



Illegal Wildlife Trade (IWT) Challenge Fund Evidence Final Report

To be completed with reference to the “Project Reporting Information Note”:
(<https://iwt.challengefund.org.uk/resources/information-notes/>).

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

Submission Deadline: no later than 3 months after agreed project end date.

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

IWT Challenge Fund Project Information

Project reference	IWTEV002
Project title	Understanding wild meat demand, supply and trade in Western Equatoria
Country(ies)	South Sudan
Lead Partner	Fauna & Flora International
Project partner(s)	South Sudan Ministry of Wildlife Conservation and Tourism (MWCT) encompassing the National Wildlife Service (WLS)
IWTCF grant value	GBP 97,500.00
Start/end dates of project	01/07/2022 – 31/08/2023
Project Leader’s name	Michelle Moeller
Project website/blog/social media	www.fauna-flora.org
Report author(s) and date	Michelle Moeller, Alegria Olmedo, Cath Lawson; September 2023

1. Project summary

Under current South Sudanese legislation, the harvest of any non-domestic animal is illegal. However, reports from the South Sudan Wildlife Service (WLS) and in-country conservation and academic organisations indicate that wild meat trade remains widespread (e.g., Bedford, 2019¹), and at levels that are likely to exert unsustainable pressure on threatened wildlife species. Anecdotal evidence suggests that chimpanzee, pangolin, bongo and giant eland are part of South Sudan’s wild meat trade, and there are several known cases of live chimpanzees being traded domestically and internationally. In Western Equatoria specifically, recent relative political stability has resulted in perceivable increases in wild meat trade to urban and rural centres within the state, with existing smuggling routes across the Congolese and Central African borders (Global Initiative, 2017²) potentially facilitating transboundary trade in wild meat. Despite this threat being widely recognised, robust data on the precise nature and extent of illegal wild

¹ Bedford, J. (2019) Bedford, J. (2019) Key Considerations: Bushmeat in the Border Areas of South Sudan and DRC. Social Science in Humanitarian Action Platform (SSHAP) <https://www.socialscienceinaction.org/resources/key-considerations-bushmeat-border-areas-south-sudan-drc/>

² Global Initiative (2017) Deadly Profits: Illegal Wildlife Trafficking through Uganda and South Sudan. <https://globalinitiative.net/analysis/deadly-profits-illegal-wildlife-trafficking-through-uganda-and-south-sudan/>

meat trade throughout the trade chain is lacking. More information is needed on the species involved, methods used, demand, and spatial and temporal trends.

As a result of conflict (2013-2020) and the ensuing economic collapse, food insecurity remains a significant challenge throughout South Sudan, with the World Food Programme currently estimating that over 70% of the population face “severe food insecurity.” Previous surveys conducted by Fauna & Flora International (FFI) demonstrate that communities living around Bangangai and Bire Kpatuos Game Reserves in Western Equatoria, within which the majority ethnic group is the Azande who are primarily an agrarian society, rely heavily on wild meat as a protein source (FFI, 2018/20, Annex 42). Anecdotal evidence suggests that the same is true for communities living around Southern National Park, comprised predominantly of Azande and Balanda communities, another agrarian ethnic group reliant on wild meat for protein (FFI, 2023, Annex 41). Likewise, against a backdrop of ongoing financial crises, wild meat trade continues to provide one of few available economic opportunities to impoverished local community members. Additional motivations for wild meat trade, beyond food security and subsistence, are not well understood.

Whilst wild meat trade is clearly an important means by which to meet short-term needs, there are potential disease transmission risks, particularly when meat is transported longer distances to urban centres and across borders (FFI, 2020³). Longer-term, unsustainable offtake threatens biodiversity and the survival of charismatic wildlife, which may result in future opportunity costs related to tourism development and ecosystem services, both within and outside of South Sudan’s protected area network.

Currently Bangangai Game Reserve, Bire Kpatuos Game Reserve, Southern National Park, and South Sudan’s other protected areas harbour rich biodiversity, including endangered ungulates, primates, pangolin, elephant and carnivores, and maintain vital ecosystem services that can support stabilisation and human development. South Sudan’s protected and wilderness areas have largely been without investment in management for generations, underpinned by a lack of capacity and resources. This lack of management and protection enables unmitigated poaching, including for illegal wild meat trade; encroachment; and unsustainable natural resources use, underpinned by poverty and food insecurity, which directly threaten the species concerned.

This project was designed to generate and disseminate evidence that describes and quantifies illegal wild meat trade in Western Equatoria (Project map, Annex 43). In doing so, this project was intended to fill existing knowledge gaps related to the actors involved and methods used to collect and trade wild meat illegally; drivers behind the consumption in 5 urban and 5 rural centres; and attitudes, barriers and opportunities to sustainable livelihoods that can serve to reduce demand for/slow illegal harvest/trade of wild meat and reduce poverty. In the process, the project was also designed to work with the WLS to fill capacity gaps related to IWT data collection, processing, and management.

³ Fauna & Flora International (2020). Position on Covid-19, Wildlife Trade & Biodiversity. <https://www.fauna-flora.org/news/tomorrow-is-too-late-time-to-halt-high-risk-trade-in-wildlife/>



Figure 1 Western Equatoria state showing Bangangai Game Reserve, Bire Kpatuos Game Reserve, Southern National Park, and the rural and urban centers engaged as part of this project.

2. Project Partnerships

The South Sudan Ministry of Wildlife Conservation and Tourism (MWCT) encompassing the National Wildlife Service (WLS) was formally recognised as a project partner. Additional non-FFI project staff, DeeAnn Reeder (Bucknell University, Technical Specialist, Genetic Sampling) and Adrian Garside (Independent consultant, Technical Specialist, Ranger Training) were also key stakeholders in project design and implementation. These partnerships, which were a mix of South Sudan, UK and US based, built on existing, long-standing working relationships; relevant expertise; and mutual interest to progress IWT work in South Sudan. Having established working relationships between partners / key stakeholders was a strength for the project, which enabled implementation to progress quickly as working modalities and trust were already established. Partners / key stakeholders were involved in project design, engaged in adaptive management during project implementation, and contributed to this final report,

Over the project period, the relationships between project partners / key stakeholders have been positive, and formal and informal communications have been maintained throughout. This effective partnership has enabled the project to draw on a range of expertise and learning, which has enabled more effective project implementation.

In addition to providing FFI's mandate to operate in South Sudan, the MWCT / WLS supported the operational and administrative requirements of this project (e.g., securing necessary permits / permissions; Annex 6 & 9) and, in consultation with FFI, were responsible for identifying and making available personnel to be trained in IWT data collection and management, and due legal processes. The IWT unit within the WLS in Yambio that was bolstered through this project remains active and, resources allowing, FFI intends to continue supporting its development. This project has served to further strengthen FFI's ongoing

partnerships with MWCT and WLS, which is intended to go on well beyond the life of the project, underlined by FFI's current 5-year MoU with the MWCT (Annex 10).

DeeAnn Reeder (Bucknell University, Technical Specialist, Genetic Sampling) and Adrian Garside (Independent consultant, Technical Specialist, Ranger Training) provided specific technical expertise to the project, in particular supporting activities under Output 1 (Annex 5) and Output 2 (Annex 11 & 12) respectively. Both individuals are long-term partners of FFI's work in South Sudan and these relationships will continue after project completion.

3. Project Achievements

3.1 Outputs

Output 1. The nature and extent of illegal wild meat trade, including place networks and transboundary dynamics, in key urban centres and rural areas is understood

Consumption and trade surveys were conducted at five urban centres (Yambio, Maridi, Nzara, Tambura, Ezo) and five rural markets (Bazungua, Saura, Nabiapai, Sakaure, Makpandu) in Western Equatoria in four iterations (Annex 43): the first from September to October 2022, the second from November to December 2022, the third from February to March 2023 and the last from April to May 2023 (Output Indicator 1.1). The total sample size was 411 respondents (target >200 respondents), of which 46.7% were women (target >50%) and 48% were young adults (18 – 25 years old) (target >20%). The data collected was analysed and results were summarised into a report (Annex 30). Results indicate origin and list of species hunted and traded as wild meat, frequency of purchase, availability of species in markets and information on the actors involved in the trade (reported under Output 3).

In parallel, 134 wild meat samples were collected for genetic analysis using SoPs developed for the project (Annex 7), for which there was metadata and verbal species identifications from market sellers (Annex 5 & 8; Output Indicator 1.1). Of those, 43 were putatively from CITES-listed species and, given additional restrictions, there was insufficient time to export these samples for analysis (they remain safely frozen and stored at the FFI compound in Yambio and can be analysed in the future). Despite not having the genetic analysis, the existence of these samples is telling in that people are open to report selling and trading these species. Of the samples collected, 32% (43/134) were from CITES listed taxa – a significant conservation concern. Sixteen of these samples were putatively collected from primates, which presents not only a conservation risk but also a pathogen spill over risk. Samples putatively from non-CITES listed taxa were transported to the US for analysis but unfortunately all but 8 samples (purportedly from rodents) were refused clearance at customs (see Question 3.3). Two of the 8 samples were in fact ungulate and subsequently destroyed, the remainder were African crested porcupines (LC) – both of which indicate some unreliability in meat seller species identification. Eventual sequencing of the samples remaining in South Sudan (the CITES-listed species) and/or of additional collected samples will help us understand the reliability of meat seller species identification.

