Assumption 2.3: That raising chickens would provide a locally appropriate and reliable source of protein and income, as an alternative to poaching in the park

> Local willingness to engage with chicken rearing has been gauged through the baseline questionnaire, and extensive research by the Livelihoods Officer has identified a locally appropriate source of chickens. Hence, we so far have no evidence to challenge the assumption that raising chickens is likely to prove locally appropriate. Whether the approach provides a reliable source of protein and income, and whether this in turn provides a realistic alternative to poaching, will be tested during the course of the project.

Assumption 2.4: That experience from delivering domestic dog vaccination in Kenya (under project DI 28-013) can be rapidly adapted to suit conditions in Sénégal

> This assumption has not yet been tested, as domestic dog vaccination has not yet commenced. To date there is no evidence to suggest that it is incorrect.

Assumption 2.5: That experience of mitigating livestock predation in other countries (e.g., Kenya [16, 17]) can be rapidly adapted as a first approximation (to be updated with local knowledge) in Sénégal.

> This assumption has not yet been tested, as work on livestock predation has only just commenced. To date there is no evidence to suggest that it is incorrect.

Assumption 2.6: That improved management of domestic animals (provision of water for cattle, support to improve chicken rearing as a reliable source of protein and income, vaccination of domestic dogs, and protection from predators) will together improve the livelihoods of local people

> This validity of this assumption is being tested through our project activities; the outcomes of the project will determine whether it was correct. Thus far there is no evidence to suggest that it is incorrect.

Assumption 3.1: That Sénégalese staff will have the language skills (or can receive interpretation support) needed to participate in training and placements in anglophone Africa.

> This assumption proved not to be well-founded; we were unable to find a training course conducted in French, or one willing to accept a student with an interpreter, and we were unable to find a Senegalese veterinarian who spoke English. As part of Change Request CR24-114, we therefore sought funds for our incoming project veterinarian to take English lessons. She is making good progress, and we hope she will be ready to participate in her training, and placement, during Y2. At the same time, we have provided English language training to Ecological Monitoring Officers Assane Diouf (ZSL) and Ousmane Thiaw (DPN),

DPN veterinarian Dr Fall, and Livelihoods Officer Moussa Sadaba, to help them access the scientific literature.

Assumption 3.2: That Sénégalese staff will remain working in Sénégal after receiving intensive training

This assumption can not yet be tested, as intensive training is not yet complete.

Assumption 4.1: That local communities will cooperate with surveys (e.g., by not stealing the camera traps)

This assumption appears to be well-founded; thus far, communities have cooperated with surveys outside PNNK, and the loss rate of camera traps has been low.

Assumption 5.1: That outreach conducted in-person, online, and in print and broadcast media, can reach its target audience

This assumption has not yet been fully tested, as our outreach programme has not yet reached its full capacity. However, thus far we have no evidence that this assumption is incorrect.

Assumption 5.1: That education, combined with a package of measures, including linking practical action on human health and wellbeing to the health and conservation of endangered wildlife, can help to improve local attitudes

This assumption has not yet been fully tested, as the project has not yet been operating for long enough. Our baseline questionnaire provides a starting point for evaluating this assumption.

3.5   Impact: achievement of positive impact on biodiversity and multidimensional poverty reduction

Our project has only been running for nine months, and so it would be surprising if it had achieved major impacts during the reporting period.

Our ultimate aim was to recover south-eastern Sénégal's irreplaceable wildlife, while also improving the wellbeing of its local people. Achieving this aim demanded rehabilitating Niokolo-Koba National Park, which in turn required reducing pressure from poaching and illegal grazing, and avoiding disease outbreaks which can devastate small wildlife populations. Law enforcement has an important role to play, but to be most effective (as well as to be equitable) it needed to be combined with positive incentives to encourage people to remain outside the park, as well as education and capacity building.

We are optimistic that our project is making an impact on biodiversity conservation. Preliminary analyses of camera trap data inside PNNK suggest that the numbers and distribution of priority wildlife may be increasing in response to a package of recovery measures, including our work – although these surveys must be repeated, with consistent methodology, to provide greater confidence of success. At the same time, surveys outside PNNK are documenting wildlife persistence beyond the park boundary, fuelling optimism for biodiversity restoration across the region.

We are equally confident that we will be able to improve the wellbeing of people living close to the PNNK border. Domestic dog vaccination is a tried-and-tested approach to reducing rabies risks to local people, as well as wildlife, and we are confident that it will be effective in Senegal. Promotion of alternative livelihoods is a more complex issue, and we are less confident of ultimate success; but initial enquiries suggest that communities are willing to participate, which suggests that they see a value to the approach. The number of incidents of human-wildlife conflict reported thus far has been low; we are still assessing the role that this plays in wellbeing and the benefits, in terms of poverty alleviation and biodiversity conservation

4.   Project support to the Conventions, Treaties or Agreements

Shortly before this project started, we facilitated the development of a Senegal National Action Plan for African wild dog and cheetah conservation. During the reporting period, we started the

process of integrating this National Action Plan into the park management plans for both PNNK and Badiar National park (in Guinea). Elements relating to domestic dog vaccination are also being integrated into Senegal's health strategy.

At the start of this project, PNNK was on UNESCO's list of "World Heritage in Danger". Among the conditions required for removal of the park from this list was "*an emergency programme for the Lycaon*". The recent development of a national action plan for African wild dog conservation (led by our team immediately before the start of this project), and the securing of funds to implement it (including the current project) contributed to UNESCO's decision to remove PNNK from this list.

We have interacted with one of the CITES focal points (at the Institut Fondamental d'Afrique Noire; IFAN) with regard to historical museum specimens of African wild dogs.

5. Project support for multidimensional poverty reduction

The community beneficiaries of this project were intended to be 20,000 people benefiting from rabies control in three communities adjoining PNNK (Tomborokonto, Linkering, and Dialocoto), including members of 300 households directly supported to substitute chicken rearing for hunting, and 1,700 people exposed to messaging about resolving human-wildlife conflict.

The appropriateness of the planned interventions was evaluated before the proposal was submitted via the expert opinion of project partner and local development NGO Am Bé Koun, which has a history of working with these communities, and subsequently through interviews with community members.

Our hope is to achieve direct poverty impacts by improving food security within targeted households, by encouraging a transition in protein sources from poached wild meat (which is illegal, risky, and time-consuming to secure) to chicken eggs and meat (which are legal, low-risk, and secure). We also expect to achieve direct health benefits for local communities by controlling rabies through domestic dog vaccination.

We do not expect to have achieved these poverty benefits at this early stage of the project, although the groundwork has been laid.

6.   Gender Equality and Social Inclusion (GESI)

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	X
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

We believe that, at this stage in the project, we meet the criteria for a GESI Sensitive approach, with the expectation of advancing to GESI Empowering status in future years. Rural Senegal has traditions which marginalise women and, despite our best efforts, to date all team members (three community liaison officers, a livelihood officer, an education officer, an ecological monitoring

officer, and 12 desnaring rangers) have been men. However, the next team member to join will be a female veterinarian, and we aim to target female students for our internship programme.

Our primary livelihood intervention (support to initiate and maintain chicken farming as a source of protein) was chosen explicitly because it was expected to empower women in local communities. Our baseline questionnaire (being analysed at the time of writing) will help us to quantify GESI within local communities, and we expect to document GESI improvements over the coming years, allowing us to claim "empowering" status in the future.

7.   Monitoring and evaluation

Our project M&E relies primarily on two sources of information: camera trapping within PNNK, and questionnaire surveys to local communities on neighbouring land.

