South African
NATIONAL PARKS

Elephant Management Plan
Marakele National Park
2024 - 2034

Reference Number:

INFORMATION

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Review Date:	2034
Consultation Process:	Various science-management consultations
Number of Pages:	65
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Dr Howard Hendricks Managing Executive: Conservation Services Division Date: 28/02/2024	Hapiloe Sello Chief Executive Officer Date: 29/09/2025
Pam Yako Chair of the SANParks Board Date: 30/09/2025	Nomfundo Tshabalala Director General, DFFE Date: 02/10/2025
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Note that the lifetime of the plan aligns with the Park Management Plan.

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Executive Summary

South African National Parks (SANParks) and their contractual partners Marataba Conservation (formerly The Marakele Park (PTY) Ltd) manage wildlife to enhance the ecological roles that they play by maintaining, restoring or mimicking ecological processes. Marakele National Park (Marakele) represents important biological values key to the broader SANParks conservation mandate. Elephants in Marakele have the potential and ability to impact biological, cultural human and stakeholder values. This management plan, compiled in accordance and compliance with the National Norms and Standards for Elephant Management, is a supporting document to the Marakele Park Management Plan submitted to the Department of Forest Fisheries and the Environment (DFFE)

The specific conservation objectives for Marakele are to maintain biodiversity and ecological processes, with the emphasis on species of special concern, mega-herbivore and large carnivore interactions. One of the priority mega-herbivore species, is the African elephant *Loxodonta africana*, which became extinct in this area due to hunting in earlier years. This plan describes the strategic context of elephant management within SANParks with support from experience and adaptive learning from the previous elephant management plan and actions. The research, monitoring and scientific evaluations of elephant impact on ecological attributes of Marakele, have informed and stimulated adaptive management strategies and consequently this management plan.

The continuation of the three key management objectives of the elephant management plan inclusive of associated actions have been adapted. **Objective 1** deals with direct influences that elephants have on the landscape and the associated values. This objective seeks to manage elephant impact and human interactions through inducing spatial and temporal variation in elephant use of landscapes by restoring the spatial limitations of the landscape. **Objective 2** focuses on the stakeholder relationship in the context of elephant effects. The associated actions focus on assessing concerns and issues of various stakeholders, acting on these, informing stakeholders and evaluating how SANParks actions affect stakeholders. **Objective 3** focuses on expanding understanding through focused research namely to evaluate, inform and revise elephant management through collaborative research. This provides explicitly for the opportunity to generate information as well as to inform, review and accommodate variance in management actions on predefined intervals.

Accountability for overall implementation of this plan lies with the Managing Executive: Parks and Marataba Conservation while accountability for evaluation is with the Managing Executive: Conservation Services and Marataba Conservation. The actions set out in the Objectives of this plan are not limited to the timeframe of this plan and may become redundant pending actions taken. Changing context including but not limited to changes in resource availability, and unforeseen or emergent opportunities

or challenges that may arise during the period for which this plan is active, may lead to some deviation, adding or subtracting from the plan, but these will be carefully considered, and the rationale will be documented. The Marakele Elephant Management Plan is written for a five-year medium term, namely 2023- 2028, and should be reviewed by 2028 to align with the review of the park management plan and should be reviewed as part of that revision.

1. Rationale

African elephants (*Loxodonta africana*) contribute to ecological features and the existence of biomes[1] while structuring the physical environment that benefits other fauna[2]. People value elephant for many reasons[3], including benefits provided to tourists[4] and rural communities[5]. Elephants, however, threaten biodiversity[6] and cause damages to property and come in conflict with people[7]. Making trade-offs between the positive effects of elephants and the various costs of living with them, both to people and other biodiversity, poses challenges to African-based conservation agencies[8].

South Africa embraced such challenges as opportunities for an inclusive, transformed society where biodiversity conservation and sustainable use ensure healthy ecosystems, with improved benefits that are fairly and equitably shared for present and future generations[9]. In this context, the management of elephants in Marakele

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[1] Skowno AL, Thompson MW, Hiestermann J, Ripley B, West AG, and Bond WJ (2017) Woodland expansion in South African grassy biomes based on satellite observations (1990-2013): general patterns and
potential drivers. Global Change Biology, 23, 2358–2369

[2] Pringle, R.M. 2008. Elephants as agents of habitat creation for small vertebrates at the patch scale. Ecology 89:26–33.
Pringle, R.M., Coverdale, T.C., Kartzinel, T.R., Grabowski, K.L., Shriver, R.K., Hassan, A.A., Goheen, J.R. and Palmer, T.M. 2016. Elephants in the understory: opposing direct and indirect
effects of consumption and ecosystem engineering by megaherbivores. Ecology. 97(11):3219-3230.
Western, D. 1989. The Ecological Role of Elephants in Africa. Pachyderm, 12:43-46.

[3] van de Water, A., Henley, M., Bates, L. and Slotow, R. 2022. The value of elephants: A pluralist approach. *Ecosystem Services, 58*, p.101488

[4] Lindsey PA, Roulet, PA, and Romañach, SS. 2007. Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa, Biological Conservation, 134(4): 455-469.

[5] Johnson & Thomas 1990,
Mafunzwaini, A.E. and Hugo, L. 2005. Unlocking the rural tourism potential of the Limpopo province of South Africa: Some strategic guidelines, Development Southern Africa, 22, (2), 251-265
Mbaiwa, J.E. 2003. The socio-economic and environmental impacts of tourism development on theOkavango Delta, north-western Botswana. Journal of Arid Environments, 54(2), 447–467

[6] Cumming, D.H., Fenton, M.B., Rautenbach, I.L., Taylor, R.D., Cumming, G.S., Cumming, M.S., Dunlop, J.M., Ford, A.G., Hovorka, M.D., Johnston, D.S. and Kalcounis, M., 1997. Elephants, woodlands and
biodiversity in southern Africa. South African Journal of Science, 93(5), pp.231-236.
McCleery, R., Monadjem, A., Baiser, B., Fletcher Jr, R., Vickers, K. and Kruger, L. 2018. Animal diversity declines with broad-scale homogenization of canopy cover in African savannas. Biological
Conservation, 226, pp.54-62.

[7] Graham, M.D., Douglas-Hamilton, I., Adams, W.M. and Lee, P.C. 2009. The movement of African elephants in a human-dominated land-use mosaic. Animal Conservation, 12(5),445-455.
Evans, L.A. & Adams, W.M. 2018. Elephants as actors in the political ecology of human–elephant conflict. Transactions of the Institute of British Geographers, 43, 630-645.
Fisher, M. 2016 Whose conflict is it anyway? Mobilizing research to save lives. Oryx, 50, 377–378.

[8] Holling, C.S. (2001). Understanding the Complexity of Economic, Ecological, and Social Systems. Ecosystems. 4, 390-405.
Rogers, K.H. and Biggs, H.C., 1999, 'Integratng indicators, endpoints and value systems in strategic management of the Kruger National Park', Freshwater Biology 41, 439–451.
Venter, F., Naiman, R. J., Biggs, H. and Pienaar, D. (2008). The Evolution of Conservation Management Philosophy: Science, Environmental Change and Social Adjustments in Kruger National Park.
Ecosystems. 11, 173-192.

[9] Publication of the white paper on Conservation and sustainable use of South Africa's Biodiversity. Department of Forestry, Fisheries, and the Environment. Government Gazette, No. 48785. 14 June 2023 https://www.gov.za/sites/default/files/gcis_document/202306/48785gon3537.pdf

National Park (Marakele) seeks to contribute to the national goals of transformed and enhanced biodiversity conservation, sustainable use, and equitable access and benefit sharing within the "*White Paper on Conservation and Sustainable Use of South Africa's Biodiversity*".

The management of elephants, their values and the costs and benefits that they have for people takes guidance from the developing National Elephant Heritage Strategy[10] that envisions thriving elephants contributing to equitable livelihoods, ensured dignity, and secured well-being for present and future generations of South Africans. Marakele is one of 84 elephant populations that are confined by fences, and often abutting areas practice land-uses that may not align easily with neighbouring elephants[11]. Marakele had 352 elephants in 2022 and can form part of a meta-population[12] within South Africa comprising the relatively small and confined populations that collectively provide improved contributions to South Africa's conservation and use of biodiversity aspirations enhancing the well-being of people and nature alike.

In this context, SANParks envisage *a resilient[13] Marakele elephant population embedded in South Africa's meta-population, enhancing biodiversity, improving equitable[14] socio-economic benefits, whilst inspiring and connecting diverse cultures*. Marakele has a complexity, richness and diversity of socio-ecological systems and the promotion of conservation in all its complexities is fundamental to SANParks' core biodiversity conservation values[15]. These complexities are addressed through a strategic adaptive management approach[16] within which the management of elephants in Marakele embeds.

This management plan provides the guidance for the management of elephants and embraces the key principles of transformation, sustainable use, good governance, evidence-based decisions, and a duty of care towards nature and people alike[17]. It aligns with Elephant Management Norms and Standards of South Africa[18].

2. Elephant contribution to Park objectives

Key biological attributes of Marakele

Marakele is situated in the Limpopo Province, roughly 15 km northeast of Thabazimbi. The Park lies on the extreme south-western quadrant of the Waterberg massif and its

[10] Developing National Elephant Heritage Strategy, Humbu Mafumu, HMAFUMO@dffe.gov.za.
[11] Extracted from Marakele National Park Management Plan, SANParks 2014 -2014
[12] Ramoelo, A., Greaver, C., Ferreira, S., Wigley-Coetsee, C., Nthangeni, M and Khoza, S. Marakele National Park 2020 aerial game census results and herbivore management recommendations for 2021: An integrated approach combining local knowledge with data derived from aerial game census, satellite-based vegetation indices, veld condition assessments and herbivore population models. SANParks, Internal Report 12/2021
[13] Resilient refers to ability to resist or recover from disturbance
[14] Equitable acknowledges that not all stakeholders are equal, and that stakeholders directly impacted and affected by elephants should have access to more benefits.
[15] Kruger National Park Management Plan 2018-2028. https://www.sanparks.org/assets/docs/conservation/park_man/knp/knp-approved-plan.pdf
[16] Roux, D.J. and Foxcroft, L.C. 2011. The development and application of strategic adaptive management within South African National Parks. *Koedoe: African Protected Area Conservation and Science, 53*(2), pp.1-5.
[17] Extracted from Marakele National Park Management Plan, SANParks 2014 -2014
[18] National Norms and Standards for the Management of Elephants in South Africa (GN 251/GG 30833/ 29 February 2008) and subsequent revisions.

adjoining lowlands to the west. Marakele's terrain has altitudes that range from 1,050 m on the plains surrounding the Waterberg mountain range to 2,088 m on the Waterberg. The plateau of the Waterberg mountain range rises above the surrounding countryside and is built up of sandstone of the Kransberg Subgroup of the Waterberg Group which gives rise to rugged and strongly undulating typography. The most prominent river draining the area is the Matlabas River. In addition, the Waterberg mountain range is an important catchment area for the Sunday, Mamba, Matlabas and Sand Rivers as well as many other smaller streams.

The scenery is diverse, varying from rugged mountains, high cliffs, rolling hills to bush-covered plains. The climate of the area is classified as warm temperate with summer rainfall. Mean annual rainfall varies from 485 mm on the plains, to 719 mm in the highest parts of the Waterberg mountain range. Marakele falls within a summer rainfall region with majority of the annual rainfall occurring between October and April. Mean daily maximum temperature ranges in summer between 26°C - 30°C while mean daily minimum temperatures in winter range between 1°C - 6°C.

Marakele does not function ecologically, economically, and socially in isolation from the region. It is considered "the jewel in the crown" of the Waterberg Biosphere Reserve by stakeholders. Marakele is surrounded by numerous land uses, dominated by mining activities as well as agricultural and game farming enterprises. The mining sector plays a major role in job creation and is a major economic engine of the region. In recent times, there has been a shift towards wildlife-based ecotourism and hunting, with numerous bed and breakfast operations, game farms and commercial hunting lodges establishing. In general, the immediate land use adjacent to the park is compatible with conservation and there is a broad range of existing tourism infrastructure.

Elephant influence on high-level objectives

Elephants contribute to and/or have an ability to influence all the objectives of Marakela. These focus on biodiversity, social aspects, responsible tourism, cultural heritage, and effective park management[19]. SANParks focuses on managing direct mechanisms of the influences that elephants may have.

Elephant influence on ecological objectives

Fencing, restricted size of areas, limited availability of preferred plant communities, and impacts of landscape features, water provision, and/or missing species or processes influence the ecological system of Marakele. The size of a protected area may accentuate the effect of influences such as fire which can be exacerbated by elephant activity[20]. Ecosystems can also be affected by how elephants use

[19] Marakele National Park Management Plan, Effective Park Management Section 10.5, SANParks 2014 -2024
[20] Ramoelo, A., Greaver, C., Ferreira, S., Wigley-Coetsee, C., Nthangeni, M and Khoza, S. Marakele National Park 2020 aerial game census results and herbivore management recommendations for 2021: An integrated approach combining local knowledge with data derived from aerial game census, satellite-based vegetation indices, veld condition assessments and herbivore population models. SANParks, Internal Report 12/2021

landscapes over time; either too intensely or too sparsely, however both can potentially affect other biodiversity components. Contemporary methods of influencing landscape use either direct (*e.g.*, water provision) or indirect (*e.g.*, contraception) interventions to affect the intensity with which elephants use the landscape available to them.