Key places facilitating trade have also been mapped (Annex 30; Output Indicator 1.2) and dynamics of how animals hunted for their meat are traded across Western Equatoria from their origin to various rural markets and urban centres have been recorded.

Output 2. At least 80 law enforcement rangers (target >10% women) demonstrate increased knowledge and capacity to monitor IWT-specific data, supported by enhanced protocols and improved data management systems and analysis

Gaps in law enforcement protocols and capacity were assessed in Q1 and Q4 of the project, using a bespoke tool informed by the International Consortium on Combating Wildlife Crime (ICWC) Self-

Assessment Framework⁴, Guidelines and Tool Kit (Annex 12 & 13; Output Indicator 2.4). These assessments served to both assess project progress and, in the case of the baseline assessment (Annex 12), inform the development of subsequent project activities, including the development of training materials and Standard Operational Procedures (SOPs) (Annex 15-22).

A total of 63 WLS Officers (11F, 52M), covering 7 of the 10 counties in Western Equatoria, were provided with training in IWT data collection systems, through a combination of direct training by a consultant and training of trainer approaches (Annex 11, 25 & 26). Understanding of the nature of IWT evolved over the course of the project and this resulted in a lower number of WLS personnel being trained. The initial target was based on training WLS rangers stationed within protected area, where it would be easier to target a greater number of individuals per training event. With increasing knowledge of the trafficking nature of wild meat, it became apparent that most seizures occur along trade routes and the WLS personnel making those seizures are WLS Officers based in County Offices. Training activities were therefore tailored to focus on County Offices, where there are less WLS staff permanently present. This meant that fewer personnel could be trained within the available resources, but those trained play a central role in documenting and conducting IWT seizures.

Whilst pre and post training assessments were not possible (see Question 5), other data sources indicate increased proficiency in IWT data collection (Output Indicator 2.1). A Capacity assessment at the start and end of the project indicates a marginal increase in capacity for data collection and information management (Annex 12 & 13; Output Indicator 2.1). More definitively, the number of seizures being recorded in the IWT database (Annex 23) established as part of this project, compared to there being no systematic IWT reporting before this project, demonstrates the project's positive impact on the capacity for IWT data collection.

A basic quarterly reporting process was established by the end of Q4 (Annex 24 Output Indicator 2.2). This took longer than expected (target was by Q2) because of FFI staff changeover, and the key person from WLS responsible for IWT being transferred to another County Office. Despite delays in established a reporting system, by project end, 12 months of IWT data records / law enforcement effort and responses had been collected (Annex 23; Output Indicator 2.3), including a record of 89 seizures. Initial analysis of spatial / temporal trends (Annex 24; Output Indicator 2.3) indicates that seizures are more common in the dry season than the wet season, with the greatest number of seizures being in May (n = 27). These seizures support the social research findings (Annex 30; Outputs 1 and 3) that indicate more wildlife is available for hunting, and therefore in the markets, during the dry season.

Output 3. Attitudes, barriers and opportunities associated with implementation of locally and culturally acceptable potential solutions to illegal wild meat consumption and trade are understood

Surveys conducted in urban centres and rural markets (reported under Output 1) generated demographic information of hunters, sellers and buyers, frequency of purchase and availability of wild meat at the markets, as well as reasons for preference and avoidance of certain species, motivations for hunting and selling wild meat, and importance of wild meat as a source for protein and selling as a source of income (Output Indicator 3.1). Further understanding of the actors involved in the trade and consumption of wild meat was gained through focus group discussions (FGDs) conducted in five urban centres and five rural markets with four target audiences: buyers of wild meat, sellers, hunters and individuals working at restaurants that sell wild meat (Annex 30). Ten FGDs were carried out with each of the target audiences, one per each urban centre and rural market surveyed; 40 FGDs in total, each with 8 people (average 4/5M and 3/4F except for FGDs with hunters who were all men). Qualitative data collection identified various opportunities related to existing alternative protein sources with varying degrees of availability across the urban centres and rural markets, and attitudes towards alternative livelihoods other than hunting and selling wild meat (e.g., vocational training, bee keeping, rearing domestic animals, vocational training).

⁴ [ICCWC Indicator Framework for Combating Wildlife and Forest Crime. A self-assessment framework for national use.](#) (2016).

However, results also discovered barriers with these alternative proteins, such as availability, affordability, and a preference for the taste of wild meat, and barriers with other income generating activities, such as lack of training, lack of raw materials and resources for other activities, and immediate need for income (Annex 30; Output Indicator 3.2). Recommendations for potential solutions to illegal wild meat consumption and trade in Western Equatoria and cross-border with DRC and CAR have been documented (Annex 30 Output Indicator 3.3).

Output 4. Project learning and recommendations are documented and shared with key state, national and regional stakeholders

An initial project document (Annex 33) was shared at the start of the project with key local authorities: South Sudan's Relief and Rehabilitation Commission (RRC), the State Governor of Western Equatoria State, and National Security (Annex 34, 35 and 36). Project learning and recommendations have been documented in a report (Annex 30) which has been shared with Government stakeholders at local and national level, including the Ministry of Wildlife Conservation and Tourism in Juba and the South Sudan Wildlife Service and Ministry of Local Government and Law Enforcement in Yambio. (Output Indicator 4.1). Dissemination to a wider stakeholder group will occur when the project findings have been formally endorsed by the relevant authorities. In October 2023, the report will be presented in-person to the Ministry of Wildlife Conservation and Tourism (Output Indicator 4.1).

For reasons of stakeholder availability, it was not possible to hold a singular stakeholder workshop to design conservation intervention informed by evidence generated through the project. Instead, a series of bilateral stakeholder consultations were undertaken (Output Indicator 4.2). In addition to regular engagement with project partners and local authorities, which has informed the development of subsequent conservation interventions, this involved engagement with development stakeholders ACTED (www.acted.org) and Caritas (www.caritas.org) to jointly design interventions that have formed part of Darwin Extra (Annex 39) and IWTCF Main proposals (Annex 40). Additional informal consultations have been held with African Parks, who manage Garamba National Park in the DRC which neighbours the Western Equatoria landscape, to review the evidence gathered in relation to transboundary trade and discuss potential future harmonisation of approaches. This thinking will also be incorporated into the IWTCF Main proposal currently in development. Subject to stakeholder availability, a joint stakeholder workshop will be conducted before the end of 2024 using remaining match funds for the project.

3.2 Outcome

Whilst some activities had to be adapted during implementation, the project has achieved its intended Outcome, which was *“Improved understanding of illegal wild meat trade and consumer motivations establishes evidence base for future conservation action to reduce poverty and IWT, supported by enhanced law enforcement capacity and systems”*

Data gathered through market surveys and FGDs has elicited crucial information on wild meat trade, the species impacted, actors engaged and trade chains across Western Equatoria (Annex 30; Outcome Indicator 0.1). Due to the sensitive nature of this data, details results are in the Annex rather than shared here. This data has generated an understanding of the extent of the trade and the drivers behind it and has produced feasible and evidence-based recommendations for conservation action to address this illegal trade while supporting poverty reduction. Drawing from the same research, viable and acceptable potential solutions to illegal wild meat trade, that offer solutions to consumption, hunting and selling of species through engaging and providing benefits local community members, have been identified for future piloting (Annex 30, section 4; Outcome Indicator 0.2). These context specific recommendations have been incorporated into landscape-level and site-based conservation planning and proposal development (see Output 4).

The project has also enhanced systems, processes and capacity to monitor IWT within the WLS (Outcome Indicator 0.3). The project supported operationalisation of the WLS IWT's unit in Western Equatoria, which has remained active beyond the project period, by establishing an office (Annex 12), providing motorbikes and fuel to conduct arrests and record seizures, and providing airtime (Annex 38) to WLS personnel in each County Office to enable communications. By provisioning this basic infrastructure and providing training (see Output 2), there has been an increase in capacity. Most tangibly, this is demonstrated by the number of seizures being recorded in the IWT database (Annex 23), compared to there being no systematic IWT reporting before this project. Capacity needs assessments conducted in Q1 and Q4 (see Output Indicator 2.4; Annex 12 & 13) provide more nuanced information on change in capacity. These assessments were framed around four areas: (1) knowledge of IWT, laws and approaches at international and national levels; (2) capacity for data collection and information management; (3) knowledge of the correct procedures for handling persons caught with wild meat; (4) knowledge and attitudes towards wild meat and the wild meat trade. Over the project period:

- (1) There was an increase in understanding of the South Sudanese Wildlife laws, but a limited understanding of international bodies and conventions dealing with IWT persisted. This needs to be addressed in future projects, while recognising that South Sudan is a young country, and is still in the processes of becoming ratified on international treaties.
- (2) Technical capacity for data collection and information management improved, however, the availability of materials required to fill in forms and a way to store them safely in the County offices decreased over the life of the project. This underlines the resourcing gaps with the WLS and highlights the need to provide basic support to all County offices trained in collecting IWT data to ensure it is securely stored and that the WLS have the means to record and file forms.
- (3) Knowledge of the correct procedures for handling persons caught with wild meat increased. This was a key focus during the training provided (Annex 11), and there was an increase in understanding and capacity across all the questions in this section which focuses on leading an arrest and following the rule of law from the point of interception, following chain of custody to the point of taking a case through the legal processes.
- (4) Knowledge and attitudes towards wild meat and the wild meat trade remained similar in both assessments, except on two points. Firstly, there was an increase in understanding that addressing IWT is a separate activity from Protected Area Management. Secondly, there was a decrease in the proportion of officers responding affirmatively to the question 'Do you/your immediate family consume wild meat?'. This may be a result of sellers at markets being reluctant to sell to WLS personnel and / or may suggest that social norms around consuming wild meat within the WLS are changing.

