Southern African Regional Pangolin Conservation Action Plan

WORKSHOP

16 – 19 September, 2024
Sandton, South Africa

IUCN

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Species Survival Commission

IUCN SSC PANGOLIN
SPECIALIST GROUP

CONSERVATION
PLANNING
SPECIALIST GROUP

Southern African Regional Pangolin Conservation Action Plan Workshop

16-19 September 2024

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Acknowledgements

The Southern African Pangolin Regional Conservation Action Planning Workshop (SARPCAPW) took place on the 16-19 September 2024 in Johannesburg, South Africa. There were many people that contributed to the development of this workshop, its report and the initial stages of the Southern African Pangolin Regional Conservation Action Plan (SARPCAP). Their time and contributions are acknowledged here.

A full list of workshop participants is provided in Appendix I of this document and all are sincerely thanked for their valuable contributions. The compilation of this plan would not be possible without them.

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EXECUTIVE SUMMARY

The Southern African Regional Pangolin Conservation Action Plan (SARPCAP) Workshop, attended was held in Sandton, South Africa from the 16th - 19th September 2024 and was attended by over 60 participants from every range state in Southern Africa—including Angola, Botswana, Malawi, Mozambique, Namibia, Zambia, Zimbabwe, and South Africa. The workshop marked a pivotal moment in the regional efforts to conserve pangolins. Importantly, workshop participants developed their collective vision for the future of pangolin conservation in southern Africa: "Stable pangolin populations in healthy habitats, supported by engaged communities with a strong understanding of conservation and a collective effort to mitigate relevant threats". This vision emphasizes the importance of addressing immediate threats, such as habitat loss and illegal trade, while fostering long-term, sustainable solutions that benefit both pangolins and the communities living alongside them.

The workshop agenda and facilitation process were designed to ensure regional representation of priorities for pangolin conservation and empowered stakeholders to work together to create a clear and actionable plan. Workshop participants were organised into four thematic groups to define specific goals and actions to address key challenges. The goals and associated actions set forth, from strengthening law enforcement and protecting habitats to increasing community engagement and building scientific knowledge, comprise a framework that will guide the implementation of the SARPCAP.

The purpose of this report is to provide an overview of the workshop process, attendance, and discussion highlights and should not be considered a substitute for the bona fide regional action plan, which is forthcoming. Looking ahead, the next steps in developing the SARPCAP involve refining the framework, including incorporating feedback from stakeholders. It is intended that range state stakeholders will subsequently adapt the regional plan to the unique needs and contexts of each country and develop national pangolin conservation plans. These national plans can be tailored to align with the regional vision, ensuring that local challenges are addressed while maintaining regional collaboration.

In conclusion, the workshop not only provided a platform for critical dialogue and the creation of a shared vision. It also laid the groundwork for a comprehensive and actionable framework that will guide pangolin conservation in Southern Africa in the form of the SARPCAP. By adapting this plan to national contexts and ensuring strong collaboration, Southern Africa will be well-positioned to make significant strides in safeguarding pangolins and the ecosystems they inhabit.

WORKSHOP PURPOSE AND SCOPE

Background

The SARPCAP workshop was convened by the IUCN SSC Pangolin Specialist Group (PSG), to bring together PSG members and other regional stakeholders to collectively identify urgent conservation needs for pangolins across the Southern Africa. Two virtual preparation meetings were held in April 2023 and April 2024. These meetings enabled organizers to elicit key information from likely workshop participants about the status of the pangolin conservation system in Southern Africa, map essential stakeholders, and shape the agenda for the main event. The process design and facilitation of both virtual meetings and the in-person workshop was led by the IUCN's Conservation Planning Specialist Group (CPSG) facilitators.

PSG co-chair Matthew Shirley presenting the background, vision, and mission of the IUCN SSC PSG at ENS Africa, Johannesburg, South Africa.

Pangolin conservation efforts in Southern Africa have historically often been fragmented, with countries and organizations working in isolation. Workshop organizers aimed to change this by uniting a diverse range of stakeholders around a shared goal: developing a cohesive, regional plan for pangolin conservation that will catalyze action by information actionable national strategies. The workshop was designed to achieve a draft Southern African Regional Pangolin Conservation Action Plan (SARPCAP) and foster a coordinated and collaborative network of experts committed to amplifying its impact. Participants engaged in constructive sessions to identify how the regional plan could be adapted to suit individual countries' needs and integrated into existing national conservation efforts.

Kelsey Prediger presenting on the pangolin species found in southern Africa.

Overall Objective of the Workshop

The workshop brought together regional stakeholders to catalyse action for pangolin conservation across Southern Africa. The main activities of the workshop included:

1. Engaging Regional Stakeholders: ensuring the inclusive and participatory involvement of representatives from all range state governments and a variety of sectors.
2. Developing the SARPCAP: the action plan is designed to be strategic and dynamic, enabling easy adoption by range states and customisation to fit local efforts and frameworks.
3. Building a Regional Pangolin Conservation Network: establishing a cross-sectoral network of stakeholders involved in pangolin conservation that enhances communication and collaboration across nations, especially in tackling the illegal wildlife trade and promoting broader awareness of pangolins.

Outcomes

The workshop achieved several key outcomes, including:

- A State of Knowledge and Conservation Report on pangolins in Southern Africa (Pre-read document: developed by organizers for participants to read before the workshop)
- A collective Vision for the future of pangolin conservation in Southern Africa with associated goals and prioritized action items that comprise the Southern African Regional Pangolin Conservation Action Plan (SARPCAP).
- A structured network of stakeholders for coordinated action and collaboration.
- Improved regional communication and collaboration, which is essential for strengthening regional pangolin conservation efforts.

The workshop marks a significant step forward in building a comprehensive and unified approach to conserving pangolins across Southern Africa. Moving forward, the SARPCAP will serve as the foundation for national strategies, ensuring coordinated and impactful conservation action at both the regional and local levels.

Lucy Kemp presenting to participants.

WORKSHOP ORGANISATION

IUCN SSC Pangolin Specialist Group (PSG)

The International Union for the Conservation of Nature (IUCN) Species Survival Commission (SSC) Pangolin Specialist Group (PSG) is a voluntary network of over 190 experts from 43 countries worldwide. As one of nearly 200 specialist groups within the IUCN SSC, the PSG serves as an advisory body to the IUCN. Its mission is *"to secure a future for wild pangolins by advancing knowledge on their status, threats, and conservation priorities, and by catalyzing actions to conserve them."*

The PSG has supported and contributed to the development of several pangolin action plans:

- Global: Scaling up Pangolin Conservation

- Regional: Sunda Pangolin, West Africa (to be published)

- National: Philippines, Taiwan, Singapore, Nepal, Hong Kong SAR

Regional and thematic PSG working groups have been established to facilitate targeted conservation efforts within specific geographic regions and to address particular thematic conservation priorities, respectively.

The PSG Southern African Working Group initiated the organization and planning of the Southern African Regional Pangolin Conservation Action Plan and Workshop (SARPCAPW), the first pangolin conservation action plan for the region, which encompasses the following countries where pangolin populations persist: Angola, Botswana, Malawi, Mozambique, Namibia, South Africa, Zambia, and Zimbabwe.

IUCN SSC Conservation Planning Specialist Group (CPSG)

The IUCN SSC Conservation Planning Specialist Group (CPSG) is a technical specialist group dedicated to advancing the science and practice of species conservation planning through a conservation and facilitation philosophy that follows a set of principles and steps for developing effective and implementable species conservation plans. The CPSG particularly emphasizes the creation of collaborative management strategies by all responsible parties to produce a single, comprehensive plan, whether within or outside the species' natural range (One Plan Approach).

Planning process

The development of Regional Pangolin Conservation Action Plans is a core objective and integral component of the PSG Workplan, which outlines how PSG members have collectively agreed to focus their combined efforts for the 2020-2025 IUCN quadrennium.

In line with this, the SARPCAP workshop was initiated in 2022 by the PSG Southern Africa Working Group Co-Chairs. An organizing team (OT) was formed to oversee the planning process. The OT met weekly to assess progress, review milestones, and ensure the project's alignment with the timeline leading to the in-person workshop.

The CPSG was involved in the project from its inception.

SARPCAP timeframe

The development of the SARPCAP was envisioned to take 38 months in total (November 2022 – December 2025; Table 1). Convening the in-person regional workshop that was held over four days, from the 16th to the 19th September 2024, in Sandton, South Africa was critical to this process.

Breakout groups exploring and discussing issues faced in pangolin conservation.