The effects of elephants vary considerably depending on rainfall, the plant community and landscape features. The interpretation of these ecological effects is confounded by synergistic effects of fire, other herbivores, drought, fire, wind toppling, the water table and management practices. In the past decade, South Africa has experienced a significant drought period and Marakele experienced a decline in average annual rainfall. Fires sweep through Marakele almost every second year, however the size of the areas that burn varies. The combination of these key disturbances can influence ecosystem composition, structure integrity, resistance and resilience[4].

Elephant influence on social objectives

In South Africa, the incidences of human-elephant conflict are relatively low and infrequent. Elephants comprise a relatively small component of documented conflict, where damage by other wildlife such as by rodents, bushpigs, large predators and primates exceeds that caused by elephants[21]. To date incidences of damage-causing elephants or conflict in and around Marakele are extremely low.

Elephant influence on responsible tourism objectives

The social-ecological-economic nexus forms a complex system integral to the SANParks mandate and operations. Tourism forms a key component of SANPark's operations and the assumption that the "big five" experience attracts tourist's drives developments to accommodate the expectation and experience[22].

To accommodate tourist expectations, management often focuses on bringing the elephant to the tourist. Management therefore maintains roads and creates additional provision of water to improve sightings by attracting elephants to a critical resource. Although these actions are economically cost-effective, the ecological trade-off can lead to undesirable consequences. Tourist interactions relate to how elephants and other animals use landscapes, which in turn is driven by the distribution of key resources and tourist infrastructure. Elephants respond to spatial and temporal resource variation through movements and/or dispersal. Tourism expectations and experiences are being met in Marakele. Tourists are near-guaranteed elephant sightings.

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[21] Naughton, L., Rose, R. and Treves, A. 2000. The social dimensions of human-elephant conflict in Africa: A literature review and case studies from Uganda and Cameroon. Report: African Elephant Specialist Group, IUCN, Gland Switzerland

[22] Akama, J.S. and Kieti, D.M. 2003. Measuring tourist satisfaction with Kenya's wildlife safari: a case study of Tsavo West National Park. *Tourism Management* 24: 73-81

Elephant influence on cultural heritage objectives

Little prior research has taken place. The emphasis in Marakele is on a heritage inventory, and 130 tangible heritage sites have been identified. These sites include Stone Age surface scatters, historic cemeteries, historic farmsteads, and outbuildings as well as Early and Late Iron Age sites. One of the most interesting is an Early Iron Age site that has metal working artefacts such as tuyéres and slag pieces as well as decorated and undecorated ceramics. Numerous historical cemeteries as well as some intangible resources were also documented, including traditional and medicinal uses for plants. Marakele, in the context of SANParks, adaptively manages, conserves, and provides appropriate/relevant access to cultural heritage resources. Marakele therefore aims to manage and sustain the significance, authenticity and integrity of the tangible and intangible cultural heritage resources in the Park. At present, elephants have little influence on these cultural heritage assets.

Elephant influence on effective park management objectives

Although Marakele comprises of two management partners through a contractual agreement, the park management requirements are mutually met. The management of elephants and their ecological impacts are embedded in the Park's objectives. of a) maintaining or restoring ecosystem integrity, b) providing benefits to people, c) taking cognisance of aesthetics and wilderness qualities, and d) adaptive management.

History of elephant management in Marakele

Since the multiple introductions of elephants into Marakele in between 1996 and 2001, the population has grown by 7 to 10% per annum. These growth rates are like many small populations in South Africa. To control or curb increasing populations in confined landscapes, non-lethal population control methods such as contraceptives are widely used in South Africa and within National Parks[23]. Effective contraception requires knowledge of the population and demographic structure to appropriately implement a strategy that will stabilise (or reduce) the population growth rate. Translocation, however, has been the only implemented population management control since the elephants were introduced in Marakele.

[23] Garai, M.E., Bates, L.A., Bertschinger, H., Delsink, A., Pretrius, Y. and Zitzer, H.R. 2018. Non-lethal elephant population control methods: Summary of the first workshop of the Elephant Specialist Advisory Group of South Africa. *Bothalia* 48(2) a2357.doi .org/10.4102/abc.v48i2.2357

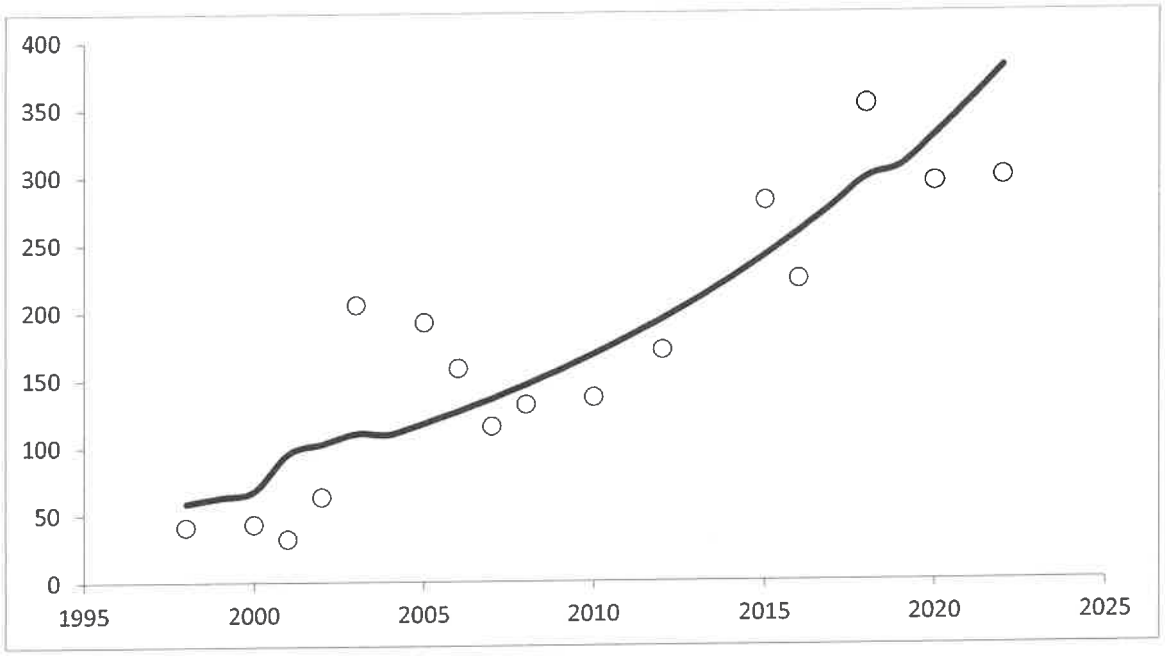

Figure 1. Elephant population trend in Marakele National Park from 1996 to 2022.

Operational reflection and lessons learned

Monitoring of vegetation since 1996, before the elephants were introduced, and again at intervals until 2019 noted that fire, drought, and bush densification (encroachment by indigenous woody vegetation) are key drivers in Marakele and the surround. Research suggests that fire, soil, carbon dioxide and rainfall are also key drivers of woody vegetation cover[24]. Fire was noted as a key driver of vegetation in the area and even though the plants are adapted to frequent fire, grazing pressure exacerbates the pressure on the vegetation[25].

Published literature over a period of 68 years on the ecological impacts of elephants in areas across Africa, suggested detectable effects on trees, herbs, invertebrates or vertebrates did not typically associate with the numbers of elephants present. Effects only associated with elephant densities in areas with very low rainfall[26]. In Marakele, it is evident that the cumulative impacts of elephants are not evenly distributed and are specific to vegetation types. Based on aerial census and C-More data collected by Marakele field rangers, the herbivores tend to congregate in two areas: the northwest and southwest within the Marataba section. The elephants tend to display a similar pattern of distribution with the highest concentration in the northwest. The impacts of elephants are mismatched to how elephants use landscapes which is localised and

[24] Trollope, W.S.W. (1990). Veld management with specific reference to game ranching in the grassland and savanna areas of South Africa. *Koedoe*, 33(2): 77-87

[25] Van Staden, P.J., Bezuidenhout, H., Ferreira, S. and Bredenkamp, G.J. 2017. The effects of elephants and fire on vegetation at Marakele National Park, South Africa. *Pachyderm*. 58, 107 – 122.

[26] Guldemond, R.A., Purdon, A. and Van Aarde, R.J., 2017. A systematic review of elephant impact across Africa. *PloS one*, *12*(6), p.e0178935.

often associated with water and the type of water available (*i.e.*, additional water provided, natural spring, flowing river) and the distribution. In addition to food[27] and water[28], comfort[29] and safety[30] also influence the behaviours, distribution, and influence on landscape use by elephants and consequently the impacts they may have[31].

The elephants have been observed to have short- to medium-term effects on some riverine systems that may need reactive management actions. Elephant effects have been less homogenous since elephant spatial use was made variable by the removal of water points that provide additional water across the park. Elephant impacts are particular to different vegetation types. Ecological changes at the local level are the result of a variety of factors, one of which may be the presence of elephants in a particular area. Elephant impacts differ in size and are not consistent with how elephants use the landscape. To better understand the extent of elephant use, more research into the spatiotemporal distribution and land use of elephants is required. To better comprehend the factors and the function of elephants in Marakele, vegetation monitoring needs to be reviewed and streamlined. Quantitative studies of the vegetation will provide information on resource use by elephants in Marakele. Information on biodiversity, of invertebrates, birds, and other vertebrates in areas where elephants are active requires more research as the current information is limited.

In review of the information provided, monitoring and management, the key lessons below were identified by Park Management, Scientific Services and the Marataba management during the Elephant Management Plan Review:

- Cumulative elephant impacts are not evenly distributed and are specific to vegetation types.
- Ecological changes at local scales are consequences of several factors playing a role, one of which may be elephants using that area.
- More monitoring of the spatio-temporal distribution and land use by elephants' is needed to better understand the intensity of use by elephants.
- There is a need to review and streamline vegetation monitoring to better understand the drivers and the role of elephants.
- More reflection and quantitative vegetation studies are needed.

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[27] Loarie, S.R., van Aarde, R.J. and Pimm, S.L., 2009. Elephant seasonal vegetation preferences across dry and wet savannas. *Biological conservation*, *142*(12), pp.3099-3107.

[28] Smit, I.P.J., Grant, C.C. and Whyte, I.J., 2007. Elephants and water provision: what are the management links?. *Diversity and Distributions*, *13*(6), pp.666-669.

[29] Kinahan, A.A., Pimm, S.L. and Van Aarde, R.J., 2007. Ambient temperature as a determinant of landscape use in the savanna elephant, Loxodonta africana. *Journal of Thermal Biology*, *32*(1), pp.47-58.

[30] Goldenberg, S.Z., Douglas-Hamilton, I. and Wittemyer, G., 2018. Inter-generational change in African elephant range use is associated with poaching risk, primary productivity and adult mortality. *Proceedings of the Royal Society B: Biological Sciences*, *285*(1879), p.20180286.

[31] Young, K.D., Ferreira, S.M., and van Aarde, R.J. 2009. Elephant spatial use in wet and dry savannas of southern Africa. *Journal of Zoology*. 1- 17. Doi:10.1111/j.1469-7998.2009.00568.

- A focused study on the rate of large tree loss and practical approaches to mitigate such losses.
- There is a need for biodiversity (*i.e.*, invertebrates, birds and other vertebrates) monitoring in areas of elephant activity.
- Elephant impacts are mismatched to how elephants use landscapes (the scale of impact varies).
- The role of rainfall as a driver of population demographics needs to be assessed.
- There needs to be a discussion with regards to the desired state, trade-offs and level of acceptable impact by elephants.

These reflections provide evidence associated with elephants and highlight that elephants are part of a suite of factors dictating patterns of heterogeneity and that the way in which elephants contribute are at local scales and differ substantially depending on the details of a specific locality. The lessons learned also suggest that Marakele and Marataba need to align monitoring efforts and develop focused studies on the ecological influence of elephants as a contributing factor to changes in the landscape.

There are challenges for SANParks to undertake actions towards the reduction of elephant numbers in Marakele. Elephant impact is about where they are, the demographics of the group and what they are doing based on food, water, comfort and safety. This means that responsible managers reflect on how elephants contribute to or threaten the objectives of a protected area. Given that the effects of elephants are localized and depends on very specific circumstances different from each locality, it is logical to reflect on what element that leads to the localized elephant effect require intervention. Managers should ask how that intervention should take place, what the risks are and how the risks can be mitigated.

Management of elephants in Marakele requires an adaptive management approach, learning-by-doing, with evidence-based approaches. The reflections clearly indicate a need for evidence-based information to guide the management interventions and to measure the success of achieving objectives.