3.3 Monitoring of assumptions

Outcome and Output level assumptions were monitored throughout the course of the project, with the following observations:

- Assumption: Project activities can be implemented in compliance with evolving, national and regional Covid-19 related public health, travel, and assembly guidelines: This assumption held true. Covid-19 restrictions were not applicable during the lifetime of the project⁵.
- Assumption: Political will to collaborate on and address IWT and its regional dimensions remains in place among South Sudanese authorities: This assumption held true. The Ministry of Local Government (Annex 9) and the WLS showed strong willingness throughout the project period.
- Assumption: Respondents are open to talking about illegal activities in the selected survey format: This assumption largely held true. Whilst some survey / FGD respondents indicated that they were fearful of being arrested (see Question 7), the data collected (Annex 5, 8 & 30) demonstrates that people were, with reassurance of confidentiality and anonymity, willing to talk about illegal activities, including those related to species of international importance. Whilst some species identities were

⁵ <https://www.gov.uk/foreign-travel-advice/south-sudan/coronavirus>

mis-reported (see Question 3.1), the information that was provided, suggests this was genuine mis-identification rather than deception.

- *Assumption: Necessary national and international permissions for sample collection and export are granted:* This assumption did not hold true in full. Permits for sample collection and export were granted (Annex 6) however there was insufficient time to secure the export of CITES-listed species and the majority of non-CITES listed species samples that were exported to the US for analysis were refused clearance at customs. These samples were accompanied by an export permit from MWCT, two import permits from the US Centers for Disease Control and Prevention (CDC), full clearance from the US Fish and Wildlife Service, and a pending permit request with the US Department of Agriculture (USDA, for ungulate samples). Unfortunately, despite samples having been pathogen inactivated using CDC approved protocols, the USDA refused clearance at customs. Ultimately, USDA ruled that the ungulate samples (81 of the 89) were not inactivated using *their* approved protocol and that furthermore South Sudan ungulate samples are considered high risk due to active cases of Foot and Mouth disease (FMD), a viral infection that can devastate wild and domesticated cloven animals. The USDA denied entry to the samples (being particularly worried due to known epizootic outbreaks in South Sudan), effectively forcing them to be destroyed. See Question 7 for related.
- *Assumption: Official records of IWT are accessible to partners:* This assumption held true. IWT record were accessible to FFI (Annex 23 & 24).
- *Assumption: WLS retains sufficient staffing in the project area to collect data using the reporting forms, and staff turnover remains low with limited impact on trained staff:* This assumption did not hold true in full. There was personnel change within the WLS during project period, including the WLS Officer leading the established IWT unit. Whilst this was challenging, and delayed some activities, the Officer was still stationed within the State and so could provide some ongoing contributions. Indeed, the relocation of the Officer has helped to increase traction of IWT matters in other locations. Relocation of staff is an ongoing challenge and one that FFI is working to address in its ongoing partnership with the WLS. Additionally, during the project period, the WLS State Director was absent for a period but still supported the project from Juba. The WLS Deputy State Director ably covered the role, but his reduced decision-making power also slowed implementation of some project activities.
- *Assumption: Corruption does not undermine the ability of law enforcement officers to record data accurately and direct patrol resources accordingly:* This assumption held true. There was no evidence of corruption impacting project activities.
- *Assumption: Key transboundary stakeholders avail staff and time to participate in a workshop:* This assumption did not hold true in full. During the project period, key transboundary stakeholders were not able to participate to the level anticipated. In particular, those involved with the management of Garamba National Park in the DRC were occupied with the translocation of rhinos into Garamba⁶. The approach to engaging stakeholders was therefore adapted (see Question 3.1).

3.4 Impact: achievement of positive impact on illegal wildlife trade and poverty reduction

Project Impact: Biodiversity in Western Equatoria (South Sudan), including threatened species, is flourishing due to reduced threats from IWT, and sustainable livelihoods interventions are contributing to poverty reduction in the local area.

The results of this project (Annex 30, 12, 13, 24) have contributed to building an evidence base to inform future interventions. Prior to this project, understanding around IWT in Western Equatoria was very poor, limiting the ability of government and conservation actors to design and implement targeted interventions to address trade-driven threats to biodiversity, including focal species. Funding proposals to implement future interventions have already been submitted / are in development (e.g. Annex 39 & 40).

⁶ <https://www.africanparks.org/white-rhino-return-garamba-national-park>

Implementation of future evidence-based strategies will ultimately contribute to a reduction in IWT, enabling biodiversity to thrive, and more sustainable livelihoods strategies that contribute to poverty reduction and address food security in the local area.

4. Contribution to IWT Challenge Fund Programme Objectives

4.1 Thematic focus

This project supported objectives under two IWT Challenge Fund themes:

- *Strengthening law enforcement*: The project has enhanced systems, processes and capacity to monitor IWT within the WLS (see Question 3.2). Prior to the project, there was very limited IWT capacity within the WLS and no dedicated IWT unit. A WLS IWT's unit in Western Equatoria has now been established and remains active beyond the project period. Prior to the project, there was no systematic IWT reporting, whereas now a reporting system is in place and, by project end, 12 months of IWT data records / law enforcement effort and responses had been collected (Annex 23), including a record of 89 seizures.
- *Developing sustainable livelihoods to benefit people directly affected by IWT*: The research conducted under Output 1 and 3 has generated the understanding necessary to pilot potential interventions to support sustainable livelihoods that will benefit actors currently engaged in the hunting and trade of wildlife for the wild meat trade (Annex 30). There was previously no data or baseline describing wild meat trade dynamics in Western Equatoria, including the reliance on wild meat as a protein source or on hunting of animals and their trade as an income source. The work carried out under this Evidence Grant has produced the necessary evidence to guide future steps to contribute to livelihoods that do not threaten biodiversity and benefit those affected by the wild meat trade.

4.2 Impact on species in focus

The project has generated IWT data (Annex 23 & 30) on the following species which, going forward, can inform targeted conservation actions:

- *Chimpanzee (EN)*: data confirms that chimpanzees are one of the species hunted, sold and purchased as wild meat in Western Equatoria. Hunters noted that in recent years they have become harder to find in the forest but are a targeted species due to the high price they fetch.
- *Giant ground pangolin (EN) and white-bellied pangolin (EN) (pangolin species were not disaggregated by survey respondents and so are grouped here)*: Hunters surveyed in all, but two locations, reported hunting pangolins and they were sold and purchased across multiple of the project's target locations. Pangolins were described as a species sought after by hunters and restaurateurs selling wild meat dishes due to their high price because of perceived rarity. Pangolins were also associated with medicinal benefits and considered particularly tasty.
- *Giant eland (VU)*: hunters surveyed in all locations claimed to hunt giant eland, sellers reported selling it in multiple locations, and buyers claimed to purchase it in multiple locations. This species is targeted by hunters and sellers because of its high price associated with the quantity of meat that can be obtained given its size, and perceived rarity.
- *Bongo (NT but decreasing)*: Due to their size and rarity, bongos were described by hunters and restaurant staff as sought after. However, only hunters surveyed in two locations claimed to have hunted bongo, only one seller said to have sold this species and no respondents claimed to have purchased it. Both hunters and sellers stated the species is less available than it once was.
- *Red colobus (VU)*: only five hunters reported hunting red colobus and no respondents claimed to sell or purchase this species. Of respondents who had purchased wild meat in the last year, 13% claimed they never eat red colobus.

Beyond specific species, 32% (43/134) of total genetic samples collected were from CITES listed taxa – a significant conservation concern (Annex 5 & 8). Sixteen of these samples were putatively collected from primates, which presents not only a conservation risk but also a pathogen spill over risk. Again, going forward, this data can inform targeted conservation actions.

4.3 Project support to poverty reduction

This project has produced evidence (Annex 30, 12, 13, 24) that will inform viable solutions and conservation actions in response to wild meat consumption / IWT in Western Equatoria. In the longer term, evidence from this project will contribute to poverty reduction in South Sudan (low income / least developed country) by informing the design and adoption of more sustainable livelihood strategies and improved wellbeing, given that current levels of wild meat consumption / IWT are likely to exert unsustainable pressure on threatened wildlife species and present a significant disease transmission risk. Ebola, for example, has been reported in three of the target locations and is known to occur in neighbouring DRC⁷ from where wild animals were confirmed to originate for several of the markets and urban centres surveyed. Longer-term, unsustainable offtake threatens biodiversity and the survival of charismatic wildlife, which may result in future opportunity costs related to tourism development and ecosystem services, both within and outside of South Sudan’s protected area network.