In these first 9 months of the project, we initiated analysis of the 2024 biennial park-wide occupancy survey (conducted on a 6km grid throughout the land area of PNNK), and initiated fieldwork for the 2025 biennial density survey for species which can be individually recognised from camera trap images (lions, wild dogs, and chimpanzees). These wildlife survey methods have been refined and standardised, and will continue to provide objective measures of the density and distribution of key species, as well as threats such as illegal grazing and poaching, through the lifetime of the project and beyond. The surveys have been deliberately designed with the aim of monitoring responses to park rehabilitation efforts, and we are confident that they have the statistical power to provide robust estimates of changes in wildlife population density, and the distribution and relative abundance of threats. Design of the surveys has been led by Panthera, with field implementation by DPN, ZSL, and Panthera, and analysis by Panthera and ZSL.

During the same period, we have also designed and deployed the baseline questionnaire surveys in villages close to PNNK. The survey questionnaire was developed by Am Bé Koun and Antelope Conservation, with input and oversight from ZSL, to meet the M&E needs associated with interventions on community land. Questionnaire development was the key task during a week-long training workshop, led by Antelope Conservation social scientist Marketa Grunova, during which the project team carefully considered the activities, outputs, and outcomes envisaged by the project, taking into account the local context, drawing on experience and expertise of Am Bé Koun, DPN, and ZSL team members. The questionnaire was then administered in 28 villages (12 villages in Dialocoto, eight villages in Tomboronkoto, and eight villages in Linkering). Analysis of the resulting data was ongoing at the end of the reporting period. The questionnaire will be administered again in the same communities during Y3, after livelihood interventions have taken place; comparison of the two sets of results will help us to evaluate change, and hence the impacts of our interventions.

8.   Lessons learnt

During the first 9 months of this project, our primary lesson learned is that implementing almost all activities has taken longer than anticipated, due to delays both in establishing agreements between all partners, and in securing all the formal permissions needed to implement a diverse array of activities involving people as well as wildlife.

9.   Actions taken in response to previous reviews (if applicable)

Not applicable

10.   Risk Management

During the first nine months of the project, we have removed one risk from the risk register, and added two new risks. The first new risk relates to delays in starting activities, caused by changes in leadership at partner organisation; this is a risk which impacted the initiation of the desnaring patrols, and we are keen to ensure that it does not occur again in future. The second new risk relates to fieldwork health and safety, which should have been included in the risk register from the beginning of the project.

11.   Scalability and durability

This project is eminently scalable, and we hope that it will be scaled in the coming years. In very practical terms, our approaches are currently targeting just three communes around PNNK, and

there are obvious opportunities for geographical scaling to the remainder of the communes adjoining the park. Depending on the outcomes of surveys, nearby areas, both north to the Boundou Community Reserve, East into the Falémé Huting Zone, and south towards the Guinean border (Figure 1) could also be targeted. As shown in Figure 1, there are exciting opportunities for transboundary work in biodiversity conservation and poverty alleviation. Indeed, we are in early discussions with some partners about just such scaling.

Our project is also scalable in that we have sought to ensure that all of our work is locally appropriate, and involves or is led by local actors such as DPN, Am Bé Koun, local school teachers, and the High National Council for Global Health Security - One Health. Their enthusiasm for the project (as well as our concerted effort to build their knowledge and capacity) provides grounds for optimism that, if the project proves to be technically effective, there will be in-country support and capacity for scaling it. Building project activities in to official documents such as the PNNK park management plan and the national health strategy also provides the appropriate policy support for their continued implementation beyond the lifetime of this grant.

12. Darwin Initiative identity

This project has a clear identity, both within Senegal and for all the participating partners. Most of the partners have no other experience of Darwin Initiative funding, and so refer to this as "the Darwin project".

The Darwin Initiative logo is displayed on all project documents and presentations, with the funding acknowledged for example in a scientific paper about to be submitted for publication.

Social media posts on LinkedIn have linked to BCF.

13. Safeguarding

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2024 – 31 March 2025)

Project spend (indicative) since last Annual Report	2024/25 Grant (£)	2024/25 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL	196,292	**172,544.43**		

Table 2: Project mobilised or matched funding during the reporting period (1 April 2024 – 31 March 2025)

	Secured to date	Expected by end of project	Sources
Matched funding leveraged by the partners to deliver the project (£)			AZA Painted Dog SAFE In-kind contributions of staff time from ZSL, Panthera, Am Bé Koun, and Antelope Conservation BirdLife Netherlands

Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project (£)			

15.   Other comments on progress not covered elsewhere

At this early stage our project has few outcomes to report. We have chosen not to include maps showing early evidence of wildlife recovery inside PNNK, for two reasons. First, improved training of PNNK rangers deploying camera traps in 2024 means that differences with 2022 might reflect better camera placement rather than wildlife increase, and we are keen to avoid claiming evidence of success which might not be confirmed in 2026. Second, as the collection of these 2024 data was only supported in a minor way by this grant (as the project had not started when the survey began), we are keen to avoid publishing evidence which should be published for the first time by the partners who led the survey effort, in line with the requirements of the other donors who supported it.

16.   OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds to edit and use the following for various promotional purposes (please leave this line in to indicate your agreement to use any material you provide here).

In 2007, Senegal's Niokolo-Koba National Park was placed on UNESCO's list of World Heritage in Danger, as uncontrolled poaching, mining, and other threats led to catastrophic decline in its wildlife. Among the criteria stipulated for its removal from this list was "an emergency programme for the Lycaon". Our previous project delivered the required action plan for African wild dog conservation, and this project contributes to implementing that plan, as part of a broader effort to recover the park. In response to this effort, shortly after this project commenced, in 2024 UNESCO voted to remove Niokolo-Koba from the list of World Heritage in Danger.

Simultaneously, the same action planning process led to the re-establishment of transboundary cooperation between Niokolo-Koba National Park in Guinea, and adjoining Badiar National Park in Guines, with Guinean participation in developing Senegal's National Action Plan for wild dog conservation, followed by participation from our project team and partners in developing the Park Management Plan for Badiar.

Annex 1: Report of progress and achievements against logframe for Financial Year 2024-2025

Project summary	Progress and Achievements April 2024 - March 2025	Actions required/planned for next period
Impact Recovery of South-East Sénégal's critically endangered and ecologically unique fauna, coexisting with prosperous and healthy local people	Preliminary analyses of camera trap data inside PNNK suggest that the numbers and distribution of priority wildlife may be increasing, although these surveys must be repeated, with consistent methodology, to provide greater confidence of success. Surveys outside PNNK are documenting wildlife persistence beyond the park boundary, fuelling optimism for regional biodiversity recovery. Activities to improve the wellbeing of local communities are at an earlier stage, and we do not yet have evidence of impact. Capacity building for long term biodiversity conservation and poverty reduction is progressing well, and we are confident that the project will have a multidimensional impact.	███████████████████████
Outcome Improved conservation status of wildlife in and around Niokolo-Koba National Park, especially African wild dogs, lions, giant eland, and chimpanzees, while local people experience improved wellbeing		
Outcome indicator 0.1 *Stabilised/ improved species population (relative abundance/ distribution) within the project area* (occupancy of priority species in the 2026 biennial camera trap survey of Niokolo-Koba relative to the 2022 survey, targets 50% increase for African wild dogs, 30% increase for lions, 30% increase for giant eland, and stable for chimpanzees, including 0 animals detected with snare injuries; estimated population size changes 2022-6 in entire project area (inside and outside the park): African wild dogs 3 packs to 6 packs, lions 30 to 45, giant eland 120 to 140, chimpanzees stable at approximately 500) **[DI-D04]**	This indicator is not scheduled for delivery until after the 2026 occupancy survey. Preliminary evidence from the 2024 occupancy survey suggests that there may be an improvement in occupancy relative to 2022, but this requires confirmation in 2026 with consistent methodology. The 2025 density survey is in progress at the time of writing.	Analysis of data from the 2025 density survey is to be conducted during Q1-Q3 in Y2. The park-wide occupancy survey is scheduled to be commenced in the Q4 of Y2.
Outcome indicator 0.2 *Frequency of patrols by law enforcement rangers supported through the project* (establishment of de-snaring unit, baseline=0, target = 10 days per month in Y1, Y2, and Y3)	As described in the narrative, de-snaring patrols had not commenced by 30th March, due to changes in DPN	De-snaring brigades are being trained during Q1 of Y2 and patrols should start before the end of Q1 of Y2 (which is within