Table 1: Planning Schedule for the development of the Southern African Pangolin Regional Conservation Action Plan

ACTIVITY	2022	2023				2024				2025			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Planning & Process Oversight	■	■	■	■	■	■	■	■	■	■	■	■	■
Pre-Planning workshops (online)			*19 & 20 April*				*9&10 April*						
Post-Online Workshop Reports			*Feedback report*	*Online workshop report*			*Online workshop report*						
Online Pangolin Scoping Survey Questionnaire					■	■	■	■					
Summary of Pangolin Scoping Survey Results							*Preliminary results summary*	*Summary for Joburg Workshop*					
*Pangolin Scoping Survey Report						■	■	*Draft Report for Workshop*	*Final Report*				
SARPCAP Workshop Fundraising			■	■	■	■	■						
SARPCAP Workshop in Johannesburg								*16-19 Sept*					
Post-SARPCAP Workshop Report									■				
*Development of SARPCAP Draft									■	■	■		
*Review and Finalization of SARPCAP											■	■	*Final SARPCAP*

Organizing team

A dedicated organizing team comprising six individuals from the PSG and CPSG with specific roles and responsibilities was established to oversee the planning and implementation of the SARPCAP workshop. The team was led by Helena Atkinson and Kelsey Prediger, the Co-Chairs of the PSG Southern Africa Working Group:

Helena Atkinson, Co-Chair, PSG Southern African Working Group
SARPCAP role: project management, stakeholder engagement, grants and fund acquisition

Kelsey Prediger, Co-Chair, PSG Southern African Working Group
SARPCAP Role: project management, stakeholder engagement, grants and fund acquisition, budget management

Lauren Waller, CPSG facilitator
SARPCAP role: lead process design, workshop facilitation

Maja Gudehus, PSG, Co-Chair Ex Situ Working Group
SARPCAP Role: pangolin science and technical expertise, strategic document development and review, grants and fund acquisition logistics management, budget management

Sean Heighton, IUCN SSC PSG, Co-Chair Evolution & Trade Traceability Working Group
SARPCAP Role: pangolin science and technical expertise, strategic pangolin action planning, grants and fund acquisition, budget management, facilitator

Francois Meyer, PSG Member
SARPCAP Role: pangolin science and technical expertise, creative design and formatting, press and photography

Stakeholder Mapping

The organsing team made a significant effort to invite key stakeholders who are both directly and indirectly involved in pangolin conservation or research within Southern Africa. Prior to the workshop, all PSG Southern Africa Working Group members were invited to participate in online virtual workshop preparation meetings (April 2023 and April 2024). These meetings included stakeholder mapping exercises to identify individuals that are essential for the successful development of the SARPCAP. Virtual meeting participants were encouraged to nominate potential regional stakeholders beyond the PSG membership from NGOs, academia, the private sector, and government sectors, beyond the IUCN SSC PSG membership. The heads of environmental departments or ministries from all countries in the Southern African IUCN PSG Region (Angola, Botswana, Malawi, Mozambique, Namibia, South Africa, Zambia, and Zimbabwe) were invited to nominate two representatives to play integral roles in the planning and execution of the SARPCAP. In particular, workshop organisers sought individuals who could potentially contribute to the development and implementation of national pangolin conservation plans aligned with the SARPCAP framework.

From a total of approximately 70 identified stakeholders, 49 attended the SARPCAP Workshop and represented IUCN, NGO, academic, and government sectors (Appendix I). Governmental agencies who attended the Workshop are listed in Table 2.

Table 2: Governmental agencies represented at the Southern African Regional Pangolin Conservation Action Planning Workshop

Range state	Number of government officials	Division of government
Angola	1	National Institute for Biodiversity and Protected Areas
Malawi	2	Department of National Parks and Wildlife
Mozambique	2	Administração Nacional das Áreas de Conservação (ANAC)
Namibia	1	Wildlife Protection Service (Ministry of Environment, Forestry and Tourism)
Namibia	3	Ministry of Environment, Forestry and Tourism
Namibia	1	Namibian police protected resources division
South Africa	1	Department of Forestry, Fisheries and the Environment
South Africa	1	SAPS Endangered Species Unit
Zimbabwe	2	The Zimbabwe Parks and Wildlife Management Authority (ZimParks)

Virtual Workshop Preparation Meetings

Two virtual SARPCAP workshop preparation meetings were held in April 2023 and April 2024. These meetings and their subsequent reports established the foundational framework for the SARPCAP (together with the stakeholder survey resulting in the workshop participant pre-read document - see below). Virtual meeting participants were able to share knowledge and identify key conservation issues and threats, as well as develop a baseline understanding of pangolin conservation needs in the region. Additionally, the virtual workshop preparation meetings enabled organizers to develop a more comprehensive pangolin conservation stakeholder list of the Southern African region.
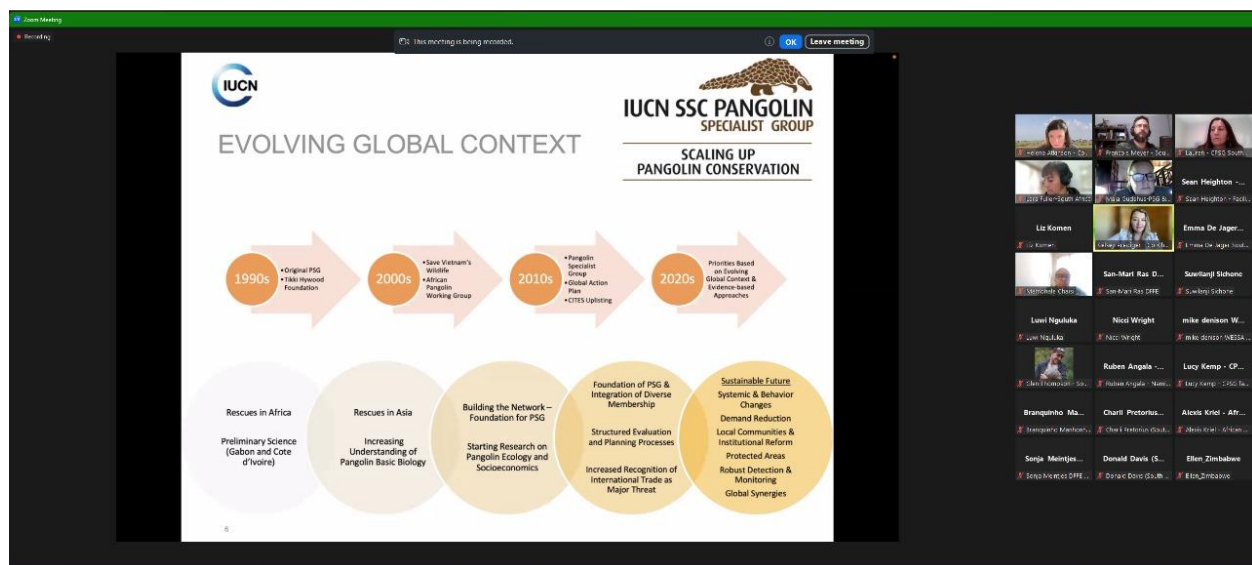
Screen capture of one of the presentations at the April 2024 online workshop.

Workshop Pre-read Scoping Document

The SARPCAP Workshop Pre-read document was prepared by the organising team to share with participants before the workshop. The report synthesizes results of the 2024 Southern African pangolin stakeholder survey and the two virtual workshop preparation meetings held online in April 2023 and 2024.

Workshop Agenda

The primary aim of the SARPCAP workshop was to serve as a robust foundation for building comprehensive pangolin conservation and management initiatives in the region and facilitate strong engagement of all stakeholders involved in pangolin conservation in Southern Africa.

The in-person workshop took place over three days in Sandton (at the ENS Law firm on Day 1 and at the Hotel Sky and Conference Centre on Day 2 and 3). The workshop Agenda is included as Appendix II.

SARPCAP networking event

The SARPCAP workshop kicked off with a dynamic social networking event, generously hosted by the ENS law firm. This gathering provided a platform for participants from diverse range states and professional backgrounds to connect through dynamic activities, including a lively speed networking session. Stakeholders also showcased their work at informational tables, featuring special contributions from Earth Ranger and Africa Wildlife Tracking.

The event successfully fostered a sense of camaraderie among participants, enabling them to establish connections before the workshop's formal proceedings. This pre-established rapport among stakeholders was instrumental in expediting collaborative discussions and planning efforts during the workshop. By laying the groundwork for regional relationships and knowledge exchange, the social event supported the broader objectives of the SARPCAP workshop which were to create a cohesive regional conservation strategy and strengthen the network of professionals dedicated to safeguarding pangolin populations across Southern Africa.

Koos Pretorius, Executive at ENS, welcoming the stakeholders to the 2024 SARPCAP networking event at ENS Africa, Johannesburg, South Africa.

WORKSHOP OUTCOMES

Vision

At the two virtual meetings held on 19-20th April 2023 and 9-10th April 2024 to prepare for the SARPCAP workshop, participants were asked to think about what successful pangolin conservation would look like in the Region in 30 years' time. At the April 2023 meeting, stakeholders identified the following aspects that were important:

- Thriving pangolin populations: pangolin populations are thriving and stable, with habitats supported by engaged and benefiting local communities, as well as sustained financing.

- Empowered rural communities: rural communities in areas that are home to pangolins are uplifted and empowered, leading to greater community buy-in and protection as "pangolin protectors," reducing the risk of legal penalties.

- Comprehensive research: significant research has been conducted to understand both pangolin species, Temminck's pangolin and white-bellied pangolin, providing valuable information for conservation planning and guidelines. Abundant and accessible research data is available.

- Effective law enforcement: law enforcement efforts have successfully kept pangolin poaching at a low level through quick and effective measures.

- Advanced traceability tools: traceability tools, such as DNA analysis, can easily identify the origins of pangolins, aiding in the prevention of illegal trade.

- Strengthened regional collaboration: collaboration across the Southern Africa regions has been strengthened, creating a national and regional collaborative network for pangolin conservation.

- Improved rehabilitation success rates: rehabilitation success rates for pangolins have significantly improved by using scientific and best practice approaches.

- Enhanced biodiversity and habitat: efforts to improve biodiversity in suitable areas for pangolins have resulted in reduced habitat loss and increased expansion. This provides safe spaces for pangolin releases in national and transboundary parks, contributing to a healthy ecosystem and protected environment.

- Increased global awareness: increased global awareness of the pangolin conservation problem has resulted in greater attention and action to address the issue.

- Reduced illegal trade value: the monetary value of pangolins and their derivatives has decreased due to reduced demand, making them less attractive for illegal trade.

- Eradication of major illegal wildlife trade: the illegal wildlife trade involving pangolins is no longer a major problem.