This project, and future planning informed by the evidence generated from this project, recognises that wild meat hunting, selling and consumption provide a critical nutrition source, supplement household incomes, and are culturally valued. To ensure a positive contribution to poverty alleviation, project design ensures enforcement activities do not move ahead of food security and income drivers.

4.4 Gender equality and social inclusion

Please quantify the proportion of women on the Project Board ⁴ .	100%
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women ⁵ .	50%

The project was deliberate in considering and integrating gender in its activity design. For example, both female and male (1F, 2M) Zande-speaking enumerators were recruited to avoid any barriers to survey access, which may be caused or influenced by gender. Qualitative and quantitative research activities were also designed to ensure that the perspectives of women and men were gathered so that different points of view, roles, needs and drivers for becoming involved in the wild meat trade could be understood. Survey respondents were systematically sampled (data collectors approached every other person walking by at the target locations) but if respondents were disproportionately male then data collectors would actively seek out female respondents. Through this approach, there was near equal participation of men and women in the market surveys (46.7% women) (Annex 30). Enumerators were also proactive in ensuring male and female representation during the FGDs and participation of at least three women (out of a total of eight participants – 38%) was ensured in each group except for the focus groups held with hunters, given that only men are hunters. Whilst efforts were made to try and enable equal participation, women were less likely to have time to spare while they were buying or selling goods at the market, hence it was more challenging to engage them in the, more time consuming, FGDs. In future, alternative methodological approaches that enable easier engagement for women, such as considering different timings or locations for FGDs, should be explored.

Data resulting from the market surveys and FGDs was disaggregated by gender which highlighted that women and men play different roles in the hunting, selling and purchasing of wild meat (Annex 30). Women are significantly more likely to be buyers of wild meat than men, while sellers are more likely to be men,

⁷ <https://www.who.int/emergencies/disease-outbreak-news/item/2022-DON411>

and hunters are always men. These findings have fed into the resulting recommendations and reiterate the importance considering gender in future conservation interventions.

Gender considerations were also integrated into activities involving the WLS (primarily Output 2), although representation of women in these activities reflects the proportion of women employed within the WLS rather than equal representation. Capacity needs assessments (Annex 12 & 13) included 1-2 women (10-20%) out of a group of 10 and, of the 63 WLS personnel provided with IWT training (Annex 11, 25, 26), 11 were women (>10%). We continue to advocate for increased representation of women within the WLS.

Over the project period, enabled by other funding, gender awareness training was provided to FFI staff, facilitated by FFI's Technical Specialist on Gender, which further bolstered the project team's capacity to integrate gender considerations. The training covered topics of diversity; Gender-Based Violence; equality and equity; values and decision-making; systemic barriers; and social and cultural norms. Building on this training and learning, including from this project, FFI is in the process of developing a gender analysis and action plan, which will inform future project design.

5. Monitoring and evaluation

There were no significant changes to the M&E plan over the project period. M&E was led by FFI, with DeeAnn Reeder (Bucknell University, Technical Specialist, Genetic Sampling) and Adrian Garside (Independent consultant, Technical Specialist, Ranger Training) respectively providing key monitoring data in relation to Output 1 / Outcome Indicator 0.1, and Output 2 / Outcome indicator 0.3. Given the short duration of the project, there has been limited opportunity within the project period to use the M&E systems to provide feedback to partners and stakeholders but, with projects outputs now finalised, this engagement is currently underway and informing future work planning.

Data was collected against all means of verification identified in the project logframe, except for pre/post training capacity assessments which were means of verification against Output Indicator 2.1. Capacity levels within the training participants were very low and, as such, pre- and post- training assessments were deemed as not appropriate. Alternative means to verify this indicator were provided through the capacity needs assessments undertaken at project start and finish (Annex 12 & 13) and indirectly by assessing the change in IWT seizure rates over the project period (Annex 24).

The capacity needs assessments (Annex 12 & 13) were conducted using a bespoke tool developed by Adrian Garside (Independent consultant) informed by the ICCWC Self-Assessment Framework, Guidelines and Tool Kit. This adapted tool was tailored to be suitable for assessment of entities where capacity is extremely low, whilst being replicable and cost-efficient to implement. This adapted tool provides a resource for future capacity assessments undertaken by project partners, and potentially others working in contexts where initial capacity is similarly low.

Whilst the market survey data has provided significant insights into IWT in Western Equatoria, refinements to the monitoring methodology have been identified through the implementation of this project. For example, while respondents were asked about the quantity of meat purchased per species, it was not possible to consolidate answers due to variations in answers regarding the weight, size and/or volume of each purchase. A similar limitation was encountered in the quantity of animals hunted. Future surveys should explore other ways to capture this data as it could be useful to monitor changes in species availability, affordability, and preferences and understand the scale of the threat to the species. Future surveys with hunters and sellers of wild meat should also explore opportunities to obtain more detailed data on respondents' income breakdown to gain a better understanding of the importance of selling wild meat towards a person's or household's total income. Similarly, future surveys with buyers and consumers of wild meat should gather data on the total amount of food eaten in a week to gain more detailed

understanding of the importance of wild meat in local people's diet. Food diaries or similar methods with communities could be explored.

IWTCF standard indicators were not required at the time of logframe development, but it has been possible to retroactively align project indicators with a number of the standard indicators (Annex 3).

6. Actions taken in response to Annual Report reviews – N/A

7. Lessons learnt

What worked well:

- The strong partnership that already existed between FFI and WLS, underlined by FFI's current 5-year MoU with the MWCT (Annex 10), was critically important to the successful implementation of this project. The existing trust between partners, enabled the sensitive topic of IWT to be discussed and conservation interventions in response to IWT to be explored initiated.
- Despite the legislation currently regulating biodiversity conservation and natural resource use in South Sudan being outdated (the Wildlife Act was written prior to the country's independence from Sudan; Annex 44 & 45), ambiguous and having certain inconsistencies, it has been possible to make progress in addressing the negative impacts of IWT. Whilst we continue to seek opportunities to influence and strengthen the enabling legal / policy environment, and approaches need to be adaptive in the current context, it is possible to have positive impact, and the MWCT is actively working on updating the legislation.
- There is significant appetite within the WLS and communities to better understand IWT issues. For example, and beyond the project period, FFI has recently been contacted by community elders in Ezo who want to address issues of IWT and requested FFI's support in communicating the value of biodiversity areas within Western Equatoria (Annex 50). This underlines the importance of adopting a holistic approach which is not focused solely on strengthening law enforcement.
- Understanding of the nature of IWT evolved over the course of the project. With increasing knowledge, it became apparent that most seizures occur along trade routes and the WLS personnel making those seizures are WLS Officers based in County Offices. Whilst adaptive approaches resulted in a lower number of WLS personnel being trained (See Question 3.1), it was possible to ensure that those WLS personnel playing central role in IWT seizures were trained.

What didn't work well:

- There were significant challenges associated with processing the wild meat samples that were collected for genetic analysis (See Question 3.1), and from this a number of lessons learnt. The primary issue was associated with trying transport unprocessed samples to the US, which was required given the availability and travel schedule of relevant technical experts. In future, DNA extraction should happen in region so that transport to the US, if required, is easier. Gathering samples earlier in the project period, for example outside of the schedule of quarterly market surveys, could have also created additional time for samples to be processed / transported, although this would have had other methodological impacts. Attempting this activity was innovative for the South Sudan context and the learning gathered through this project will enable future genetic sampling and analysis processes from South Sudan to be significantly streamlined.
- There were some challenges encountered while recruiting survey respondents and FGD participants. Potential survey respondents were afraid of being arrested by the local authorities despite being assured by enumerators prior to starting the survey that their answers would be kept anonymous and confidential. Ultimately, these challenges were overcome, as evidenced by the data that has been collected (Annex 5, 8 & 30), but these challenges are important considerations for future survey design. For example, thinking about how this kind of research can be sustainably fed into WLS adaptive management processes needs to take account of the fact that enumerators cannot be directly associated with the WLS if the same level of data sharing is sought.

- Survey respondents expected to receive an incentive to take part in the surveys, as this is common practice in the context of South Sudan. Small payments were made to compensate people for the time that they dedicated to participating in FGDs. Market survey respondents were given nominal incentives in the form of sweets. The sustainability of this approach is challenging. In future, greater focus on non-monetary incentives (e.g. gifting household items such as soap) should be championed. Whilst this still presents a sustainability challenge, it begins to challenge norms around monetary incentives.
- Whilst there were important WLS capacity improvements over the project period (see Questions 3.1, 3.2) the availability of materials required to fill in IWT forms and a way to store them safely in the County offices decreased over the life of the project. This underlines the resourcing gaps with the WLS and highlights the need to provide basic support to all County offices trained in collecting IWT data to ensure it is securely stored and that the WLS have the means to record and file forms. This has implications for resourcing of future activities to tackle IWT; whilst the WLS remains chronically under-resourced NGO partners like FFI will need to provide the necessary resourcing.

