

Cheetah Survey and Monitoring Training Workshop II

REPORT

Jigjiga, Ethiopia
January 29 - February 2, 2024



Funded by
United States Fish and Wildlife Service International Affairs
Species Conservation Catalyst Fund



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Executive Summary

As part of the three-year project, *Cheetah Trafficking: An Adaptive Management Strategy for Building Regional and National Capacity in the Horn of Africa*, funded by the Species Conservation Catalyst Fund (SCCF) of the United States Fish and Wildlife Service's International Affairs program (USFWS-IA), Colorado State University (CSU) and its partner organizations, the Zoological Society of London's Cheetah Conservation Initiative, Torrid Analytics and the Hirola Conservation Program, held a five-day workshop in Ethiopia. The workshop took place from January 29 to February 2, 2024, at Jigjiga University and the Lotus Hotel in Jigjiga, Ethiopia, and was inaugurated with opening remarks by the Acting President of the Somali Regional State of Ethiopia, the Bureau Chief of the Somali Regional State (SRS)'s Environmental Protection and Rural Land Administration Bureau (EPRLAB), the President of Jigjiga University, the Director General of the Ethiopian Wildlife Conservation Authority (EWCA) and the Director General of the Somaliland Ministry of Environment and Climate Change. In addition, participants were honored to receive a surprise visit by the U.S. Ambassador to Ethiopia, Mr. Ervin Massinga who delivered remarks on the importance of international and regional collaborations, highlighting shared goals that promote cheetah conservation.

The aims of this workshop were to review results of cheetah/wildlife surveys conducted in Year 1 of the project, provide training for social science surveys and camera trap use scheduled later this year, and development of national databases of information related to illegal cheetah trafficking and poaching. Participants were also introduced to conservation strategies and were given presentations on successful conservation projects in South Sudan and northeastern Kenya. Ultimately, with knowledge acquired from this and subsequent workshops, participants will be mentored to develop or update their own national cheetah conservation action plans.

Twenty representatives from wildlife departments and NGOs from Djibouti, Ethiopia (including the Somali Regional State), Kenya, Somaliland, Somalia (including the Puntland Regional State), and South Sudan took part in the workshop. During the five-day workshop, participants were given lectures and presentations, followed by Q&A sessions. Participants were also taken on a short field trip to set up camera traps. The cameras were left out for three days and the results of this exercise were reviewed on the last day of the workshop. Additionally, the workshop was followed by a three-day training on social science surveys held for a select group of participants from the SRS, Djibouti, and Somaliland, in preparation for work to be undertaken in Year 2 of the project.

Evaluation forms were handed out to participants to assess the effectiveness of the workshop and aid in the planning of one more workshop planned over the next year. Eighteen indicated that they would be *Very Likely* to apply what they learned. Twelve respondents rated the training as *Excellent*; however, most of the participants indicated that the training should be longer and include more practical exercises, field work, and group interactive sessions.