Method of elephant management plan revision

Stakeholder participation

SANParks interpret the Norms and Standards for Elephant Management as an outcome of extensive public participation in their development. Further, elephant management is embedded within the processes for developing, approving and implementing park management plans in terms of NEM:PAA. Stakeholder participation relied on the consultation process linked to the development of a National Elephant Heritage strategy to reduce the burden on stakeholders (ANNEXURE A). This provided rich information that informed several engagements with principally affected stakeholders such as the contractual park to provide input into the management of elephants in Marakele (ANNEXURE B). As such consultation with

regards to the revision of Marakele's elephant management plan focused on immediately affected stakeholders, mostly local people, tourism service providers and scientists with interests in Marakele.

Adaptive management

SANParks makes use of a Strategic Adaptive Management (SAM) approach[32], which explicitly acknowledges that complexity and uncertainty are inherent to the management of social-ecological systems. The central philosophy of SAM revolves around "learning by doing": management actions are based on best available knowledge, whilst fully acknowledging uncertainty, and by monitoring and reflecting on the outcomes of these actions, the actions and/or objectives may be adapted if needed, leading to the next cycle of learning and adapting.

SAM comprises of adaptive planning (co-creating a vision and objectives), adaptive implementation (management actions and monitoring programmes), and adaptive evaluation (feedback and learning from monitoring actions), all embedded within the context of adaptive governance (legislation, norms and standards, corporate policy, etc.). The Marakele Elephant Management Plan is informed by the objectives and vision of the existing Park Management Plan (2014-2024), as well as a reflection on the implementation of the previous Elephant Management Plan. In the current document the management actions and monitoring programmes related to elephants are more explicitly developed based on these visions, objectives, and past learning.

3. Elephant Management Objectives for Marakele

A co-management agreement exists between SANParks and The Marakele Park (PTY) Ltd. This agreement, amongst other things, provides for the delegation of powers by SANParks to The Marakele Park (PTY) Ltd to manage the land, owned by The Marakele Park (PTY) Ltd as well as land owned by SANParks and the National Parks Trust. The Marakele Park Management Plan and therefore the Elephant Management Plan will also be applicable to The Marakele Park (PTY) Ltd (Marataba section).

The strategic direction of SANParks elephant management addresses spatial use aspects by restoring or mimicking the limitations imposed by natural landscape features on elephant landscape use and population demography. However, elephant life-histories result in spatial and temporal lag responses. In addition, legislative, budget and/or logistical constraints may also reduce options or impose constraints. Concerns around local impacts may thus necessitate re-active actions such as elephant exclusion, local elephant removal and/or contraception. The elephant

[32] Du Toit, J.T., Rogers, K.H. and Biggs, H.C. eds., 2003. *The Kruger experience: ecology and management of savanna heterogeneity*. Island Press.

management objectives (Table 1) for Marakele attempt to accommodate these realities.

Table 1. Elephant management objectives for Marakele National Park.

Objective 1: To manage elephant ecological impact, damage causing elephants and their interactions with humans, through inducing spatial and temporal variation in elephant use of landscapes, by restoring the spatial limitations of the landscape. Objective 2: To align SANParks EMP with co-management and contractual agreements and the Waterberg Biosphere's regional management policies. Objective 3: To evaluate and revise elephant management through collaborative monitoring efforts and research agreements.

4. Management of Wild Elephants

A. General information and inventory

General

Names of owner and manager Owner: SANParks Park Manager: Mr Koketso Kotsoe	**Postal Address** Marakele National Park P.O Box 800 Thabazimbi 0380
Telephone and fax numbers Telephone: +27 14 777 6928	

Farm name[33]

Marakele comprises of 17 properties of various sizes clustered within 4 sections namely Marataba, Molapofifi, Dithabaneng, and Kwaggasvlakte (which is part of Dithabaneng). The Kwaggasvlakte section is separated from the other sections by a fenced fly-over tarred road. The fence surrounds the perimeter of the other three sections to form one. The farm names are listed in ANNEXURE C.

Extent of the property and areas with elephants[34]

The Park covers 63,926 ha (where 21,139.51 ha form the Marataba section) of which 57,154 ha are declared and 6,772 ha in the process of being declared. The Kwaggasvlakte section of the park is currently disconnected from the main area of the park by the D928 provincial Hoopdal road. Consequently, there is 2,500 ha that is

[33] Farm Name (including all registered farm names, numbers and portion numbers in the fenced area).
[34] Precise extent of the property and the specific enclosure where the elephants will be kept.

inaccessible to elephants due the road. Although elephants are known to roam widely through landscapes, physical barriers such as fences, rockiness of soil surface, mountainous landscapes and public roads can cause restriction to movements and access to additional or alternative resources. The eastern portion of Marakele is mountainous with limited access for elephants which further reduces the amount of available land by approximately 20%.

Land uses and activities on neighbouring properties[35]

Marakele has on its surrounding borders numerous land uses taking place, from mining (iron ore) to traditional stock farming (*i.e.*, goat, sheep, and cattle) and game farms. The regional economy is focused primarily on mining, agriculture, and growing ecotourism opportunities and this is reflected in the regional Integrated Development Plans (IDP's) of local municipalities that are focussed on tourism, agriculture, and mining. The mining sector plays a major role in job creation and is a major economic engine of this region. In recent times, there has been a shift towards wildlife-based ecotourism and hunting, with numerous bed and breakfast operations, game farms and commercial hunting lodges establishing. In general, the immediate land use adjacent to the park is compatible with conservation and there is a broad range of existing tourism infrastructure.

Compilers[36]

Name	Contact Details	Qualifications	Experience
Nkabeng Mzileni	Tel: 0538321900 Email: Nkabeng.Mzileni@sanparks.org	PhD	Elephants: 6 years Conservation: 13 years
Sam Ferreira	Tel: 0137354235 Email: Sam.Ferreira@sanparks.org	PhD	Elephants: 25 years Conservation: 30 years
Hugo Bezuidenhout	Tel: 0538321900 Email: Hugo.Bezuidenhout@sanparks.org	PhD	Elephants: 30 years Conservation: 40 years
Corli Wigley-Coetsee	Tel: 0137354235 Email:Corli.Wigley-Coetsee@sanparks.org	PhD	Elephants: 10 years Conservation: 14 years
Ernest Daemane	Tel: 0538321900 Email: Ernest.Daemane@sanparks.org	PhD	Elephants: 10 years Conservation: 21 years
Mphadeni Nthangeni	Tel: 0159395423 Email: Mphadeni.Nthangeni@sanparks.org	MSc	Elephants: 10 years Conservation: 20 years
Tshifhiwa Mauda	Tel: 0147776928 Email: Tshifhiwa.Mauda@sanparks.org	MSc	Elephants: 16 years Conservation: 24 years
Danny Govender	Tel: 0137354235 Email: Danny.Govender@sanparks.org	PhD	Elephants: 18 years Conservation: 18 years
Andre Uys	Tel: 0147341617 Email:andre@whmarataba.co.za	Veterinarian	Elephants: 12 years Conservation: 20 years
Naude Smit	Tel: 0810398018 Email: naude@whmarataba.co.za	BSc	Elephants: 5 years Conservation: 10 years

[35] Description of the land uses and activities on all neighbouring properties. Description of land uses must be specific such as irrigation farming.
[36] Name, contact details, qualifications, and experience in elephant management of a professional natural scientist or compiler of the plan or person who did the survey.

Proximity to settlements, rural communities, and tribal land

The nearest town, which is Thabazimbi, is approximately 12 kms away. The levels of unemployment within the urbanised communities in the Thabazimbi municipal area are high. Consequently, there are settlements around the town. Tribal land around Marakele is not applicable.

Potential for enlarging the Park[37]

There is potential to expand the property west up to the rail roads and north. Scope for expansion is limited due to the existing land use practices, particularly mining. An additional 2,500 ha has been added in the west, however, the fence still needs to be dropped.

Specifications of the perimeter fence

Perimeter fencing is standard game fencing 2.4 m high predator proof electrified that surrounds Marakele as well as Marataba Conservation. This standard fence also separates Marakele from Welgevonden Private Game Reserve so that Marakele and the contractual area form one unit completely fenced from all surrounding areas. Fencing standards exceed that specified by the Norms and Standards requirements.

Financial plan and ability to manage elephants[38]

SANParks follow an annual budget planning process and allocate funding for the management of national parks. Elephant management embeds within the implementation of the Marakele Park Management Plan[39]. Financing the implementation of this elephant management plan are thus provided through the SANParks annual budgeting process.

B. Ecological characteristics[40]

Climatic and Hydrology[41]

The rainfall, mainly during the spring and summer (September– March), can vary from as high as ~1200 mm per year to lower than 400 mm per year. The average annual rainfall for the Marakele and Marataba Conservation based on data collected is just over 704.5 mm per annum. The temperature is less erratic than the rainfall with mild winter temperatures (coldest months June–July) as low as -3.7°C, while the summer temperatures (warmest months December to February) are as high as 40°C.

Geology[42]

The strongly undulating plateau of the Waterberg mountain range rises above the surrounding countryside and is built up of sandstone of the Kransberg Subgroup of the

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[37] Information as to whether there is potential for enlarging the property
[38] Financial plan indicating the ability of the owner of the elephants to continuously manage the elephants.
[39] Extracted from Marakele National Park Management Plan, SANParks 2014 -2024
[40] Ecological- Ecological information should be collected and analysed by an ecologist. Methods used should be scientific and described in detail. The scale of the maps should be at least 1-50 000.
[41] Extracted from Marakele National Park Management Plan, SANParks 2014 -2024: General Climatic Section 2.12.1
[42] Extracted from Marakele National Park Management Plan, SANParks 2014 -2024: General Geology and Soils Section 2.12.3

Waterberg Group. Dominant soils are dystrophic (markedly leached, generally nutrient poor) to mesotrophic (moderately leached) yellow-brown apedal coarse sands and medium to coarse sandy loams and apedal grey loamy coarse sands. To the south-west of the Waterberg mountain range lies a broad, gently undulating plain with geology consisting of Swazian granite and gneiss that has largely been covered by colluvium, calcrete and Kalahari sand mixed with locally transported sandy material.

Soils[43]

In assessing the ecological functioning of the landscape, specifically of the soil components that form the template for other ecosystem patterns and processes, soil stability, infiltration/runoff and nutrient cycling are used as indicators to measure landscape functionality. Eutrophic (minimally leached, nutrient rich) apedal red medium to coarse sandy loam and sandy clay loam soils occur on the granite and gneiss. On the colluvium and calcrete red and black sandy clay and clay soils occur. Soils occurring on the transported sandy material are eutrophic apedal red and yellow-brown loamy medium to coarse sands and medium to coarse sandy loams. Ad, Ae, Ah, Bd, Fa and Ib occur in Marakele.

Vegetation[44]

An association between the major plant communities and the different land types has been observed through Marakele. The vegetation of Marakele and the contractual section, Marataba Conservation, can be divided into four major management groups, viz. the plains to the north and the west, the mountainous areas to the east and the south, the forests in protected ravines and midslopes of the mountains, including the Termitaria on the midslope plains, the rivers with all their tributaries and the marshy grasslands to the east, and south (the sponges). In a phytosociological study of Marakele, a wide spectrum of vegetation diversity comprising of the mountainous and plains areas were surveyed following the Braun-Blanquet approach. The vegetation of the plains consisted of the 14 plant communities, while the mountainous area consisted of 18 plant communities and included forests and riparian plant communities (ANNEXURE D).

Floristically Marakele is exceptionally rich, with representatives typical of fynbos and forest systems (*e.g.*, *Passerina montana*, *Erica drakenbergensis*, *Widdringtonia nodiflora*, *Podocarpus latifolius* and *Curtisia dentata*) as well as species typical of the Kalahari system (*e.g.*, *Vachellia erioloba*, *Senegalia mellifera*, *Boscia foetida* and *Stipagrostis uniplumis*). A rich diversity of plant species as well as plant communities and habitats contribute to the importance of Marakele's conservation value.

Six plant taxa are listed as rare and uncertain of their status in Marakele, namely *Boscia foetida* subsp. *minima*, *Erythrophysa transvaalensis*, *Freylinia tropica* and

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[43] Extracted from Marakele National Park Management Plan, SANParks 2014 -2024: General Geology and Soils Section 2.12.3

[44] Extracted from Marakele National Park Management Plan, SANParks 2014 -2024: General Flora Section 2.12.5
Van Staden, P.J. and Bredenkamp, G.J. 2015. Major plant communities of the Marakele National Park. *Koedoe*. 48(2). doi:10.4102/koedoe.v48i2.101

Kniphofia coralligemma while the status of *Agapanthus coddii* (an endemic to the region) and *Hibiscus waterbergensis* are uncertain. Other species of interest include the vulnerable *Gladiolus pretoriensis*, the rare *Euclea linearis*, the tree fern *Cyathea dregei*, as well as the Waterberg cycad *Encephalartos eugene-maraisii*, which has been targeted by collectors in the past.

Game species and numbers[45]

Several species of game reside within Marakele (Table 1]). Note that species trends vary across species. In this context, elephants are thus part of a suite of herbivores and thus contributing to the dynamics of the Marakele ecosystem collectively. Systems approaches are key and provide reflection on the "*Preferred management density of elephants*"[46].