8. Risk Management

- Restrictions due to Covid-19 prevent planned activities from taking place: Covid-19 restrictions were not applicable during the lifetime of the project⁸.
- Funds not used for intended purposes or not accounted for (fraud, corruption, mishandled or misappropriated): No evidence of this during the project period
- Staff illness/prolonged absence due to Covid, malaria, or other illness: Whilst it did not cause prolonged absence, project staff did suffer with malaria and other medical issues during the project period. These are the realities of operating in South Sudan and require adaptiveness in project implementation.
- Unintended, negative and inequitable outcomes for vulnerable groups: Project activities were specifically designed to avoid negative and inequitable outcomes for vulnerable groups. Wild meat consumption is a complex subject, given its nutritional and cultural value, and sensitivity to this was embedded in project design.
- Local people do not understand why funds are being spent on environmental issues, over other needs which they perceive as more pressing: Local people demonstrated willingness and desire to discuss and learn more about environmental issues. As noted elsewhere, aid dependency has created some cultural norms which strongly influence possible approaches (for example, people expect compensation to engage with project activities).
- Literacy levels among survey respondents creates risk of miscommunication/ interpretation of project information: This risk was mitigated by recruiting survey enumerators who spoke local languages and conducting surveys verbally.
- Conflict between and among local communities, local groups, and/or levels of government prevents project activities from progressing: Civil unrest and political tension are part of the realities of operating in South Sudan, but did not negatively impact project implementation.
- Low capacity of government partner limits their ability to participate in activities, use knowledge outputs to affect change in combatting IWT: The low capacity of the government partner did not limit their ability to participate in activities but, as evidenced within the project period, there is a clear need for ongoing support for impact to be sustained, which has a resource implication.

One risk that was not identified at project design was potential staff changes within FFI. The former project lead (Benoit Morkel) left FFI part way through project implementation. Whilst the new project lead (Michelle

⁸ <https://www.gov.uk/foreign-travel-advice/south-sudan/coronavirus>

Moeller) was already involved in the project, and handover periods were maximised, given the short duration of this project, project implementation was impacted to some extent.

9. Sustainability and legacy

FFI remains committed to tackling IWT issues in Western Equatoria and will have an ongoing presence in the project area, recognising that South Sudan's complexities require long-term investment in order to achieve and sustain impact. Funding proposals have been developed that, if secured, will provide the resources to act on the evidence generated by this project and design and implement conservation, management, and livelihoods strategies that make an appreciable difference in mitigating the threat of IWT in Western Equatoria. This includes proposals submitted to the UK Government's IWT Challenge Fund (Main grant; Annex 40 – Stage 2 in development at the time of this reporting) and Darwin Initiative (Extra grant; Annex 39). Additional funding sources, with a focus on integrating community natural resource needs with conservation objectives and further development of WLS capacity, are being sought. Project staff and resources, both within FFI and the WLS, will remain in place and support implementation of these additional grants, as well as implementation of FFI's ongoing wider work in South Sudan.

In addition to ongoing investment, sustainability has been built into project implementation in the following ways:

- FFI has strengthened its ongoing partnerships with MWCT and WLS. This creates a significant opportunity to sustain project activities and priorities through integration into wider conservation and development planning.
- Training of trainer approaches were used to roll out the training of WLS personnel. In addition to enabling cost-effective approaches during the project period, this approach has helped to embed capabilities and institutional sustainability post-project.
- During the project life span, there has been an increase in the capacity of the WLS (see Questions 3.1, 3.2). A well capacitated, inclusive and sustainable WLS is central to the sustainability of this project, and FFI's wider aims in South Sudan. However, as noted in question 7, given chronic under-resourcing of the WLS, in the short to medium term, additional external resourcing is required to continue the progress initiated by this project.
- The project's knowledge outputs – detailing species targeted in illegal trade, the actors involved, methods used, and drivers behind urban and rural consumption and trade (Annex 30) – are discrete products, able to stand on their own to inform future IWT and conservation action post-project.

10. IWT Challenge Fund Identity

The IWT Challenge Fund funded work has been recognised as a distinct project by all project partners. The IWT Challenge Fund has been acknowledged as a donor of this project, and its logo has been included in related reports which have been / will be shared with project partners and other key stakeholders (including government and international donors). Relevant project pages on FFI's website acknowledge the support of the IWT Challenge Fund⁹. An article is currently in draft (Annex 46) for the IWT Challenge Fund newsletter and will be submitted in the current newsletter article submission round, due 5th November 2023.

⁹ <https://www.fauna-flora.org/projects/conserving-biodiversity-south-sudan/>

11. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	Yes
Have any concerns been investigated in the past 12 months	No
Does your project have a Safeguarding focal point?	Yes. Safeguarding issues were to be raised with the project leader to enable identification and remediation of unintended negative impacts. Any grievances raised would be first resolved, where possible, by FFI and project partners; cases will be escalated to the relevant authorities and internally as required, in accordance with FFI's Safeguarding Children and Vulnerable Adults Policy and Procedure ¹⁰ , and associated policies and procedures.
Has the focal point attended any formal training in the last 12 months?	Yes. FFI has an internal Learning Management System, which enables online training in policies and procedures and all FFI staff are required to attend compulsory safeguarding training, including: Safeguarding essentials; FFI's Safeguarding Children and Vulnerable Adults Policy.
What proportion (and number) of project staff have received formal training on Safeguarding?	Past: 100% [9 FFI staff] Planned: 0
<p>Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses.</p> <p>Whilst some training has been provided by FFI, safeguarding capacity within the WLS is limited and resourcing beyond that available within this project is required to establish the necessary systems, processes and capacity. Resources to enable this have been included in the funding proposals informed by this project that are under development.</p>	

12. Finance and administration

12.1 Project expenditure

No annual report was required due to the timing of the project, and therefore the Project Expenditure report covers the whole project period. Due to the changes reported with the total number of meat samples reaching Bucknell University/DeeAnn Reeder for analysis less than planned, there was a saving against Consultancy costs which was moved to Travel and Subsistence (see changes requests made in Annex 47, 48, 49). There was an additional saving due to cost effectiveness of the IWT office upgrade under Capital Items which was requested to shift to Staff Costs. The final change request is currently with DEFRA for approval and we have reported against the budget changes as they were submitted, awaiting final approval. Any changes to the financial report can be made pending the approval.

¹⁰<https://www.fauna-flora.org/wp-content/uploads/2023/06/FFI-Safeguarding-Children-Vulnerable-Adults-Policy-Procedure.pdf>

Project spend (indicative) since last Annual Report	2022/23 Grant (£)	2022/23 Total actual IWTCF 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	97,500.00	97,500.00		

Staff employed (Name and position)	Cost (£)
Catherine Lawson, Senior Programme Manager, East Africa	
Andrew Bamford, Technical Specialist, Biodiversity & Conservation Monitoring	
Philip Tem Dia, Landscape Manager	
Benoit Morkel, Landscape Manager	
Michelle Moeller, Landscape Manager	
Noe Muller-Rowold, Project Manger	
Emmanuel Kutote, Programme Officer, Biomonitoring	
Alegria Olmedo, Technical Specialist, Wildlife Trade	
Rachel Belkin, Operations Manager	
Clement Salvatore, Community Liaison	
Ellen Watson (Senior Technical Specialist, Social Equity & Rights	
Enumerators	
WLS Rangers	
Translator	
WLS Officers	
Legal Advisor	
TOTAL	£37,740.89

Capital items – description	Capital items – cost (£)
Laptops	
Motorbike	
Maintenance/ Repair	
Capital Infrastructure improvement	
Insurance	
TOTAL	£7,137.82

Other items – description	Other items – cost (£)
Audit	£2,000
TOTAL	£2,000

12.2 Additional funds or in-kind contributions secured

The funds raised to deliver on the project are reported on below. There is GBP2,491.69 less in additional funds than committed to at the start of the project. We plan to use these remaining funds to deliver on stakeholder engagement and knowledge sharing from the project with relevant stakeholders. Further funds have been leveraged to support FFIs work in Western Equatoria, including staff time to dedicate time to IWT activities after the lifetime of the project.

Source of funding for project lifetime	Total (£)
301-PPL3 Africa Pangolin Fund	11,554.31
TOTAL	11,554.31

Source of funding for additional work after project lifetime	Total (£)
301-PPL3 Africa Pangolin Fund	
Nando Peretti Foundation	
TOTAL	

12.3 Value for Money

The project took a number of measures to be as cost effective as possible. FFI has operational and financial systems in place to ensure the most cost-effective, transparent, and efficient expenditures. This includes strict procurement measures to control costs and gain maximum value for money. All project expenditure was carried out in line with the IWT Challenge Fund's and FFI's financial policies and procedures, which have been designed to deliver value for money.