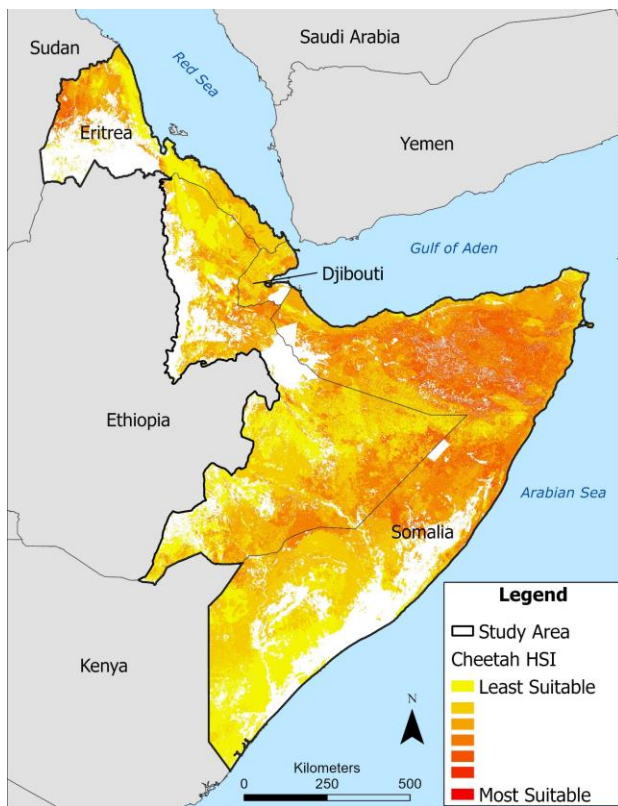
Abbreviations and Acronyms

AM – Adaptive Management
APSSD – African Parks South Sudan
CITES – Convention on International Trade of Endangered Species of Wild Fauna and Flora
CMS - Convention on the Conservation of Migratory Species of Wild Animals
CSU - Colorado State University
EBC - Evidence-based conservation
EWCA – Ethiopian Wildlife Conservation Authority
GPS – Global Positioning System
HGBF – Howard G. Buffet Foundation (HGBF)
HoA – Horn of Africa
IFAW - International Fund for Animal Welfare
IUCN - International Union for the Conservation of Nature
LICIT - Legal Intelligence for Cheetah Illicit Trade
NCC – National Carnivore / Cheetah Coordinator
NRCN - Natural Resource Conservation Network
SCCF – Species Conservation Catalyst Fund
SRS – Somali Regional State (Ethiopia)
SRS EPRLAB – Somali Regional State Environmental Protection and Rural Land Administration Bureau (Ethiopia)
SSC – Species Survival Commission
USFWS-IA – United States Fish and Wildlife Service International Affairs program
ZSL/CCI – Zoological Society of London/Cheetah Conservation Initiative

Introduction

Background

The cheetah (*Acinonyx jubatus*) is listed as vulnerable by the International Union for Conservation of Nature (IUCN) Red List of Threatened Species (Durant et al. 2015); is protected as an Appendix 1 species by Convention on International Trade in Endangered Species of Flora and Fauna (CITES); is an Appendix 1 species for the Convention on Migratory Species (CMS); and is one of four large carnivore species targeted by the CITES-CMS African Carnivore Initiative. In 2023, the IUCN updated the status of *Acinonyx jubatus* ssp. *Soemmeringii*, the subspecies found across the Horn of Africa, from Threatened to Endangered under criteria C2a(i).



Cheetah Habitat Suitability Index (HSI) model showing relative suitability of cheetah habitat (Evangelista et al. *In Review*).

It is estimated that only 7,000 adult and adolescent wild cheetahs remain in Africa, inhabiting only 13% of their former range. Of these, only a minority (33%) live inside protected areas (Durant et al. 2017). In East Africa, approximately 2,290 cheetahs are thought to remain in the wild and are concentrated in 15 fragmented sub-populations across Ethiopia, Kenya, Tanzania, South Sudan, and Uganda, with the majority in Kenya and Tanzania (Durant et al. 2017). Human-wildlife conflicts, habitat loss and fragmentation (exacerbated by low density and large home ranges of cheetah), loss of prey due to grazing competition and unsustainable bushmeat extraction, and the trade of skins and live animals have been, and continue to be, direct threats to wild cheetah populations (Nowell 2014, Durant et al. 2015, Tricorache et al. 2018).

IUCN Red List assessment states that “...illegal trade in live cheetahs is likely to have the greatest negative impact on wild populations” in East Africa (Durant et al. 2015). The trade of live cheetahs, primarily for pets in the Arabian

Peninsula, occurred largely unnoticed until the last decade. Nowell (2014), in a report commissioned by CITES when the issue was first addressed by the convention, documented more than 40 live cheetah confiscations between 2011 and 2013, mostly in Somaliland. Even more alarming is a recent report documenting more than 1,880 cases of seized or marketed live cheetah and parts between 2010-2019. The dataset, compiled by Tricorache et al. (2021), involves an estimated 4,000 cheetah (live or parts and derivatives) that have violated multiple national laws and/or CITES regulations related to the capture, killing, trade and transport of wildlife. Of these, 3,517 were live cheetah, mostly cubs, likely removed from the Horn of Africa (HoA), and destined for countries in the Arabian Peninsula, where cheetahs are in high demand for the pet trade. Less

than 10% (n=333) were seized. Furthermore, Tricorache's unpublished data for the years 2020-2023 suggest that illegal cheetah trade in the HoA and the Arabian Peninsula has worsened, with the annual average of recorded incidences increasing nearly 50% compared to the annual average of the previous 10 years, and confiscations remaining consistent at approximately 10%. This offtake rate, when the best estimates suggest only around 300 individuals still survive in HoA countries (Durant et al. 2017), is unlikely to be sustainable and threatens endemic wild cheetah populations in the HoA of the subspecies *Acinonyx jubatus Soemmerring*, as well as populations in bordering countries.