At the subsequent April 2024 virtual meeting, participants were divided into four groups and asked to take the above aspects and come up with an aspirational statement that incorporated them. The resulting four vision statements are as follow:

1) Pangolin trafficking has been detected and significantly reduced and their populations and habitats are thriving and are supporting sustained benefits for engaged local communities.

2) Viable pangolin populations are well protected and freely roam across their natural range, across all land-use types, with even degraded habitat improved. Effective monitoring techniques, technologies and strategies allowed us to understand population dynamics. Trans-national collaboration and awareness led to sustainable community-led conservation based on pangolin-positive beliefs, respect and inherent value.

3) Thriving and stable pangolin populations benefit from reduced illegal trade, with their habitats being supported by, and benefiting, engaged stakeholders as well as sustained conservation and complete understanding of their natural history and value of pangolins for concerted management efforts and a legacy for species in southern Africa.

4) Pangolin populations are thriving and valued due to joint research and conservation efforts by all role players across the Southern African region.

The SARPCAP multistakeholder in-person workshop was held in September 2024. To ensure inclusivity, acknowledging that some stakeholders at the in-person workshop had not attended the prior virtual meetings, the above four vision statements were presented. A group of volunteers was asked to compile a single vision statement for all workshop participants stakeholders to review. This group met in the evenings of the workshop and presented the draft vision to the participant the broader stakeholder group for comment. These comments were then worked into the draft until all participants were satisfied.

The final Vision for Pangolin conservation in Southern Africa is as follows:

"*Stable pangolin populations in healthy habitats, supported by an engaged community with a strong understanding of conservation, heritage and how to mitigate relevant threats.*"

Threats

Threats to pangolins in Southern Africa were identified through the 2024 Southern African pangolin stakeholder survey. Using the results of this survey, the following threats were identified within 5 main categories:

- Habitat loss: logging/forestry, subsistence agriculture
- Hunting/Trapping: household consumption; local or national traditional medicine or religious use, national meat market, international demand
- Climate change-induced changes: habitat modification, drought, prey availability,
- Law, administration and policy: non-application of wildlife law, lack of enforcement of protected areas law, non-compliance with CITES law
- Other anthropogenic threats: pollution from industrial or subsistence activities, agricultural pesticides or insecticides, mining or quarrying, veld fires, electrical fences, road accidents, tourism

Lauren Waller, Lucy Kemp, and participants identifying and discussing threats and challenges face in pangolin conservation across Southern Africa.

Further details on these threats can be found in the workshop pre-read document. During the in-person workshop in plenary, participants were asked to discuss these threats and their drivers, as well as how these threats were impacting pangolins. A threat map was developed that gave participants a visual overview of all known threats impacting pangolins (Figure 1). Challenges and knowledge gaps were also identified, as well as possible intervention points. This threat map was used to identify themes, and participants were organized into working groups according to those themes. The themes, and thus thematic working groups, that were identified were as follows: demand; habitat loss and degradation; ecology and climate change, and ex-situ.

Figure 1. Known and assumed threats to the viability of pangolins in Southern Africa, and their underlying causes, identified by participants at the 2024 regional planning workshop.

Issues, Goals and Actions

The four thematic working groups initially spent time developing their understanding of the issues that fell within their theme. They discussed what is known about the issue and the evidence supporting it, what is assumed, and knowledge gaps. The groups then summarised this information into a succinct issue statement (Table 3). For those groups that did not have time to summarise this information into the succinct issue statement, one was drafted by a member of their working group post workshop during the process of drafting this workshop report.

As part of this process, the impact and cause of each issue were also identified. **Impact** refers to the consequences of the issue on pangolins and their habitats, and **cause** refers to the underlying factors driving the issue. By identifying both the impact and cause, the working groups were able to identify targeted and effective conservation actions.

The next step was to identify goals. Goals are defined as 'what is needed to be done in order to address, or help to address, the stated issue'. Once the goals had been identified, they were prioritised by the group. The goals identified by each working group were presented to all workshop participants for input and review (Table 3).

Finally, each working group identified actions. Actions are defined as 'a set of achievable steps that enable the goal to be reached'. These actions were also reviewed by the full workshop participant group. The full list of actions for each working group is included in Appendix III, which will be used to draft the final SARPCAP. All workshop participants had the opportunity to edit their respective thematic working group's discussion results for two weeks after the workshop, which provided an opportunity to address any gaps and ensure the actions would be easily understood. Further opportunity for comment will be made available during the compilation of the final SARPCAP. It is acknowledged that the nature and intensity of threats faced by pangolins in the different Southern African pangolin range countries are different. Since this is a regional plan, no country specific references to specific threats have been made. It is assumed that when individual countries use this regional plan to help inform their national pangolin conservation plans, that the country specific threats will be addressed.

Table 3: Working Group themes issue statements

(A) Habitat loss and degradation	
Issue 1: Land Modification Land modification, for example through agriculture expansion, mining, deforestation, and the growth of human settlements, leads to the loss of suitable habitats for pangolins. **Impact:** Increased mortality, habitat degradation and fragmentation, removal or isolation from the population, migration hindered, inter and intraspecific competition, loss of breeding sites, increased exposure and risk to trafficking. **Causes:** Fencing, deforestation, expansion of human settlements (formal and informal), development, mining, agriculture	Goal A1: Legislatively declared protected areas of pangolin habitat increased across pangolin species' ranges.
	Goal A2: Degradation of pangolin habitats is minimized and restoration of pangolin habitats are increased.
	Goal A3: Connectivity within and between pangolin habitats are maintained or improved.
Issue 2: Habitat Fragmentation Within the range states, where infrastructure such as roads, ribbon development[1], or where private land is present or increasing, there is a high threat to pangolins through mortalities on electric fences, and restricted mobility and risk due to fragmented habitats. **Impact:** Increased mortality as a non-target species on electric fences, and reduced dispersal, leads to reduced breeding success and reduced recruitment; increases in restricted subpopulations which may pose a problem when reintroducing rehabilitated pangolins. **Causes:** Increased fencing (especially electrified fencing), expanding road networks, and the associated ribbon development that often accompanies infrastructure expansion. 1: **Ribbon development** refers to linear settlement patterns, typically along roads or infrastructure, which contribute to habitat fragmentation and increased human-wildlife interactions.	Goal A4: Where relevant, fragmentation of healthy pangolin habitats due to electric fences, road networks, and ribbon development should be reduced

(B) Demand	
Issue 1: Trans-national organized crime This is driven by an international demand whereby pangolin products are shipped out of Southern Africa by criminal organisations for profit. This can often fuel domestic use markets. **Impact:** The unsustainable utilisation and welfare of pangolins is threatened due to an increasing black market and international demand. **Causes:** Porous border control, corruption, eroded value systems, and already established organised crime networks are major causes.	Goal B1: Increased transboundary and inter-agency collaboration and information sharing.
	Goal B2: Develop an understanding of regional illegal trade dynamics and criminal ecosystems.
	Goal B3: Enhance scientific research on forensic processes including evidence collections and regional database (seizures, DNA).
	Goal B4: Comparative analysis of legislation across the region related to pangolin trafficking (outcomes to inform goal 5).
	Goal B5: Harmonised legal framework across the region (in line with CITES CoP 18).
	Goal B6: Streamline processes and build capacity for data gathering (forensic/ database (seizure numbers).
Issue 2: Domestic Use Hunting and trade is not intended for international use and is generally opportunistic in nature. It is mostly linked to consumptive purposes, however traditional medicines and cultural beliefs are additional drivers. Domestic markets have the potential to become transnational and demand driven.	Goal B7: Domestic market is understood in terms of uses, end-goals of products, scale, hotspots, role-players.

Impacts: Pangolin populations are threatened due to offtake while the potential for international trade routes controlled by trans-national syndicates is heightened. Countries can also be frowned upon for large domestic use markets. **Causes:** Misguided perceptions that it is a quick way to make money (opportunistic). Uses for local and traditional medicines, and cultural beliefs. The bushmeat trade and demand from international diaspora (Asian communities). Poverty and financial gain as well as lack of awareness of the importance of sustaining natural resources, healthy ecosystems, and wild places.	Goal B8: Understand when domestic (country), regional (Southern Africa), and international markets (outside Southern Africa) converge.
	Goal B9: Develop demand reduction strategies targeted at domestic use and trade.
	Goal B10: Understand, share and develop alternative livelihood initiatives through community based natural resource management or socio-economic development (around pangolins).
Issue 3: Awareness and Education Lack of awareness and education on pangolins, their threats, and repercussions of trading them is mainly focused on the necessity for responsible information being provided to the general public. **Impacts:** Pangolin populations and individual welfare can be threatened due to increased trafficking and demand, and a reduction in sensitivity around human/animal relationships and their ecological and cultural values. **Causes:** Irresponsible reporting by media officials which is fueling the myth of the market and uses. Increased tourism, especially unethical forms, which can be linked to security issues and misinformation. A dearth of formal education on nature and wildlife, within structured systems and generational loss of indigenous knowledge.	Goal B11: Regular and targeted engagement with media and officials, regarding responsible reporting (values, seizures, case information).
	Goal B12: Sensitization and awareness strategies for general public (big cities, communities, schools and tourism) and public representatives (law enforcement, judiciary, and customs) on wildlife and pangolins.

