

# PRESENTATION ABSTRACTS

## THURSDAY, 10 OCTOBER

**Etosha Pan to the Skeleton Coast: How conservation histories and cultural heritage concerns may inform the landscape approach in north-west Namibia**

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**Abstract:** We consider conservation histories and heritage concerns for one of southern Africa's most iconic conservation regions: the variously connected 'Etosha-Kunene' areas of north-central and north-west Namibia. Drawing on a collaborative research project called *Etosha-Kunene Histories* ([www.etosha-kunene-histories.net](http://www.etosha-kunene-histories.net), NCRST permit: AN202101038) we confront a critical question, namely: how can the conservation of biodiversity-rich landscapes be reconciled with historical injustices of social exclusion and marginalisation? We focus on three dimensions pertinent to this question, in a context of repeated conservation desires for a 'wildlife corridor' between Etosha Pan and the Skeleton Coast. First, we provide a detailed analysis of the historical background of boundary changes from Game Reserve no. 2 established under the German colonial regime in 1907, via the 1958 Etosha Game Park boundary, to the current borders of Etosha National Park (ENP). Secondly, we review some of the historical displacements that affected Indigenous and incoming communities through the connected area from Etosha Pan to the Skeleton Coast, highlighting the legacies of these displacements for CBNRM and landscape approaches in this area today. Finally, we provide a brief case-study of how the landscape approach in conservation and tourism is manifesting in the Ombonde People's Landscape west of ENP. We consider the emphasis on opening this landscape to multiple tourism investments that may be in tension with environmental, conservation and cultural-ecological considerations. Our presentation draws on research to be published in 2024 in the open access volume *Etosha Pan to the Skeleton Coast: Conservation Histories, Policies and Practices in North-west Namibia*: <https://www.openbookpublishers.com/books/10.11647/obp.0402>



Selma Lendelvo

## **Integrating indigenous knowledge and community-based initiatives in wildlife research and monitoring: Applications in African lion populations**

**Natalia Borrego<sup>1,2,4</sup> & Genevieve Finerty<sup>1,2,3</sup>**

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<sup>2</sup> *Department for the Ecology of Animal Societies, Max Planck Institute of Animal Behavior, Germany*

<sup>3</sup> *Research Department, Leopard Ecology & Conservation, Khutse Game Reserve, Botswana*

<sup>4</sup> *Lion Center, University of Minnesota, St. Paul, Minnesota*

Co-Presenters: Natalia Borrego & Genevieve Finerty, [nborrego@umn.edu](mailto:nborrego@umn.edu) and [gfinerty@ab.mpg.de](mailto:gfinerty@ab.mpg.de)

**Abstract:** The study of wildlife in challenging environments presents inherent difficulties due to factors such as low animal densities, extensive home ranges, and elusive behaviors. In our talk, we will discuss how integrating traditional ecological knowledge with modern technology can address these challenges, specifically focusing on African lions in Khutse Game Reserve, Botswana. Emphasizing community-based natural resource management (CBNRM), our research aims to empower local communities, including the indigenous San people, by integrating their traditional tracking skills with contemporary research methods. This collaborative approach involves partnerships among governments, NGOs, academia, and local communities, fostering successful CBNRM initiatives. We will present an overview of our approach, highlighting our diverse team of local and international academics, applied researchers, and highly skilled San trackers. Together, we address open challenges in the conservation and management of lion populations in the Central Kalahari region of Botswana. By leveraging the strengths of both traditional knowledge and modern technology, our initiatives highlight the successes and opportunities of community-led conservation efforts. Additionally, we emphasize the importance of knowledge exchange, sharing indigenous practices and lessons learned across regions and communities to enhance the social and economic well-being of those involved.

**The consequences of community-based natural resource management in the absence of institutional support, for people and wildlife. A case study of a community-owned game reserve with no formal management.**

**Anthony M Swemmer<sup>1</sup>, Peace Nkuna<sup>1</sup> & Michelle Henley<sup>2</sup>**

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<sup>2</sup> Elephants Alive, South Africa; Applied Behavioural Ecology and Ecosystem Research Unit, School of Environmental Sciences, University of South Africa; Department of Philosophy, Faculty of Humanities, University of Johannesburg, South Africa

Presenter: Anthony Swemmer, am.swemmer@saeon.nrf.ac.za

A large number of community-owned protected areas now exist across southern Africa, with a diverse range of management strategies. The Mthimkhulu Game Reserve, bordering the Kruger National Park in South Africa, was bestowed to the Mthimkhulu people in 1968, and has undergone several management changes since then. Currently the reserve has no staff and no formal management, and much of its boundary fence has been removed, effectively making it the only unfenced 'Big 5' protected area in South Africa. Poaching within the reserve is common, neighbouring residents receive little benefit from the reserve, and wildlife that move out of the reserve regularly damage their crops. A case study of the reserve provides a history of various events that have led to the current situation, and illustrate the challenges to implementing CBNRM under current socio-political circumstances in South Africa. These include disputed tribal leadership within the community which hinders external investment, opaque ownership (legally, the state owns the reserve), limited management capacity of state-designated management agencies and geographical distance from established tourist routes. The current frequency of poaching (estimated from snare removals) and damage-causing animal incidents are presented, together with movement data from recently collared elephants which show the current porosity of the reserve boundary. Despite the above challenges, large herbivores are still common in the reserve (shown by 8 years of dung-count data). Furthermore, non-profit organizations still show a strong interest in facilitating and funding eco-tourism developments, demonstrating the value of being adjacent to a major national park.