Ineffective enforcement, lack of environmental awareness and, importantly, insufficient knowledge about where wild cheetah persists have weakened efforts to end wildlife trafficking in the HoA. This greatly impacts governments' ability to manage cheetah populations, counter illegal trafficking, and collaborate regionally to combat cross-border wildlife crime. In response, CSU and its partners have been granted funding for a three-year project titled: ***Combatting Cheetah Trafficking: An Adaptive Management Strategy for Building Regional and National Capacity in the Horn of Africa***. The extent of this project spans the HoA and other areas known or suspected of harboring cheetah. Our partners include national and regional wildlife departments and local NGOs from Djibouti, Eritrea, Ethiopia, Somaliland, Somalia, South Sudan, and a small area of northeastern Kenya. It foresees to conduct surveys across the region. Survey data will be used to develop species distribution models that will identify where wild cheetah likely persist. These areas will be prioritized for more intensive study using camera traps to estimate cheetah densities and assess their prey base and competing predators. The models will also direct us to geographic regions where further social science surveys will be used to identify social, cultural, economic, and other anthropogenic drivers that contribute to cheetah trafficking and poaching activities. This will allow us to better understand attitudes, motivations, and behaviors and tailor outreach, education and engagement activities to conserve cheetah.

The project involves three annual workshops for wildlife officials and stakeholders, through which participants will be assisted and mentored in conducting cheetah/wildlife surveys and questionnaires on people's attitudes that will provide information, such as range maps of cheetah and other wildlife, increased understanding to human/wildlife conflicts, and areas that should be prioritized, to guide planning and development of management and conservation strategies. Participants will also be supported in the developing their own national database of information related to illegal cheetah trafficking and poaching, as well as with developing or updating national cheetah conservation action plans for each participating country. To meet project goals and objectives, we will incorporate the strengths and principles of adaptive management (AM) and evidence-based conservation (EBC).

Workshop

This was the second of three workshops planned over the three-year duration of the project. A representative group of 20 participants from wildlife departments from Djibouti, Ethiopia, Kenya, Somalia (Mogadishu and Puntland), Somaliland and South Sudan was invited to attend and engage in the AM processes (i.e., problem assessment, project design, implementation, monitoring and evaluation, and knowledge learning) and EBC (i.e., conducting cheetah/wildlife surveys, social science surveys). The workshop provided opportunities for training participants in applied research and management. Both the first and second workshops were also helpful in identifying and

addressing capacity gaps among our project partners, while establishing consistent methodology on collecting and analyzing field data, deterring poaching and illegal trafficking, and developing best practices for monitoring and managing wild cheetah populations. The coproduction of knowledge and iterative learning from AM/EBC helped build personal bonds of trust and professional relationships among the participants and established a peer-to-peer collaborative network, which will motivate collaboration and strengthen their effectiveness across the HoA.

Objectives

This workshop addressed the following goals and objectives of the project:

- Develop species distribution models to create updated range and habitat maps of cheetah in East Africa.
- Use camera traps in targeted areas to confirm cheetah presence and estimate population densities.
- Determine regions and/or cheetah sub-populations at greatest risk to inform and prioritize activities in meeting project goals.
- Assist and mentor wildlife officials in developing their own national database of information related to illegal cheetah trafficking and poaching.
- Assist wildlife officials with developing or updating national cheetah conservation action plans for each participating country.
- Provide information, such as range maps of cheetah and other wildlife, to guide planning and development of management and conservation strategies.
- Improve our understanding of anthropogenic drivers of cheetah and other wildlife poaching to inform conservation strategies.
- Collaborate with Jigjiga University (Ethiopia) and Hargeisa University (Somaliland) to generate academic materials and programs on wildlife management and wildlife crime.

In addition, and building on training and data collection from Year 1, we continued fostering project objectives to 1) build a collaborative framework for conserving cheetah and other wildlife across the HoA, 2) assess the capacity of wildlife managers and stakeholders in conducting cheetah/wildlife surveys and monitoring strategies; 3) begin foundational training for developing management and conservation plans.