(C) Ecology and Climate Change	
Issue 1: Population monitoring Pangolin population sizes across range states are largely unknown. As cryptic species, pangolins are difficult to monitor and survey, which means that baseline population size estimates are largely lacking. Pangolin population surveys are not prioritised for action or funding, partially owing to the difficulty in achieving this and the lack of an accepted methodology to achieve this. This lack of population size knowledge hampers conservation and management decisions, action prioritisation and determining the impacts of any threats or interventions. **Impact:** Lack of population size knowledge, or at least population trend data, makes it difficult to make or motivate informed management decisions, prioritise actions and motivate people to care or be aware. It is difficult to monitor the effects of threats without these data. **Causes:** Pangolins are cryptic species that occur at low population densities, and are therefore difficult to monitor and count. Data baselines do not exist, and pangolins are not prioritised in terms of action and funding.	Goal C1: Population dynamics of pangolins within countries and across range states are understood
Issue 2: Ecological Data Wild pangolin ecology and resource requirements are known to vary geographically, and; this variation needs to be further studied to understand the variation. As cryptic species, monitoring pangolins is expensive and challenging, particularly considering monitoring barriers (telemetry that is expensive and not appropriate [e.g. too large, especially for White-bellied Pangolins], areas that pangolins live in are inaccessible and sometimes unsafe, and there is a lack of interest, capacity, and funding for wild pangolin research). The knowledge gaps mean that geographical variation in requirements and land use cannot be incorporated into or inform decision-making. Understanding pangolin roles and values in the ecosystem is limited and it is therefore difficult to motivate the funders, government, decision-makers, and communities as to the need to protect pangolins. The knowledge gap results in unequal resources and/or efforts being allocated to different areas. **Impact:** Geographical variation in pangolin ecology makes it difficult to make informed management decisions. It is also hard to	Goal C2: Geographical variation of ecological resource use by pangolins is understood across range states. Goal C3: Ecological roles of pangolins are understood Goal C4: The ecological impact of threats on pangolins is understood

monitor the impacts of other factors, such as climate change, without understanding this regional variation. Understanding the role(s) that pangolins play in the ecosystem is limited, which can make it difficult to motivate their value and thus protection. **Causes**: Ecological monitoring is resource intensive (both in terms of cost and manpower). The cryptic nature and low population densities of Temminck's Pangolin make them difficult to detect, which deters many researchers. The available technology is also a barrier, both in terms of cost and its suitability. Some areas are inaccessible and sometimes monitoring circumstances are unsafe. There is also a lack of capacity, interest & funding.	
Issue 3: Climate Change Climate change causes more frequent and severe extreme weather conditions. Climate change results in altered habitat suitability or changes in occupancy of habitats for pangolins. Climate change also results in a reduction in prey abundance, higher costs of thermoregulation, increased incidents of starvation, and greater physiological stress on pangolins. Climate change is caused by unsustainable human activities, lack of political will, human overpopulation, and poverty (people do not have the luxury to make sustainable choices). There is also a lack of awareness and education among people over pangolins and climate change. **Impact:** Climate Change causes a shift in habitat suitability and prey abundance, and can cause physiological stress for pangolins . **Causes:** Unsustainable human activities, a lack of political will, and overpopulation of humans. Poverty and inequality also play a role, since people do not have the luxury to make sustainable choices. There is a lack of accurate education and awareness.	Goal C5: Climate change impacts on pangolins and their habitats across range states are understood.

(D) Ex Situ	
Issue 1: Rehabilitation and reintroduction best practices There is a lack of harmonised guidelines supporting best practices from retrieval to post-release. **Impact:** This has a negative effect on pangolins' overall reintroduction success. **Causes**: This results from regions and stakeholders working in different regulatory environments, a paucity of progressive knowledge, and varying agendas.	Goal D1: Regionally accessible guidelines exist to support best practice in each range state.
Issue 2: Knowledge gaps and limited dissemination of knowledge There is insufficient empirical and scientific ex-situ knowledge combined with limited dissemination. The acknowledged lacking areas are veterinary care, rehabilitation, release, and post-release monitoring. **Impact:** This hampers progress in successful pangolin conservation efforts. **Causes:** This results from the cryptic nature of the species coupled with infrequent access to learn and document knowledge and a lack of synergistic sharing.	Goal D2: There is a growing repository of pertinent, evidence-based (published and unpublished) information for each species available to interested and affected parties.
	Goal D3: There is dissemination of empirical and scientific knowledge to all range states.
Issue 3: Limited resources and capacity Stakeholders across all levels of care and responsibility face a fundamental lack of resources and capacity. This includes limited funding, inadequate support from managing authorities, and insufficient time and expertise for successful reintroduction efforts. **Impact:** This results in inefficient ex-situ management, which negatively impacts individuals and populations. This may also have wider ramifications for pangolin conservation. **Causes:** Challenges related to general ignorance, weak relationships, training, and education cause this fundamental lack of resources and capacity.	Goal D4: Ex-situ pangolin conservation is sufficiently resourced and capacitated throughout the range states.

WAY FORWARD

 The SARPCAP workshop successfully brought together a diverse group of stakeholders, fostering a strong collaborative network and advancing the development of the SARPCAP. This workshop report highlights the productive outcomes of the SARPCAP workshop which set the stage for the next steps in finalizing the SARPCAP.

Helena Atkinson wrapping up the workshop.

Next Steps for the SARPCAP

The drafting process will continue under the guidance of the organizing team, with support from volunteers who attended the workshop and a consultant. A key next step will be gathering feedback through virtual follow up meeting for those unable to attend the workshop, ensuring that no critical required actions are overlooked and that the SARPCAP adequately reflects the region's needs. Stakeholder feedback on issue statements, goals, and actions (Table 3 and Appendix III) of this workshop report will be accepted through March 2025. The feedback round will be distributed via email. While the workshop report itself will remain unchanged, all input will be carefully reviewed and, where relevant, incorporated into the development of the final SARPCAP. The SARPCAP will then be circulated separately to all stakeholders for final input.

Adaptation of the SARPCAP to National Contexts

The SARPCAP serves as a critical regional framework for pangolin conservation, outlining overarching priorities and strategic actions to ensure the survival of pangolin populations across southern Africa. In order to achieve maximum impact for pangolin conservation in the region, it is hoped that the SARPCAP will be adapted to the specific socio-economic, ecological, and cultural contexts of each range country. A national species strategy should be designed to reflect local priorities, resources, and challenges, while aligning with the broader regional goals. Once the SARPCAP is finalized, the intention is that each range state can utilize the framework to improve or develop their own national plan for pangolin conservation.

Group photo of stakeholders who took part in the 2024 SARPCAP Workshop at the Hotel Sky Sandton, South Africa.

The word cloud generated at the end of the workshop, visually representing stakeholders' final thoughts.

Thank you from the 2024 SARPCAP Workshop organizing team and facilitators

APPENDIX I: Southern African Regional Pangolin Conservation Action Planning Workshop Participants

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APPENDIX II: Southern African Regional Pangolin Conservation Action Planning Workshop Agenda

Southern African Regional Pangolin Conservation Action Plan Workshop

16 - 19 September 2024

Monday 16th September 2024 (Venue ENS Law firm)

17:00	Registration
18:30-21:30	Networking Event

Tuesday 17th September 2024 (Venue - ENS Law firm)

8:00 – 9:00	Registration	
9:00 – 9:40	Welcome, overview of the process, Workshop Objectives, Agenda, Introductions	Lauren Waller (IUCN CPSG)
9:40 – 10:10	IUCN Pangolin Specialist Group	Matt Shirley (IUCN Pangolin Specialist Group)
10:10 – 10:40	Overview of Pangolins in Southern Africa	Helena Atkinson & Kelsey Prediger (IUCN Pangolin Specialist Group)
10:40 – 11:00	Questions / Discussion from presentations	
11:00 – 11:20	**TEA BREAK**	
11:20 – 12:00	Defining success: Drafting a 30 Year Vision for Southern African Pangolin Conservation	Lucy Kemp (IUCN CPSG)
12:00 – 13:30	Understanding the system (Part 1): Developing our understanding of the threats / issues to pangolins, their drivers and impacts	Lauren Waller
13:30 – 14:30	**LUNCH**	
14:30 – 15:00	Identify Thematic Working Groups	Lauren Waller
15:00 – 16:30	Understanding the system (Part 2): Working in groups to develop Issue Statements and identify Goals (what we need to do in order to address the issue or threat)	Lucy Kemp Small Groups

16:30 – 17:00	**TEA BREAK**	
17:00 – 18:00	Feedback from Groups on Issue Statements	Lucy Kemp Small Group Rapporteurs
18:00	Close	Lucy Kemp
	Evening Work: - Volunteers to work on Vision - Organising Team to debrief and plan	

Wednesday 18th September 2024 (Hotel Sky and Conference Centre)

8:30 – 9:00	Feedback on Vision, +/Δ, worked example	Visioning Group
9:00 – 10:00	Finalise Issues (Clean Issue Statements to be word smithed by drafting team)	Small groups
10:00 – 10:30	**TEA BREAK**	
10:30 – 12:00	Plenary Feedback on Issues	Lucy Kemp
12:00 – 13:00	Small Groups - Fix issues - Identify Goals	Small Groups
13:00 – 14:00	**LUNCH**	
14:00 – 15:00	Small Groups – Finalise Goals	Small Groups
15:00 – 16:00	Plenary: Feedback on Goals	Lauren Waller
16:00 – 16:30	**TEA BREAK**	
16:30 – 17:30	Plenary – Actions Small Groups – Actions	Lauren Waller Small Groups
17:30	**Close**	
Evening work	- Finalise Vision – Volunteer Group - Ensure all Group Work is typed up - Organising Team planning	

Thursday 19ᵗʰ September 2024 (Hotel Sky and Conference Centre)

8:30 – 9:00	Finalise Vision	Lucy Kemp
9:00 – 11:00	Small Groups on Actions	Small Groups
11:00 – 11:30	**TEA BREAK**	
11:30 – 12:30	Plenary Actions (Part 1) (Piano Room 1 and 2)	Lauren Waller Combined Group
12:30 – 13:30	**LUNCH**	
13:30 – 14:30	Plenary Actions (Part 2) (Piano Room 1 and 2)	Combined Group
14:30 – 15:30	Group Work to finalise Goals	Small Groups
15:30 – 16:00	**TEA BREAK**	
16:00 – 16:30	Way Forward Plan Drafting	Lauren Waller
16:30 – 17:00	National Planning Workshop Expectations	Lauren Waller
16:30 – 17:00	Wrap up and Close	Helena & Kelsey