Tony Swemmer

## Natural resource use in protected areas – 30 years of transforming policy and practice in SANParks

Louise Swemmer<sup>1</sup>

<sup>1</sup> *South African National Parks*

Presenter: Louise Swemmer, [louise.swemmer@sanparks.org](mailto:louise.swemmer@sanparks.org)

**Abstract:** The establishment of what is arguably the first national park (NP) in the world in 1872, (Yellowstone NP, Wyoming, USA) set the scene for the protectionist approach to conservation that was subsequently adopted globally. Early days of the Kruger National Park (KNP), in South Africa, similarly aimed primarily at securing vast tracts of land that were deemed wilderness as a result of their perceived absence of impact by people. Natural resources that were used in the KNP at the time were those that enabled generating revenue and maintaining park infrastructure. However, the acknowledgement of the need for conservation to be more inclusive, alongside the development of international, and national supporting conventions, agreements, legislation, policies and programmes over the past 30 years have facilitated broader opportunities for various stakeholders to benefit from tangible resources harvested sustainably from within park boundaries. Going forward, SANParks acknowledges the sustainable use of natural resources within national parks as a key requirement for park sustainability in that illegal, uncontrolled and unpermitted extraction of natural resources in both marine and terrestrial environments, continues to threaten species and ecosystems, while legal, permitted resource use contributes to ecological integrity, economic viability and building broader societal relevance. This presentation aims to celebrate the opportunities associated with legal resource use, and explore the challenges of illegal resource use from protected areas in the context of sustainability linked to both human wellbeing and biodiversity conservation.



Louise Swemmer

## Connecting landscapes: The role of freehold conservancies in Namibian conservation

Thomas Peltzer<sup>1</sup>, Jürgen Rumpf<sup>1</sup>, Jan Hennings<sup>1</sup>, Gudrun Heger<sup>1</sup>, Tim Hofmann<sup>1,2</sup>

<sup>1</sup> *Conservancies Association of Namibia, Windhoek, Namibia*

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Presenter: Thomas Peltzer, [canam@iway.na](mailto:canam@iway.na)

**Abstract:** Many species of high conservation priority rely on large, connected habitats that often extend beyond the boundaries of national parks. In Namibia, the majority of wildlife exists outside of these parks, primarily on agricultural farmland. These areas, located in the central regions of the country, have the potential to play a pivotal role in connecting vital habitats, fostering healthy ecosystems, and sustaining robust wildlife populations. Achieving this relies on holistic land management practices that preserve biodiversity and create livelihoods for local communities through the sustainable use of natural resources. Freehold conservancies are established to foster this balance among their members, with the Conservancy Association of Namibia (CANAM) serving as the overarching representative body for all freehold conservancies. In this presentation we will discuss how freehold conservancies enrich Namibia's diverse conservation.

## Giraffe in the communal conservancies of Northwest Namibia: A conservation success story

Shaanika Ekandjo<sup>1</sup>

<sup>1</sup>*Giraffe Conservation Foundation*

Presenter: Shaanika Audi Ekandjo, [audi@giraffeconservation.org](mailto:audi@giraffeconservation.org)

**Abstract:** Giraffe (*Giraffa spp.*) face numerous conservation threats across Africa, including habitat loss, poaching, and human-wildlife conflict. In northwest Namibia, these challenges are exacerbated by rapidly changing environmental conditions and increasing pressures from human activities. Additionally, here giraffe live mostly in communal conservancies, outside of formally protected national parks. This presentation provides a case study of the unique science-based conservation efforts of the Giraffe Conservation Foundation (GCF) aimed at long-term population monitoring to inform the conservation of Namibia's desert-dwelling giraffe on community owned land.

Since 2016, we have conducted regular monthly or bi-monthly individual-based photographic giraffe surveys of 3 separate river systems (the Khumib, the Hoarusib, and the Hoanib) encompassing several community conservancies. Over this period, we documented significant population growth across all river systems from 261 in 2016 to current estimates of 472 individual giraffe. Combining these population estimates with long-term GPS telemetry studies of 38 unique giraffe, we have documented increasing population and redefined the ranges and connectivity of this population across their hyper arid desert habitats.

The northwest Namibia conservation story is a flagship long-term research study by GCF conducted in northwest Namibia by a combination of field research, community engagement, and innovative conservation strategy involving diverse stakeholder including non-governmental, organizations and local communities. By showcasing the successes, challenges, and ongoing efforts on giraffe conservation in northwest Namibia, this presentation aims to raise awareness, inspire action, and foster greater appreciation for these iconic creatures and the ecosystems they inhabit. Ultimately, it emphasizes the importance of local engagement in protecting the biodiversity of our planet's fragile landscapes.



Shaanika Audi Ekandjo

## SMART and the Lion Rangers: community empowerment and conservation of lions in northwest Namibia

Mathilde Brassine<sup>1</sup>, Benjamin Kordom<sup>1</sup>, Steven Kasaona<sup>1</sup> & Jendery Tsaneb<sup>1</sup>  
<sup>1</sup>*Lion Rangers Program – Northwest Namibia*

Presenter: Mathilde Brassine, [mathilde.brassine@tosco.org](mailto:mathilde.brassine@tosco.org)

**Abstract:** A small population of desert-adapted lions (*Panthera leo*), survives in Namibia's arid northwest regions. They are monitored by a dedicated team of Lion Rangers, supported by Namibia's Ministry of Environment, Forestry and Tourism (MEFT), associated researchers, and NGOs. The Lion Rangers programme, founded in 2018, is a community conservation approach with the goal of protecting farmers' livelihoods and their families' wellbeing by limiting human-lion conflict whilst conducting lion research and monitoring. It has grown to employ 49 Lion Rangers in eleven conservancies across the Kunene and Erongo Regions in northwest Namibia. These Rangers, selected and employed by their conservancies, patrol this vast territory on foot, equipped with smartphones with SMART Mobile to record their progress and environmental observations. The SMART system was introduced into the programme in September 2021 and since then has allowed data to be collected on lion and other carnivore presence and movement, prey species availability, water availability and locations, and the position of homesteads and livestock, among others. Monthly reports are generated and shared with the partner conservancies and MEFT to support decision-making regarding lion conservation and management at a community-level.