Wildlife, specifically herbivore management in Marakele aims to restore and conserve biodiversity and ecosystem patterns and processes. This includes the promotion of the adaptive and integrated management of biodiversity and the park's wilderness qualities as well as a variety of social aspects. Management of the wildlife species includes the removal of fences to allow access to expansion areas, the removal of encroached and densified vegetation and management of water provision. SANParks manages wildlife from a holistic perspective considering the facilitation and mimicking of natural processes. Consequently, this informs the assemblage and stocking rates particularly of large herbivores. Predation plays a role given the full assemblage of large predators in Marakele. Large herbivore surveys are conducted biennially.

Sensitive Habitats and Species

The National Environmental Management Biodiversity Act, 2004 (Act no. 10, 2004) provides for the protection of species that are threatened or in need of protection to ensure their survival in the wild. Marakele has both the South-eastern black rhino *Diceros bicornis minor* and the Southern white rhino *Ceratotherium simum simum*. Black rhinos are currently globally listed as Critically Endangered, while white rhino is listed under the international IUCN Red List as Near Threatened[47]. Among the plants the Waterberg cycad *Encephalartos eugene-maraisii* is classified as Endangered. This species is listed on Appendix I of CITES and plants are protected within the boundaries of the park. The White-backed vulture *Gyps africanus* have nesting sites within the Marakele boundary which is a critical nesting and breeding area. White-backed vultures are listed as Endangered under the IUCN Red List and locally as Critically Endangered. Rare plant species include the the succulent *Crassula cymbiformis*, the Waterberg cedar (*Widdringtonia nodiflora),* Outeniqua yellowwoods, tree fern (*Cyathea dregei)* and species such as leadwoods and Tamboties that are sought after for use in lapas. Rare invertebrates include the endemic butterflies (*Erikssonia acreana).*

[45] Extracted from Marakele National Park Management Plan, SANParks 2014 -2024: General Fauna Section 2.12.5
[46] Preferred management density of elephants
[47] IUCN 2013

Table 1: Estimates of large vertebrate species at Marakele National Park.

The survey method used is total counts (t – total counts and g – guestimate usually from ranger experience) where each animal seen is recorded. The numbers included in this plan are taken from the 2022 survey. The table below includes estimates for animal abundances in Marakele using 95% CI ranges where available; 5-year trend (u – unknown, i – increase, d – decrease, 0 – non-directional), year of last estimate and where nc – not counted.

Species	Number	Species	Number
Black rhinoceros	73 (t,i,2022)	Plains zebra	466 (t,d,2022)
Blue wildebeest	257 (t,d,2022)	Red hartebeest	1 (t,d,2022)
Brown hyena	Nc	Spotted hyena	5 (g,u,2022)
Buffalo	332 (t,i,2022)	Warthog	174 (t,0,2022)
Cheetah	7 (t,i,2022)	Waterbuck	56 (t,d,2022)
Eland	43 (t,i,2022)	White rhinoceros	282 (t,i,2022)
Elephant	352 (t,u,2022)	Aardwolf	nc
Giraffe	93 (t,0,2022)	Chacma baboon	445 (t,u,2022)
Greater kudu	357 (t,d,2022)	Bat-eared fox	14 (t,u,2020)
Hippopotamus	33 (t,u,2022)	Black-back jackal	16 (t,u,2020)
Impala	1780 (t,d,2022)	Bushbuck	192 (t,u,2020)
Leopard	1 (t,u,2022)	Bushpig	- (t,u,2022)
Lion	45 (g,i,2022)	Common duiker	5 (t,u,2022)
Mountain reedbuck	10 (t,d,2022)	Klipspringer	12 (t,u,2022)
Nyala	2 (t,i,2022)	Steenbok	- (t,u,2022)
Ostrich	3 (t,0,2022)		

Disturbed or Degraded Areas[48]

Integrated into the management of Marakele is the identification and rehabilitation of areas in a structured, prioritised manner to support biodiversity and wilderness goals[49]. These disturbed areas are the result of previous land use prior to the proclamation of the park. The most important areas that need to be restored in Marakele are the terrestrial field layer (vegetation and soil), redundant infrastructure, and the aquatic systems (wetlands and manmade dams). The degradation component aims to minimise habitat degradation that will lead to a loss of structure and function and of the key processes that support the long-term persistence of biodiversity and ecosystem services. The rehabilitation component aims to identify and rehabilitate areas in a structured and prioritised manner to support biodiversity and wilderness goals. There are several steps associated with managing degraded, eroded and bush encroached / densified areas. Desktop surveys and ground and inventory

[48] Disturbed or degraded areas such as bush encroachment and soil erosion
[49] 10 Years Strategic Rehabilitation and Rehabilitation Plan for Marakele National Park: Working for Ecosystems Programme 2020-2025

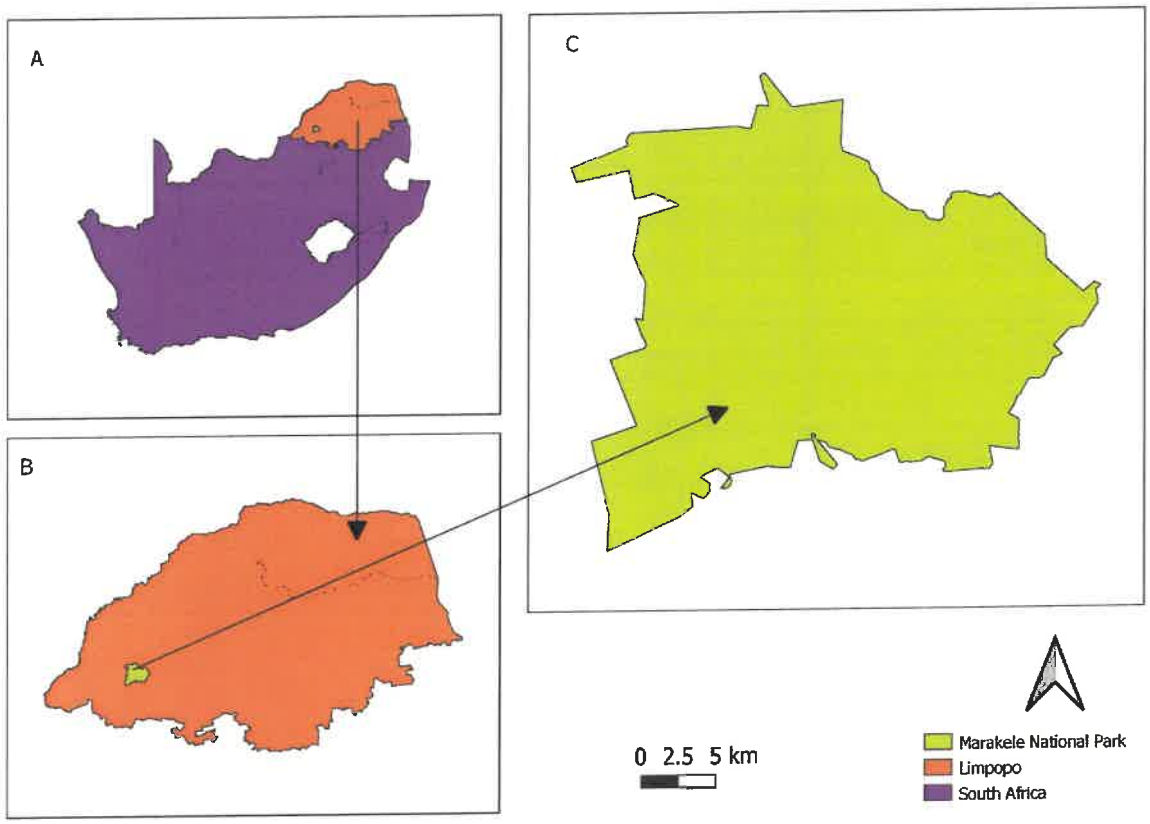
classification help identify the type and severity. Depending on the outcome description of the assessment, different interventions or control methods are explored and recommended. These generally range from brush and rock packing, soil ponding, silt fences and the use of other biodegradable materials. Surveys of bush encroached and/or densified areas are carried out annually.

Water Bodies and Distribution [50]

There are currently no localities that provide additional water except in the Kwaggasvlakte section which is isolated from the elephants. The main source of water is the Matlabas river and the Tlopi Forest earth dam.

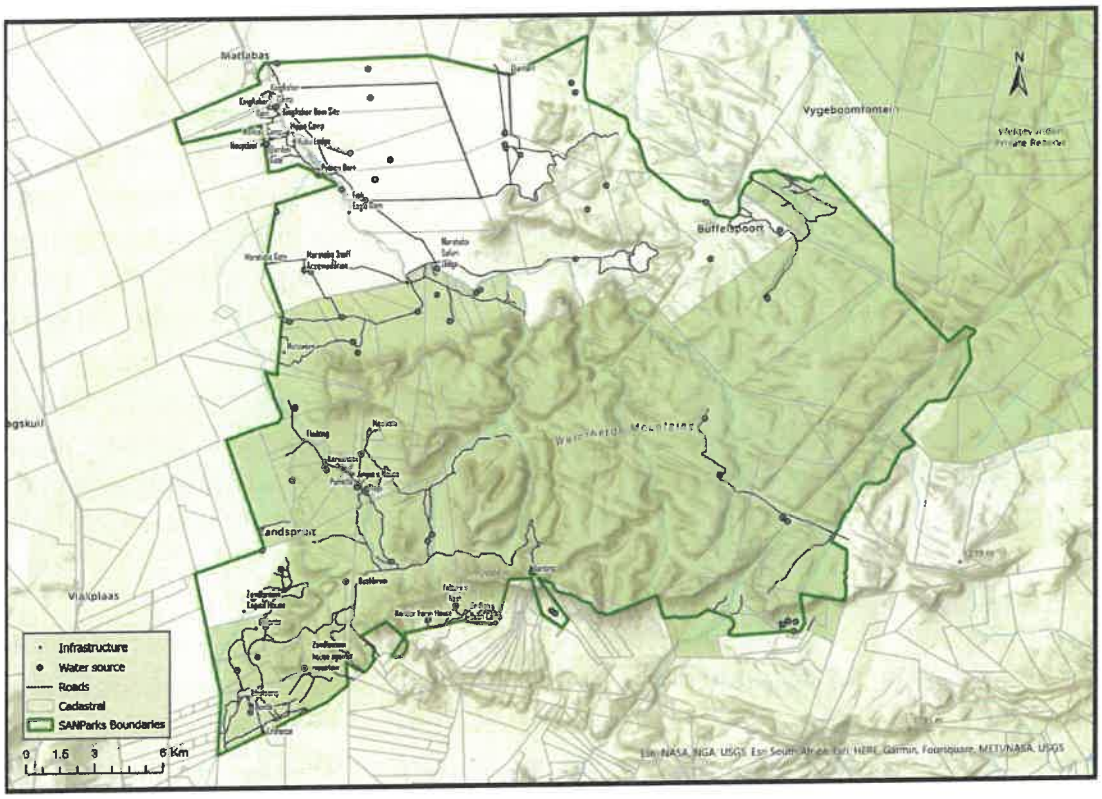
Maps

(a) Location map

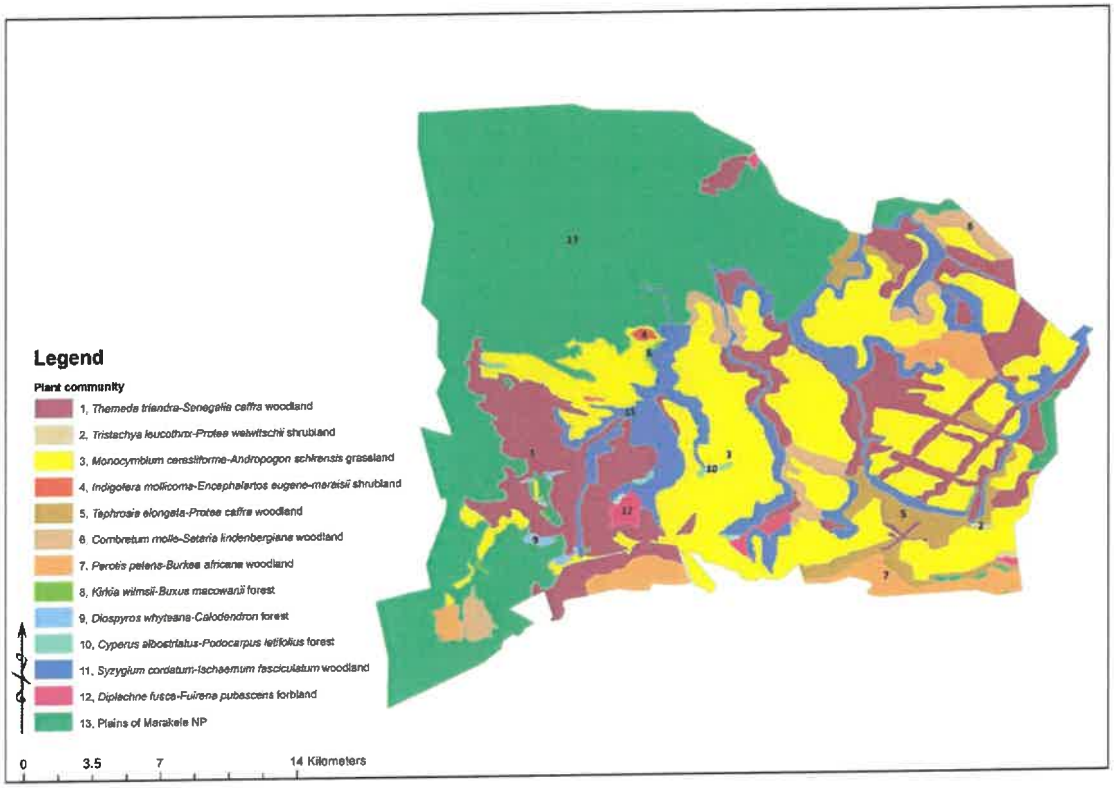


[50] Description of all available water bodies and distribution thereof described

(b) Topographic map of property (boundary of farm(s) and camp(s), roads, water points, infrastructure, etc.)