	leadership and delays to recruiting the required rangers. This unit is now in place and being trained (see photo in Annex 4).	the first 12 months of this project, which started in Q2 of 2024/5).
Outcome indicator 0.3 Number of households reporting improved wellbeing (50% of targeted households, disaggregated by household type, indicate improved food security, human-wildlife conflict, and rabies risk), relative to a baseline to be measured in Y1) **[DI-D16]**	Baseline surveys have been conducted in all three target communities, facilitating evaluation of this outcome in Y3.	Analysis of the baseline survey data will take place during Q1-Q2 of Y2.
Outcome indicator 0.4 *Number of individuals / households reporting a decrease in unsustainable practices as a result of project activities* (number of households reporting illegally accessing resources within Niokolo-Koba National Park (disaggregated by household type, proximity to the park boundary, location, type of resource (hunting/grazing/ water/thatching/honey/other), and whether accompanied by a dog, relative to a baseline to be measured in Y1) **[DI-B09]**	Baseline surveys have been conducted in all three target communities, facilitating evaluation of this outcome in Y3.	Analysis of the baseline survey data, including choosing metrics for comparison between Y1 and Y3, will take place during Q1-Q2 of Y2.
Outcome indicator 0.5 *Number of local/national organisations with improved capability and capacity as a result of project* (target=2, DPN and Am Bé Koun; with the number of Sénégalese wildlife veterinarians increasing from one (male) to two (aiming for equal sex ratio), the number of de-snaring rangers increasing from zero to 12 (aiming for equal sex ratio), and the number of Sénégalese carnivore biologists increasing from one to two) **[DI-A03]** – capability & capacity	As agreed in our change request (CR24-114), we have delayed recruitment of our veterinarian until Y2, although we confidently anticipate meeting this target by supplementing the one (male) wildlife veterinarian at DPN with a second (female) veterinarian, Dr Awa Kanoute, who is scheduled to join our team in Jul 2025. As planned, we have successfully recruited 12 de-snaring rangers to DPN although, on the insistence of the park's conservateur, members of this brigade are all male. We have successfully increased the number of Senegalese carnivore biologists, not only by training Assane Diouf in our team, but also by organising to have Ousmane Thiaw seconded from the DPN's office of ecological monitoring to our project. Ousmane is receiving the same training as Assane, meaning that we have already exceeded our target by increasing the number of Senegalese carnivore biologists from one to three. Although these specific changes refer to increased capacity at DPN, we have also developed capacity at Am Bé Koun by increasing their staff numbers by four (livelihoods officer and three	Veterinarian to join the project at the start of Q2 Y2 (in the 13th month of this project). Coaching of carnivore biologist colleagues will continue throughout the project. Training of DPN rangers is a top priority of Y2 Q1.

	community liaison officers) and providing them with logistical support, structured training, and mentoring.	
Outcome indicator 0.6 *Area identified as important for biodiversity* (baseline=c. 3,500 sq km occupied by priority species in 2022, based on DPN/Panthera camera trapping (Figure 3), target ≥6,000 sq km by Y3 through improving habitat within Niokolo-Koba and identifying new occupied habitat outside the park) **[DI-B11]**	This indicator is not scheduled for delivery until after the 2026 occupancy survey. Preliminary evidence from the 2024 occupancy survey suggests that there may be an increase in the area identified within the park as important for wildlife relative to 2022, but this requires confirmation in 2026 with consistent methodology. Outside the park, occupancy surveys have been completed in Boundou community reserve, the northern part of the Faleme hunting zone, and the corridor between the two, with data analysis ongoing. Preliminary evidence suggests the unexpected presence of the red-fronted gazelle in this corridor, a range expansion for this globally threatened species and an encouraging early sign of progress towards this outcome.	Occupancy surveys outside PNNK are timetabled for Y2 Q3; they should be complete by the end of Y2. The 2026 park-wide occupancy survey will commence in Y2 Q4.
Outcome indicator 0.7 *Proportion of people with positive attitudes to wildlife*. By Y3, the proportion of people in south-eastern Sénégal with positive attitudes to wildlife has increases from a baseline measured in Y1, disaggregated by age and sex as well as by role (e.g., herder, hunter, miner, farmer) and distance from Niokolo-Koba National Park **[PL-0-1]**	Baseline surveys have been conducted in all three target communities, facilitating evaluation of this outcome in Y3.	Analysis of the baseline survey data is a priority of Y2 Q1-Q2, in preparation for a repeat of the survey in Y3.
Output 1 Niokolo-Koba National Park provides more effective protection for priority wildlife species		
Output indicator 1.1 *The number of active snares found per unit effort during de-snaring operations by end of Y3* (baseline to be established in Y1; target is zero snares by Y3, as this is a new poaching practice in Niokolo-Koba, and we hope to stamp it out) **[PL-1-1]**	As described in the narrative, de-snaring patrols had not commenced by 30th March, due to changes in DPN leadership and delays to recruiting the required rangers. This unit is now in place, and a baseline will be established during the first 12 months of the project (noting that this report covers only the first 9 months).	Initiate desnaring patrols in Y2 Q2 (months 10-12 of the project) to ensure a Y1 baseline.
Output indicator 1.2 *The proportion of wild animals observed with snare injuries* (species-specific baselines to be established in Y1; target is	The biennial density survey is in progress at the time of writing and will provide the Y1 baseline. A decision was taken to prolong this survey to maximise data collection during the	Analysis of camera trap images during Y2 will allow a baseline

zero by Y3, as this is a new poaching practice in Niokolo-Koba, and we hope to stamp it out) **[PL-1-2]**	parts of the year when the park is accessible, however the survey will be completed before the first 12 months of the project are complete.	assessment of the incidence of snaring.
Output indicator 1.3 *Number of new/improved species management plans available and endorsed* (response plan to injured/snared wildlife, baseline=0 plans, target=1 plan) **[DI-B02] - biodiversity**	The outline of the snare response plan was agreed at a workshop in Dakar during the reporting period. The plan itself is now being drafted and will be complete during the first 12 months of the project.	Write-up of the snare response plan is a priority for Y2 Q1.
Output indicator 1.4 Frequency of illegal entry to the park by poachers (occupancy by poachers within the targeted area declines; baseline from 2022 biennial park-wide camera trap survey, target 40% reduction by 2026 survey (end of Y2) **[PL-1-3]**	This indicator is not scheduled for delivery until after the 2026 occupancy survey.	Occupancy of poachers will be estimated during the 2026 park-wide camera trap survey, scheduled for Y2 Q4.
Output indicator 1.5 Frequency of illegal entry to the park by livestock (occupancy by livestock within the targeted area declines; baseline from 2022 biennial park-wide camera trap survey, target 40% reduction by 2026 survey (end of Y2) **[PL-1-4]**	This indicator is not scheduled for delivery until after the 2026 occupancy survey.	Occupancy of livestock will be estimated during the 2026 park-wide camera trap survey, scheduled for Y2 Q4.
Output indicator 1.6 Frequency of illegal entry to the park by domestic dogs (occupancy by domestic dogs within the targeted area declines; baseline from 2022 biennial park-wide camera trap survey, target 40% reduction by 2026 survey (end of Y2) **[PL-1-5]**	This indicator is not scheduled for delivery until after the 2026 occupancy survey.	Occupancy of domestic dogs will be estimated during the 2026 park-wide camera trap survey, scheduled for Y2 Q4.
Output indicator 1.7 Percentage of domestic dogs accompanying people apprehended in the park which are unvaccinated (baseline in targeted area =100%, target ≤80% by Y1, ≤50% by Y2, ≤30% by Y3) **[PL-1-6]**	DPN has reported no domestic dogs apprehended in the target area during the reporting period. Protocols for dealing with domestic dogs in the park were agreed at a workshop in Dakar as part of developing the disease management plan. This plan is now being drafted and should improve reporting and responses to domestic dogs in the park.	Write-up of the disease management plan, including a protocol for dealing with domestic dogs found in the park, is a priority for Y2 Q1. Thios protocol will then be integrated into training for DPN rangers during Y2.
Output indicator 1.8		