Mathilde Brassine

**Call and not shoot: Acoustic monitoring of black backed jackal in two contrasting agricultural land uses.**

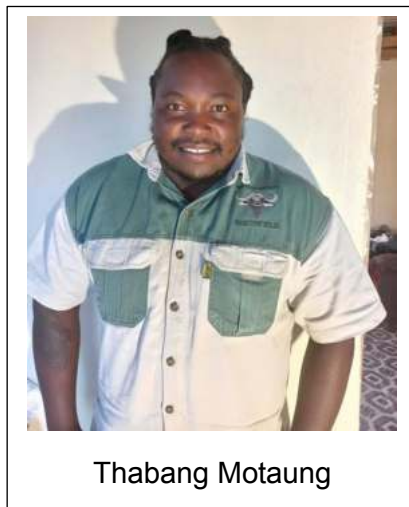
**Motaung Thabang<sup>1</sup>, Craig Tambling <sup>1</sup> & Miha Krofel<sup>2</sup>**

<sup>1</sup> *Department of Zoology and Entomology, University of FortHare*

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Presenter: Thabang Motaung, 202253327@ufh.ac.za

**Abstract:** Acoustic monitoring has been used to successfully estimate the abundance and distribution of various canid species across the globe. Understanding the abundance and distribution of canid species is an important first step in the quest to ensure that wild canids and farmers coexist on the landscape. In Southern Africa, black-backed jackals are the number one culprit of human carnivore conflict where they coexist with sheep and goat farmers. We used acoustic monitoring to understand the presence or absence and relative densities of black-backed jackals in communal farming areas of Eastern Cape Province, South Africa, and commercial farmlands of Namibia. The premise of this approach is that territorial jackals will respond to incursion calls within their territories. The jackal response rate in communal areas with high anthropogenic activities in South Africa was very low compared with a response rate of over 50% on commercial farmlands in Namibia. In contrast, 51% of the communal farmers indicate to have heard jackal call from their homestead and 60% perceiving jackal numbers increasing. We discuss these divergent results from the two surveys considering possible behavioural responses by jackals to a high-density anthropogenic threat. Acoustic monitoring of black-backed jackals offers promising results in terms of monitoring, and we believe that a greater understanding of the factors that influence response rates is important for this approach to be broadly applicable.



Thabang Motaung



## Multispecies study of patterns and drivers of wildlife impacts on human livelihoods in communal conservancies

Tavolaro, F.M.<sup>1,2</sup>, Woodgate, Z.<sup>1</sup>, Brown, C.<sup>2</sup>, Redpath, S.M.<sup>1</sup> & O’Riain, M.J.<sup>1</sup>

<sup>1</sup> *Institute for Communities and Wildlife in Africa (iCWild), University of Cape Town, South Africa*

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Presenter: F. Marina Tavolaro, f.marina.tavolaro@gmail.com

**Abstract:** Farmers in developing countries often work in challenging environments with poor infrastructure, marginal agricultural potential, and limited economic opportunities. These challenges are exacerbated when wildlife impact human livelihoods. We analyzed data quantifying the type and frequency of human-wildlife impacts within communal conservancies across Namibia and explored possible drivers of temporal and spatial variation of these data. A total of 112,165 human-wildlife impacts were reported between 2001 and 2019 at the national level, with livestock depredation the most common. Marked regional variation was however evident with crop raiding and attacks on humans more prevalent in the mesic North-East, and both livestock depredation and infrastructure damage highest in the arid north-western regions. Elephant, jackal, hyena, cheetah, and leopard (in descending order) were the species most frequently linked to reported damage. Distance to the nearest protected area and river, terrain ruggedness, conservancy size, and annual rainfall (amongst others) all had a significant impact on both the distribution and extent of human-wildlife impact reports. Reports did not vary significantly with years but were significantly influenced by average monthly rainfall. Understanding spatial and temporal patterns of human-wildlife impacts at a national scale, in addition to their potential drivers, allows for the identification of conflict hotspots and the allocation of resources and expertise to mitigate them. Ultimately, mitigating negative interactions between people and wildlife will allow for the continued sharing of space and with that the sustainability of a model that has seen a dramatic increase in both the distribution and abundance of wildlife in Namibia.



Marina Tavolaro

## Large carnivore distributions outside national parks in central-eastern Namibia

Stijn Verschueren<sup>1,2</sup>, Tim Hofmann<sup>1,3</sup>, Willem D. Briers-Louw<sup>4</sup>, Mikael Kakove<sup>1,5</sup>,  
Dipanjan Naha<sup>1</sup>, Herwig Leirs<sup>2</sup>, Hans Bauer<sup>2,6</sup>, Laurie Marker<sup>1</sup> & Bogdan Cristescu<sup>1,7</sup>

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Presenter: Stijn Verschueren [stijn@cheetah.org](mailto:stijn@cheetah.org)

**Abstract:** Understanding the distribution of large carnivores is key for effective biodiversity conservation, especially outside national parks where habitat fragmentation and human-wildlife conflicts are threatening carnivore survival. Based on a large-scale camera trapping survey across central-eastern Namibia, we present insights on the drivers of large carnivore occupancy and predict their occurrence across a broader mixed-use landscape spanning 161,629 km<sup>2</sup>. Through targeted searches for intensive-use areas and pooling detections across camera trap stations, we reliably detected the most elusive carnivores. We identified a diminished large carnivore guild, where contrasting patterns of carnivore distributions suggest that habitat heterogeneity is key for carnivore survival across this human-dominated landscape. We identified species of global conservation priority, in particular cheetah and African wild dog, and the collective importance of species-specific niches within this landscape may offer great complementarity to KAZA-TFCA. Even though large national parks are absent, the substantial portion of suitable habitat identified is an encouraging outcome for the potential of this area to hold value for carnivore survival and potentially recolonization. Additional camera trap surveys are currently being implemented across the region, which will serve as a validation and further refinement of our predictions, while we are also exploring the possibility of linking predicted occupancy probabilities to population density estimates of the target species. Given the limited space for protected area expansion, we will discuss holistic conservation strategies that consider ecological interactions, landscape-level connectivity and community benefits of living with wildlife to ensure viable large carnivore guilds and functional ecosystems in the region.