(c) Vegetation communities.



C. Management goals and objectives

Marakele forms *an integral component of the Waterberg Biosphere Reserve, [and] strives to promote the adaptive and integrated management of biodiversity and the park's wilderness qualities and cultural character, through becoming a preferred innovative nature-based tourism destination, promoting community participation and empowerment, and including public/private partnerships, which also benefits regional economic, social and educational development supported by sound research.* Achieving three elephant management objectives can help this vision and focus on 1) managing elephant ecological impact, damage causing elephants and their interactions with humans, through inducing spatial and temporal variation in elephant use of landscapes, by restoring the spatial limitations of the landscape; 2) aligning SANParks EMP with co-management and contractual agreements and the Waterberg Biosphere's regional management policies and 3) evaluating and revising elephant management through collaborative monitoring efforts and research agreements.

Habitat

Veld condition[51]

In 2017, a total of 18 vegetation monitoring sites were selected to represent the major vegetation types in Marakele National Park. In a phytosociological study of Marakele, a wide spectrum of vegetation diversity comprising of the mountainous and plains areas were surveyed following the Braun-Blanquet approach. The vegetation of the plains consisted of the 14 plant communities, while the mountainous area consisted of 18 plant communities and included forests and riparian plant communities. Veld condition assessment points are used to monitor the condition of the veld, rather than to set stocking rates for the park. The vegetation condition assessment method is an adapted step point method[52]. For each veld condition site, grass species and disc pasture meter height readings, as well as the distance between the monitoring rod and the rooted part of the grass are recorded (point to tuft distance PTTD) in cm. PTTD gives an indication of cover; low PTTD indicates good cover which in turn limits erosion. The disc pasture meter readings are converted to herbaceous biomass (kg ha^{-1}) which indicates how much grazing is available as well as how much fuel is available for fires. Veld condition assessments have been conducted annually since 2017.

Rehabilitation programme for degraded areas[53]

Most if not all the properties purchased for Marakele were previously used for farming operations and park management endeavours to reverse the negative impacts caused by historical agricultural land use by identifying and rehabilitating areas in a structured and prioritised manner to support biodiversity and wilderness goals. A ten-year

[51] Veld condition monitoring methods and time schedules.
[52] Trollope, L.A., Trollope, W.S.W. (2013) Training Manual for Field Technicians Veld Condition Assessment (VCA). Working on Fire, Nelspruit, South Africa.
[53] 10 Years Strategic Rehabilitation and Rehabilitation Plan for Marakele National Park: Working for Ecosystems Programme 2020-2025

Rehabilitation and Degradation plan (2015-2025) for Working for Ecosystems was developed by Scientific Services in collaboration with Biodiversity Special Project (BSP) and Park Management. This plan provides the BSP' Strategic Plan for the period 2021 – 2025. It sets out Marakele's rehabilitation annual plans within the rehabilitation scope and mandate as set by Natural Resource Management (DFFE) and integrated the new requirements for strategic and annual performance planning by the Department of Performance Monitoring and Evaluation (DPME).

Fire management plan[54]

Marakele is susceptible to fire and burns annually. Fire is recognised as a natural and necessary driver within African savanna environments[55]. Climatic conditions such as extended wet periods where fuel production increases and accumulates, followed by dry periods that support the burning of the veld by lightning strikes are conducive to this system[56]. The dominant ignition source for veldfires in the park is lightning due to the climate that supports "dry thunderstorms" just before the rainy season at the end of September and during October. Depending on the weather conditions during the fire, it can burn through large areas of the park, particularly in the mountainous regions.

The National Veld and Forest Fire Act (101 of 1998) guides the fire management plan. The fire management plan aims to restore and maintain natural ecosystem patterns, processes and function which supports the biodiversity of Marakele. Fire management focuses on the broad fire management goals of Marakele which are 1) the maintenance of habitat, key landscape features (open savannas and wetlands) and healthy, viable populations of all species within the park; 2) maintain key hydrological process within the ecosystem; 3) fire safety, including the prevention of uncontrolled wildfires, protection of assets (infrastructure, cultural sites and key landscape features) within the park as well as along its borders and 4) fire monitoring and research projects to improve our understanding of the effects of fires on the landscape.

Various fire treatments are used in conjunction with other clearing methods to either reverse or reduce the bush thickening process. A *laissez-faire* approach to fire is adopted on the mountainous vegetation type and grasslands. This is mainly due to logistics and access to the area. Fire frequency should be every two to three years and burnt in winter or spring to prevent the grasses from becoming moribund and stimulate growth of high rainfall highland sourveld grasses. Lightning is the dominant ignition source, and the area burns at the required frequency and season.

Certain plant communities within Marakele are thought to be fire-sensitive requiring the strategic use of fire in these areas. This includes the riparian vegetation along the Matlabas River the Widdringtonia Forest community, tree species *Blechnum attenuatum, Widdringtonia nodiflora* and the Matlabas Wetland, consisting of

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[54] Fire Management Protocol of Marakele National Park. 2018. Internal report

[55] Trollope, W.S.W. (1990). Veld management with specific reference to game ranching in the grassland and savanna areas of South Africa. *Koedoe*, 33(2): 77-87.

[56] Komarek, E.V., 1971. Lightning and fire ecology in Africa. In *Tall Timbers Fire Ecology Conference* (Vol. 11, pp. 473-509).

grasslands (*Arundinella nepalensis, Aristida junciformis, Aristida bipartita* and *Chironia purpurascens* plant communities).

Water provision

Permanent water is available in the Matlabas River, the Thlopi earth dam and the Kwaggersvlakte and Marataba water point at the tourist rest camps. The remaining water sources in Marakele have been shut down and the infrastructure made redundant.

Population management of other wildlife species[57]

Marakele has a diverse wildlife community which includes large herbivores and carnivores. The wildlife is managed through live (sales, auction, donation) or lethal removal (culling). Aerial surveys are conducted biennially, and total counts of the animals seen are recorded. SANParks uses an integrated approach to wildlife management and considers ecological variables such as forage availability, vegetation indices and wildlife population growth rates.

The Herbivory Management Programme aims to restore and conserve biodiversity and ecosystem patterns and processes. Marakele supports the adaptive and integrated management of biodiversity and the park's wilderness qualities as well as a variety of social aspects. The wildlife management strategy of the park aims to achieve the objective of an ecologically healthy and sustainable animal community with balanced predator-prey relations. To effectively manage herbivores in balance with other park objectives the areas that could be threatened by excessive herbivore impact or utilisation have been identified. The evaluation of change in these areas, links with detection and levels of concern in accordance with the degradation and restoration plan. This also applies to areas of bush encroachment that may limit forage availability, animal movement and visibility.

The Carnivore Management Programme seeks to establish and maintain large mammal predator-prey relationships and associated processes. The restoration and maintenance of predation is a key objective for SANParks in achieving ecosystem objectives. The management of carnivores in the park is guided by park-specific objectives primarily aiming at the conservation and promotion of the unique landscapes. Predation in the park is associated with two main issues – meso-predator-prey dynamics and predation by large carnivores (including their scavenging function). The carnivores occurring in Marakele include lion, cheetah, leopard, brown and spotted hyena. Marakele has partnered with Endangered Wildlife Trust with regards to meta-population management of cheetah. Similarly for lions, Marakele is a member of the Lion Management Forum (LiMF).

[57] Extracted from Marakele National Park Management Plan, SANParks 2014 -2024: General Fauna Section 2.12.5

D. Information pertaining to elephants

Purpose of introduced elephant

Elephants were introduced into Marakele to return them to their historical distribution and because Marakele was a planned Big 5 tourism destination.

Preferred management density of elephants

Elephants in Marakele *per se* epitomizes challenges and in the modern-day paradigm of flux of conservation management, elephant densities are preferred to reflect a range of local densities, as an index of how intensely they use landscapes and potential may impact values. Such densities may vary from extremely low (<0.01 elephant.km^2) to very high temporary and spatially (>3 elephants.km^2) that can be achieved through the restoration of spatial limitations on population dynamics. The impacts of elephants on ecosystems needs to be understood in terms of the resilience of the system to irreversible changes. The Marakele the elephant population size is below 400 individuals in total. In addition, integration with meta-population management across South Africa will result in fluctuating numbers.

Public consultation [58]

SANParks and their contractual partners Marataba Conservation (formerly The Marakele Park (PTY) Ltd) manage wildlife to enhance the ecological roles that they play by maintaining, restoring, or mimicking ecological processes. The existing contractual agreement includes the Marataba section managed by Marataba Conservation Ltd in accordance with the Contractual Park Agreement of 2000. Marakele and the contractual area form one unit completely fenced from all surrounding areas. Stakeholder engagements preceded the revision process and helped inform revising the management plan. The meeting took place in Dinokeng Game Reserve with participation and consultation from the local stakeholders (ANNEXURE A).

Specifications for the release camp

As part of meta-population management envisioned for Marakele contributing to the collective of small, fenced populations in South Africa, elephant movements take place using veld-to-veld approaches. These approaches do not require release camps.

Control of elephant population size

There are several management options available to control wild elephant distribution, population size, and composition or growth rate including: 1) contraception (manipulation of births); 2) translocation (mimic dispersal) and 3) introductions of elephants (mimic dispersal). Specific to the management of spatial distribution of wild elephant populations, the following direct and indirect management options can be

[58] Public participation reports, where there is contractual agreements between the management authority of a protected area and a private land owner(s).

used: 1) contraception (manipulate births); 2) range manipulation (restore space); 3) translocation (mimic dispersal) and 4) introduction (mimic dispersal).

Sex and age ratios[59]

SANParks does not explicitly manipulate age and sex ratios. These indicators are outcomes of vital rates such as births, natural deaths, and movements in and out of the park (effectively translocations into or from fenced sections). Given that contraception reduces birth rates, SANParks anticipate changes in age structures over time with higher proportions of adults.

Measures to prevent poaching

The anti-poaching that is predominantly focused on the protection of the black and white rhino precipitates to all wildlife species in Marakele. The anti-poaching includes vehicle registration recognition surveillance camera systems, daily patrols, and a K-9 unit. The neighbouring Welgevonden Game Reserve and Marataba contractual Park also form part of the network of surveillance cameras. During the active patrols, fence maintenance and monitoring of incursions and monitored. Marakele works closely with the SANParks Environmental Crime Investigation Units for any intelligence that may lead to poaching thus being proactive in preventing poaching. To date Marakele has not lost an elephant due to poaching.

Provision for adequate insurance

Not applicable.

Contingency plans[60]

SANParks adhere to the Policies and Standard Operating Procedures for Damage Causing Animals. Even so the following contingencies:

(a) elephant problems in the case of the fence being unable to contain the elephants, or in the case of an escaped elephant;
SANParks' Veterinary Wildlife Services provide all the veterinary requirements for interventions. Assessment is on a case-by-case basis and follow a generalized rule of translocating (through the means specified in the Norms and Standards) the elephant back to the park. Elephants that leave the Park because of social pressure from other elephants will be targeted for removal and integration into the South African developing meta-population of small, fenced elephant populations and/or support for conservation initiatives elsewhere in Africa. If all options are exhausted, such elephants will be euthanized. Elephants that pose threats to human

[59] If and how sex and age ratios will be manipulated.
[60] Contingency plans to elephant problems in the case of the fence being unable to contain the elephants, or in the case of an escaped elephant;
(b) elephant problems in the case of the alteration of the habitat beyond acceptable limits; or
(c) the fate of an elephant in the event of the death, insolvency or any other event that impairs the ability of the responsible person to care for the elephant.

life or have developed a habit or leaving the park and regularly cause damage will also be euthanized.

(b) elephant problems in the case of the alteration of the habitat beyond acceptable limits;

Like above, SANParks Veterinary Wildlife Services provide all the veterinary requirements. Removal of elephants to mitigate undesirable local influences on habitat will follow a similar decision tree as above. The first is integrating elephants into the South African developing meta-population of small, fenced elephant populations and/or support for conservation initiatives elsewhere in Africa. If all options are exhausted, such elephants will be culled following the approval of a culling plan.

Feeding[61]

SANParks manages natural systems and facilitates natural processes. For this reason, the practice of feeding schemes does not occur in Marakele. Furthermore, the food gradients in Marakele are sufficient for the needs of elephants.

Threat analysis and security plan[62]

The park is divided into sections *i.e.*, Dithabaneng section which is the main section with tourist activities. A semi-luxury safari tented camp on the banks of the Tlopi dam, the Bontle camping/caravanning site and the newly established tented camp, Tutong environmental learning centre and about 90 km tourist road network all found at Dithabaneng section. Dithabaneng is 12 km from Thabazimbi town and Hoopdal police station is inside Dithabaneng section.