Appendix III: Action tables from each Working Group of the SARPCAP Workshop

(A) Habitat Loss and Degradation

Goal A1: Legislatively declared protected areas of pangolin habitat increased across pangolin species' ranges.					
Actions	**Responsible Party**	**Collaborators/ Partners**	**Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)**	**Priority (1 being highest, 4 being the lowest)**	**Measure of success**
A1.1 Identify parameters for healthy pangolin habitats, map priority areas for protection based on suitable environmental conditions and above paramters, and advocate for the higher protection of priority areas	State Conservation agencies Researchers and academia NGOs IUCN SG	National Govt Provincial Govt and state conservation agencies Researchers and academia Peace Parks NGOs	2 - 5 yrs	1	- Priority pangolin habitats mapped across the SADC region
A1.2 Maintain and restore the integrity of pangolin habitats	Protected Area authorities - National, Provincial, and Transfrontier Parks	Peace Parks NGOs Funding entities	Ongoing	1	- Protected area management plans
Inclusively engage, involve, and empower communities in pangolin conservation through education and awareness exchange and implement actions identified through exchange for the	State conservation agencies and Private reserve owners NGOs involved in education (across formal and informal learning arenas)	NGOs and CBOs and local partners Funding partners State actors (Dept Education; Dept of Environment) CBOs	Ongoing	2	- Communities reached - areas identified for formal protection

expansion of formally protected pangolin habitats					
A1.3 Where relevant, advocate for stronger legislation for the protection of formal pangolin habitats	NGOs IUCN SG	CBOs Community Groups Peace Parks	5 yrs and ongoing thereafter	2	- New or stronger legislation for protection of pangolin habitats
A1.4 Make use of all legislative opportunities to protect pangolin habitats (e.g. OECMs)	Legal experts National conservation authorities NGOs	State and private protected area management authorities	Ongoing	1	- Pangolin habitats legally protected
A1.5 Strengthen legislation and enforcement to prevent encroachment into pangolin habitats.	National governments IUCN SG & legal experts NGOs	CBOs Local partners Funding partners Provincial government Protected area management authorities (State and private)	5 - 10 yrs	1	- Gazetted legislation preventing encroachment into priority pangolin habitats
A1.6 Implement and strengthen buffer zone management where absent, ensuring alignment with country-specific legal frameworks and ecological requirements.	NGOs IUCN SG Provincial / County govt	Local partners CBOs	5 - 10 yrs and ongoing thereafter	2	- Buffers identified and protected through management plans

Goal A2: Degradation of pangolin habitats is minimized and restoration of pangolin habitats are increased.					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measure of success
A2.1 Promote sustainable practices within the sphere of farming, forestry, mining and settlements that impact pangolins and look at alternative livelihood strategies that better promote suitable pangolin habitats.	Provincial / County Government NGOs CBOs	Local partners Community groups Landowners Corporates	5 - 10 yrs	2	- farmers adopted sustainable farming practices - forestry companies subscribing to sustainable accreditation - mining companies subscribing to sustainable accreditation - alternative livelihoods created
A2.2 Pangolins are protected within suitable pangolin habitats (Action A1.1) located in community lands, through community programmes (awareness, education, empowerment, and alternative livelihoods)	NGOs CBOs IUCN SG Academia	Community groups Local partners	5 - 10 yrs	2 to 3	- habitat areas mapped for CBNRM approach - CBNRM areas with formal agreements for protection of pangolins
A2.3 The formation of pangolin safe spaces	XXXX	XXXX	XXXX	XXXX	XXXX

Goal A3: Connectivity within and between pangolin habitats are maintained or improved.					
Actions	**Responsible Party**	**Collaborators/ Partners**	**Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)**	**Priority (1 being highest, 4 being the lowest)**	**Measure of success**
A3.1 Identify the corridors, linkages and buffer zones between and around pangolin habitats.	NGOs Land use planners (Govt) IUCN SG State agencies mandated for conservation planning	Provincial government CBOs Community Groups	2 - 5 yrs	1	- priority corridors mapped
A3.2 Engagement and empowerment of all land users for land use planning, development, implementation and evaluation.	Provincial and County government bodies NGOs CBOs	Local community groups Land owners	2 - 5 yrs	2	- communities engaging in habitat protection for pangolins
A3.3 Conduct research, monitoring, evaluation of populations to inform metapopulation management	Conservation agencies	Land owners Community groups CBOs Academia and NGOs	5 - 10 yrs but ongoing thereafter	3	- Databanks
A3.4 Facilitate cross-border planning and coordination and collaboration to support protection and establishment of wildlife corridors	National conservation agencies IUCN SG Peace Parks NGOs	Land owners (public and private) Community groups CBOs	5 - 10 yrs	2 to 3	- crossborder corridors mapped - crossborder conservation management plans in place

Goal A4: Where relevant, fragmentation to be reduced due to electric fencing, road networks, and ribbon development.					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measure of success
A4.1 Make amendments in legislation to promote construction of pangolin friendly electric fencing.	NGOs Conservation Agencies	Legal experts Academia / research institutions Land use planners Land owners	1 - 2 yrs	1	- Amended legislation on pangolin friendly fencing gazetted
A4.2 Explore and understand alternative fencing solutions to reduce pangolin mortality.	NGOs (research)	Land owners Provincial govt Legal experts	2 - 5 yrs	1	- Alternative fence solutions
A4.3 Increase education and awareness of pangolin friendly fencing.	NGOs	CBOs Land owners State conservation agencies	2 - 5 yrs	1	- pangolin friendly fencing is adopted and encouraged by land owners
A4.4 Promote the use of eco-crossings across roads.	NGOs National Government	Land use planners	2 - 5 yrs	3	- eco-crossings approved

(B) Demand

Trans-national organized crime

Goal B1: Increased transboundary and inter-agency collaboration and information sharing					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measure of Success
B1.1 Map relevant agencies and focal people across the region.	Regional counter-wildlife trade organisation (i.e. TRAFFIC, GI-TOC) SADC LEAP	- Law enforcement agencies, National governments, Legal representatives - Transfrontier Conservation Areas International Security Committees - Mandated Primary Pangolin Conservation NGO focal organisation - National Prosecuting Authorities - Courts of law with specialist prosecutors - Border Management Authorities	1-2 yrs	1	- Law enforcement agency map (with focal points) for the entire region

B1.2 Expand on existing organised crime (wildlife general) strategy that takes into account the transboundary and inter-agency structures (e.g. revised national strategy on wildlife protection and law enforcement, NISCWT). This includes combining various units linked directly to pangolins.	National Government Transfrontier Conservation Areas International Security Committees	- Government enforcement community - US Fish and Wildlife - Interpol - US Department of Homeland Security - Pangolin Conservation NGOs - Global Initiative Against Transnational Organised Crime (GI-TOC)	1-2 yrs	1	- Shared agency strategy document
B1.3 Share current law enforcement strategies between range states (SADC LEAP). This includes pangolin specific strategies and elements.	SADC Leap	- Government Environmental Management Authorities - Border Management Authorities - Transfrontier Conservation areas security committees	1-2 yrs	1	- Document to be created, outlining current strategies of range states, that relate to illegal trade of pangolins (specifically) Disseminated documents
B1.4 Increase effectiveness of the implementation of current enforcement strategies (e.g. NISCWT).	National Gov	- Enforcement communities	1-2 yrs	1	- Statistics on increased prosecution taking place - Stats on number of convictions (refer to Goal 4 - database)

B1.5 Host a yearly summit on pangolin-wildlife crime for information sharing between range-states.	IUCN SSC PSG in collaboration with NGOs	- Gov, Enforcement community, Rehab community - Traffic - EIA (Environmental Investigation Agency) - NGOs supporting law enforcement - Global Initiative Against Transnational Organised Crime (GI-TOC)	2-5 yrs	2	- Summit reports/ evaluations - Filmed version of the summit for sharing at workshops and confidential dissemination by law enforcement departments
B1.6 Adopt SADC TWIX (Trade in Wildlife Information eXchanges) across the region.	National Gov	- Gov	2-5 yrs	3	- Range-state membership
B1.7 Use TFCA's to implement collaboration on transboundary wildlife crime (utilising security clusters)	TFC's	- Gov	1-2 yrs	1	- MOU's/ agreements - Minutes of meetings of security clusters
B1.8 Identify the need for private - government formal collaboration / information sharing (eg Hotlines, integrative wildlife zones)	Government/ private sector	- Gov, NGO's, Formal Pangolin Working groups, Landowners in distribution range	2-5 yrs	2	- MOUs - Formal agreements - Reports

Goal B2: Develop an understanding of regional illegal trade dynamics and criminal ecosystems.					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measure of Success
B2.1 Identify service provider for analysis on illegal trade dynamics and criminal ecosystem and mode of operandi (current and historical).	Global Initiative against Transnational Organised Crime	- Government, University, Investigative Journalism field - Government, NGO in wildlife crime - Gov and private intelligence operatives, and informers - Successful Private International intelligence systems - Intelligence (Combination) Example: South African Fusion Lab operated by DFFE (SA), with extended mapping and analytics	2-5 yrs	2	- Shared database with the range states (NGO & Government)
B2.2 Createa regional legislation to recognise pangolin crime committed in other jurisdictions (to be adopted in all member states)	Governments (National Prosecuting Authorities)	- SADC structures and LEAP Strategy - Environmental Lawyers - National Prosecuting Authorities	2-5 yrs	3 2	- Create one document with all regional legislation in - Create a document to outline the respective legislation in each member state These indicators don't seem to talk to the action of creating regional legislation

B2.3 Conduct an investigation on the source of illegally traded pangolins, the intended market and reason for the demand. Upon completion of investigation, share the information with regional stakeholders. Create specific forums for investigators only in regard to syndicate Dynamics	Regional counter-wildlife trade organisation (i.e. TRAFFIC, GI-TOC),	- Law Enforcement / Journalists / Students (for conducting surveys and collecting data) - Environmental Investigation Agency - University - PhD level	2 - 5 yrs	2	- Create a whatsapp group and use it actively for all stakeholders in the range states.