## **Indigenous knowledge of wildlife conservation: Enhancing climate resilience and rural economy of Ovahimba Community in Namibia**

**Brenden R. Tjizu<sup>1</sup>, & Rosa Johnson<sup>1</sup>**

<sup>1</sup> *University of Namibia, Faculty of Education & Human Sciences, Department of Social Science, Windhoek*

Presenter: Brenden R. Tjizu, [tjizubrenden@gmail.com](mailto:tjizubrenden@gmail.com)

**Abstract:** Indigenous knowledge, a relatively new academic field, reveals cultural values often incompatible with mainstream research assumptions (Dana, 2015). Indigenous communities, as the oldest inhabitants of their regions, have a deep environmental understanding from constant interaction with local flora and fauna. The Ovahimba people can be identified as one of the oldest inhabitants of the Kunene region of Namibia. They are one of the indigenous groups that have interacted with wildlife of the Kunene region highland. This has led to them having great knowledge of the area and skills to adapt to the changes in the environment for centuries. Wildlife conservation has proven to be a powerful technique to build rural economies and adapt to climate change through climate-resilient economies that can mitigate and create adaptation measures. Indigenous knowledge, often tied to kinship and not market needs, relies on locally available resources and internal trade. These communities often trade with each other or other communities surrounding them. The product they are trading might be perceived as valuable only to specific groups. However, globalization and other changes in economic demand and supply, have led to indigenous products to gain acknowledgment by other communities in other areas. This important finding highlights the possibility that indigenous communities are managing natural resources, including wildlife, more effectively than the conventional measures of costs and benefits for understanding human-wildlife coexistence. The study has examined factors contributing to indigenous resilience to climate change, impacts on traditional livelihoods, and how Ovahimba knowledge and government support drive economic development through conservation.



Brenden R. Tjizu

## Implementing joint conservation projects with public and scientific communities

Mart-Mari Scholtz<sup>1</sup> & Engela P de Crom<sup>2</sup>

<sup>1</sup> *Tshwane University of Technology – Department of Nature Conservation 1*

<sup>2</sup> *Tshwane University of Technology – Department of Nature Conservation 2*

Presenter: Mart-Mari Scholtz, 212115282@tut4life.ac.za

**Abstract:** When we hear the word “community,” we often think of the communities surrounding parks and protected areas. However, it can also refer to the community of citizen scientists who participate in various environmental projects, not necessarily limited to parks and protected areas. There is a growing need for more projects that involve the public in addressing conservation issues. Citizen science is becoming an increasingly popular and accepted method for gathering data and making informed decisions. Engaging the public can help bridge the gap between scientists and the high costs associated with collecting large and valuable data sets. The primary challenge is determining how to encourage different communities to participate in or continue their involvement in these projects. Online surveys conducted as part of a master's research in 2023 and 2024 revealed that most participants are motivated by the desire to contribute to conservation and science and to help the environment. The most significant motivators for continued participation are receiving feedback on project results and opportunities for greater involvement in volunteer-based projects. The promotion and advertising of these projects also play a crucial role in community participation. Therefore, careful consideration should be given to the colour, layout, and messaging of promotional materials to maximize engagement.

## Evaluating community-based methods to monitoring and recording human-wildlife conflicts in Namibia: Towards emergent approaches?

Sitali Mbeha<sup>1</sup>, Lucas Rutina<sup>1</sup>, & Michael Lukubwe<sup>1</sup>

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Presenter: Sitali Mbeha, [sitali.tago@gmail.com](mailto:sitali.tago@gmail.com)

**Abstract:** Human-wildlife conflict is a dynamic phenomenon that requires deliberate and continuous efforts. For a long time, community-based monitoring programs have provided effective long-term conflict data to inform mitigation strategies and curb conflicts. However, with the constant evolution of conflict dynamics and the proliferation of novel ecological tools and methods, there is a need to evaluate the applicability of current methods and propose improvements where necessary to address current and emerging conflict-related challenges. Thus, in this study, we evaluated community-based conflict monitoring and data recording practices in five conservancies in the Mudumu Landscape in the Zambezi Region of Namibia and offered practical and cost-effective alternatives to guide future initiatives. We collected conflict data from event books and held focus group discussions in each of the five conservancies to understand how game guards collected and recorded conflict data. We found slight variations in the implementation of methodologies and data recording, both within and between conservancies. In addition, the data were missing essential variables that are crucial for a comprehensive and nuanced understanding of human-wildlife conflict patterns. Finally, game guards reported a lack of field equipment necessary to capture accurate and robust data. We encourage conservancies to work together to standardise monitoring methods. Moreover, we call on all stakeholders to work towards adopting emergent approaches that can effectively serve communities living on the edge.



Sitali Mbeha

**Advancing leopard research, conservation and management through farmer-researcher collaboration in Namibian farmlands**

**Nik Šabeder<sup>1</sup>, Joerg Melzheimer<sup>2</sup>, Bettina Wachter<sup>2</sup>, Ruben Portas<sup>1,2</sup>, Teresa Oliveira<sup>1</sup>, Lan Hočevnar<sup>1</sup>, Urša Fležar<sup>1</sup>, Vera Menges<sup>2</sup>, Maximilian L. Allen<sup>3</sup>, Dirk Bockmuhl<sup>2,4</sup> & Miha Krofel<sup>1,2</sup>**

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<sup>3</sup> *Illinois Natural History Survey, Prairie Research Institute, University of Illinois, Champaign, Illinois, USA*

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Presenter: Nik Šabeder, [nik.sabeder@gmail.com](mailto:nik.sabeder@gmail.com)