E. Information to be provided after approval for the introduction of elephants

Details of the elephants

The complete translocation history of each individual:

(a) Origin of the elephants (*e.g.*, location, habitat, fencing and size of farm); and

Elephants were introduced into Marakele from Tuli Game Reserve (Botswana) and Kruger National Park (South Africa).

(b) The age of elephants and selection of elephants to be translocated (*e.g.*, exposure to tourists, fences and boma).

Not applicable

Serial numbers of transponders (microchips) to be inserted where appropriate.

Not applicable.

[61] Feeding scheme in case of a natural food supply shortfall

[62] Extracted from the Marakele National Park Safety and Security Plan

The management of the capture, transport and keeping in boma (including sedation) of elephants, as well as the name of the acting veterinary practitioner.

Not applicable.

5. Elephants in the legal context

National Norms and Standards for the Management of Elephants in South Africa (GN 251/GG 30833/ 29 February 2008)

Of direct relevance is the National Norms and Standards for the Management of Elephants in South Africa, which were developed in terms of section 9 of the National Environmental Management: Biodiversity Act, 2004 (Act No 10 of 2004) and came into effect on 1 May 2008. The Norms and Standards for the Management of Elephants in South Africa has been in review since 2018.

The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)

Of relevance is Section 39 of NEM:PAA which deals with the preparation of management plans for protected areas. It specifically provides that a management plan for a protected area should at least contain a coordinated policy framework, planning measures, controls and performance criteria, a program for its implementation and its costing, procedures for public participation, and the implementation of community-based natural resource management as well as a zoning of the area indicating what activities may take place in different sections of the protected area as set out in Section 41(2) of NEM:PAA. The co-management agreement between SANParks and Marataba Conservation adheres to Section 42 of NEM:PAA.

The National Environmental Management; Biodiversity Act, 2004 (Act No. 10 of 2004)

NEM:BA came into operation on 01 September 2004 and provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998 (Act No.107 of 1998; NEMA). In 2013 amendments to the NEM:BA were gazetted (Section 57 of Act No. 10 of 2004 and Section 35 of 2009; NEM:BA). Section 43 of NEM:BA provides that any person, organisation or organ of state desiring to contribute to biodiversity management may submit to the Minister for his or her approval, a draft management plan for an indigenous species listed in section 56 of the NEM:BA or an indigenous species not listed, but that warrant special conservation attention. The biodiversity management plan must be aimed at ensuring the long-term survival in nature of the species or ecosystem to which the plan relates, must indicate who will be responsible to implement this, and must be consistent with the NEM:BA, all national environmental

management principles, the national biodiversity framework, any applicable bioregional framework, any environmental implementation plans and management plans referred to in Chapter 3 of NEMA, any municipal integrated development plan, any other plans prepared in terms of national or provincial legislation that is affected and any relevant international agreement binding on the Republic of South Africa.

Threatened and Protected Species Regulations (GN 152/ GG 29657/ 23 February 2007)

The African elephant is listed as a Protected Species in the list of Threatened or Protected Species (GN No R151/ GG 29657/ 23 February 2007). In terms of section 56(1)(d) of NEMBA this means a species which is of such high conservation value or national importance that it requires national protection. The Threatened or Protected Species (GN No R151/ GG 29657/ 23 February 2007) restricts activities involving the African elephant and permits are required to carry out these activities.

Critically Endangered, Endangered, Vulnerable or Protected Species

Notwithstanding the provisions as indicated in section 45 of NEM:BA, these requirements are also highly relevant to matters connected therewith in the publication of lists of critically endangered, endangered, vulnerable and protected species (GN 151/ GG 29657/ 23 February 2007) to avoid the management of elephants in isolation of South Africa's biodiversity that warrants national protection.

6. Implementation in support of elephant management objectives

6.1 Achieving Objective 1

"To manage elephant ecological impact, damage causing elephants and their interactions with humans, through inducing spatial and temporal variation in elephant use of landscapes, by restoring the spatial limitations of the landscape"

Elephant impact management will be directed by factors directly affecting elephant spatial use. In Marakele, the magnitude and dynamics of human-elephant conflict are unknown, but most likely low. At Marakele, however, diseases, endemic and exotic, have high potential to threaten humans and their livelihoods. Elephants may accentuate the spread of disease through the way they use landscapes and particularly damage to fences when they encounter these.

Elephant impact, elephant conflict management and disease effects will be directed by a formal monitoring programme. The monitoring will provide feedback in the form of Annual Reports and Science Reports.

Management actions to restore or mimic mechanisms that mitigate ecological impacts of elephants (EI), damage-causing effects (DC), disease effects (D). Evaluation is through Annual (AR) and Science (SR) Reports.

No.	Action	Target mechanism	Operational Target	Evaluation	Marakele Park Management Plan Reference
1.1	Identify existing zones of biological importance and areas of ecological and social risk and define zones of impact and tolerance to impact, including impacts on biodiversity	EI, DC, D	2026	AR	Zonation Programme
1.2	Define zones of elephant-human interactions, damages caused by elephants and impact, and measure the conflict profile of humans	DC	Ongoing	AR	Zonation Programme Stakeholder Relationship Management Programme Environmental Education and Interpretation Programme
1.3	Remove fences between existing and adjacent patches of the National Park, where appropriate	EI, DC, D	Ongoing	AR	Park Expansion Programme Rehabilitation Programme Herbivory Programme
1.4	Review and map existing water sources including wetlands	EI, DC, D	2024	AR	"Water in the landscape" Programme Rehabilitation Programme Herbivory Programme
1.5	Measure the spatial response of elephants by placing collars on selected individuals and evaluating annual distribution	EI	2023	SR	
1.6	Count elephants using an optimized design	EI	Biennial	SR	
1.7	Measure other biodiversity values and relate elephant spatial use underpinned by landscape features to measures of change in biodiversity	EI	Biennial	SR	Park Monitoring Agreements
1.8	Reduce elephant density to <1 elephant.km^{-2} by translocating up to 150 animals and control population growth including contraception	EI DC	Ongoing	AR	
1.9	Introduce big tusk genetics through introduction of bulls		2023	SR	

Managing mechanisms of elephant ecological impact

The review of management and responses of elephants to management provides an understanding that elephant responses to spatial distribution of resources define how intensely they use landscapes and how their numbers are limited. Spatial use defines intensity of use and is the key aspect that influences the effects elephants have on biodiversity. Actions are thus directed at maintaining and restoring biodiversity in varied landscapes across Marakele by restoring or mimicking the mechanisms that determine elephant spatial use.

Marakele is a national park still in a restoration phase with a particular legacy of impacts on biodiversity related to former agricultural practices and the effects of historic dams which have altered the spatial distribution of variability in water availability. Much of the area is old farmland that requires elephants as a disturbance agent in moving towards restoration targets. However, in some limited instances elephants may need to be excluded from sensitive vegetation areas while landscape

limitations on elephant spatial and temporal dynamics are restored. In addition to the Thlopi forest, identifying sensitive vegetation areas is a key requirement.

The zonation of Marakele will assist with defining desired states and measuring the resilience of the system. Detailed vegetation maps with varying sensitivities (*i.e.*, high, medium and low) can be developed to indicate areas of concern regarding elephant ecological impacts. Land expansion and management of land already included requires additional exploration in the form of road closures (Hoopdal Road) and the dropping of fences (between Kwaggasvlakte and the park). Land consolidation will also assist in increasing Elephant habitat to accommodate population growth, this can be through land purchase or contractual agreements or land lease.

Even so, it is anticipated that the resource gradients in the park is not at a large enough scale to induce population regulation linked to distances that cows move daily between resources. This will require control of the population's growth through pro-active contraception, and re-active translocations and culling, if needed.

Managing mechanisms of damage-causing elephant interactions

Damages caused by elephants may have been low prior to the population growth which could become important for elephant management in Marakele. In addition, observations at other places and likely mechanisms suggest that incidences of damage caused by elephants are associated with spatial use of elephants which in turn are associated with the distribution of critical resources. SANParks will thus direct actions at minimizing the effects of damage causing elephants by restoring or mimicking the mechanisms underpinning spatial use of elephants.

Managing mechanisms of disease effects

Disease associated with elephants, primarily through indirect effects when elephants break veterinary fences. Even though incidences of elephant-related fence breakages are low in Marakele, a concern exists about future interactions with fences and associated disease risks. The rates at which elephants may encounter fences are primarily driven by where the critical resources are. Hence the provision of water and fences constructed for other purposes may have consequences for the incidences of elephant damages to fences and thus risks of disease outbreaks. This plan proposes actions directed at minimizing the risk of disease outbreaks by targeting mechanisms determining elephant spatial use.

6.2 Achieving Objective 2

"*To align SANParks EMP with co-management and contractual agreements and the Waterberg Biosphere's regional management policies.*"

Marakele is embedded in a complex landscape of three primary land uses including some traditional local rural communities, ecotourism, and commercial farming. As a result, several stakeholders influence and/or are influenced by elephants and how SANParks manage elephant impacts. Marakele forms an integral part of the

Waterberg Biosphere Reserve which comprises many private landowners making use of nature-based tourism to generate income from the land.

Local community concerns

One local rural community lives close to Marakele. These communities could potentially be influenced by how SANParks manage elephants and their effects on other values, particularly human-elephant interactions and the damages elephants may cause to their livelihoods.

Private landowners

Several private landowners share a boundary with Marakele. These affect SANParks' management of elephants and their impacts, while private landowners may themselves be affected by elephants and their impacts as well as how SANParks manage elephants and their effects on other values such as tourism experiences or commercial farm production.

Management actions to address elephant - stakeholder requirements, specifically Contractual Park Agreements (CP), local community concerns (LCC), private landowner concerns (PL), SANParks' tourists (T), concessionaires and other tourism operators (C&O) and Waterberg Biosphere (WB) issues. Evaluation is through Annual (AR) and Science (SR) Reports.

No.	Action	Target Mechanism	Operational Target	Evaluation	Marakele Management Plan Reference
2.1	Inform local communities about human elephant conflict, damage causing elephants	LCC WB	Ongoing	Meeting minutes	Stakeholder Relationship Management Programme Environmental Education and Interpretation Programme
2.2	Provide regular feedback through meetings between Marataba and SANPark's on progress of implementation of the Marakele Elephant Management Plan	CP	Annual	Meeting minutes	Stakeholder Relationship Management Programme
2.3	Ensure that tourists have an opportunity to view elephants and evaluate the experience of tourists visiting Marakele National Park and its concessions	T CP C&O	Ongoing	AR	Sustainable Tourism Programme
2.4	Relate the various tourist experiences to Marakele National Park's elephant management actions	T CP C&O	Annual	AR	Sustainable Tourism Programme

Eco-tourism operations (both SANParks and other operators)

SANParks will conduct actions that will contribute to SANParks' tourist experiences and thereby enhance a user-stakeholder relationship. SANParks and Marataba have developed infrastructure for tourists in the form of roads, accommodation, information and other in the Marakele. The existing infrastructure and financial demand on tourism revenue create expectations that may contrast biodiversity outcomes. This plan accommodates these expectations.

6.2.1 Anti-poaching operational procedures

Although incidences of elephant poaching are low in Marakele, SANParks has an established structure in place based on activities to curb rhino poaching. The strategic directives focus on pro-activeness (lobbying political support, intelligence gathering and increased area coverage both in time and space); improved reactive responses; and coordination.

Political Lobbying

It is considered critically important to lobby political support. The support of the ministers dealing with environmental issues should be lobbied to increase anti-crime operations in the area.

Intelligence gathering

All information must be collated at Park level. Information of all incidents must be recorded and reported in the correct format and submitted to Corporate Investigation Services by the end of each month. Corporate Investigation Services will ensure follow up of investigation is completed and reliable evidence is gathered. They will also continue to update SANParks databases of SAPS and other Law Enforcement agencies.

Response teams

The existing ranger patrols will act as the immediate reaction unit in response to poaching threats reported. All crimes will be reported to the Park Manager through the relevant channels of communication.

Crisis Management and Emergency Response

In addition to providing preventative measures to ensure visitor safety, the Marakele Emergency Plan will be implemented.

Communication

The Park Manager will ensure SANParks CEO is informed of any incidents as well as ensure that all necessary role players interact during and after the incident as appropriate.

Investigations

Every incident will be investigated by Corporate Investigation Services. Should the investigation be carried out by the SAPS, then Corporate Investigation Services will maintain follow up to determine the status of such investigation.

6.2.2 Threats and security

Matters relating to the security of elephants are dealt with as part of anti-poaching operations. Threats and safety associated with elephants are primarily covered under controlling damage causing elephants. SANParks, however, seek to be pro-active and provide guidelines at gates to visitors as well as to staff in how to behave specifically in a vehicle when encountering elephants. SANParks will follow the Ivory Handling Procedures SOP[63].

6.3 Achieving Objective 3

"To evaluate and revise elephant management through collaborative monitoring efforts and research agreements".