Presenters/Coordinators

Abdullahi Ali - Hirola Conservation Program

Sarah Durant - Zoological Society of London/Cheetah Conservation Initiative

Paul Evangelista - Colorado State University

Kelsey Shannon Green - African Parks South Sudan

Miles Innes - Colorado State University

Kelly Jones - Colorado State University

Tomas Maule - Torrid Analytics

Nick Mitchell - Zoological Society of London/Cheetah Conservation Initiative

Redae Tesfai - Colorado State University

Patricia Tricorache - Colorado State University

Nick Young - Colorado State University

Guest Speakers

Diane Grace Akello, Natural Resource Conservation Network (NCRN, Uganda)

Kelsey Shannon Green - African Parks, South Sudan

Vincent Opyene, NRCN

Isaac Seme Solomon - National Cheetah / Carnivore Coordinator, NCC, South Sudan

Participants

Mowlid Hassan Abdilahi - Biodiversity Conservation & Monitoring Specialist, Somali Regional State Environmental Protection and Rural Land Administration Bureau (SRS EPRILAB)

Roda Muse Ahmed - Wildlife Department, Somaliland Ministry of Environment and Climate Change

Mustafe Abdilahi Ali- Wildlife Department, Somaliland Ministry of Environment and Climate Change

Osman Gedow Amir - Director General, National Museum of Somalia

Daniel Assefa - Senior Wildlife Trafficking Officer, Ethiopian Wildlife Conservation Authority

Hassan Hachin Atteyeh - Djibouti Ministry of Environment and Sustainable Development

Aden Hussein Edin - Wildlife and Ecotourism Management Department Head, Jigjiga University College of Dryland and Agriculture, Ethiopia

Liban Mohamed Farah – Director of Planning and Policy Development at Puntland Ministry of Environment, Range and Climate Change

Abiot Hailu - Wildlife Protected Areas Senior Expert, Ethiopian Wildlife Conservation Authority

Abdallah Loita Houmed – Advisor Department of Environment, Djibouti Department of Environment

Ilhan Abdishakur Hassan - National Museum of Somalia

Muuse Siciid Jaamac - Wildlife Department, Somaliland Ministry of Environment and Climate Change

Fanuel Kebede – Ethiopian Wildlife Conservation Authority

Ahmed Mohamud Mohamed - Jigjiga University,

Abdifatah Hassen Musse - Wildlife Biodiversity Officer, SRS EPRILAB

Mohamed Nur Nageye - Director of Biodiversity and Climate Change, Puntland Ministry of Environment, Range and Climate Change

Fekede Regassa - Director of Research, Ethiopian Wildlife Conservation Authority

Isaac Seme Solomon - National Cheetah / Carnivore Coordinator, NCC, South Sudan

Abdirahman Xadi - Torrid Analytics, Somaliland

Special Guests

Mohamed Abdilahi Duale - Director General, Somaliland Ministry of Environment and Climate Change
Fetene Hailu, (Ethiopia) - International Fund for Animal Welfare

Dr. Abdi Ahmed Hasan -Vice President for Academic Affairs, Jigjiga University

Eng. Muhyadin Abdi Hussein - Bureau Head/Minister, SRS EPRLAB

Mr. Mohamed Aden Ibrahim - Vice Bureau Head/Vice Minister, SRS EPRLAB

Honorable Ervin Massinga, U.S. Ambassador to Ethiopia

Dr. Beshir Abdullahi Mohammoud – President, Jigjiga University

Luke Strimer - Regional Environment Assistant, Regional Environment Office for East Africa, US Embassy, Addis Ababa, Ethiopia

Yeneneh Teka - Regional Environment Specialist, Regional Environment Office for East Africa, US Embassy, Addis Ababa, Ethiopia

Kumara Wakjira - Director General, Ethiopian Wildlife Conservation Authority (EWCA)



Special guest US Ambassador Ervin Massinga addressed participants about the importance of transboundary collaboration in combatting illegal cheetah trade.



Welcoming remarks by Dr Hussein Kasim, Acting President and Chief of Cabinet of SRS (on behalf of Hon. Mustafa Muhumed Omar, President, Somali Regional State).

Daily Workshop Schedule

The Workshop was inaugurated at Jigjiga University with remarks by the Acting President and Chief of Cabinet of the SRS of Ethiopia, the Bureau Chief of the SRS EPRLAB, the President and Vice President of Jigjiga University, the Director General of EWCA and the Director General of the Somaliland Ministry of Environment and Climate Change; all of whom welcomed participants and emphasized the importance of trainings, such as the one taking place on this occasion. In addition, the Bureau Head of SRS EPRLAB expressed his desire to make of the region an example in the fight against illegal wildlife trade and the need for inter-regional collaboration.