**Abstract:** Since 2011, the Leibniz-IZW, the University of Ljubljana and the farmers of the Auas Oanob conservancy run together several leopard research projects on farmlands in Namibia. Their aims were to understand leopard home-range sizes, prey preferences, kill and resting sites, habitat use and conflicts with humans. In total, 37 leopards were fitted with GPS collars. Home range sizes were estimated to be on average 330 km<sup>2</sup> for males and 78 km<sup>2</sup> for females. Furthermore, we visited 647 clusters of GPS positions, from which we identified 388 kill and 192 resting sites. Leopard prey animals were primarily wild ungulates (93.6%), while domestic animals (cattle and horses) represented less than 3% of the leopard diet. We examined for the first time various habitat features potentially influencing leopard kill and resting site selection, shedding light on their coexistence with humans. Leopard resting sites were characterized by low horizontal visibility, aligning with their concealment needs. They also favoured rugged terrain for enhanced protection against potential threats by conspecifics and humans. Kill sites were located in mountainous regions as opposed to available locations that were more often in flat areas. Contrary to expectations, human infrastructure did not deter habitat selection of leopards, suggesting that for leopards hiding opportunities are more important than spatial or temporal avoidance. Support of and collaboration with farmers was crucial for our research, and we are regularly sharing our findings with them. This is supposed to provide the basis for understanding human-leopard conflicts and ultimately supporting leopard conservation.



## **The relationship between livestock farmers and wildlife managers: A social ecological analysis of human-predator conflicts in Sheya shUushona Conservancy**

**Jona Heita<sup>1</sup> & Alfons Mosimane<sup>2</sup>**

*<sup>1</sup>Department of Wildlife Management and Tourism Studies, University of Namibia*

*<sup>2</sup>Faculty of Education and Human Sciences, University of Namibia*

Presenter: Jona Heita, Email: [jheita@unam.na](mailto:jheita@unam.na)

Human wildlife conflicts are purportedly among environmental challenges facing wildlife conservation and sustainable development programs in communities living near protected areas worldwide (Zimmermann et al., 2020; Nicholson et al., 2023). According to Mwampeta et al. (2021) as well as Jones et al. (2021), human-wildlife conflicts contributes towards declining populations of large predators in the African continent. Large predators attack people's livestock, which is an important form of livelihood. This study employed qualitative research design to understand how the livestock farmers' attitudes towards their relationship with wildlife managers influenced human-predator conflicts in Sheya shUushona Conservancy. It used in-depth interviews and focus group discussions to collect data, in addition to secondary data sources. Furthermore, the study used purposive sampling method to select the participants. Findings of the study reveal that the relationship between the livestock farmers and wildlife managers was characterized by distrust. The study identified the following social and ecological drivers of distrust in the relationship between livestock farmers and wildlife managers: slow response to human-predator conflicts, dissatisfactions towards human-wildlife conflict compensation scheme, community's feeling of exclusion from wildlife management, lack of benefits from wildlife and poor conditions of Etosha National Park fence. The study provides evidence that the management of social ecological factors specific to a community is a prerequisite to mitigating human predator conflict in the community. Although the study affirms the importance of social ecological drivers, it suggests that emphasis should be placed on the context of the social ecological factors within specific communities.

## The consequences of being a sedentary habitat specialist: the Sungazer (*Smaug giganteus*) is in conservation peril

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Presenter: Wade Stanton-Jones, wadesj13@gmail.com

**Abstract:** Climate change and habitat transformation are the two primary threats facing reptiles globally. Habitat specialists are particularly vulnerable due to restricted geographic ranges, strict habitat requirements, and limited dispersal abilities. *Smaug giganteus* (sungazer) is a threatened (Vulnerable), grassland specialist lizard endemic to South Africa's Highveld grassland region where anthropogenic activities are prevalent. Sungazers use self-excavated burrows within the grassland matrix as permanent shelters and refuge sites. These and other life history traits likely increase their vulnerability to the combined effects of climate change and habitat transformation. We assessed the consequences of these threats to sungazers by investigating the potential impact they have on the abundance of the species. Models revealed that habitat suitability for sungazers should remain relatively stable until 2100 if climatic conditions do not deviate significantly from current conditions, and if little further habitat transformation occurs. In contrast, a worst-case climate change scenario predicts a substantial decline in habitat suitability. Our assessment on the demographics and dynamics of four sungazer subpopulations existing at sites with different habitat conditions revealed that the impact of habitat transformation on sungazers may be more devastating than previous estimates, and our findings suggest that the size of the current sungazer population has been overestimated and rates of decline underestimated. To facilitate conservation efforts, we also assessed the microhabitat requirements of sungazers. We therefore recommend that protected areas be established with cognizance to our predictions for current and future suitable habitat and recommend a soft-release translocation protocol to maximise the chances of success.



Wade Stanton-Jones

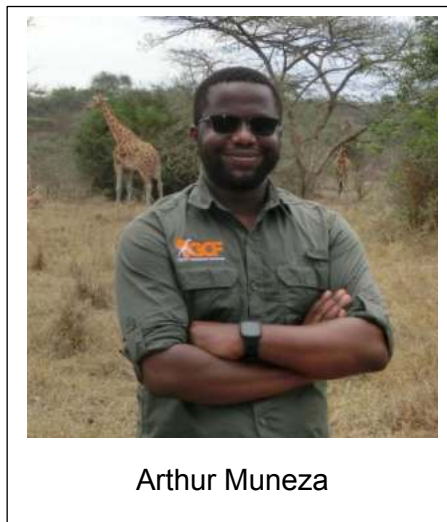


## Perspectives on giraffe conservation in East Africa

Arthur Muneza<sup>1</sup>, Adams Kipchumba<sup>1</sup>, Steph Fennessy<sup>1</sup> & Julian Fennessy<sup>1</sup>  
*Giraffe Conservation Foundation*

Presenter: Arthur Muneza, [arthur@giraffeconservation.org](mailto:arthur@giraffeconservation.org)

**Abstract:** In the past decade, giraffe conservation has received increased attention in part due to updated IUCN Red List assessments that highlighted the urgency of the plight of giraffe. The most recent assessments showed that giraffe populations in East Africa, encompassing three of the four extant species, had undergone precipitous declines in the preceding 35 years, with anthropogenic activities identified as the leading cause. As such, urgent conservation efforts were required to address the threats that Masai (*Giraffa tippelskirchi*), Nubian (*G. c. camelopardalis*), and reticulated (*G. reticulata*) giraffe face in the East African region. Driven by the Giraffe Conservation Foundation (GCF) all East African countries have drafted, launched and initiated the implementation of their first-ever national giraffe conservation strategies with the involvement and participation of diverse stakeholders ranging from NGOs, academia, governments, and communities. These important conservation tools have proven invaluable in the fight against the giraffe's silent extinction. In this presentation, we demonstrate that multidisciplinary conservation research, collaborative partnerships, capacity building, and knowledge exchange have led to better understanding of the ecology and improved conservation outcomes. This is particularly important as giraffe populations and the threats they face have not traditionally received conservation attention compared to other charismatic megafauna. We present the opportunities and challenges in giraffe conservation in a region where a large portion of the wild population occur in human-dominated landscapes. Our conservation research showcases the importance of involving all stakeholders in securing a future for giraffe in Africa.