Park management strategies developed and implemented for systems and biodiversity conservation are informed by the best available scientific research and monitoring data. Research and monitoring of biodiversity are key to sustaining and managing the broader Waterberg Biosphere Reserve.

Several management actions are directed at measuring responses to an action. This is embedded in the Strategic Adaptive Management Approach adopted by SANParks. In addition, several of these actions require information that is not readily available and need specific research questions to be answered.

Management actions to monitor and inform the progress of SANParks with elephant management. Evaluation is through Science (SR) Reports.

No.	Action	Operational Target	Evaluation
3.1	Develop an integrated annual monitoring programme which addresses elephant demography, impact, conflict and consequences for stakeholders (1.10, 1.11)	Biennial	SR
3.2	Implement the integrated monitoring programme	Annual	SR
3.3	Provide monitoring and research report including summarized recommendations	Annual	SR

[63] SANParks. 2020. Standard Operating Procedures for the management and safeguarding of ivory and rhino horn in SANParks. SANParks, Groenkloof, South Africa.

7. Reporting and reflection

The effective management and functionality of protected areas requires the maintenance of ecosystem integrity achieved through research and monitoring. Research and monitoring activities entail ecological biodiversity surveys. The importance of undertaking these surveys is rationalised in the SANParks Wildlife Management Evaluation Framework. Detailed research aims that facilitate and outline the broader strategic direction are documented in the SANParks Research Strategy and the Marakele Park Management Plan. Although a set of principles was adopted to guide the SANParks Research Strategy and data management, resource and capacity needs will be considered in the process. Monitoring of elephant management actions are diverse given the mechanisms-based approach used.

Within this context the information needs of SANParks and Marataba Conservation with regards to elephant management in Marakele requires evaluation of temporal (biennial helicopter-based total counts and demographic profiling) and elephant population spatial dynamics (distribution and focal collared elephants). These focus on the response of elephants.

Although research and monitoring of vegetation has been conducted in Marakele and Marataba, previous methods were not aligned. Going forward, both SANParks and Marataba will align and standardize monitoring vegetation responses using appropriate vegetation techniques (note that specific techniques is case specific) directed at measuring vegetation structure as well as composition. The measurements will aim to identify the sensitive landscapes, measure elephant impact on vegetation and general vegetation condition as outlined in Objective 1

A major aspect imposed by the mechanisms-based approach is that Marakele National Park will explicitly link measures to the various conservation management actions. This takes the form of an adaptive management experiment with changes in measures associated with effects of management actions the key purpose of collecting information. Results will then serve to inform SANParks and Marataba of the success of management actions in achieving objectives.

8. Management Plan Review

The Norms and Standards for Elephant Management in South Africa published by the Minister of Fisheries, Forestry and the Environment require an Elephant Management Plan for each Park to be prepared by an elephant ecologist. This Elephant Management Plan has been developed as a collaborative effort inclusive of reflections on the lessons learnt from the previous Marakele plan. The elephant management plan will be reviewed in conjunction with the revision of the Marakele National Park management plan.

ANNEXURE A

Records of stakeholder meetings inclusive of those with interests in Marakele National Park as part of the stakeholder consultation n the development of a National Elephant Heritage Strategy.

Limpopo Regional Elephant Strategy Meeting, 19 March 2019

Summary of Key points that emerged:

Benefits:

1. Elephants are important at the local, national, and international level
2. Iconic species that underpins the wildlife economy, and not enough is made of this. It is essential for big 5 reserve, and "regional" tourism development. Perception is very important – the thrill of being in a reserve with elephant. Concept of elephants as an umbrella for the national wildlife economy.
3. Locally opens up huge opportunity in terms of hunting and ecotourism, dung, job creation, skills development, education, community development; also for the country as a whole in terms of attracting tourism, and associated infrastructure and jobs. Sustainable harvesting use – can be seen by people in the city as a reason why elephants are replacing cattle.
4. Becoming more important as direct driver of economic development for rural communities as direct owners through land with elephants and also regional enhancements.
5. Biophysically they are very important in terms of habitat engineers – where there are elephant there is more space and food for other species.
6. Elephants are valued culturally and spiritually; Psychological value; they are a national heritage; totem value in communities.
7. There is some sense nationally of "our" elephants – potential for building consensus behind a national herd.
8. Assist us in achieving our national goals in terms of conservation. Private (and community) and state partnerships enhance opportunities.
9. Conservation potential as a source of elephants for rest of the continent.

Risks:

1. At reserve and national level there is a major reputational risk. Managers are viewed as conservators of elephants on behalf of society, and interventions are scrutinized. Marketing and social media risk if you don't get it right. Especially risk in terms of consumptive use.
2. Elephants are incorrectly perceived by people as having no value; Disconnection from nature is a risk – people are disconnected from nature. We don't acknowledge the cultural and spiritual value of elephants enough. Poor perception of sustainable use.
3. Lack of communication with stakeholders nationally and locally. Poor marketing of direct and indirect benefits of elephants.
4. Lack of investment by government in the costs of owning elephants, while benefits flow.
5. Ownership of elephants vs custodianship – challenge of individual ownership (economic ownership) under the concept of a national herd (spiritual ownership) or approach.
6. Growing populations and lack of ability to move them elsewhere and mitigate risks.
7. One shoe does not fit all – need specific solutions for particular issues at local scale.
8. Conservation fatigue is a concern. It is difficult to manage in the face of legislative and regulatory implementation challenges. The broader community is not getting what they perceive they need from conservation, and conservation people are fatigued with needing to respond ad hoc for every aspect.
9. In the case of potential direct benefit around meat provision, need to be careful it does not become an expectation.
10. Manage reserves as silos; detached from society around them – fall alone rather than stand together.
11. Difficulty and high costs of entry for rural community into ownership is not well understood and planned for, or supported.
12. Sense that legislation is sound, but major challenge with implementation of legislation.
13. Social media is a major concern and risk when management takes place, and negative aspects are quickly emphasized by NGOs with agendas. Emotions are a big risk – linked to perceptions, and exploitation of perceptions (see social media above).
14. Lack of information flow from the conservation community to broader stakeholders.
15. This is seen as a consequence of not having a national strategy, and so a national strategy becomes important.
16. Research is needed, but managers don't have time for research, and the research does not necessarily give voice to the managers concerns or perspectives.

Costs:

1. Major costs to infrastructure and security (which will increase), HEC, retrieval costs. Ecological costs (genetics, vultures in trees).
2. Administrative and management costs (transactional costs for compliance with legislation) are way too high.
3. High direct and transactional costs are barrier to entry, especially for community owned areas.
4. Costs are relatively higher in small vs large reserve.
5. Cost to marketing direct benefits of elephants.

Key approaches/actions:

1. There is a strong emotional attachment to elephants; they are intelligent; cultural value; spiritual value; existence value (even if you are not seeing them). This attachment is there even if you have not seen them, but when you do see them it is awesome. Cannot put a monetary value on this, but need to understand the socio-economic-political-societal value of this.
2. We need to stop treating elephants as individuals, and start thinking of them as a species. Elephants are part of a system, ecologically and socially/societally.
3. There is a major issue of lack of trust in the system of and by all stakeholders; of managers and management; of authorities and permitting; of national strategy and approaches; communities and local stakeholders; NGOs; broader society.
4. The point was made that there is a "trade-war" between animal rights NGOs stealing a commodity to the detriment of the people who own and manage that commodity. This imbalance needs to be corrected.

5. Information flow from reserves to local and broader community. This would help to correct the imbalance of social pressures (e.g. from social media issues above). There is a lot happening in terms of good conservation, and also beneficiation for local communities and broader economy, and national and international conservation agenda, but this information is not flowing in an integrated and coherent way. We need to find a way of understanding the different cultures and working together.
6. The conservation community is not social media savvy, and is not proactive, or even properly reactive. Conservation supportive community does not "like: good aspects of conservation in competition with NGOs that garner support for bad aspects.
7. Legislation and implementation is a problem. Can we have simple rules for a complex problem? People are afraid to make decisions because of the rules, delays in permissions, and elephants are under such scrutiny
8. Research must be designed to improve management, and include participation and influence of managers. Needs to draw on their knowledge and experience. However, mitigate fatigue from repeat surveys, and make sure existing information is used for improvement in practice, which needs to be captured (managers don't share knowledge of what they know on reserves).
9. Need better understanding and communication around conflicting management approaches: the need to understand before you do something (precautionary) versus adaptive management (learn from doing).
10. There is a strong need for a national strategy, coherent message, which will allow the conservation community to be proactive and not so reactive, and that carries strongly the voice and perspective of managers. Overarching is good, but shy away from complexity, and needs to be flexible and must facilitate good management of elephants and not restrict; it needs to recognize good governance and discourage unethical practice. Must be simple – detail captured in N&S and individual management plans. Must allow for adaptive management.
11. Need to increase how much a manager (and collectively managers) can influence the system, and exert that influence on the system. Need better coordination and thus collective influence – managers are acting individually and are being targeted individually. Correct the imbalance of influence from global detached people towards local invested people.
12. Knowledge and toolbox of managers needs to be emphasized, and flexibility enhanced; Complexity comes from dealing with people and society, and need to understand how to deal with this (see trust issue).
13. Need to clarify uncertainty in the space on who owns elephants. Individual vs collective; the concept or user rights and contribution to the wildlife economy. Who gets user rights and benefits, but also then have accountability responsibility, and bear costs.
14. Further develop the understanding around concept of costs and who bears those costs – there are direct and indirect costs to owning and managing elephants, and "if you want to make decisions on my land, you must also carry the costs of managing". The responsibility comes from both the landowner and broader "users/beneficiaries". There are direct broad economic linkages to tourism and hunting; key costs need to be put on the table, direct management costs, HEC, fences, ecological costs/risks, but also consider the direct benefits to biodiversity that are also an offset.
15. We need to expand the thinking about elephants as a species – spiritual and cultural importance; importance to country as a whole – as a flagship species. There are jobs and benefits away from land where the elephants live, but are directly linked to elephants. Ownership in the broad sense, and access to elephants – needs to be clarified. We need to consider more strongly the reputational perspective; and scaling from local to national to global; our responsibility to the world – we and our neighbours may be the only ones with elephants in the future – this changes SA's responsibility.

Towards a National Elephant Conservation Strategy

Vision elements of a strategy:
1. Happy people benefiting from happy elephants;
2. 20 years' time: sustainable healthy elephant populations and habitats and improving the wellbeing of people.
3. See elephants in years to come playing a key role in improving the wellbeing of South Africans and society in general (beyond SA).
4. Recognising the value of elephants to people and the environment.
5. Frame the conservation status and define the management actions to enable the stability and numbers of elephant populations through best practice active management.
6. Strategic and precise and concise document to frame the national standing of elephants and give guidance as to how to manage elephants.
7. Build trust that elephants are managed for the benefits of the community;

Attributes of strategy:
1. Evidence based framework to support managers – to validate decisions to boards and others; improving understanding.
2. A bottom-up approach, and recognition of individuals running reserves, but as a collective; Need to give more strength to the managers in controlling the conservation space.
3. Solidified collective vision; Promote working with all stakeholders; Common and collaborative approach.
4. Acknowledge diversity; Improve trust and accountability and transparency, through increased participation and feedback, and consensus from communities and neighbours, and including international stakeholders. Reach out and include more communities into the conservation decisions.
5. Platform for communication. Recognition of what has been achieved so far (enhances credibility of the reserve/conservation community). Enhance communication between stakeholders, shared learning and feedback loop.
6. Accommodate conflicting objectives.
7. Increase benefits and reduce costs.
8. Being proactive and enabling, rather than reactive or defensive.
9. Simplified decision-making, but must be robust and defensible.
10. Must be enabling as the context can change very quickly, and need to be responsive to this. Must enable all approaches to management.
11. Mitigation involving collaboration. Work together as to how it is used (dynamic and living document).
12. Ethical management – acknowledging the species and as a sentient being. Needs to deal with Ethical vs Unethical practice – can't be one or other's view – have to be a collective view.
13. Guiding management requirements; Roadmap for the N&S. The strategy needs to be principles rather than details – leave that to the N&S and management plans. Consideration that if there is a national strategy, and N&S, and we are taking more of a collective approach, may not need the emphasis on individual management plans, or this can be reduced to implementation plans.

Risks to mitigate in the strategy:
1. Expectations at various levels by stakeholders who "need" to be included in elephant management. Need to acknowledge the "gradient of importance" which is the opposite of the "gradient of influence" we see at the moment. Should be landowner, communities, regional, national, international.

2. Pull the greenies in and make them part of the solution. What is their argument against the consensus conservation argument – incorporate into the strategy how to counter extreme arguments. Think from their side of the box. Especially include the moderate NGOs that are also strong.
3. Reduce/buffer risks, especially reputational risks (social media impacts, wrong decision-making)
4. Need to consider political issues, and land restitution – broader beneficiation.
5. Beneficiation needs to be emphasized; the right hand side of the socio-ecological framing; should improve and foster relationships with communities. Needs to give clear guidance on sustainable use.
6. Dealing with administration and management of elephants across cadastral/international boundaries.
7. When are we doing too much to elephants, when is intervention too much.
8. Legislation – what is the strategy to be for legislative issues in the future, simplify it, make it more effective, and improve implementation.