Drivers of biodiversity loss assessed to have been reduced or removed (baseline=0, target=3 (poaching, illegal grazing, domestic dog disease all under control in the targeted area) **[DI-D018]**	This indicator is not scheduled for delivery until after the 2026 occupancy survey.	No further action is needed for this indicator, until after the 2026 occupancy survey, early in Y3.
Output 2. The wellbeing of people living outside Niokolo-Koba National Park improves as their impacts on the park are declining		
Output indicator 2.1 *New assessments of community use of biodiversity resources published* (Baseline survey to quantify illegal use of resources inside Niokolo-Koba National Park, disaggregated by gender, household type, proximity to the park boundary, location, type of resource (hunting/grazing/water/thatching/ honey/other) completed during Y1) [DI-C04] **- biodiversity**	The baseline survey was conducted by ABK in 28 villages (12 villages in Dialocoto, eight villages in Tomboronkoto, and eight villages in Linkering). Analysis of these baseline data is a priority for Y2 Q1 (months 10-12 of the project).	Analysis of the baseline survey data is a priority for Y2 Q1, allowing the indicator to be reached during the first 12 months as planned.
Output indicator 2.2 *Number of new/improved sustainable livelihoods/ poverty reduction management plans available and endorsed* (Existing agreements between local communities and park authorities about successful ways to develop sustainable livelihoods outside the park [6] are updated and expanded) **[DI-B04] – poverty reduction**	The agreement between local communities around PNNK, and the DPN responsible for running the park, is being updated (with our involvement) in the course of updating the PNNK management plan. This process is led by DPN but involves local communities. In related efforts, we have also (i) agreed a plan with the head of education in each region to allow our environmental education work to proceed in the 14 schools within the target communities, and (ii) agreed the outline of a plan with local mayors and the national One Health high council to allow rabies vaccination of domestic dogs in these same communities.	Continue to engage with the process of updating the PNNK management plan, consistently advocating for multidimensional poverty reduction for communities neighbouring the park to be included within the final plan.
Output indicator 2.3 *Number of people with improved access to services or infrastructure for improved well-being* (Establishment of two pilot livestock waterpoints outside the park, as requested by UNESCO [9], to assess whether they reduce or increase livestock entry to the park; baseline=0, target=3, accessible to 600 people) **[DI-A06]**	The baseline survey explores, among other things, community support for the construction of pilot livestock water points. Analysis of the survey data will allow us to assess community support and determine next steps for this indicator.	Analysis of the baseline survey data is a priority for Y2 Q1, allowing an assessment of community support and informing decisions about next steps.
Output indicator 2.4		

Number of people benefitting from improved sustainable agriculture practices and are more resilient to weather shocks and climate trends (Number of households (disaggregated by household type and location) actively supported by agricultural and veterinary advice to improve or adopt chicken farming as a locally appropriate reliable source of protein and income (as an alternative to hunting wild meat), which disproportionately benefits women [10], but is currently constrained by vaccine-preventable Newcastle disease [11]; baseline=0 households, target=300 households actively supported, with guidance to a further 600 households) **[DI-D11]**	The baseline survey explores, among other things, community support for the chicken farming project. Analysis of the survey data will allow us to assess community support and target this intervention. ABK has also conducted an exhaustive evaluation of appropriate chicken varieties, identified a supplier of the chosen variety, and developed a way of targeting households to maximise the sustainability of the approach.	Analysis of the baseline survey, and initiation of the chicken rearing intervention, are priorities for Y2 Q1 and Q2 (months 10-15 of the project).
Output indicator 2.5 *Proportion sustainable livelihood enterprises established that are functioning at project end (at least a year after establishment).* (Proportion of people, disaggregated by sex, age, and location, who are still keeping chickens at least a year after being introduced to the practice, target=60%) **[DI-A10]**	This indicator is scheduled to be achieved by the end of Y3 so is not relevant at the current time.	No action is needed towards this indicator at this time, beyond that listed under 2.4.
Output indicator 2.6 *Number of domestic dogs vaccinated against rabies* (baseline=0, target=1,000 in Y1, 5,000 by Y2, 10,000 by Y3); targets based on local human population and regional estimates of human-to-dog ratios [12] **[PL-2-1]**	The initiation of domestic dog vaccination has been delayed by three factors. (i) As agreed in CR-24-114, we delayed recruitment of our project veterinarian until Y2, meaning that the person to be tasked with managing this work package was not yet in post; (ii) The veterinary consultant whom we aimed to engage to initiate this work secured another job in Kenya, and became unavailable; (iii) The process of securing local and national approval to start this work has been slower than expected. Although vaccination has not itself started, we have made substantial progress by • Securing agreement for this activity from the High National Council for Global Health Security-One Health, a council within the Prime Minister's office charged with controlling zoonotic diseases. The One Health team participated in our infectious disease workshop, and committed both to adding our domestic dog vaccination work to Senegal's health	Finalise the disease management plan (during Y2 Q1) and engage with the One Health council to ensure that all permissions are in place to start domestic dog vaccination by the time our project veterinarian starts in Y2 Q2.

	strategy, and to directing regional governors to support and facilitate the work (see photo in Annex 4	
	• Securing agreement for this activity from the mayors of the three communities, which is essential.	
	• Purchasing the specialist equipment (e.g., 12V refrigerators) needed for the work to proceed	
	With these partnerships in place, as soon as our disease management plan is finalised (during Y2 Q1) and our project veterinarian joins the team (during Y2 Q2) we will be well placed to make a rapid start to this activity.	
Output indicator 2.7 *Percentage of unvaccinated domestic dogs within 5km of the park boundary* (baseline=100% in targeted area, target ≤80% by Y1, ≤50% by Y2, ≤30% by Y3); this is a standard indicator recognised by the World Health Organisation as indicating that rabies is likely to be eradicated locally [13] **[PL-2-2]**	As domestic dog vaccination has not yet commenced, this indicator remains at its baseline level.	
Output indicator 2.8 *Number of people inhabiting areas receiving free rabies vaccination of domestic dogs* (baseline=0, target=2,000 in Y1, 10,000 by Y2, 20,000 by Y3) **[PL-2-3]**	As domestic dog vaccination has not yet commenced, this indicator remains at its baseline level.	
Output indicator 2.9 *Number of dog bites reported to local hospitals and clinics* (baseline to be established in Y1, target=decline by 20% per year based on experience from Kenya (Darwin project DI 28-013); this has been shown to be a reliable indicator of human rabies risk [14] **[PL-2-4]**	As domestic dog vaccination has not yet commenced, this indicator remains at its baseline level.	
Output indicator 2.10 *Number of incidents of human-wildlife conflict investigated by project team* (number of livestock attacks investigated in a case-control framework to identify effective and locally appropriate husbandry methods increases from 0 in 2023 to 100 by 2025 (each case with 3 matched controls to	To date, only two incidents of livestock attacks have been reported to our community liaison officers. Analysis of the baseline questionnaire should help us to determine the incidence of livestock predation. Protocols for investigating livestock predation incidents are being refined and will be in place during Y2 Q1 (months 10-12 of the project).	Complete analysis of baseline questionnaire data, and finalise recording forms for investigating livestock predation, both during Y2 Q1.