## Quantifying nature-based cultural practices to inform wildlife management: A case of Southern African Bullfrogs (*Pyxicephalus* spp.)

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**Abstract:** Using a combination of natural and social sciences methodology to analyse cultural practices relating to herpetofauna showed that nature-cultural practices can have both negative and positive conservation implications. These nature-based cultural practices can be organised into at least ten categories which either use herptiles non-consumptively or consumptively. Some of the non-consumptive cultural relevance encouraged protection of herptiles and demonstrated potential to serve as conservation measures in rural areas, where modern law enforcement is lax, under South Africa's customary law provisions. Consumptive cultural uses are generally considered to have a negative impact on herptile populations, but without quantification of their impact these are *a priori* assumptions with minimal value for evidence-based management. Bullfrogs (*Pyxicephalus* spp.) are an ideal group to demonstrate the wildlife management value of quantifying nature-based cultural practices due to their consumptive use (for traditional medicine and food) in multiple Southern African countries. Quantification in this project began with interviews and literature reviews to understand the number, sex, and age of individuals taken per season per locality in Namibia and South Africa. Results showed aspects of Bullfrog consumption that can both exacerbate and mitigate its conservation impact. During the Bullfrogs' breeding season, in November/December, population sizes will be determined to understand percentage of population being removed with each season's cultural use and subsequently provide an evidence-based conclusion of nature-based cultural practices' conservation impact.



Fortunate Phaka

## Prey sharing among leopards on Namibian farmlands and its implication for conservation and management

Miha Krofel<sup>1,2</sup>, Ruben Portas<sup>1,2</sup>, Nik Šabeder<sup>1</sup>, Teresa Oliveira<sup>1</sup>, Ortwin Aschenborn<sup>2</sup>,  
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Presenter: Miha Krofel, miha.krofel@gmail.com

**Abstract:** Recent research has shown that prey sharing, i.e. simultaneous or sequential use of the same kill by several individuals of the same species, is more prevalent among solitary predators than previously thought. However, implications of these interactions are poorly understood and it was not yet properly studied in leopards. We used a combination of two datasets to study prey sharing among leopards in two study areas in Namibia. First, we used telemetry data from 37 GPS-collared leopards and applied cluster analysis to detect kill sites. We estimated kill rates, feeding times, and simultaneous use of kills among different individuals. Second, we used GPS clusters to locate kills in the field and deployed video camera-traps to monitor the consumption of prey remains. In total we found 391 kills, among which 35 were fresh enough to enable video monitoring of the prey consumption process. Both datasets suggested that prey sharing might be a frequent occurrence in leopards, as approximately one third of kills were shared by 2-3 leopards (excluding dependent cubs). The interactions were most common between the territorial males and females, but also occurred among other individuals. Accounting for prey sharing resulted in more accurate kill rate estimates, which is relevant for wildlife management. Prey sharing also has implications for leopard conservation, as livestock farmers often eliminate leopards that return to the killed livestock. We observed several cases when non-target leopards were removed, when they approached the livestock carcasses to scavenge on prey remains of another leopard.



Miha Krofel

**Reviewing and mapping the natural resources in the Eastern Panhandle for improvement of livelihoods and conservation.**

**Keneilwe Mathaba<sup>1</sup> & Jimmy Moyevu<sup>1</sup>**

*<sup>1</sup> Botswana Wild Bird Trust*

Presenter: Jimmy Moyevu, [jimmy@wildbirdtrust.com](mailto:jimmy@wildbirdtrust.com)

**Abstract:** The Botswana Wild Bird Trust is a partner in the implementation of a long-term transboundary project that is currently underway in the Eastern Panhandle of the Okavango Delta villages; namely Seronga, Beetsha, Gudigwa, Gunotsoga and Eretsha. These villages are located within the Okavango basin- which is a key transboundary ecosystem that is a home to abundant wildlife, birdlife and a source of livelihoods thus supporting development of local economies. These various ecosystem players, together with the people, thrive to establish holistic approaches through research, conservation education, capacity building, and partnerships. Through the Community Development department, the Trust works with different multi-sectoral stakeholders across the Panhandle to deliver various sustainable livelihoods initiatives. One of the main activities that we are currently working on is identifying traditional ecological knowledge, skills and practices in order to deeply understand the cultural and historical approaches in the utilisation and management of natural resources. Collaboratively, The Trust is working with local communities, elders, and other traditional ecological knowledge practitioners to reveal the depth of traditional wisdom embedded in resource utilization practices, land management strategies, and conservation norms. We aspire to amplify the voices of local communities, honour their contributions to conservation, and pave the way for a future in which traditional wisdom and modern science converge in harmony to safeguard the ecological integrity and cultural heritage these communities.

# Conservation of endangered species in Namibia: An investigation of factors contributing to the poaching of rhinos in the Etosha National Park

Ephraim Moongela<sup>1</sup>

<sup>1</sup>*University of Namibia, Windhoek, Namibia*

Presenter: Ephraim Moongela, [surgeon221385@yahoo.com](mailto:surgeon221385@yahoo.com)

**Abstract:** the scourge of rhino poaching in Southern Africa has escalated since 2014, Salcedo-Albarán and Goga (2017). Thus, governments, non-governmental organisations and Anti-Poaching Units have been advocating for the survival of rhinos, which are facing extinction. This study probed factors leading to the poaching of rhinos in the Etosha National Park (ENP), how to protect them from extinction, and recommend to the Ministry of Environment, Forestry, and Tourism (MEFT) some measures that may be used for the realisation of its strategic objectives in protecting rhinos.