Goal B3: Enhance scientific research on forensic processes including evidence collections and regional database (seizures, DNA).					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measure of success
B3.1 Develop regional forensics and biobanking capacity for collection and analysis of forensics in-country (i.e not sent to a single point like RHoDIs and Ondersterpoot). With the aim of information sharing across countries being possible in the future. Where regional forensics and biobanking capacity does not exist, conduct workshops throughout range states.	Research community within various countries and the IUCN community Scientific Authority in each country (if one exists)	- Researchers, Universities, Gov Scientific community (part of the CITES Scientific Authority) - Scientific Authority in each country (if one exists) - SANBI and Biobank team	5-10 yrs	1	- Operational capacity (example number of labs). Capacity at SANBI & Onderstepoort (RSA) -Government mandate for annual update report by scientific authorities - Information of forensic capacities shared with IUCN PSG - Physical Biobank in newly developed labs.

B3.2 Conduct multi-stakeholder (gov, uni, orgs) research to a) develop a database of forensics (eg. DNA, and baseline DNA, isotopes, trace elements, x-ray, origin) and b) publish scientific articles	Gov - CITES Scientific Authority (RSA - SANBI) Universities	- Gov, University and Police Forensic laboratory co-ordination - Veterinarians in the field - Scientists and researchers	2-5 yrs	1	- Article publications - Database created - Database actively updated and current - RSA - SABold DNA database development
B3.3 Create a pangolin hub for information sharing that supports government with a dedicated focal point across the region (internal)	Government, Nominated NGO, with capacity and focus on research	- Government, Scientific community, NGO's	1-2 yrs	1	- Existing structures adapted - Information shared regularly between regional representation (data on number of messages shared)
B3.4 Investigate how public databases on seizure records could influence the trade and the necessity of having them (eg. how C4ADS reports their investigations)	Researcher / Academic with specialisation in Organised Crime GI-TOC	- University students for data collection /	2 - 4 yrs	2	- Report on investigation results

Goal B4: Comparative analysis of legislation across the region related to pangolin trafficking (outcomes to inform Goal 5).

Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 years; within 2-5 years; within 5-10 years; ongoing)	Priority (1 being highest, 4 being the lowest)	Measure of success
B4.1 Conduct a comparative legislation review across the region to identify gaps and areas of harmonisation between range-states	Regional counter-wildlife trade organisation (i.e. TRAFFIC, GI-TOC)	- All Gov conservation Departments, NGO's - National Prosecuting Authorities - Environmental Lawyers - NGOs	2-5 yrs	1	- Report of findings, indicating gaps, areas of harmonisation and recommendations
B4.2 Identify ways to harmonize/ combine existing enforcement structures and legislation across the region	Environmental Law firm	- Gov, Researchers, Environmental Lawyers - National Prosecuting Authorities	2-5 yrs	2	- Document that shows best practices for sharinglegislation throughout range states - Increased rate of successful prosecutions

B4.3 Review the use of existing legislation in judicial processes	Gov, NPA's	- Gov - Environmental Lawyers	2-5 yrs	2	- Ongoing monitoring process set-up - Increased rate of successful prosecutions

Goal B5: Harmonised legal framework across the region (in line with CITES CoP 18)					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measure of success
B5.1 Develop and use Pangolin crime prosecution guiding manuals.	Regional counter-wildlife trade organisation (i.e. TRAFFIC, GI-TOC)	- Gov -NGO's	1- 2 yrs	1	- Pangolin crime prosecuting guiding Manual
B5.2 Make sure SADC LEAP strategy is efficiently implemented.	Gov	- Gov	1-2 yrs	1	- Comparative report on implementation of the SADC LEAP strategy.
B5.3 CITES National Legislation Project (NLP) is implemented.	Gov	- Gov - CITES	1-2 yrs	1	- CITES reporting documents.
B5.4 Domestic legislation is aligned and recognised across borders (removing the need for expedition).	Gov	- Gov - CITES	3-5 yrs	3	- Updated domestic legislation to reflect amended expedition rules.
B5.5 Process of extradition is made more effective across the region.	NPA's	- Gov - Departments of Environmental Affairs, Gov Conservation Authorities - Prosecutors and Magistrates	2 - 5 yrs	2	- Updated legislation and MOU's.
B5.6 Documents shared on the harmonised legal framework through SADC LEAP	GOV NPA's	- Government Environmental Authorities, - Police and Law Enforcement head offices	2 - 5 yrs	2	- Proof of sharing on SADC LEAP related website.

B5.7 Establish a network of environmental lawyers.	Nominated Environmental Lawyer - in their personal capacity	- Environmental Law Firms, - Environmental Lawyers - NPAs	1 - 3 yrs	2	- An association is formed - as a legal entity, with membership across range states - and recognised by Governments.
B5.8 Implement mutual legal assistance in a consumer range-state.	Association of Environmental Lawyers (after being formed - as above)	- Members of the Association of Environmental Lawyers	2 - 5 yrs	2	- Minutes of meetings shared / annual report to categorise situations that have benefitted from mutual legal assistance.

Goal B6: Streamline processes and build capacity for data gathering (forensic/ database - seizure numbers)					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measure of success
B6.1 Develop a Pangolin DNA database for wild geolocated individuals and trafficked individuals.	University GOV - extension of illegal wildlife trade database.	- Gov, Scientific community - NGOs - Scientists working with genomics	1-2 yrs	1	- Assess the region for the presence of Scientific Authorities and Biobanks. - Active database is created and used across the region.
B6.2 Develop a Pangolin DNA database for forensic markers and standardise across the region as a single test (preventing variation in testing protocols between countries).	Regional counter-wildlife trade organisation (i.e. TRAFFIC, GI-TOC)	- Scientists working with genomics - IUCN SSC PSG	2-5 yrs	1	- Database online. - Design protocols of forensic markers published.
B6.3 Conduct training on sampling pangolin specimens for forensic analysis and populating the database.	Gov enforcement, Police forensics	- Gov enforcement agencies - NGO support & financing - SANBI, SA Biobank	1-2 yrs and ongoing?	1	- Courses presented and attendance lists.

B6.4 Develop protocol/guidelines on sampling pangolins for forensic techniques (DNA, isotopes, fingerprinting, etc) and ensure they are harmonised across the region.	SANBI / SA Biobank	- Scientific authorities, existing Biobanks across the region	1 - 2 yrs	1	- Completed protocols and guidelines are standardised and shared across the region.
B6.5 Setup a mandate for sample collection and biobanking following the abovementioned protocol at either at governmental or research facilities .	Environmental institutes per country (through SADC)	- Scientific authorities and Biobanks across range states	1 - 2 yrs	1	- Workshops conducted across the region to share skills and procedures / biobanking archive is improved across the range, as evidenced through increased number of samples.

Domestic Use

Goal B7: The domestic market is understood in terms of uses, end-goals of products, scale, hotspots, and role-players

Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measures of success
B7.1 Initiate a Phd research project on market research targeting local villages and cities (questionnaires) to understand uses, end-goals, and drivers	PHD candidate	- Universities - Government Departments of the Environment - Police Services - NGOs	2-5 yrs	2	- PhD is completed. - Number of questionnaires filled out. - PhD report
B7.2 Identify correct messaging to educate and dispel myths (education awareness extracted from Phd study).	Environmental Educator	- NGOs - Community members - Universities - Indigenous Researchers Academic of Indigenous Studies	2-5 yrs	1	- Messaging is developed and defined for each range state across the region.
B7.3 Develop a secure database of domestic seizures across the region to monitor role-players, hotspots, and end-users. In collaboration with NGOs and Government.	GI-TOC and national governments	- Government Departments of the Environment - Police Services - NGOs	2-5 yrs and ongoing	2	- Database structure developed
B7.4 Manual for guidance on uses, end-goals of products, and list of specialists or stakeholders linked to domestic markets (hard copy and electronic format).	Government	- NGOs	1-2 yrs	3	- Guidance manual in final format - Online link to manual

Goal B8: Understand when domestic (country), regional (Southern Africa), and international markets (outside Southern Africa) converge.					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measures of Success
B8.1 Develop a university-led research project to understand how these various markets may link (domestic, regional, international) and how best to use a central database or reporting platform (i.e. TWIX) to identify these links.	Universities	Researchers, students for conducting surveys and collecting data	2-5 yrs	2	- Research has been completed (thesis) and formulated for comparison with regions where similar research has been conducted.
B8.2 Develop a program for collaboration between traffic, EIA, interpol, US fish & wildlife, NGOs to investigate links between domestic, regional and international markets and when they converge.	Traffic or EIA	interpol, US fish & wildlife, NGOs	2-5 yrs	1	- Investigations lead to tangible results, which inform Government Law Enforcement Departments.
B8.3 Compile a SADC contact list of law enforcement personnel across the region.	Senior Law Enforcement Officer in a managerial position	Government Law Enforcement personnel across the region, police services	1-2 yrs	1	- Contact list is complete and shared to stakeholders.
B8.4 Conduct workshops across borders with law enforcement on how to work together at the different scales (domestic, regional, international).	NGO lead	- Government Law Enforcement - Trade researchers and specialists - Environmental Lawyer (outline the legislation that can be applied)	1-4 yrs	1	- Workshops are being conducted across the region / film of the workshops is created for law enforcement officials that have been unable to attend.