maximise statistical power), target set based on refs [15] and [16]) **[PL-2-5]**	
Output indicator 2.11 *Number of people engaged with outreach to share guidance on minimising human-wildlife conflict* (number of people (disaggregated by age and sex) increases from 0 in 2023 to 200 in Y1 (with equal sex ratio and including both adults and youth), to 500 by Y2 and 1,000 by Y3 **[PL-2-6]**	The low numbers of community members thus far reporting human-wildlife conflict means that, thus far, locally appropriate guidance on mitigating human-wildlife conflict has not yet been developed. It is not yet clear whether previously-reported incidents of livestock predation were occurring outside the park, or during illegal grazing of livestock inside the park.
Output indicator 2.12 *Net change in incidences of human wildlife conflict* (a 40% decline in the number of attacks on livestock reported to project team by a standardised cohort of livestock-keepers, disaggregated by predator species, livestock type, location (e.g., inside/outside the park), and the age and gender of the livestock owner, as well as the number of wild animals reported killed due to human-wildlife conflict, disaggregated by species and location). Baseline rates taken from ref [15], achievable decline estimated from [16] **[DI-D15]**	This indicator is scheduled to be attained later in the project.
Output 3. Sénégal has increased capacity to manage, monitor, and conserve priority wildlife species	
Output indicator 3.1 *Number of people from key national and local stakeholders completing structured and relevant training* (DPN veterinarians who have completed wildlife capture training, baseline=0, target=1 (female if possible) by the end of Y1; DPN rangers trained to conduct de-snaring operations, baseline=0, target=12 (aiming for equal sex ratio) during Y1) **[DI-A01]** – capability & capacity	As agreed in our change request (CR24-114), we delayed recruitment of our veterinarian until Y2. Dr Awa Kanoute, Senegal's first female wildlife veterinarian, is scheduled to join our team in Jul 2025. Her participation in wildlife capture training, now scheduled for Y2, was impeded when we learned that the capture course would not accept a francophone participant, even when accompanied by an interpreter. We are therefore supporting English language training for Dr Kanoute in advance of her joining the project; her progress is sufficient that she should be able to participate in the wildlife capture training in Y2 as planned.

	Other team members also found a language barrier was impeding their work; for example, ecological monitoring officer Assane Diouf, DPN ecologist Ousmane Thiaw, and Am Bé Koun Livelihoods Officer Moussa Sadaba, were unable to access the scientific literature, which is mostly in English. As agreed in our change request (CR24-114), we have therefore supported English language training for them, as well as for DPN veterinarian Dr Fall; all are making good progress. Training for the 12 DPN rangers (disappointingly, all male) is taking place at the time of writing and will be completed during the project's first 12 months.	
Output indicator 3.2 *Number of secondments or placements completed by individuals of key local and national stakeholders* (DPN veterinarians who have completed a wildlife health placement elsewhere in Africa; baseline=0, target=1 (female if possible) by the end of Y2; Sénégalese students who have completed a fieldwork placement with the project's survey or ecological monitoring efforts; baseline=0, target=6 (aiming for equal sex ratio) by the end of Y3) **[DI-A02] – capability & capacity**	As agreed in our change request (CR24-114), we delayed recruitment of our veterinarian until Y2, so the veterinary placement has been delayed. We currently have one (male) Senegalese student conducting a fieldwork placement, with another (female) student lined up for the next internship. Hence, we are on track to complete 6 internships by the end of Y3 as planned.	
Output indicator 3.3 *Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training* (target=15, 1 veterinarian (ideally female), 2 ecologists, 12 de-snaring rangers (aiming for equal sex ratio), by the end of Y2) **[DI-A04] – capability & capacity**	This indicator is not scheduled to be achieved until the end of Y2.	
Output 4. Evidence of the status and distribution of African wild dogs, lions, giant eland, and chimpanzees across south-eastern Sénégal		
Output indicator 4.1 *Number of new conservation or species stock assessments published* (baseline=0 as there is no published evidence from outside Niokolo-Koba, target=1 report for all 4 species) **[DI-C02] – biodiversity**	Although not mentioned in the indicator wording, this indicator (publication of a conservation assessment) is scheduled to be achieved by the end of Y3. Nevertheless, we are making good progress towards this indicator. Our team has almost completed an initial evaluation of the whole area using remote sensing. Occupancy surveys have so far been	Surveys of the land between Niokolo-Koba and Falémé, and to the south-east of Niokolo-Koba (including Oubadji

	conducted across approximately half of the land to be targeted, including most of the Falémé hunting zone, all of the Boundou Community Reserve, and the land between the two.	Community Reserve), to be completed by the end of Y2.
Output indicator 4.2 *Number of unique papers submitted to peer reviewed journals* (target=1 published paper) **[DI-C17]**	Although not mentioned in the indicator wording, this indicator (submission of a scientific paper) is scheduled to be achieved by the end of Y3.	
Output 5. Improved public knowledge of, and attitudes to, wildlife conservation in Sénégal, locally, nationally, and internationally		
Output indicator 5.1 Number of people engaged with public education about wildlife and conservation (baseline=0 around Niokolo-Koba, increasing to 1,000 in Y1 (with equal sex ratio and including both adults and youth), disaggregated by role (e.g., farmer, herder, hunter, school pupil, artisanal miner, mining company staff), to 5,000 by Y2 and 10,000 by Y3 **[PL-5-1]**		
Output indicator 5.2 *Social media presence* (number and reach of social media posts about wildlife in south-eastern Sénégal from ZSL and project partners increases 10-fold, including https://www.facebook.com/PantheraAuSenegal, establishment of new @TeamWildDog account on twitter, as well as @ProjetLycaon posting en français) **[DI-C12]**	Like many environmentally conscious organisations, we moved away from posting on twitter (now X), and have been focusing our social media presence on LinkedIn, where Projet Lycaon has 845 followers, and Panthera Senegal has 1,800 followers on Facebook	
Output indicator 5.3 *Number of Media related activities* (Six-fold increase in print and broadcast media items presenting positive new stories about wildlife in SE Sénégal, from 1.5 newspaper articles per year in 2018-2023 to 9 per year in 2024-2026) **(DI-C15)**	During the 9-month extent of the project, we have counted eight English-language articles presenting positive news about Niokolo-Koba, and at least 15 such articles French, mostly focused on the removal of the park from the UNESCO list of World Heritage in Danger. As this decision was informed in part by our developing the "emergency programme for the Lycaon" demanded by UNESCO, our efforts have contributed to this positive press coverage.	