The program (Table 1) began with reports by the participating countries/regions on surveys conducted during Year 1 of the project. A set of presentations on technical topics provided background information and a basis for discussions. Topics included species distribution modeling, prioritization within conservation strategies, social science surveys, writing professional papers and reports, and recording illegal wildlife trade incidents. A more detailed summary of the contents is provided below.

Dr. Paul Evangelista and Prof. Sarah Durant concluded the workshop by presenting Certificates of Completion to each participant.

Prof. Kelly Jones and Patricia Tricorache were invited to give public seminar presentations to Jigjiga University natural resource students on social equity outcomes of community-based conservation programs, and on illegal wildlife trade, respectively.

Table 1: Workshop Program

| Time | Title | Speaker/Moderator |
|---------------------------|---|---|
| Sunday, January 28 | | |
| am | Participants arrive | |
| pm | Welcome reception and registration at hotel Lotus | Paul Evangelista/Sarah Durant |
| Monday, January 29 | | |
| 8:20-8:30 | Shuttle departure time (from Lotus hotel to Jigjiga University) | |
| 9:00-9:20 | Welcome & introductions | Redae Tesfai/Abdi Ahmed (Vice President of Jigjiga University) |
| 9:20-9:45 | Opening remarks | <ul style="list-style-type: none"> • Dr. Beshir Abullahi, President, Jigjiga University |
| | Opening remarks | <ul style="list-style-type: none"> • Dr Hussein Kasim, Acting President and Chief of Cabinet of SRS (on behalf of Hon. Mustafa Muhumed Omar, President, Somali Regional State) |
| | Opening remarks | <ul style="list-style-type: none"> • Kumara Wakjira, Director General, EWCA |
| | Opening remarks | <ul style="list-style-type: none"> • Eng. Muhyadin Abdu Hussein, Head, SRS EPRLAB |
| | Opening remarks | <ul style="list-style-type: none"> • Mr. Mohamed Abdillahi Duale, Director General, Ministry of Environment and Climate Change, Somaliland |
| 9:45-10:00 | Orientation and general information | Redae Tesfai |
| 10:00-10:30 | Presentation: Field Surveys and Project Updates (SRS-Ethiopia Team) | Aden Hussein |
| 10:30-11:00 | Coffee/Tea Break | |
| 11:00-11:45 | Discussion | Redae Tesfai |
| 11:45-12:00 | Review of workshop I and workshop II schedule | Redae Tesfai |
| 12:00-12:15 | Transfer to Hotel Lotus | |
| 12:15-14:15 | Lunch Break | |
| 14:15-14:45 | Presentation: Field Surveys and Project Updates (Somaliland Team) | Mustafe Abdilah |
| 14:45-15:15 | Presentation: Field Surveys and Project Updates (Djibouti Team) | Abdallah Loita |
| 15:15-15:45 | Coffee/Tea Break | |

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| 15:45-16:15 | Presentation: Field Surveys and Project Updates (Puntland State Team) | Mohamed Nur Nageye/Liban Mohamed Farah |
| 16:15-17:00 | Presentation: Field Surveys and Project Updates (Kenya Team) | Abdullahi Ali |
| Tuesday, January 30 | | |
| 9:00-9:30 | Recap of Day 1 | Redae Tesfai |
| 9:30-10:30 | Presentation: Social Surveys - Theory, Constructs and Methodology | Kelly Jones |
| 10:30-11:00 | Coffee/Tea Break | |
| 11:00-12:00 | Review of game cameras and sampling design | Nick Mitchell |
| 12:00-14:00 | Lunch Break | |
| 14:00-17:00 | Field trip: Karamardha Reserve to set up game cameras | Nick Mitchell/Sarah Durant |
| Wednesday, January 31 | | |
| 9:00-9:15 | Recap of Day 2 | Redae Tesfai |
| 9:15-10:00 | Presentation: Survey Results and Species Distribution Modeling | Nick Young/Redae Tesfai |
| 10:00-10:30 | Presentation: Survey data update and reflections | Sarah Durant/Redae Tesfai |
| 10:30-11:00 | Coffee/Tea Break | |
| 11:00-11:30 | Presentation: New data logger app used by Puntland team | Tomas Maule/Mohamed Nur Nageye |
| 11:30-12:00 | Special guest remarks | H.E. Ervin Massinga, U.S. Ambassador to Ethiopia |
| 12:00-14:00 | Lunch Break | |
| 14:00-14:45 | Presentation: Species Conservation Planning: Regional Strategies and National Action Planning for Wide-ranging 'Umbrella' Species in Eastern Africa | Nicholas Mitchell/Sarah Durant |
| 14:45-15:15 | Coffee/Tea Break | |
| 15:15-16:15 | Activity: Prioritization within Conservation Strategies | Nicholas Mitchell/Sarah Durant |
| Thursday, February 1 | | |
| 9:00-9:15 | Recap of Day 3 | Redae Tesfai |
| 9:15-10:30 | Presentation: Evidence-based Conservation of Hirola Antelope in Eastern Kenya | Abdullahi Ali |
| 10:30-11:00 | Coffee/Tea Break | |
| 11:00-12:00 | Presentation: Cheetah Conservation in South Sudan | Isaac Seme Solomon |
| 12:00-14:00 | Lunch Break | |
| 14:00-14:45 | Presentation: From Report to Results: Recording an Illegal Trade Incident | Patricia Tricorache |
| 14:45-15:15 | Coffee/Tea Break | |
| 15:15-16:00 | Presentation: Investigation of Wildlife | Vincent Opyene, NRCN |