B8.5 Compile a regional report of all the above activities to document and to share across the region	IUCN PSG focal point	- NGOs - Workshop organisers - Law enforcement spokesperson	2-4 yrs	2	- Report is completed and shared across the region

Goal B9: Develop demand reduction strategies targeted at domestic use and trade.					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measures of Success
B9.1 Conduct psychological, social and behavioural change studies to identify drivers of local demand and actions for demand reduction.	Universities and research institutes across range states.	- Gov - Universities - NGOs	2-4 yrs	1	- Journal reports - Published studies - Shared humanities/sociologies data
B9.2 Review the current legislative laws with an aim of increasing awareness of punishments to those convicted of pangolin crimes.	Environmental Lawyer / Environmental Law Firm	- Government Departments of the Environment - Environmental Lawyers - NPA's, Prosecutors, Magistrates	2-4 yrs	1	- Review reports - Conviction and sentencing record (court judgements) - Current laws to be documented / additional charges that can be added for each range / and comparisons exist where sentencing has been increased / the path to higher sentencing is investigated.
B9.3 Based on outputs from actions above. Develop a multifaceted sensitization and awareness programme on the environmental and cultural value of pangolins, and the impact and repercussions of poaching or trafficking them.	NGO person with a high level of expertise in this	- Technical, multimedia, brand manager - Environmental education manager - Community members - Traditional healers	2–4 yrs	1	- Media reports (posters, radios, TV, social media) - Community participation engagement register/reports - Artists, films/music/plays, stories (traditional beliefs)

| B9.4 Implement the multifaceted strategy across the entire region using a region-based multi-media approach. Focus on hotspots of local and international trade. | NGO person with a high level of expertise in this | - Technical, multimedia, brand manager
- Environmental education manager
- Community members
- Traditional healers | 5–10 yrs | 1 | - Media reports (posters, radios, TV, social media)
- Community participation engagement register/reports
- Artists, films/music/plays, stories (traditional beliefs) |

Goal B10: Understand, share and develop alternative livelihood initiatives through community based natural resource management or socio-economic development (around pangolins).

Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measures of Success
B10.1 Conduct assessments and surveys/studies regarding communities' socio-economic status (needs and wants) to improve their livelihoods.	Social Sciences / Alternative Livelihoods experts	- Community members - Civil societies within communities - ALP (Alternative Livelihoods Programme advisor - Experts in the field	2-4 yrs	2	- Reports - Action-plans aimed at improving community livelihoods. - Feasibility study with potential for expanding current livelihoods, or introducing new livelihoods - with case studies and proposed trajectory and strategy is researched and documented
B10.2 Identify feasible increase income generating activities that can improve community livelihoods (eg community tourism opportunities / art / community management). These can be linked to pangolins or be more general, depending on the needs.	Expert in the field ALP (Alternative Livelihoods Programme advisor	- Experts in the field	2-4 yrs	2	- Reports detailing initiatives, engagements, implementation and outcomes (and with examples of alternative livelihoods that have been successful)

B10.3 Share this information across region	Local Government	- Ministry of Housing, Communities, and Local Government - NGOs - Civic Societies	2-4 yrs	2	- Report with interviews of local communities and their response

Awareness and Education

Goal B11: Regular and targeted engagement with media and officials, regarding responsible reporting on pangolins (values, seizures, case information).					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measures of success
B11.1 Create a regional committee / body that will be responsible for developing media reporting guideline standards that will insure responsible reporting of prices, seizures, case information.	IUCN Pangolin Specialist Group focal person / focal group	NGOs Government Environmental Officials, Government Law Enforcement Officials, Media - newspapers, online media influencers	2-4 yrs	1	- Clear reporting framework - Reporting guideline documents - Committee / body formation
B11.2 Conduct local workshops aimed at capacity building and awareness regarding responsible media reporting as envisaged by the guidelines and framework that was developed by the committee / body.	Nominated NGO	NGOs Media - print and online Magazine / Newspaper editors Journalists	2-4 yrs	1	- Number of workshops conducted - Media personnels attendance and participation register - Details regarding the circulated / distributed documents
B11.3 Review existing legislative laws that deal with irresponsible media reporting (imposing strict retribution towards irresponsible wildlife crime reporting).	Law firm specialising in Media ethics and regulations	Mass media regulation experts Social media Lawyers	2-4 yrs	1	- Upgraded legislative laws - Number of irresponsible media reports prosecuted cases.

Goal B12: Sensitization and awareness strategies for the general public (big cities, communities, schools and tourism) and public representatives (law enforcement, judiciary, and customs) on wildlife and pangolins are developed and implemented.					
Actions	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measures of Success
B12.1 Conduct social studies to identify the level of misinformation on pangolins by the general public and public representatives, and how best to counter this.	Universities and research institutes across range states.	- Gov - Universities - NGOs	2-4 yrs	1	- Journal reports - Published studies - Shared humanities/sociologies data
B12.2 Develop sensitization and educational guidelines and manuals for the general public on what pangolins are, their ecological importance, the threats they face, and repercussions for poaching or trading them.	Nominated NGO IUCN Pangolin Specialist Group focal group	- NGO personnel working with local communities - Environmental Educators - Civil societies within local communities	2-4 yrs	2	- Guidelines, educational materials and manuals developed
B12.3 Implement the awareness campaigns, workshops and outreach aimed at conveying and distribution of the above materials to the general public.	NGO / Local Government	- Media - Civil Societies - Event Management group (Pro-Bono) - Tech team, Film Producer, University Drama Societies - Leading and well-known artists - Virtual Reality creators, writers, illustrators, - Radio and TV, podcasters	2-4 yrs	2	- Jingles, posters, articles, blow charts, booklets, website + other information conveying the materials. - Number of distributed materials. - Number of institutions effectively reached.

		- Influencers			
B12.4 Develop and implement sensitization and educational workshops for public representatives on what pangolins are, the laws surrounding them, and how to prevent misinformation spreading.	Nominated NGO IUCN Pangolin Specialist Group focal group	- NGO personnel working with local communities - Environmental Educators - Civil societies within local communities	2-4 yrs	2	- Workshop meeting minutes - Workshop representative signatures
B12.5 Engage with Education departments to review and update national curriculums on wildlife, the importance of conserving ecosystems. With a focus on pangolins	National Governments	- NGOs - Environmental Educators - Educator associations	5-10 yrs	3	- Updated curriculum documents. - Number of teaching hours dedicated to environmental education per age group.
B12.6 Develop a tourism manual for pangolins and share this manual with tourism operators	IUCN SSC PSG	- Government environmental departments - NGOs - Field Guide / Range trainers - Tourism operators	1-2 yrs	3	- Manual document - Number of distributed manuals. - Number of institutions effectively reached.

(C) Ecology and Climate Change

Population monitoring

Goal C1: Population dynamics of pangolins within countries and across range states are understood.					
Actions	**Responsible Party**	**Collaborators/ Partners**	**Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)**	**Priority (1 being highest, 4 being the lowest)**	**Measures of success**
C1.1 Develop guidelines to generate pangolin population estimates.	National Government PSG NGOs	NGOs, Universities	2 - 5 yrs	1	- Documented guidelines for generating pangolin population estimates.
C1.2 Establish pangolin population estimates within countries and across the range states.	National Government NGOs	NGO's, Universities and NGOs	2-5 yrs	1	- Reliable estimates of pangolin numbers within countries and across range states are documented.
C1.3 Quantify and understand population dynamics of pangolins within countries and across range states (including, but not limited to, quantifying offtake [(disseminated by threat, per Range State), recruitment, immigration and emigration; PHVA])	National Government and NGOs	NGO's, Universities	2-5 yrs	1	- Population and Habitat Viability analysis for each range state is performed and published, to understand impacts of different factors and inform management decisions.

C1.4 Develop population management guidelines in range states (e.g., establishing whether pangolins need to be managed as a metapopulations; guidance on where to release confiscated/rehabilitated individuals (including post-rehab, confiscated etc.) pangolins). Ensure these guidelines detail minimum viable population size, carrying capacity, etc.	National Government PSG NGOs	NGOs and Universities	2-5 yrs	1	- Documented guidelines for population management.

Ecological data

Goal C2: Geographical variation of ecological resource use by pangolins is understood across range states.					
Actions	**Responsible Party**	**Collaborators/ Partners**	**Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)**	**Priority (1 being highest, 4 being the lowest)**	**Measures of success**
C2.1 Identify and address priority ecological research needs and gaps ron pangolins within countries and across range states, especially considering geographical variation.	National Government and NGOs PSG	Universities	1-2 yrs	2	- Review report / peer-reviewed publication.
C2.2 Fill knowledge gaps of ecological resource needs of pangolins with appropriate research (accounting for geographic variation).	National Government, NGOs	Community based organisations, Universities	2-10 yrs	2	- Peer-reviewed publications on pangolin ecology.