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project Summary	SMART Indicators	Means of Verification	Important Assumptions
Impact: Recovery of South-East Sénégal's critically endangered and ecologically unique fauna, coexisting with prosperous and healthy local people			
Outcome: Improved conservation status of wildlife in and around Niokolo-Koba National Park, especially African wild dogs, lions, giant eland, and chimpanzees, while local people experience improved wellbeing	**0.1** *Stabilised/ improved species population (relative abundance/ distribution) within the project area* (occupancy of priority species in the 2026 biennial camera trap survey of Niokolo-Koba relative to the 2022 survey, targets 50% increase for African wild dogs, 30% increase for lions, 30% increase for giant eland, and stable for chimpanzees, including 0 animals detected with snare injuries [18]; estimated population size changes 2022-6 in entire project area (inside and outside the park): African wild dogs 3 packs to 6 packs, lions 30 to 45, giant eland 120 to 140, chimpanzees stable at approximately 500) **[DI-D04]** **0.2** *Frequency of patrols by law enforcement rangers supported through the project* (establishment of de-snaring unit, baseline=0, target = 10 days per month in Y1, Y2, and Y3) **[IWTCF-B09]**[1] **0.3** Number of households reporting improved wellbeing (50% of targeted households, disaggregated by household type, indicate improved food security, human-wildlife conflict, and rabies	**0.1** Occupancy of priority wildlife species, and incidence of snare injuries [18], calculated from biennial park-wide camera trap surveys, supplemented by more localised surveys as appropriate inside and outside the park, as well as estimates based on individual recognition and GPS-collar data for African wild dogs and lions. **0.2** De-snaring teams' reports with data on effort (days on patrol) per area and month, disaggregated by region of park **0.3** Household survey measuring multiple dimensions of wellbeing conducted at start and end of the project. **0.4** Household surveys will use modern methods in social science [19] to anonymously estimate the	Achieving this outcome assumes that the reasons for low wildlife numbers in Niokolo-Koba have been identified correctly. Evidence that this is the case comes from systematic camera trapping, which shows that priority wildlife persist only in the least human-impacted areas of the park (Figure 3), and from data showing that intensified law enforcement within part of the park is already fostering wildlife recovery in that area (but not elsewhere) [20]. This outcome also assumes that local people's reasons for illegally entering the park have been identified correctly. Evidence that this is the case comes from extensive engagement with local communities by DPN and Am Bé Koun [6, 21]. Achieving the outcome further assumes that a combination of

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[1]

risk), relative to a baseline to be measured in Y1) **[DI-D16]**

0.4 *Number of individuals / households reporting a decrease in unsustainable practices as a result of project activities* (number of households reporting illegally accessing resources within Niokolo-Koba National Park (disaggregated by household type, proximity to the park boundary, location, type of resource (hunting/grazing/ water/thatching/honey/other), and whether accompanied by a dog, relative to a baseline to be measured in Y1) **[DI-B09]**

0.5 *Number of local/national organisations with improved capability and capacity as a result of project* (target=2, DPN and Am Bé Koun; with the number of Sénégalese wildlife veterinarians increasing from one (male) to two (aiming for equal sex ratio), the number of de-snaring rangers increasing from zero to 12 (aiming for equal sex ratio), and the number of Sénégalese carnivore biologists increasing from one to two) **[DI-A03][2] – capability & capacity**

0.6 *Area identified as important for biodiversity* (baseline=c. 3,500 sq km occupied by priority species in 2022, based on DPN/Panthera camera trapping (Figure 3), target ≥6,000 sq km by Y3 through improving habitat within Niokolo-Koba and identifying new occupied habitat outside the park) **[DI-B11]**

frequency of household members illegally accessing resources within the park. Data from camera trap surveys (anonymised using automated methods before analysis) and ranger patrols will provide independent assessments of illegal park entry.

0.5 Improved capacity will be measured by the number of Sénégalese nationals (disaggregated by gender) trained, and the number actively implementing their training within the subsequent six months.

0.6 Improved evidence on the status of priority wildlife will be verified by publication of a peer-reviewed scientific paper on this topic.

0.7 Attitudes to wildlife conservation will be verified by surveys at the start and end of the project, and in the course of camera trapping on unprotected lands. Exposure of people to educational material will be assessed by counting audiences (disaggregated by age, sex, and location), and by quantifying the number and reach of outputs

strengthened law enforcement and efforts to improve wellbeing can effectively discourage people from accessing the park illegally. Evidence that this is the case comes from local community development plans which emphasise the value of the park to development, as well as the challenges [10, 22], and from international evidence [e.g., 23, 24].
Finally, achieving this outcome assumes that corruption will not undermine key project activities (e.g., anti-poaching, community engagement). All partners have procedures in place to avoid this eventuality.

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[2] Darwin Initiative core indicators are highlighted in green, and linked to the element of the fund to which they refer

		through print, broadcast, and social media.	
	0.7 *Proportion of people with positive attitudes to wildlife.* By Y3, the proportion of people in south-eastern Sénégal with positive attitudes to wildlife has increases from a baseline measured in Y1, disaggregated by age and sex as well as by role (e.g., herder, hunter, miner, farmer) and distance from Niokolo-Koba National Park **[PL-0-1]**[3]		
Outputs: **1**. Niokolo-Koba National Park provides more effective protection for priority wildlife species	**1.1** *The number of active snares found per unit effort during de-snaring operations by end of Y3* (baseline to be established in Y1; target is zero snares by Y3, as this is a new poaching practice in Niokolo-Koba, and we hope to stamp it out) **[PL-1-1]** **1.2** *The proportion of wild animals observed with snare injuries* (species-specific baselines to be established in Y1; target is zero by Y3, as this is a new poaching practice in Niokolo-Koba, and we hope to stamp it out) **[PL-1-2]** **1.3** *Number of new/improved species management plans available and endorsed* (response plan to injured/snared wildlife, baseline=0 plans, target=1 plan) **[DI-B02] - biodiversity** **1.4** Frequency of illegal entry to the park by poachers (occupancy by poachers within the targeted area declines; baseline from 2022 biennial park-wide camera trap survey, target 40% reduction by 2026 survey (end of Y2) **[PL-1-3]** **1.5** Frequency of illegal entry to the park by livestock (occupancy by livestock within the targeted area declines; baseline from 2022 biennial park-wide	**1.1** De-snaring teams' reports on active snares found and removed per unit area, disaggregated by month and region of park **1.2** Number of animals of all species, including the four priority species, observed on camera traps and visual observations, disaggregated by species, year, and location **1.3** Snare response plan developed, agreed, and endorsed by DPN **1.4** Occupancy by poachers calculated from biennial park-wide camera trap survey (with camera trap images anonymised by an automated system before analysis), supplemented by more localised surveys in targeted areas. **1.5** Occupancy by livestock calculated from biennial park-wide camera trap survey (with camera trap images anonymised by an automated	This output assumes that a combination of law enforcement inside the park, with outreach outside the park, can discourage illegal use of Niokolo-Koba National Park. There is evidence of this occurring elsewhere in Africa [e.g., 23, 24]. There is also evidence that observations of snare injuries in wildlife provide an indication of snare-related mortality [18]. This output also assumes that the people illegally entering Niokolo-Koba National Park come from nearby villages rather than from origins remote from the park. Local DPN intelligence (including data from arrests) suggests that this is the case. This output further assumes that decreased illegal use of Niokolo-Koba National Park will allow wildlife to recover, something which is evident

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[3] Indicators with no other source are numbered PL for *"Projet Lycaon"*

	camera trap survey, target 40% reduction by 2026 survey (end of Y2) **[PL-1-4]** **1.6** Frequency of illegal entry to the park by domestic dogs (occupancy by domestic dogs within the targeted area declines; baseline from 2022 biennial park-wide camera trap survey, target 40% reduction by 2026 survey (end of Y2) **[PL-1-5]** **1.7** Percentage of domestic dogs accompanying people apprehended in the park which are unvaccinated (baseline in targeted area =100%, target ≤80% by Y1, ≤50% by Y2, ≤30% by Y3) **[PL-1-6]** **1.8** *Drivers of biodiversity loss assessed to have been reduced or removed* (baseline=0, target=3 (poaching, illegal grazing, domestic dog disease all under control in the targeted area) **[DI-D018]**	system before analysis), supplemented by more localised surveys in targeted areas. **1.6** Occupancy by domestic dogs calculated from biennial park-wide camera trap survey, supplemented by more localised surveys in targeted areas. **1.7** Vaccination status of domestic dogs found in the park verified using certificates issued by the project at the time of vaccination. **1.8** Evidence that poaching, illegal grazing, and canid diseases are under control will come from indicators 1.1-1.6, but also from (i) causes of mortality within groups of wild dogs and lions monitored with GPS-collars; (ii) observations of snared wildlife (of any species) on camera traps [18]; (iii) abundance estimates and occupancy of African wild dog and lion prey species (e.g. bushbuck, roan, warthog, buffalo); (iv) reports from park rangers and others of wildlife or domestic dogs confirmed or suspected to be infected with canid diseases.	from recent experience in part of the park [20]. Finally, this output assumes that a sufficiently high proportion of domestic dogs in the area will be accessible for vaccination (as dogs are sometimes unaccustomed to being touched in majority Muslim communities); this has been possible elsewhere in the region [12].
2. The wellbeing of people living outside Niokolo-Koba National Park improves as their impacts on the park are declining	**2.1** *New assessments of community use of biodiversity resources published* (Baseline survey to quantify illegal use of resources inside Niokolo-Koba National Park, disaggregated by gender, household type, proximity to the park boundary, location, type of	**2.1** Publication of the assessment. **2.2** Three updated/expanded local plans are agreed between communities and DPN, endorsed by both sides, and published. **2.3** Construction of waterpoints, as well as report using camera trapping	This output assumes that local communities will be willing to engage with the project despite historical grievances against DPN. This assumption is supported by successful three-way engagement between