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|-----------------------------|---|--|
| | Crime | |
| Friday, February 2 | | |
| 9:00-9:15 | Recap of Day 4 | Redae Tesfai |
| 9:00-9:45 | Presentation: Illegal Wildlife Trafficking | Diane Grace Akello, NRCN |
| 9:45-10:30 | Presentation: Wildlife Conservation in South Sudan | Kelsey Green, APSSD |
| 10:30-11:00 | Coffee/Tea Break | |
| 11:00-11:45 | Presentation: Reporting your findings - writing Reports and Professional Papers | Miles Innes/Nick Young |
| 12:00-14:30 | Lunch Break and Friday prayers | |
| 14:30-14:45 | Transfer to Jigjiga University for closing ceremony | |
| 14:45-14:50 | Closing remarks | Dr. Beshir Abullahi, President of Jigjiga University |
| 14:50-15:15 | Closing ceremony and certificate awards | Paul Evangelista, Sarah Durant, Redae Tesfai |
| 15:15-15:45 | Review of game camera data | Nick Mitchell |
| Saturday, February 3 | | |
| 8:00-17:00 | Field Trip to Babile Elephant Sanctuary (optional) | Jigjiga University/SRS EPRLAB |

Summary of Presentations

Day 1: Team Presentations

- ***Somali Regional State Field Surveys and Project Updates*** - Aden Hussein

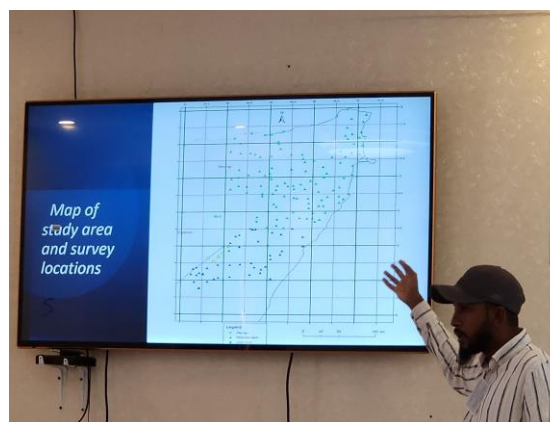
Review of the 359 surveys completed in the Somali Regional State, Ethiopia, including challenges encountered, wildlife observations, and general trends of rural people's knowledge and attitudes toward wildlife.

- ***Somaliland Field Surveys and Project Updates*** - Mustafe Abdilah

Review of the 157 surveys completed in Somaliland, including challenges encountered, wildlife observations, and general trends of rural people's knowledge and attitudes toward wildlife.

- ***Djibouti Field Surveys and Project Updates*** - Abdallah Loita

Review of the 32 surveys completed in Djibouti, including challenges encountered, wildlife observations, and general trends of rural people's knowledge and attitudes toward wildlife.



Liban Mohamed from the Puntland Ministry of Environment, Range and Climate Change presents collected data from their fieldwork.

- ***Puntland Field Surveys and Project Updates*** - Mohamed Nur Nageye/Liban Mohamed Farah
Review of the 159 surveys completed in Puntland, Somalia, including challenges encountered, wildlife observations, and general trends of rural people’s knowledge and attitudes toward wildlife.
- ***Kenya Field Surveys and Project Updates*** - Abdulahi Ali
Review of the 180 surveys completed in northeast Kenya, including challenges encountered, wildlife observations, and general trends of rural people’s knowledge and attitudes toward wildlife.