The existing relationships between project partners (FFI and MWCT / WLS; Annex 10) and key stakeholders (DeeAnn Reeder, Bucknell University and Adrian Garside, independent consultant) combined with leveraging FFI's existing staff and infrastructure in Western Equatoria meant that project start-up costs were minimised. The Project Manager was based initially in Yambio (which minimised costs for field travel) and then Juba, with regular travel to Yambio. With the shift in location of the Project Manager, cost effectiveness was maximised by ensuring that field missions by the Project Manager were planned to enable the delivery of multiple activities per trip, reducing the need for repeated travel.

The project also drew on in-house FFI technical expertise on IWT, GIS and biodiversity monitoring which has been cost effective compared to using consultants. Where consultants were used (Annex 11), training of trainer approaches were built in, where possible, to keep costs down. Likewise, multiple project activities, for example ranger training and capacity assessments (Output 2) in Ibbra, Maridi, Ezo and Tambura (Annex 25 & 26), were combined where possible. The project was also used motorbikes when carrying out the market surveys (Output 1), which was significantly more cost effective than taking a 4X4 vehicle into the field.

Initially, it was planned to engage DeeAnn Reeder on a consultancy basis as an individual, rather than as a partner and through a sub-grant agreement with Bucknell University. This approach was intended as it enabled a significant cost saving whilst not impacting provision of her technical expertise. However, this contracting arrangement proved not to be possible as Dr Reeder required the use of Bucknell University

facilities, and so a sub-grant agreement was required. Ultimately, due the limited number of samples reaching the laboratory at Bucknell University (see Question 3.1, Output 1, and explained in question 12.1), the University waived its fees and the total costs was reduced to reflect the very limited number of samples.

**13. OPTIONAL: Outstanding achievements of your project (300-400 words maximum).
This section may be used for publicity purposes**

N/A

Annex 1 Project's original (or most recently approved) logframe, including indicators, means of verification and assumptions.

Note: Insert your full logframe. If your logframe was changed since your application and was approved by a Change Request the newest approved version should be inserted here, otherwise insert application logframe.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Biodiversity in Western Equatoria (South Sudan), including threatened species, is flourishing due to reduced threats from IWT, and sustainable livelihoods interventions are contributing to poverty reduction in the local area			
Outcome: Improved understanding of illegal wild meat trade and consumer motivations establishes evidence base for future conservation action to reduce poverty and IWT, supported by enhanced law enforcement capacity and systems	<p>0.1 By end of project, the species impacted by IWT, and associated trade chains, are described</p> <p>0.2 By end of project, viable and acceptable potential solutions to illegal wild meat trade are identified and contribute to landscape-level and site-based conservation planning</p> <p>0.3 By end of Q2, capacity and systems to monitor IWT by the Wildlife Service are in place, and, from Q2/Q3, are operational</p>	<p>0.1 Urban and rural wild meat survey reports; data from consumer focus group discussions (FGDs)</p> <p>0.2 Urban and rural wild meat survey reports; data from consumer FGDs</p> <p>0.3 Capacity assessment; SMART records</p>	<p>Project activities can be implemented in compliance with evolving, national and regional Covid-19 related public health, travel, and assembly guidelines.</p> <p>Political will to collaborate on and address IWT and its regional dimensions remains in place among South Sudanese authorities.</p>
Outputs: 1. The nature and extent of illegal wild meat trade, including place networks and transboundary dynamics, in key urban centres and rural areas are understood	<p>1.1 In Q1-Q4, consumption and trade surveys, including collection of wild meat samples for genetic analysis and species identification, have been conducted quarterly at 5 urban centres and 5 rural markets in Western Equatoria, with >50% female and >20% youth (18-25yrs) of >200 respondents (2021 baseline: no surveys)</p> <p>1.2 By end of project, key places facilitating trade are spatially mapped and their relative importance understood (2021 baseline: anecdotal evidence only of IWT crime sites and no surveys of places facilitating IWT)</p>	<p>1.1 Urban and rural wild meat survey reports</p> <p>1.2 Spatial and temporal database of wild meat trade information collected</p>	<p>Respondents are open to talking about illegal activities in the selected survey format.</p> <p>Necessary national and international permissions for sample collection and export are granted.</p>
2. At least 80 law enforcement rangers (target >10% women) demonstrate	2.1 By Q1, >80% of at least 80 rangers trained demonstrate proficiency on IWT	2.1 Training report; pre/post training capacity assessments	Official records of IWT are accessible to partners.

<p>increased knowledge and capacity to monitor IWT-specific data, supported by enhanced protocols and improved data management systems and analysis</p>	<p>data collection (2021 baseline: no rangers are collecting IWT data)</p> <p>2.2 By Q2, IWT quarterly reporting established (2021 baseline: no systematic IWT reporting)</p> <p>2.3 By end of project, >6 months of IWT data records / law enforcement effort and responses collected and analysed to determine spatial / temporal trends (2021 baseline: no systematic IWT reporting or analysis)</p> <p>2.4 In Q1 and Q4, law enforcement protocols and capacity gaps are assessed</p>	<p>2.2 Data collection form; monthly reports</p> <p>2.3 Report on IWT spatial / temporal trends</p> <p>2.4 Capacity needs report</p>	<p>The South Sudan Wildlife Service (WLS) retains sufficient staffing in the project area to collect data using the reporting forms, and staff turnover remains low with limited impact on trained staff.</p> <p>Corruption does not undermine the ability of law enforcement officers to record data accurately and direct patrol resources accordingly.</p>
<p>3. Attitudes, barriers and opportunities associated with the implementation of locally and culturally acceptable potential solutions to illegal wild meat consumption and trade are understood</p>	<p>3.1 By end of project, actors and motivations for wild meat consumption and trade have been identified/confirmed based on quarterly surveying at 5 urban centres and 5 rural markets in Western Equatoria, with >50% female and >20% youth (18-25yrs) of >200 respondents (2021 baseline: no surveys)</p> <p>3.2 By end of project, attitudes, opportunities and barriers to potential solutions to illegal wild meat consumption and trade have been identified through quarterly surveying in 5 urban centres and 5 rural markets, with >50% female and >20% youth (18-25yrs) of >200 respondents (2021 baseline: anecdotal evidence only)</p> <p>3.3 By end of project, report produced documenting recommendations for potential solutions to illegal wild meat consumption and trade in Western Equatoria and cross-border with DRC and CAR</p>	<p>3.1 Urban and rural wild meat survey reports</p> <p>3.2 Focus group discussion reports</p> <p>3.3 Potential solutions report</p>	<p>Respondents are open to talking about illegal activities in the selected survey format.</p> <p>Covid-19 related restrictions do not limit community meetings.</p>

<p>4. Project learning and recommendations are documented and shared with key state, national and regional stakeholders</p>	<p>4.1 By end of project, report documenting project findings disseminated to key stakeholders</p> <p>4.2 By end of project, key stakeholder workshop held to design evidence-based conservation interventions to address IWT and reduce poverty</p>	<p>4.1 Final report and presentation</p> <p>4.2 Workshop report; draft project proposal, participants list</p>	<p>Key transboundary stakeholders avail staff and time to participate in a workshop.</p>
---	--	--	--

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

Output 1: The nature and extent of illegal wild meat trade, including place networks and transboundary dynamics, in key urban centres and rural areas is understood

1.1 Secure survey permissions and affirm support from local government and community leaders

1.2 Raise awareness of the planned surveys through local communication channels (radio, posters, stakeholder meetings)

1.3 Recruit and train three Zande-speaking (including at least one female) interviewers from state or national education institutions (e.g., University of Juba)

1.4 Conduct market surveys (>200 respondents of which >50% female, >20% youth[18-25yrs]), four iterations per location (five urban centres, five rural markets), and analyse data collected

1.5 Collect genetic samples of wild meat from the 10 survey locations, following biosafety protocols, and transport to Bucknell University

1.6 Analyse collected wild meat genetic samples

1.7 Using ArcGIS, spatially map key places facilitating trade

Output 2: At least 80 law enforcement rangers (target >10% women) demonstrate increased knowledge and capacity to monitor IWT-specific data, supported by enhanced protocols and improved data management systems and analysis

2.1 Conduct capacity assessments of >50 WLS personnel (in Q1 and Q4) to understand training needs and proficiency to collect and process IWT data

2.2 Develop IWT data gathering, processing and reporting protocols, including purchasing and installing information systems infrastructure

2.3 Train at least 80 WLS officers (target >10% women) on IWT data collection, processing and storage

2.4 Support WLS officers to collect IWT / law enforcement data

2.5 Analyse IWT data / law enforcement data to determine spatial / temporal trends

Output 3: Attitudes, barriers and opportunities associated with the implementation of locally and culturally acceptable potential solutions to illegal wild meat consumption and trade are understood

3.1 Conduct surveys and FGDs (>200 respondents of which >50% female, >20% youth[18-25yrs]) in target areas to deepen understanding of illegal wild meat consumption and trade

3.2 In the same surveys and FGDs (3.1), explore opportunities, attitudes and barriers to potential solutions to illegal wild meat consumption and trade

3.3 Develop and document recommendations for potential solutions to illegal wild meat consumption and trade

Output 4: Project learning and recommendations are documented and shared with key state, national and regional stakeholders