resource (hunting/grazing/water/thatching/ honey/other) completed during Y1) [**DI-C04**] - **biodiversity**

2.2 *Number of new/improved sustainable livelihoods/ poverty reduction management plans available and endorsed* (Existing agreements between local communities and park authorities about successful ways to develop sustainable livelihoods outside the park [6] are updated and expanded) **[DI-B04] – poverty reduction**

2.3 *Number of people with improved access to services or infrastructure for improved well-being* (Establishment of two pilot livestock waterpoints outside the park, as requested by UNESCO [9], to assess whether they reduce or increase livestock entry to the park; baseline=0, target=3, accessible to 600 people) **[DI-A06]**

2.4 *Number of people benefitting from improved sustainable agriculture practices and are more resilient to weather shocks and climate trends* (Number of households (disaggregated by household type and location) actively supported by agricultural and veterinary advice to improve or adopt chicken farming as a locally appropriate reliable source of protein and income (as an alternative to hunting wild meat), which disproportionately benefits women [10], but is currently constrained by vaccine-preventable Newcastle disease [11]; baseline=0 households, target=300 households actively supported, with guidance to a further 600 households) **[DI-D11]**

to monitor livestock numbers using new waterpoints, and nearby waterpoints inside the park.
2.4 Number of households engaged with livelihoods officer and veterinary officer (disaggregated by household type, location, and level of engagement).
2.5 Annual survey of participants in livelihoods efforts.
2.6 Number of domestic dogs vaccinated by field teams, recorded in real time using the Mission Rabies app [25].
2.7 Vaccine coverage estimated from re-sighting of domestic dogs marked temporarily at the time of vaccination, using the Mission Rabies app [25].
2.8 Number of people benefitting from rabies control estimated by mapping areas with adequate rabies vaccination coverage (from Mission Rabies app [25] and using existing GIS coverages to count the number of affected households.
2.9 Monthly data on dogs biting people (anonymised but disaggregated by age, gender, and geographic location) reported to clinics inside and outside the targeted area.
2.10 Number of human-wildlife conflict reports investigated (broken down by age, sex, and location of the victim), taken from records kept by community liaison officer.
2.11 Number of people engaging with human-wildlife conflict outreach

local communities, DPN, and project partner Am Bé Koun in recent years [6].
This output will test the assumption, made by UNESCO, that provision of waterpoints for livestock outside the park will discourage livestock keepers from entering the park [9]. Although this action is listed as one of the actions required to remove Niokolo-Koba from the list of World Heritage in Danger, there is no empirical evidence that water provision will discourage use of the park rather than attracting more livestock from further afield to the margins of the park. We will therefore conduct a small-scale pilot to explore the consequences of improving livestock access to water.
This output also assumes that raising chickens would provide a locally appropriate and reliable source of protein and income, as an alternative to poaching in the park. This assumption is supported by local assessments [10] as well as by ZSL's experience from developing alternative livelihoods to address poaching in Cameroon.
This output further assumes that experience from delivering domestic dog vaccination in

2.5 *Proportion sustainable livelihood enterprises established that are functioning at project end (at least a year after establishment).* (Proportion of people, disaggregated by sex, age, and location, who are still keeping chickens at least a year after being introduced to the practice, target=60%) **[DI-A10]**

2.6 *Number of domestic dogs vaccinated against rabies* (baseline=0, target=1,000 in Y1, 5,000 by Y2, 10,000 by Y3); targets based on local human population and regional estimates of human-to-dog ratios [12] **[PL-2-1]**

2.7 *Percentage of unvaccinated domestic dogs within 5km of the park boundary* (baseline=100% in targeted area, target ≤80% by Y1, ≤50% by Y2, ≤30% by Y3); this is a standard indicator recognised by the World Health Organisation as indicating that rabies is likely to be eradicated locally [13] **[PL-2-2]**

2.8 *Number of people inhabiting areas receiving free rabies vaccination of domestic dogs* (baseline=0, target=2,000 in Y1, 10,000 by Y2, 20,000 by Y3) **[PL-2-3]**

2.9 *Number of dog bites reported to local hospitals and clinics* (baseline to be established in Y1, target=decline by 20% per year based on experience from Kenya (Darwin project DI 28-013); this has been shown to be a reliable indicator of human rabies risk [14] **[PL-2-4]**

2.10 *Number of incidents of human-wildlife conflict investigated by project team* (number of livestock attacks investigated in a case-control framework to

counted by project team and disaggregated by age, sex, and location.

2.12 Trends in the incidence of human-wildlife conflict measured by establishing a set of "sentinel" livestock keepers (aiming for locally appropriate gender balance) at the start of the project, who are contacted monthly to report predator attacks. This approach helps to distinguish trends in human-wildlife conflict from trends in monitoring effort.

Kenya (under project DI 28-013) can be rapidly adapted to suit conditions in Sénégal. Additionally, this output assumes that experience of mitigating livestock predation in other countries (e.g., Kenya [16, 17]) can be rapidly adapted as a first approximation (to be updated with local knowledge) in Sénégal.
Finally, this output assumes that improved management of domestic animals (provision of water for cattle, support to improve chicken rearing as a reliable source of protein and income, vaccination of domestic dogs, and protection from predators) will together improve the livelihoods of local people.

	identify effective and locally appropriate husbandry methods increases from 0 in 2023 to 100 by 2025 (each case with 3 matched controls to maximise statistical power), target set based on refs [15] and [16]) **[PL-2-5]** **2.11** *Number of people engaged with outreach to share guidance on minimising human-wildlife conflict* (number of people (disaggregated by age and sex) increases from 0 in 2023 to 200 in Y1 (with equal sex ratio and including both adults and youth), to 500 by Y2 and 1,000 by Y3 **[PL-2-6]** **2.12** *Net change in incidences of human wildlife conflict* (a 40% decline in the number of attacks on livestock reported to project team by a standardised cohort of livestock-keepers, disaggregated by predator species, livestock type, location (e.g., inside/outside the park), and the age and gender of the livestock owner, as well as the number of wild animals reported killed due to human-wildlife conflict, disaggregated by species and location). Baseline rates taken from ref [15], achievable decline estimated from [16] **[DI-D15]**		
3. Sénégal has increased capacity to manage, monitor, and conserve priority wildlife species	**3.1** *Number of people from key national and local stakeholders completing structured and relevant training* (DPN veterinarians who have completed wildlife capture training, baseline=0, target=1 (female if possible) by the end of Y1; DPN rangers trained to conduct de-snaring operations, baseline=0, target=12 (aiming for equal sex ratio) during Y1) **[DI-A01] – capability & capacity** **3.2** *Number of secondments or placements completed by individuals of key local and national stakeholders* (DPN veterinarians who have completed a wildlife health placement elsewhere in Africa; baseline=0, target=1 (female if possible) by	**3.1** DPN veterinarian's certificate of successfully passing the wildlife capture course, records of ranger training. **3.2** Trip reports by Sénégalese staff, and from placement hosts. **3.3** Records of team members' activities	Achieving this output assumes that Sénégalese staff will have the language skills (or can receive interpretation support) needed to participate in training and placements in anglophone Africa. This output also assumes that Sénégalese staff will remain working in Sénégal after receiving intensive training.