The study used a semi-structured interview guide collection method to collect qualitative data by engaging in one-on-one sessions with employees under the Directorate of Wildlife and National Parks in MEFT as well as people living in various places within a 150 km radius of the ENP. Data were analysed using the Abbreviated Test Language for All Systems (ATLAS.ti), the computer assisted qualitative data analysis software to code, locate, theme, and annotate main themes from interviews.

The overall findings were that the factors contributing to the poaching of rhinos in ENP are multifaceted, including economic desperation, unemployment, exploitation by foreign nationals, greed, and the high economic value of rhino horns.

To confront the root causes of poaching, there is a need to strengthen the legal and enforcement framework and engage local and international stakeholders for the MEFT to make significant progress in the conservation of rhinos and other endangered species in Namibia. This includes areas like economic development, employment creation, international cooperation, and law enforcement.

## **Safeguarding Namibia's endangered seabirds: Urgent conservation actions and long-term strategies**

**Ukarapo Mungunda**

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Presenter: Ukarapo Mungunda, [ukarapo@namcob.org.na](mailto:ukarapo@namcob.org.na)

**Abstract:** The coastal waters of Namibia are home to four globally endangered seabird species: the African Penguin, Cape Gannet, Bank Cormorant, and Cape Cormorant. Unfortunately, two of these species, the African Penguin and Cape Gannet, are facing imminent extinction unless urgent conservation measures are implemented. This dire situation is exacerbated by various threats including the decline in the food base, pollution, rapid industrialization, disease, and predation.

In response to these challenges, immediate and effective conservation management actions are imperative. Short-term efforts should focus on improving marine ecosystem health by restoring depleted fish stocks, implementing well-considered and enforced marine spatial planning, and enhancing legislation to address emerging threats. Additionally, a functional oil spill wildlife response plan must be in place to mitigate the impact of potential disasters. In the long term, sustained efforts are needed to ensure the viability of seabird populations. This includes ongoing monitoring and management of key breeding sites, such as the Namibian Islands' Marine Protected Area (NIMPA), mandated and managed by the Ministry of Fisheries and Marine Resources (MFMR). The Namibian Foundation for the Conservation of Seabirds (NAMCOB) plays a crucial role in supporting MFMRs management and monitoring efforts, engaging local communities in marine conservation, and promoting sustainable coastal tourism.

Collaborative efforts between MFMR, NAMCOB and other stakeholders are essential to safeguard the future of Namibia's seabird populations. By addressing immediate threats and implementing long-term conservation strategies, we can work towards reversing the decline of these iconic species and preserving the ecological integrity of Namibia's coastal ecosystems.



## Collaring Himalayan brown bears: Insights and implications for conservation

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Presenter: Francois Deacon, deaconf@ufs.ac.za

**Abstract:** Himalayan Brown bears (*Ursus arctos isabellinus*) play a pivotal role in the ecological balance of the Himalayan Mountains. This study focuses on collaring Himalayan Brown Bears in Deosai National Park, Pakistan, to comprehend their movement patterns and habitat use for effective conservation. Collaring provides researchers with a comprehensive understanding of their spatial ecology, ranging patterns, and habitat preferences. Tracking individuals over time allows for evaluating seasonal migrations, home range size, and critical habitats, facilitating targeted conservation measures. GPS-enabled collars enable the study of fine-scale movement ecology, shedding light on foraging behavior, den selection, and reproductive strategies. This knowledge aids in developing management plans to mitigate human-bear conflicts and promote coexistence. Additionally, collaring facilitates population monitoring, aiding in estimating population size, survival rates, and reproductive success. Long-term datasets offer insights into population dynamics and the effects of anthropogenic influences, climate change, and habitat fragmentation. Collaring these bears is crucial for acquiring essential ecological data, supporting evidence-based conservation decisions. This knowledge is paramount for delineating habitat and rangeland management strategies, promoting the population viability of less than 50 remaining individuals, and ensuring their ecological role in maintaining balanced ecosystems and rangeland suitability. We will present results on the first ever collared bears and the findings of their unique distributions and hibernation patterns as published in Nature Magazine.



Francois Deacon

## Livestock movement behaviour and resource selection on communal land in northern Namibia

**Brennan PetersonWood<sup>1,2</sup>, Josef Ndjimba<sup>3</sup>, Dipanjan Naha<sup>1,4</sup>, Stéphanie Périquet<sup>4</sup>,  
Madeline Melton<sup>1,2</sup> & James Beasley<sup>1,2</sup>**

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Presenter: Brennan PetersonWood, [brennan.petersonwood@uga.edu](mailto:brennan.petersonwood@uga.edu)

**Abstract:** As the human population grows globally, anthropogenic land use adjacent to many protected areas in Africa has increased markedly. Land use changes bordering protected areas degrades wildlife habitat and is associated with a subsequent loss of wildlife species inside adjacent protected areas. As human and wildlife populations come into increasing contact with each other, livestock-carnivore conflict events are bound to increase, and an improved understanding of the drivers of conflict is needed to reduce the negative impacts on wildlife and livestock. Understanding livestock movement behavior is a key component in understanding the depredation risk livestock face on shared landscapes. We utilized GPS data from 21 cows and 22 goats between 2022 and 2024 on conservancy land bordering Etosha National Park, Namibia to quantify home range size and daily distance traveled between across seasons (wet, dry). Additionally, we investigated how vegetation type, NDVI, and distance to the Etosha fence and waterholes influenced resource selection between species and across seasons. Cows had larger home ranges and moved greater daily distances, particularly during the dry season compared to goats. Goats selected for bush vegetation, areas further from the Etosha fence, and for higher NDVI, particularly during the dry season. Cows selected for grasslands and areas further from the fence, with no difference between seasons, and only weakly selected for higher NDVI during the dry season. When coupled with similar metrics of carnivore movement and resource selection, these results increase the ability of management authorities to address livestock-carnivore conflict.