4.1 Document project findings and disseminate to key stakeholders, including national and regional stakeholders

4.2 Hold key stakeholder workshop, with national and regional stakeholders joining virtually, to design evidence-based conservation/livelihoods interventions to address IWT in the project area

Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements
-----------------	-----------------------	---------------------------

<p>Impact</p> <p>Biodiversity in Western Equatoria (South Sudan), including threatened species, is flourishing due to reduced threats from IWT, and sustainable livelihoods interventions are contributing to poverty reduction in the local area</p>	<p>The results of this project (Annex 30, 12, 13, 24) have contributed to building an evidence base to inform future interventions. Funding proposals to implement future interventions have already been submitted / are in development (e.g. Annex 39, 40). Implementation of future evidence-based strategies will ultimately contribute to a reduction in IWT, enabling biodiversity to thrive, and more sustainable livelihoods strategies that contribute to poverty reduction and address food security in the local area.</p>	
<p>Outcome Improved understanding of illegal wild meat trade and consumer motivations establishes evidence base for future conservation action to reduce poverty and IWT, supported by enhanced law enforcement capacity and systems</p>	<p>0.1 By end of project, the species impacted by IWT, and associated trade chains, are described</p> <p>0.2 By end of project, viable and acceptable potential solutions to illegal wild meat trade are identified and contribute to landscape-level and site-based conservation planning</p> <p>0.3 By end of Q2, capacity and systems to monitor IWT by the Wildlife Service are in place, and, from Q2/Q3, are operational</p>	<p>See section 3.2</p> <p>0.1 Data gathered through market surveys and FGDs has elicited crucial information on wild meat trade, the species impacted, actors engaged and trade chains across Western Equatoria (Annex 30)</p> <p>0.2 Viable and acceptable potential solutions to illegal wild meat trade, that offer solutions to consumption, hunting and selling of species through engaging and providing benefits local community members, have been identified for future piloting (Annex 30)</p> <p>0.3 The provision of basic infrastructure and training (see Output 2), has resulted in an increase in the capacity and systems to monitor IWT. Most tangibly, this is demonstrated by the number of seizures being recorded in the IWT database (Annex 23), compared to there being no systematic IWT reporting before this project. Capacity needs assessments conducted in Q1 and Q4 (Annex 12 & 13) provide more nuanced information on change in capacity.</p>
<p>Output 1. The nature and extent of illegal wild meat trade, including place networks and transboundary dynamics, in key urban centres and rural areas are understood</p>	<p>1.1 In Q1-Q4, consumption and trade surveys, including collection of wild meat samples for genetic analysis and species identification, have been conducted quarterly at 5 urban centres and 5 rural markets in Western Equatoria, with >50% female and >20% youth (18-25yrs) of >200 respondents (2021 baseline: no surveys)</p> <p>1.2 By end of project, key places facilitating trade are spatially mapped and their relative importance understood (2021 baseline: anecdotal evidence only of IWT crime sites and no surveys of places facilitating IWT)</p>	<p>See section 3.1:</p> <p>1.1 Consumption and trade surveys were conducted at five urban centres (Yambio, Maridi, Nzara, Tambura, Ezo) and five rural markets (Bazungua, Saura, Nabiapai, Sakaure, Makpandu) in Western Equatoria in four iterations. Total sample size was 411 respondents, of which 46.7% were women and 48% were young adults (Annex 30).</p> <p>1.2 Key places facilitating trade have been mapped (Annex 30) and dynamics of how animals hunted for their meat are traded across Western Equatoria from their origin to various rural markets and urban centres have been recorded (Annex 30).</p> <p>Indicators under Output 1 were appropriate.</p>
<p>Activity 1.1 Secure survey permissions and affirm support from local government and community leaders</p>		<p>Permissions from local authorities were sought and secured (Annex 9, 33-36) at the start of the project before the first survey iteration.</p>

<p>Activity 1.2. Raise awareness of the planned surveys through local communication channels (radio, posters, stakeholder meetings)</p>	<p>An awareness raising event, where information on the negative impacts of IWT was shared, was held in Tambura, attended by 60 participants (27F,33M) (Annex 14). Participants were encouraged to share the information learnt with other community members.</p> <p>Additional IWT messaging was shared with communities through roadside announcements using a microphone (as radio communication was not available). It is estimated that c. 1,000 people were exposed to this messaging (Annex 14)</p> <p>Messaging for the media was developed (Annex 32) and a radio talk show was held by the project lead, and lead enumerator conducting the surveys (Annex 31).</p> <p>Two awareness raising field missions took place in Ezo and Tambura to raise awareness with local authorities, including County Commissioners, and Payam leadership within those Counties. (Annex 27 & 28)</p>				
<p>Activity 1.3 Recruit and train three Zande-speaking (including at least one female) interviewers from state or national education institutions (e.g., University of Juba)</p>	<p>Three Zande-speaking enumerators (1F, 2M) were recruited and trained by FFI staff to conduct surveys and focus group discussions in target locations safely and ethically (Annex 29).</p>				
<p>Activity 1.4 Conduct market surveys (>200 respondents of which >50% female, >20% youth[18-25yrs]), four iterations per location (five urban centres, five rural markets), and analyse data collected</p>	<p>Consumption and trade surveys were conducted at five urban centres (Yambio, Maridi, Nzara, Tambura, Ezo) and five rural markets (Bazungua, Saura, Nabiapai, Sakaure, Makpandu) in Western Equatoria in four iterations. Total sample size was 411 respondents, of which 46.7% were women and 48% were young adults. Data was analysed and a results report generated (Annex 30)</p>				
<p>Activity 1.5 Collect genetic samples of wild meat from the 10 survey locations, following biosafety protocols, and transport to Bucknell University</p>	<p>134 meat samples were collected from 10 survey locations (Yambio, Sakure, Ezo, Saura, Tambura, Sakure, Nabiapai, Makapandu, Maridi, Bazungua), although it was only possible for 8 samples to be transported to Bucknell University (2 of which had to then be destroyed). 43 CITES listed samples were kept in South Sudan (Annex 8)</p>				
<p>Activity 1.6 Analyse collected wild meat genetic samples</p>	<p>8 wild meat samples underwent genetic analysis (2 of which had to then be destroyed). 43 were CITES listed and could not leave the country (Annex 5)</p>				
<p>Activity 1.7 Using ArcGIS, spatially map key places facilitating trade</p>	<p>Key locations of wildlife origin, sale and purchase hotspots and further destination of wild meat trade in Western Equatoria, including across borders into DRC and CAR, have been mapped (Annex 30)</p>				
<p>Output 2. At least 80 law enforcement rangers (target >10% women) demonstrate increased knowledge and capacity to monitor IWT-specific data, supported by enhanced protocols and improved data management systems and analysis</p>	<table border="1"> <tr> <td data-bbox="618 1192 1167 1342"> <p>2.1 By Q1, >80% of at least 80 rangers trained demonstrate proficiency on IWT data collection (2021 baseline: no rangers are collecting IWT data)</p> </td> <td data-bbox="1167 1192 2186 1342"> <p>See section 3.1:</p> <p>2.1 Capacity assessment at the start and end of the project indicate a marginal increase in capacity for data collection and information management (Annex 12, Annex 13)</p> </td> </tr> <tr> <td data-bbox="618 1342 1167 1473"> <p>2.2 By Q2, IWT quarterly reporting established (2021 baseline: no systematic IWT reporting)</p> </td> <td data-bbox="1167 1342 2186 1473"> <p>2.2 A basic quarterly reporting process was established by the end of Q4 (Annex 24)</p> </td> </tr> </table>	<p>2.1 By Q1, >80% of at least 80 rangers trained demonstrate proficiency on IWT data collection (2021 baseline: no rangers are collecting IWT data)</p>	<p>See section 3.1:</p> <p>2.1 Capacity assessment at the start and end of the project indicate a marginal increase in capacity for data collection and information management (Annex 12, Annex 13)</p>	<p>2.2 By Q2, IWT quarterly reporting established (2021 baseline: no systematic IWT reporting)</p>	<p>2.2 A basic quarterly reporting process was established by the end of Q4 (Annex 24)</p>
<p>2.1 By Q1, >80% of at least 80 rangers trained demonstrate proficiency on IWT data collection (2021 baseline: no rangers are collecting IWT data)</p>	<p>See section 3.1:</p> <p>2.1 Capacity assessment at the start and end of the project indicate a marginal increase in capacity for data collection and information management (Annex 12, Annex 13)</p>				
<p>2.2 By Q2, IWT quarterly reporting established (2021 baseline: no systematic IWT reporting)</p>	<p>2.2 A basic quarterly reporting process was established by the end of Q4 (Annex 24)</p>				