	the end of Y2; Sénégalese students who have completed a fieldwork placement with the project's survey or ecological monitoring efforts; baseline=0, target=6 (aiming for equal sex ratio) by the end of Y3) **[DI-A02]** – **capability & capacity** **3.3** *Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training* (target=15, 1 veterinarian (ideally female), 2 ecologists, 12 de-snaring rangers (aiming for equal sex ratio), by the end of Y2) **[DI-A04]** – **capability & capacity**		
4. Evidence of the status and distribution of African wild dogs, lions, giant eland, and chimpanzees across south-eastern Sénégal	**4.1** *Number of new conservation or species stock assessments published* (baseline=0 as there is no published evidence from outside Niokolo-Koba, target=1 report for all 4 species) **[DI-C02]** – **biodiversity** **4.2** *Number of unique papers submitted to peer reviewed journals* (target=1 published paper) **[DI-C17]**	**4.1** Reports of occupancy surveys of Niokolo-Koba, Falémé, and adjoining land, incorporating factors (including threats) correlating with species presence/absence. **4.2** Published scientific paper on the status of four priority species across south-eastern Sénégal, combining all survey results.	This output assumes that local communities will cooperate with surveys (e.g., by not stealing the camera traps). The camera trapping method has been found to be effective inside Niokolo-Koba, and a combined interview and camera trap methodology was found to be effective in southern Falémé (Figure 6).
5. Improved public knowledge of, and attitudes to, wildlife conservation in Sénégal, locally, nationally, and internationally	**5.1** Number of people engaged with public education about wildlife and conservation (baseline=0 around Niokolo-Koba, increasing to 1,000 in Y1 (with equal sex ratio and including both adults and youth), disaggregated by role (e.g., farmer, herder, hunter, school pupil, artisanal miner, mining company staff), to 5,000 by Y2 and 10,000 by Y3 **[PL-5-1]** **5.2** *Social media presence* (number and reach of social media posts about wildlife in south-eastern Sénégal from ZSL and project partners increases 10-fold, including https://www.facebook.com/PantheraAuSenegal, establishment of new @TeamWildDog account on twitter, as well as @ProjetLycaon posting en français) **[DI-C12]**	**5.1** Engagement with education efforts will be estimated by counting audiences (separately enumerating men, women, boys, and girls where possible, as well as location (e.g., school, market, mining company) **5.2** Changes in social media presence will be measured in terms of number and reach of posts by project partners' social media accounts **5.3** Changes in media coverage (print and broadcast media) will be measured in the course of conducting media outreach	This output assumes that outreach conducted in-person, online, and in print and broadcast media, can reach its target audience – for example social media posts about wildlife in Africa tend to attract far more attention outside Africa than in it. Efforts will therefore need to be carefully tailored to reach the intended audience for each message. This output also assumes that education, combined with a package of measures, including linking practical

	5.3 *Number of Media related activities* (Six-fold increase in print and broadcast media items presenting positive new stories about wildlife in SE Sénégal, from 1.5 newspaper articles per year in 2018-2023 to 9 per year in 2024-2026) **(DI-C15]**		action on human health and wellbeing to the health and conservation of endangered wildlife, can help to improve local attitudes. This assumption is supported evidence from a parallel project in Kenya, although translation to a different environment and culture is uncertain.

Activities

1.1 Establish Project Board with quarterly meetings including GESI, safeguarding, and risk register as standing items

1.2 De-snaring teams operate across Niokolo-Koba, patrolling approximately 10 days per month throughout the project period

1.3 Provide training (or refresher training) to ensure rangers document encounters, including those with people, livestock, and domestic dogs inside Niokolo-Koba National Park

1.4 Develop, agree, and implement response plan to detection of snares and snared wildlife

1.5 Develop, agree, and implement response plan to detection of domestic dogs inside Niokolo-Koba National Park

1.6 Implement biennial park-wide camera traps surveys across Niokolo-Koba National Park

1.7 Process camera trap data to automatically identify [26] and anonymise [27] images of people

1.8 Analyse anonymised park-wide camera trap data to estimate occupancy of key wildlife, poachers, illegal graziers, and domestic dogs, and incidence of snare-related injuries

2.1 Household surveys to quantify multiple dimensions of wellbeing, attitudes to wildlife, and (anonymously) illegal use of resources inside Niokolo-Koba National Park

2.2 Review, update, and expand existing agreements between local communities and DPN in Linkering, Dialacoto, and Tomboronkoto

2.3 Establish three pilot livestock waterpoints outside Niokolo-Koba National Park

2.4 Monitor waterpoints inside and outside Niokolo-Koba National Park to evaluate impact of artificial waterpoints on park use

2.5 Provide agricultural and veterinary support and advice to encourage chicken farming among households in the three target areas

2.6 Conduct annual surveys to assess whether participants have adopted livelihood approaches for which they received support

2.7 Deliver annual rabies vaccination to domestic dogs in the three target areas, tracking progress with the Mission Rabies app

2.8 Estimate rabies vaccine coverage in targeted areas using mark-resight

2.9 Establish monitoring system for human dog bites (anonymised but segregated by age and sex), working through local clinics and dispensaries

2.10 Investigate reports of human-wildlife conflict, using case-control approaches [16] to identify locally appropriate and effective mitigation measures

2.11 Use community meetings, posters, and other media to share knowledge on reducing human-wildlife conflict, drawing on new and existing evidence of effective mitigation measures

2.12 Establish monitoring system for human-wildlife conflict based on a selected sample of "sentinel" livestock keepers to be contacted monthly

3.1 Train and equip DPN rangers to conduct de-snaring operations

3.2 Provide training for DPN veterinarian by sending them on a wildlife capture course

3.3 Further training for DPN veterinarian through wildlife health placement elsewhere in Africa

3.4 Field training for Senegalese students through internships as components of wildlife survey and monitoring activities

4.1 Conduct occupancy surveys (with camera traps and interviews) on lands outside Niokolo-Koba, to establish species status and evaluate threats

4.2 Analyse and publish results of occupancy surveys

5.1 Conduct environmental education in schools around Niokolo-Koba, including new and existing materials about the priority species

5.2 Use community meetings to share knowledge about local wildlife and its value

5.3 Engage with mining companies to share survey findings and encourage sustainable practices

5.4 Use local radio to provide general information on environment and conservation as well as updates on project progress

5.5 Establish new @TeamWildDog and @ProjetLycaon social media profiles in English and French

5.6 Encourage visits to the project from local, national, and international journalists to encourage media coverage

Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the **correct template** (checking fund, scheme, type of report (i.e. Annual or Final), and year) and **deleted the blue guidance text** before submission?	X
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	X
Is your report more than 10MB? If so, please consider the best way to submit. One zipped file, or a download option, is recommended. We can work with most online options and will be in touch if we have a problem accessing material. If unsure, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	X
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	
Have you provided an updated risk register? If you have an existing risk register you should provide an updated version alongside your report. If your project was funded prior to this being a requirement, you are encouraged to develop a risk register.	X
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see Section 16)?	
Have you involved your partners in preparation of the report and named the main contributors	X
Have you completed the Project Expenditure table fully?	X
Do not include claim forms or other communications with this report.	