## First systematic population survey of the desert-adapted lions, Northwest Namibia

John Heydinger<sup>1,2</sup>

<sup>1</sup> Lion Rangers Program

<sup>2</sup> University of Georgia

Presenter: John Heydinger, heydingerj@gmail.com

**ABSTRACT:** The desert-adapted lions (*Panthera leo*) of northwest Namibia inhabit arid and semi-arid habitats, primarily within communal conservancy lands which they share with semi-nomadic pastoralists. Though of conservation interest, no systematic population survey of these lions has previously been attempted. From 6 November 2022 to 6 January 2023, 45 trained surveyors covered approximately 40,000 km<sup>2</sup> of conservancy and government-managed lands, identifying individual lions by vibrissae (whisker-spot) patterns and other demographic markers. A systematic whole count, identifying every adult individual (non-cub), was used to estimate population size. This approach drew upon the local ecological knowledge (LEK) of the Lion Rangers, community conservationists responsible for identifying and monitoring lions in their respective communal conservancies, as well as Regional Services staff of Namibia's Ministry of Environment, Forestry and Tourism (MEFT). The population is estimated between 57-60 individual adult lions and 14 cubs; this represents an inferred decrease of 46-60% over the past five years. At 0.11-0.12 lions/100 km<sup>2</sup>, this is the lowest recorded density for a free-ranging, self-sustaining lion population in Africa. 36 female and 21 male lions were found during the survey, yielding a sex ratio of 1 ♀: 0.58 ♂. Results indicate lions are nearly twice as common in government-managed areas as they are within conservancy lands. While the population is considered stable and self-sustaining following recent declines, human-lion conflict (HLC) remains the primary cause of lion mortality and available prey declines are concerning. Caution is urged in managing the population: there remains little peer-reviewed scientific information about the behaviour and ecology of lions in northwest Namibia. Results serve as a baseline for future surveys, which will be an important part of monitoring this relatively small, widely dispersed population.

## Exploring landscape connectivity using track surveys: a case study on large wildlife species in Wildlife Management Areas of the Kalahari, Botswana.

Marie-Charlotte Gielen<sup>1,2</sup>, Xiko Johannes<sup>3</sup>, Njoxlau Kashe<sup>4</sup>, Glam Khumo<sup>4</sup>, Horekwe (Karo) Langwane<sup>5\*</sup>, Zoro Zoronxhogo<sup>3</sup> & Nicolas Schtickzelle<sup>2</sup>

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<sup>4</sup> Bere, Botswana

<sup>5</sup> Kacgae, Botswana

\*Deceased

Presenter: Marie-Charlotte Gielen, marie-charlotte.gielen@uclouvain.be

**Abstract:** Landscape connectivity is vital for the flow of biological and non-biological material across ecosystems, to ensure their functionality and the long-term maintenance of biodiversity. It is particularly apparent in the Kalahari, where resources are limited and sparsely distributed across space and time. Therefore, wildlife populations rely on access to sufficiently large and interconnected habitats to locate resources necessary for their survival and long-term viability. Being covered by sand, the Kalahari also provides an ideal setting to study animals through their tracks. Leveraging both Indigenous knowledge and modern technology, we conducted track surveys over six seasons (three years), each sampling 1,035km of transects within 22,000km<sup>2</sup> of Wildlife Management Areas (WMAs), Ghanzi District, Botswana. Although fragmented by human settlements and cattle farming, these WMAs are part of an ecological corridor between the country's largest two protected areas (CKGR and KTP). Survey transects were designed to sample gradients of environmental variables, as well as intercept historical movement routes of wildlife. We collected 25,340 tracks in 14,439 locations for 13 large herbivores and carnivores. We aim to correlate this track dataset with various environmental variables to identify the remaining strongholds of wildlife habitat and understand where wildlife preferentially moves in this altered landscape. The results are intended to support conservation decision and land use management planning to preserve this important region subject to increasing anthropogenic pressure. By developing accessible models for inferring habitat suitability and landscape connectivity from track data, we also aim to advance research methodologies that encourage collaboration with local communities.



# An analysis of Namibia's Marine Resources Act 27 of 2000 and its Policies: Race to Vision 2030

**Agnes Harusanga<sup>1</sup>**

<sup>1</sup>*Namibian Chamber of the Environment*

Presenter: Agnes Harusanga, [agnespinky5@gmail.com](mailto:agnespinky5@gmail.com)

**Abstract:** This research topic is important because it thoroughly examines Namibia's fisheries' legal framework by deducing legal gaps in existing law that also intensify the present challenges faced in Namibia's fishing industry thereby affecting the inclusivity and beneficiation of all Namibians. Furthermore, it provides recommendations to Namibia's lawmakers, fishing industry, civil society, foreign investors, Namibian people, and the international community regarding these legal gaps, fishing challenges, conservation of Namibia's marine resources and environment, and promotion of sustainable development that are interlinked. The Namibian fishing industry is currently facing challenges such as fisheries crimes due to existing legal gaps in the *Marine Resources Act 27 of 2000* and its respective Policies as it confers upon the Minister of Fisheries wide discretionary powers without checks and balances in allocating fishing rights and quotas which is the cornerstone of the fishing industry, thus breeding corruption and abuse of power as was evidenced in the fishrot scandal. The research objectives of this study are to identify the legal gaps that exist in this legal framework and discuss Namibia's fishing challenges. This study will use mixed research (both quantitative research and qualitative research). This study finds that the current fishing challenges are intensified by the legal gaps in Namibia's fisheries' legal framework. Hence, the recommendation in this study is that Namibia's policymakers should amend this legal framework to balance conserving Namibia's marine resources and promoting sustainable development.



Agnes Harusanga