Day 2

- ***Social Science Surveys- Theory, Constructs and Implementation*** – Kelly Jones
Effective conservation needs both natural and social science perspectives. This session introduced participants to the purposes of social science surveys that will be conducted as part of the cheetah research during Year 2. A summary of social science concepts that will inform surveys, such as anthropogenic drivers, economics, and social psychology, were reviewed, as well as the specific types of questions included in the survey. Participant feedback and suggestions were requested.
- ***Introduction to Camera Trapping*** – Nick Mitchell
This session covered the various uses of camera trap, e.g., presence/absence, distribution and behavior surveys with cheetah as the focus as well as survey design for different wildlife species. A detailed description of camera traps and their parts, and the various considerations needed to set up the cameras were offered in detail, including the need to document every aspect of the camera location. A basic protocol for setting up cameras with cheetah as the focal species in different habitats was reviewed, including the pitfalls and how to simply analyze results.



Nick Mitchell (ZSL/CCI) demonstrates to participants how to set up a camera.

Activity: Setting Up Game Cameras – Nick Mitchell and Sarah Durant

Participants traveled to Karamardha Reserve to practice setting up game cameras. The cameras remained there for three days, after which images obtained were examined.

Day 3

- ***Survey Results and Species Distribution Modeling*** – Nick Young/Redae Tesfai
Preliminary analysis and interpretation of Species Distribution Modeling was presented for several key antelope/prey species included in Year 1 surveys. The applications of model and map interpretation were demonstrated through how model results were integrated into a Habitat Suitability Index for cheetah habitat across the HoA.

- ***Survey data update and reflections*** – Sarah Durant/Redae Tesfai
Utilizing results from surveys carried out in Year 1, the session included a triangulation of abundance indices, e.g., common, rare etc. with graphics showing the percentage of respondents who had or had not seen cheetah and other carnivore species and an analysis of the obtained data. Similarly, a triangulation of abundance indices provided data on the frequency of carnivore species. Reflections on the surveys were discussed, including the effectiveness/comprehensibility of the questionnaire and lessons learned.
- ***Puntland Digital Data Collection*** – Tomas Maule/Mohamed Nur Nageye
OnSpace is a dynamic mobile data collection and communication platform used by the Puntland team during its wildlife surveys. The Kenya-based app is designed as a no-code application to facilitate complex data management and communication. It allows the users to create mobile data collection forms. This session described its functionalities for real-time data analysis and insights, facilitating informed decision-making.
- ***Species Conservation Planning: Regional Strategies and National Action Planning for Wide-ranging ‘Umbrella’ Species in Eastern Africa***– Nick Mitchell/Sarah Durant
Conservation strategies commonly represent the backbone of individual species conservation. The session included a brief review of some existing species conservation strategies and looked more closely into Regional Conservation Strategies for Cheetah and African Wild Dogs and the national Conservation Action Plans that are derived from the strategies.

Activity: Prioritization within conservation strategies – Nick Mitchell

To encourage deeper insight, workshop participants were split into rough geographic groups and asked to review the logical framework of the Eastern African Conservation Strategy for Cheetah and African Wild Dogs and to consider which parts are of relevance to their own region. As a hypothetical exercise, they prioritized the objectives and activities to best reflect the needs and practical realities in their region.

Day 4

- ***Evidence-based Conservation of Hirola Antelope in Eastern Kenya*** -Abdullahi Ali, Hirola Conservation Program.
The hirola has the unenviable distinction of being the world’s most endangered antelope and is classified as Critically Endangered in the IUCN Red List. Affected by a Rinderpest outbreak in the 1980s, the hirola population decreased significantly. Today, as few as 500 hirola remain – less than 3% of the population estimated from the 1960s, in less than 5% of their historical range. This session discussed a collaborative, community-based conservation effort by the Hirola Conservation Program to understand and attempt to reverse the factors responsible for chronically low numbers of hirola. During the workshop, we discussed scientific efforts to understand population suppression of hirola, as well as conservation efforts to boost population growth through range restoration, for which local support was evaluated.
- ***Cheetah Conservation in South Sudan*** – Isaac Seme Solomon, NCC
The presentation provided the background context for conservation work of the Ministry of Wildlife Conservation and Tourism (MWC&T) in South Sudan, and touched on the civil war, bushmeat, and protected areas. It also highlighted the seasonal movement or migration of antelopes and the work of the NCC in conducting simple questionnaire surveys for carnivores



Isaac Seme, the National Cheetah/Carnivore Coordinator for South Sudan presents management and conservation strategies for wildlife and cheetah.

and conflict, as well as work within the WHO's One Health program in South Sudan aimed at reducing the risk and mitigate the impact of future emergence of zoonotic, vector-borne and communicable diseases.