C2.3 Ensure ecological resources (for example habitat, shelter, prey availability, water, conspecifics) required by pangolins are protected and conserved in light of geographical variation.	National Government	NGOs and Community based organisations	2-5 yrs	1	- Greater protection for resources required by pangolins through long-term monitoring of identified resources at atleast one sight per country.
C2.4 Create pangolin-specific research networks to know who is doing what, where and how (this network includes all interested and affected parties, inclusive of those not in the PSG).	National government and NGOs	Universities	Ongoing, 1-2 yrs	3	- Online community sharing information and ideas to protect pangolins.
C2.5 Develop individual-level pangolin monitoring guidelines (including post-release monitoring) and population-level monitoring guidelines (including, but not limited to, genetics, biobanking, and population dynamics impact on wild	National Government NGOs State departments	NGOs Universities	1-5 yrs (individual-level) 2-10 yrs (population-level)	2	- Peer-reviewed research publications on the success rate of guidelines or their applicability.

populations and survival rates)					
C2.6 Research on if and how post release/rehabilitated pangolins are adapting to their release environment. This includes the effects of the resident populations on released individuals, as well as the effects of the and released individual on the resident populations.	National Government, Universities and NGOs		2-10 yrs	2	- Peer-reviewed article(s) are published with the research findings, to inform global best practices. Cnfiscated and rehabilitated pangolins are released in a manner that is optimal for both the released and resident individuals.

Goal C3: Ecosystem level services Ecological roles of pangolins are understood					
Actions	**Responsible Party**	**Collaborators/ Partners**	**Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)**	**Priority (1 being highest, 4 being the lowest)**	**Measures of success**
C3.1 Conduct research to understand the ecological role of pangolins; and the ecosystem services they provide.	Universities	NGOs	2-10 yrs		- Peer-reviewed Scientific and popular publications raising awareness of the importance of pangolins in the ecosystem are produced.

| C.3.2 Disseminate information and knowledge about the ecosystem benefits of pangolins to the relevant audiences in the appropriate way (ensure that the relevant audiences include policy-makers, government and other decision-makers). | National government NGOs Universities | Universities, NGOs, local partners | Ongoings | 3 | - Increased understanding of ecosystem benefits through surveys prior and post dissemination campaigns. |

Goal C4: The ecological impact of threats on pangolins is understood					
Actions:	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	Measures of success:
C4.1 Research gaps on pangolins (especially threats and ecological role) are targeted.	Universities	NGOs Local partners and national government	2-10 yrs	2	- Peer-reviewed and popular publications. - Systematic mapping review of literature shows increased filled gaps

Climate Change

Goal C5: Climate change impacts on pangolins and their habitats across range states are understood and mitigated.					
Actions	**Responsible Party**	**Collaborators/ Partners**	**Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)**	**Priority (1 being highest, 4 being the lowest)**	**Measures of success**
C5.1 Research and mitigate the impact of climate change, including extreme weather events, on pangolins and their habitats across range states.	Local partners and National government NGOs and Universities	NGOs and Universities Local partners and National government	2-5 yrs	2	- Peer-reviewed scientific and popular publications.
C5.2 Mitigate the impact of climate change on pangolins and their habitats across range states.	National government	NGOs	5-10 yrs	2	- Pangolin populations are maintained despite climate change.
C5.3 Disseminate information and raise awareness on how climate change impacts pangolins and their habitats.	National government	Local partners	2-5 yrs	2	- Scientific and popular publications.
C5.4 Advocate for more, expanded and corridor- connected pangolin safe spaces, considering climate	NGOs Academics National Government	Local Partners	2-10 yrs	3	- Policy brief.

change- induced habitat shifts.					

(D) Ex Situ

Rehabilitation and reintroduction best practices

Goal D1: Regionally accessible guidelines exist to support best practice in each range state.					
Action	**Responsible Party**	**Collaborators/ Partners**	**Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)**	**Priority (1 being highest, 4 being the lowest)**	**Measure of success**
D1.1 Identify a team of regional ex-situ pangolin experts and ensure continuous revision and updating of its members.	IUCN Pangolin SG Southern Africa Regional Pangolin Ex-Situ Network	- National governments - Local conservation authorities - NGOs - Relevant experts	1 - 2 yrs and ongoing	1	- Number of experts identified - The team includes expert representation of relevant pangolin species - The team includes expert representation of relevant range states -The team includes representation across relevant areas of expertise specific to the ex-situ context
D1.2 Compile and categorize pre-existing ex-situ regional pangolin resources in a database, ensuring continuous revision and updating.	IUCN Pangolin SG Southern Africa Regional Pangolin Ex-Situ Network	- Regional ex-situ pangolin experts	1 - 2 yrs and ongoing	1	- Creation of a database for pre-existing ex-situ resources - Creation of a timeline for ongoing development of the database

D1.3 Conduct a gap analysis of the newly compiled pre-existing ex-situ regional pangolin resource database.	IUCN Pangolin SG Southern Africa Regional Pangolin Ex-Situ Network	- Regional ex-situ pangolin experts	2 - 5 yrs	1	- Gap analysis completed.
D1.4 Translate prioritized resources from the database into Afrikaans, Portuguese, English, and other languages per demand.	IUCN Pangolin SG	- Local Partners, - Professional translators via IUCN Pangolin SG	1 - 2 yrs and ongoing	3	- % of resources translated.
D1.5 Based on the database, create a document library accessible to registered users, with continuous revision and updating.	IUCN Pangolin SG Southern Africa Regional Pangolin Ex-Situ Network	- Regional ex-situ pangolin experts, - Technical partners in the NGO community.	2 - 5 yrs	3	- Creation of an online library. - Number of registered users. - Reviews and feedback resources within database.
D1.6 Based on the gap analysis, conduct collaborative research to address knowledge gaps related to veterinary care, transport and handling, rehabilitation, release methodology, and post-release monitoring as relevant to the ex-situ context.	IUCN Pangolin SG Southern Africa Regional Pangolin Ex-Situ Network External consultant	- Regional ex-situ pangolin experts - NGOs - Researchers, - Other relevant specialists and experts regions and expertise.	5 - 10 yrs	3	- Report on identified knowledge gaps that need to be addressed.

D1.7 Revise pre-existing ex-situ regional pangolin resources and draft a peer-reviewed, electronic document on ex situ pangolin conservation for the region that is accessible to registered users, with continuous revision and updating.	IUCN Pangolin SG Southern Africa Regional Pangolin Ex-Situ Network External consultant	- Pangolin experts - Legal experts - Universities – Government departments	5 - 10 yrs and ongoing	3	- Creation of document. - Peer-review of document. - Online publication of document.
D1.8 Publish the final peer-reviewed guidelines to support regional best practices.	IUCN Pangolin SG	- The PSG Southern Africa Ex-Situ Working Group - Pangolin experts - Legal experts - Universities - Government departments	5 - 10 yrs	4	- Publication of guidelines to support regional best practices.

Knowledge gaps and limited dissemination of knowledge

Goal D2: There is a growing repository of pertinent, evidence-based (published and unpublished) information for each species available to interested and affected parties.					
Action	**Responsible Party**	**Collaborators/ Partners**	**Timeline (within 1-2 years; within 2-5 years; within 5-10 years; ongoing)**	**Priority (1 being highest, 4 being the lowest)**	**Measure of success**
D2.1 The actions outlined in Goal D1 effectively achieve the desired outcomes and success measures for Goal D2. In order to ensure alignment within the action plan, recommendations are that Goals D1 and D2 be consolidated into a single goal or, alternatively, that Goal D2 be positioned prior to Goal D1.	IUCN Pangolin SG Southern Africa Regional Pangolin Ex-Situ Network	- Regional ex-situ pangolin experts - Universities - Government departments	ongoing	2	- Publication of ex-situ conservation guidelines. - Creation of an online library.

Goal D3: There is dissemination of empirical and scientific knowledge to all range states.					
ACTION	Responsible Party	Collaborators/ Partners	Timeline (within 1-2 yrs; within 2-5 yrs; within 5-10 yrs; ongoing)	Priority (1 being highest, 4 being the lowest)	MEASURE OF SUCCESS
D3.1 Develop and disseminate regional ex-situ pangolin training to targeted interested and affected parties based on the established guidelines (see Actions under Goal D1).	IUCN Pangolin SG Southern Africa Regional Pangolin Ex-Situ Network	- Regional ex-situ pangolin experts - National governments - Southern African stakeholders and experts	2 - 5 yrs and ongoing	2	- Ex-situ pangolin training developed and disseminated.
D3.2 Establish points of contact for ex-situ conservation for each range state.	IUCN Pangolin SG	- The PSG Southern Africa Ex-Situ Working Group - Regional ex-situ pangolin experts - National governments	1 - 2 yrs	1	- Range state contacts for ex-situ conservation established.

Limited resources and capacity

Goal D4: Ex-situ pangolin conservation is sufficiently resourced and capacitated throughout the range states.					
Action	**Responsible Party**	**Collaborators/ Partners**	**Timeline (within 1-2 years; within 2-5 years; within 5-10 years; ongoing)**	**Priority (1 being highest, 4 being the lowest)**	**Measure of success**
D4.1 Identify and prioritise resource and capacity needs among regional ex-situ pangolin interested and affected parties at the range state level.	Regional ex-situ pangolin experts and stakeholders	- IUCN Pangolin SG - Southern Africa Regional Pangolin Ex-Situ Network - NGOs	2 - 5 yrs and ongoing	2	- Range state resource and capacity needs are identified and prioritised.
D4.2 Increase regional awareness of the identified resource and capacity needs.	IUCN Pangolin SG	- Southern Africa Regional Pangolin Ex-Situ Network - Regional ex-situ pangolin experts - Ex situ pangolin stakeholders - NGOs	2-5 yrs and ongoing	2	- Feedback from regional stakeholders
D4.3 Develop a Southern African regional ex-situ pangolin network under the IUCN SSC Pangolin Specialist Group's Ex-Situ Working Group.	IUCN Pangolin SG	- Southern Africa Regional Pangolin Ex-Situ Network, - Regional ex-situ pangolin experts	2-5 yrs	2	- The Southern African Regional Ex-Situ Pangolin Network is established.