	<p>2.3 By end of project, >6 months of IWT data records / law enforcement effort and responses collected and analysed to determine spatial / temporal trends (2021 baseline: no systematic IWT reporting or analysis)</p> <p>2.4 In Q1 and Q4, law enforcement protocols and capacity gaps are assessed</p>	<p>2.3 12 months of IWT data records / law enforcement effort and responses have been collected (Annex 23) and spatial / temporal trends have been partially analysed (Annex 24)</p> <p>2.4 Law enforcement protocols and capacity gaps were assessed in Q1 and Q4 (Annex 12 & 13) and SOPs were developed based on capacity assessments, and training provided. (Annex 11 & 15-22)</p> <p>Indicators under Output 2 were appropriate</p>
Activity 2.1. Conduct capacity assessments of >50 WLS personnel (in Q1 and Q4) to understand training needs and proficiency to collect and process IWT data		Capacity assessments were undertaken in Q1 (41 WLS (5W, 36M) personnel; Annex 12) and Q4 (40 (7W, 33M) WLS personnel; Annex 13)
Activity 2.2. Develop IWT data gathering, processing and reporting protocols, including purchasing and installing information systems infrastructure		Standard Operating Procedures (SOPs) have been established for IWT data gathering, processing and reporting (Annexes 15-22). Basic office infrastructure including a laptop has been purchased and installed (Annex 12, page 19).
Activity 2.3 Train at least 80 WLS officers (target >10% women) on IWT data collection, processing and storage		63 (11W, 52M) WLS Officers, covering 7 of the 10 counties in Western Equatoria, were provided with training in IWT data collection systems (Annex 11, Annex 25, Annex 26)
Activity 2.4 Support WLS officers to collect IWT / law enforcement data		Support was provided to WLS officers through providing 20 litres of petrol on a monthly basis and airtime (Annex 38). The airtime was for outlying County Offices to send reports to Yambio via phone on a monthly basis as seizures took place. Fuel was provided to enable the IWT Office in Yambio to be mobile and provide refresher training and transport for this project. One motorbike was purchased for the IWT unit based in Yambio to reach outlying areas to collect data forms on an adhoc basis. 12 months of IWT data records / law enforcement effort and responses have been collected (Annex 23)
Activity 2.5 Analyse IWT data / law enforcement data to determine spatial / temporal trends		IWT data / law enforcement data has been partially analyzed to determine spatial / temporal trends (Annex 24)
<p>Output 3. Attitudes, barriers and opportunities associated with the implementation of locally and culturally acceptable potential solutions to illegal wild meat consumption and trade are understood</p>	<p>3.1 By end of project, actors and motivations for wild meat consumption and trade have been identified/confirmed based on quarterly surveying at 5 urban centres and 5 rural markets in Western Equatoria, with >50% female and >20% youth (18-25yrs) of >200 respondents (2021 baseline: no surveys)</p> <p>3.2 By end of project, attitudes, opportunities and barriers to potential solutions to illegal wild meat consumption and trade have been</p>	<p>See section 3.1:</p> <p>3.1 Surveys (see Output 1) have provided demographic information of hunters, sellers and buyers, frequency of purchase and availability of wild meat at the markets, as well as reasons for preference and avoidance of certain species, motivations for hunting and selling wild meat, and importance of wild meat as a source for protein and trading as a source of income (Annex 30). Further understanding of the actors involved in the trade and consumption of wild meat was gained through focus group discussions with various target audiences including buyers of wild meat, sellers, hunters and individuals working at restaurants that sell wild meat (Annex 30).</p>

	<p>identified through quarterly surveying in 5 urban centres and 5 rural markets, with >50% female and >20% youth (18-25yrs) of >200 respondents (2021 baseline: anecdotal evidence only)</p> <p>3.3 By end of project, report produced documenting recommendations for potential solutions to illegal wild meat consumption and trade in Western Equatoria and cross-border with DRC and CAR</p>	<p>3.2 Surveys (see Output 1) have provided data on existing alternative protein sources with varying degrees of availability across the urban centres and rural markets, and attitudes towards alternative livelihoods other than hunting and selling wild meat. Information on barriers preventing the purchase of alternative protein sources and opting for wild meat and barriers related to adopting alternative income-generating activities was obtained (Annex 30)</p> <p>3.3 A report has been produced documenting recommendations for potential solutions to illegal wild meat consumption and trade in Western Equatoria and cross-border with DRC and CAR (Annex 30)</p> <p>Indicators under Output 3 were appropriate</p>
<p>Activity 3.1. Conduct surveys and FGDs (>200 respondents of which >50% female, >20% youth[18-25yrs]) in target areas to deepen understanding of illegal wild meat consumption and trade</p>		<p>Focus group discussions were conducted in the 5 urban centres and 5 rural markets in parallel to the surveys with four different target audiences: hunters of wildlife, sellers and buyers of wild meat and individuals who work in restaurants that sell wild meat. Ten FGD were carried out with each of the target audiences, one per each urban centre and rural market surveyed; 40 FGD in total, each with 8 people (average 4/5M and 3/4F except for FGD with hunters who were all men) (Annex 30)</p>
<p>Activity 3.2 In the same surveys and FGDs (3.1), explore opportunities, attitudes and barriers to potential solutions to illegal wild meat consumption and trade</p>		<p>Through surveys under Activity 1.4 and 3.1, additional understanding was obtained on opportunities related to protein alternatives already available and their accessibility (e.g., goat, fish, pork, chicken, beef), and opportunities related to alternative income-generating activities (e.g., vocational training, farming, rearing domestic animals, bee keeping) and respondents' attitudes towards adopting these. Barriers related to purchase of protein alternatives include availability, affordability, and a preference for the taste of wild meat, and barriers with alternative income generating activities, were lack of training, raw materials and resources for other activities, and an immediate need for income (Annex 30)</p>
<p>Activity 3.3 Develop and document recommendations for potential solutions to illegal wild meat consumption and trade</p>		<p>Recommendations for potential solutions to the illegal wild meat trade and consumption have been developed as part of the Research Report from the market surveys and FGDs (Annex 30)</p>
<p>Output 4. Project learning and recommendations are documented and shared with key state, national and regional stakeholders</p>	<p>4.1 By end of project, report documenting project findings disseminated to key stakeholders</p> <p>4.2 By end of project, key stakeholder workshop held to design evidence-based conservation interventions to address IWT and reduce poverty</p>	<p>4.1 Project learning and recommendations have been documented in a report (Annex 30) which has been shared with Government stakeholders at local and national level. Dissemination to a wider stakeholder group will occur when the project findings have been formally endorsed by the relevant authorities. In October 2023, the report will be presented in-person the Ministry of Wildlife Conservation and Tourism.</p> <p>4.2 For reasons of stakeholder availability, it was not possible to hold a singular stakeholder workshop. Instead, a series of bilateral stakeholder consultations were undertaken. This involved engagement with development stakeholders ACTED (www.acted.org) and Caritas (www.caritas.org) to jointly design interventions that have formed part of Darwin Extra (Annex 39) and IWTCF Main proposals (Annex</p>

		40). Additional informal consultations have been held with African Parks, who manage Garamba National Park in the DRC.
Activity 4.1 Document project findings and disseminate to key stakeholders, including national and regional stakeholders		Project learning and recommendations have been documented in a report (Annex 30) which has been shared with Government stakeholders at local and national level. Dissemination to a wider stakeholder group will occur when the project findings have been formally endorsed by the relevant authorities. In October 2023, the report will be presented in-person the Ministry of Wildlife Conservation and Tourism.
Activity 4.2 Hold key stakeholder workshop, with national and regional stakeholders joining virtually, to design evidence-based conservation/livelihoods interventions to address IWT in the project area		For reasons of stakeholder availability, it was not possible to hold a singular stakeholder workshop. Instead, a series of bilateral stakeholder consultations were undertaken. Subject to stakeholder availability, a joint stakeholder workshop will be conducted before the end of 2024.

Annex 3 Standard Indicators

Table 1 Project Standard Indicators

IWTCF Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with IWTCF Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
IWTCF-B01	Output Indicator 2.1 By Q1, >80% of at least 80 rangers trained demonstrate proficiency on IWT data collection	Number of people trained in law enforcement skills	People	Men / Women	52M / 11W	N/A	N/A	52M / 11W	63
IWTCF-B06	Output Indicator 1.2 By end of project, key places facilitating trade are spatially mapped and their relative importance understood	Number of criminal networks/trade routes mapped/identified	Number	N/A	10	N/A	N/A	10	N/A
IWTCF-B07	Output Indicator 2.3 By end of project, >6 months of IWT data records / law enforcement effort and responses collected and analysed to determine spatial / temporal trends (2021 baseline: no systematic IWT reporting or analysis)	Number of illegal wildlife products/shipments	Number	N/A	89 seizures	N/A	N/A	89 seizures	N/A
IWTCF-B23	Output Indicator 2.2 By Q2, IWT quarterly reporting established (2021 baseline: no systematic IWT reporting)	Number of databases established that are used for law enforcement	Number	N/A	1	N/A	N/A	1	1
IWTCF-D03	Output Indicator 2.1 By Q1, >80% of at least 80 rangers trained demonstrate proficiency on IWT data collection	Number of local/national organisations with improved capability and capacity as a result of the project.	Number of organisations	N/A	1	N/A	N/A	1	1

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the subject line.	Yes
Is your report more than 10MB? If so, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the subject line.	n/a
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 13)?	n/a
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.	Yes
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	