• ***From Report to Results: Recording an Illegal Trade Incident*** – Patricia Tricorache

From the moment a report of an illegal wildlife incident is received, through the investigation process and final outcomes, including seizures and prosecutions, this topic described a method for recording all the information needed to keep accurate records, which can be used for identifying repeat offenders, trafficking

networks, methods and locations, as well as other patterns of wildlife trafficking.

• ***Investigation of Wildlife Crime*** - Vincent Opyene, NRCN

Law enforcement officials must have a comprehensive understanding of wildlife crime and the techniques involved in its investigation. This session covered the classifications of wildlife crime and techniques for investigating poaching incidents and organized wildlife crime networks. It provided detailed information on how to utilize communication devices, financial transactions and forensics, as well as surveillance and how to manage and analyze the resulting intelligence.

Day 5

• ***Illegal Wildlife Trafficking*** - Diane Grace Akello (Natural Resource Conservation Network)

This session examined the different types of wildlife crimes (illegal importation, illegal killing, trade in wildlife products and possession of wildlife as pets, ornaments or trophies) and drivers. Using a case study involving 1.3 tons of ivory confiscated in Kampala, it demonstrated the various actors along a trafficking network. It described the different *modus operandi* employed by criminals, including concealment methods. Finally, it discussed awareness, information sharing and capacity building among law enforcement agencies as a way forward in the fight against illegal wildlife trade.

• ***Conservation at Scale in South Sudan*** - Kelsey Green, APSSD

African Parks commenced work in the Boma Badingilo Landscape of South Sudan at the end of 2022 and has carried out extensive activities in infrastructure development, community engagement, and biodiversity monitoring over the last year and a bit. An aerial survey carried out in May 2023 and subsequent analysis has shown that this landscape is home to the largest land mammal migration in the world, with nearly 6 million animals of 4 species traversing seasonally through Boma and Badingilo, and into Gambella National Park in Ethiopia. Just prior to the aerial survey APSSD carried out a mass collaring operation resulting in 126 animals of 12 species collared, including cheetah, enabling us to track their movements to better understand how to manage threats and protect wildlife in this vast landscape.

• ***Reporting your findings - writing Reports and Professional Papers*** - Miles Innes/Nick Young

Research reports are vital for documenting scientific studies and summarizing findings. In this session, we discussed the essential parts of a research report and prepare teams to write their own regional reports. An outline of the essential elements of a report was provided, as well as detailed explanations of each element. Participants were requested to prepare a report of their Year 1 work in their individual regions, including locations where sampling took place, successes and challenges encountered, as well as data and caveats it may have.

Participants Evaluations

At the conclusion of the workshop, all 20 participants and two guests were asked to fill out a short evaluation form to assess:

1. Communication during the training
2. Ease of applying training
3. Overall rating
4. Most useful sessions
5. What could be done better in future trainings
6. Suggestions for future trainings
7. Have you found any of Year 1 training to be useful in the last 12 months
8. Other resources/trainings you think would be useful.
9. Other comments

Ten participants qualified the communication during the training as *Excellent*; 18 thought they would be *Very Likely* to apply the training; and 13 gave the training an overall rating of *Excellent*.

Responses were mixed when asked about the most useful sessions. The highest-rated presentations were all related to surveys carried out in year 1 of the project, as well as overviews of the Hirola Conservation Program in Kenya and wildlife conservation in South Sudan. These responses support many comments requesting more shared experiences from the field. Camera trap review and sampling design was also highly rated, reflecting most respondents' requests for more training on survey methods/tools (GPS, GIS, mapping, etc.). Presentations on illegal wildlife trade were highly rated and some participants requested more training on investigations and legal frameworks. Six participants would like future training courses to be longer and with more field practical exercises and interactive group sessions. Other requests for future trainings to include stakeholders' awareness (community, tourism, customs, indigenous people, government), project writing and management, wildlife rehabilitation, and natural resource/land management/protected areas.



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