Key considerations for the strategy to address:
1. There is a responsibility to do this for the conservation of the species as whole, and, when we think of a national elephant herd, we need to consider broader issues such as linkages to other countries (transfrontier parks), and corridors.
2. Conservation goals: Biodiversity conservation and ecosystem functioning needs to be a core element, but with socio-economic as well as socio-ecological framing.
3. Improving lives of elephants;
4. Promote cultural/aesthetic/spiritual/existence values – a big part, which needs to be emphasized.
5. Maintaining viable populations – metapopulation approach to elephant management.
6. Expanding the range and natural range of the species – look at areas where they can be introduced and used as a flagship species for expanding the conservation estate.
7. Deal with issues of ownership of wildlife, address user rights, and equitable and broader beneficiation.
8. Proper land use, creating corridors for elephants and tap into metapopulation management – reduce silos. Collaboration and consolidation of resources to reduce/mitigate costs.
9. Beneficiation: Improved economic contribution from elephants; Guidance to sustainable use (consumptive and non-consumptive use of elephants). Maximised and sustainable responsible ecotourism associated with elephants; sustainable community involvement; Increase economic value for elephants and elephant products. Morals, ethics, and sustainability of the ventures on the land.
10. Address the legislative/permitting/implementation constraints with a legislation/policy review.
11. Identify incentives and incentivise private landuse models. Incentives to landowners to share space and share elephants. Potential for tax beneficiation, including conservation credits like carbon credits, and accreditation approaches.
12. Minimise risks and costs to reserves;
13. Strategy would need to be defined under certain headings: research and education (educating everybody); legislation, ownership, user rights well defined, sustainable use of the animals; communication
14. Concerns over reintroductions in terms of marginal habitat and size
15. Work on our communication, education, public awareness, educate the public to get the right facts out there, maximize benefits to society in terms of elephants
16. Need to strongly consider the wellbeing of elephants, and has to consider their welfare. Needs to contribute to improve the lives of elephants.
17. Need to consider orphanages and rehabilitation as integral components of a national strategy, in terms of both poaching and beneficiation.
18. Need a more holistic approach to Human-Elephant conflict, and clarity on strategy and approach to Damage Causing Animals.
19. Move the guiding principles from the Norms and Standards to the National Elephant Conservation Strategy.

Elephant Wellbeing emerged as a key concern from managers, and these were discussed further in groups to identify key elements for elephant wellbeing to take forward into the strategy:

Key elements of elephant wellbeing
1. A life worth living – provide an environment that allows elephants to deal with stress naturally, or mimic what happens in natural environment, and minimize conflict with humans.
2. Size of area – elephants need sufficient space, according to their needs;
3. Social wellbeing; Social requirements of elephants as a species need to be provided for; Keep the social structure intact. As far as possible maintaining natural herd structures and viable populations; Social structure and family units, size, social dependence.
4. Physical security;
5. Abundant resources in well managed habitats; Food, space, shelter, habitat, water.
6. Minimal human interference. As soon as we interfere with the population, because they are sentient, we need to be concerned, if we contracept, or collar, is it for scientific purposes? Allow for responsible management interventions, but not for unnecessary disruptions in the populations.

Elephant Wellbeing issues that need consideration in the strategy
1. Elephant wellbeing is a critical issue of concern to managers and broader society, and needs to be at the forefront of the strategy.
2. The existing principles in the norms and standards capture the elements of elephant wellbeing, and need to be taken forward and incorporated into the strategy as guiding principles. They were seen as balanced, and not prescriptive to management.
3. Emergency issues that need to be addressed immediately – needs to be possible to do it immediately as this is in the best interest of the elephants to get it done quickly.

Additional Mechanisms to take forward:
1. Strategy is a relatively long-term plan – there needs to be periods (every 5 years) it should be reviewed and amended. There needs to be a process for this.
2. Wider community involvement, look at alternative approaches to what we have been doing up to now, and take these up.
3. Continue with all stakeholders – the more people involved the more likely to succeed.
4. Capacity building – build it within the people with influence, and that will influence the process going forward. Educate the younger generation, especially in the communities.

5. Communication strategy: Communication is key at all different levels, including on the own reserves, especially with the activist groups. A lot of visitors to reserves are greenies, just as passionate about wildlife, if we can change the way that they see how we operate that would help a lot. Improve social media engagement – need a common strategy as to how we deal with it.
6. Create incentives to having elephants, and for the right environment for elephants to live in.
7. Adaptive management and innovative management – create the space to do this right, think outside the box. Address adaptive management issues in terms of practical application.
8. Shared learning experience and collaboration, with collective empowerment. Consider a forum for elephant management, like with LIMF, that empowers managers, and forefronts management issues; maybe combine with LIMF, and with Rhino issues, for efficiency;
9. Reserve representation at fora to ensure the views of managers are carried forward. Need to engage with DEA and SANBI about opportunities for this.
10. Address research for purpose. Also, need to engage managers in the research process, and capture the experience and knowledge of managers, who don't have time to write this up.

Details of Discussions:

Group Discussion 1:
Participants issues about: Natural capital of Elephants: What use are elephants for reserves; What use are elephants more broadly for the region, country, society – why should we house, own or conserve elephants? Whose elephant are they? Consider benefits, costs, and risks. May be some discussion about management of elephants, including responses or unintended consequences.

Group 1:
Considered local, national, international levels
Important for all three, elephants underpin the wildlife economy, locally, opens up huge market in terms of hunting and ecotourism, and job creation, skills development, community development.
Iconic species is essential for big 5 reserve in terms of tourism attraction. For both small and big reserves.
Habitat engineers, facilitate conservation – where there are elephants there is more food for other species.
Perception is very important – the thrill because the reserve has an elephant – because of perception of danger where elephants are.
National – reputational risk – viewed as conservators of elephants – impact on ecotourism, education, and benefit the wellbeing to people. Assist us in achieving our national goals in terms of conservation.
Costs and Risks – small reserve vs big reserve – cost higher in small reserves than big reserves. Infrastructure risks, breakout (reputational risk in terms of social media).
Disconnection from nature is a risk – people are disconnected from nature.
Costs – security costs and infrastructure, huge regulatory, admin and management costs which are way too high for small reserve.
Cost to biodiversity, especially small reserves – e.g. elephants breaking vulture nesting trees.
Risk of poaching – poisoning elephants so there are non-target species also lost in the system.
Ecological risk of keeping elephants.
International, local and national – elephants are valued culturally.

Group 2:
Benefits – tourism, - economic benefits in terms of job creation, that goes with employment, both for adjacent community, but also to the country as a whole in attracting tourists.
Conservation, biodiversity, ecosystem services – elephants play a role.
Sustainable harvesting use – can be seen by people in the city as a reason why elephants are replacing cattle.
Cultural benefits.
Social media can be a benefit if you are proactive about it.
Costs/Risk – direct management costs, fences, pipes, HEC, Ecological system costs (other species do it as well – enclosed area and reduced natural movement, genetic population risk).
Perceived no value risk – people see elephants as not having value.
Social media risk if you don't get it right, and are not proactive.
Public perceptions of damage that elephants cause.
Lack of communication with stakeholders nationally, or locally.
Perceptions about usage.

Group 3;
Same points as both groups above.
Benefits: National heritage benefit – totem value in communities.
Education opportunities.
Benefits that flow from the management of the elephants (protein use).
Costs/Risks: Overpopulation and biodiversity risks
Infrastructure costs and retrieval costs (from breakouts).
Reputational damage risks – management procedures and utilization.
Risk of genetics in small populations.

Group 4:
Same as the groups above
Benefits:
Umbrella concept of the wildlife economy.
Direct benefit of revenue – community owned protected areas – drivers of direct benefit to communal owners.
Private state partnerships to enlarge areas.
Add value to tourism and revenue benefit.
Still a source of elephants for the rest of the continent, as their elephants are poached

Ownership – national strategy and national herd – concept of private ownership – investments into the elephants, which are privately owned. What will happen if this changes?
National perspective of "their" elephants.
Management costs – lack of government funding, private state partnership may become more necessary.
Costs for marketing elephants – market direct benefit from elephants, not doing it well, but there is a cost to it.
Costs of moving elephants.
Costs of private ownership.
Risks – what happens when there is a breakdown in partnerships?
Poaching risk increasing.
Growing elephant numbers, and is there an ability to move them elsewhere
Collective ownership – potential unconsidered risks.
One shoe does not fit all – where there are solutions in specific areas, where that solution works, does not mean it will work elsewhere.
In the case of potential direct benefit around meat provision, need to be careful it does not become an expectation.

Group 5:
Benefits:
Direct benefits of diversity in the landscape. Income generator, tourism, jobs, use of elephants, culture use, dung use. Products that can be used with elephants.
Broader society – elephants have become a brand – broader income generator than just a reserve – products use elephants (branding) as a means of generating income.
Awareness information.
Sites with elephants could create a marketing edge.
Psychological value – good feeling.
Cost of management, fencing, but with this also comes job creation.
Legislation is a cost.
Risks – currently – we manage reserves as islands/silos – a risk that it is detached and isolated from society around them.
Ownership – what is constituted around ownerships – common-law, various acts. Variety of ideas about private exclusive use, animals belong to the state with user rights.
Risk for entry into the wildlife economy in terms of legislation. Communities that are potentially acquiring land with elephants do not understand the burden of admin and bureaucracy that comes with owning elephants. There should be a support system as it is complex for implementation.
Funding for research is biased to specific components, and not much research being done on the space we are working in.
Implementation – general feeling that SA legislation is good, but we fail with the implementation of the legislation, and differences in how legislation is implemented.

General discussion on these points also pointed out:
Social media is a major concern and risk when management takes place, and negative aspects are quickly emphasized by NGOs with agendas. The conservation community is not social media savvy, and is not
proactive, or even properly reactive. Conservation supportive community does not like good aspects of conservation in competition with NGOs that garner support for bad aspects.
Conservation fatigue is a concern. It is difficult to manage in the face of legislative and regulatory implementation challenges. The broader community is not getting what they perceive they need from conservation, and conservation people are fatigued with needing to respond ad hoc for every aspect.
Emotions are a big risk – linked to perceptions, and exploitation of perceptions (see social media above).
A key point that was made was the lack of information flow from the conservation community to broader stakeholders. This would help to correct the imbalance of social pressures (e.g. from social media issues above). There is a lot happening in terms of good conservation, and also beneficiation for local communities and broader economy, and national and international conservation agenda, but this information is not flowing in an integrated and coherent way. We need to find a way of understanding the different cultures and working together.
This is seen as a consequence of not having a national strategy, and so a national strategy becomes important. There is a strong need for a strategy, coherent message, which will allow the conservation community to be proactive and not so reactive.
Legislation and implementation is a problem. Can we have simple rules for a complex problem? People are afraid to make decisions because of the rules, delays in permissions, and elephants are under such scrutiny.
Research is important, and we need to learn from research on elephants in order to improve systems. Managers don't have time for research, and the research does not necessarily give voice to the managers concerns or perspectives. However, managers have a lot of knowledge and experience which needs to be captured (managers don't share knowledge of what they know on reserves). Managers need to be more involved in the research agenda and process. There is a lot of information (elephants are well studied), but not necessarily the right information. There is a concern about over-research of some elements, especially surveys of managers – same things over again. There is a need to use the results in practice. There needs to be some philosophical thinking around research – there are conflicting approaches: the need to understand before you do something (precautionary) versus adaptive management (learn from doing). However, there needs to be better communication around this.
There is a strong emotional attachment to elephants; they are intelligent. This attachment is there even if you have not seen them, but when you do see them it is awesome.
We need to stop treating elephants as individuals, and start thinking of them as a species. Elephants are part of a system.
There is a strong non-monetary value to elephants. There is a strong value of being in a country with wild elephants – a spiritual value; amazing experience walking in a place where elephant roam free. Cannot put a monetary value on this.
There is a major issue of lack of trust. Emphasis that managers also love elephants (and are greenies themselves – they love nature and want to conserve it) – this is often lost when people scrutinize management. There are greenies that make a strong contribution. However, there are NGOs who make money from the elephants in the system, and the issues of management of elephants. These are businesses, and the money does not flow to reserves for management of conservation, and they are in competition with the reserves. The point was made that there is a "trade-war" between animal rights NGOs stealing a commodity to the detriment of the people who own and manage that commodity.
From this there is a concern over how much a manager can influence the system, and exert that influence on the system. The suggestion is that there needs to be better coordination and thus collective influence – managers are acting individually and are being targeted individually. Collectively think of a way we can influence and how.

There is a lot of knowledge of managers, and a toolbox that they use, but this is constrained by the implementation challenges of the norms and standards. Need to also think about the how to in addition to the what to. Complexity comes from dealing with people and society – managing elephants themselves can be quite simple.
There is a need for an overall strategy (that carries strongly the voice and perspective of managers); overarching is good, but this needs to be flexible and must facilitate good management of elephants and not restrict – it needs to recognize good governance and discourage unethical practice. It must be firm and practical – it is not happening enough in this industry. Scale must be taken into account – should be at a higher level and shy away from complexity – must be simple – detail captured in N&S and individual management plans. Must allow for adaptive management.
Ownership of elephants vs custodianship – we are not necessarily owners of the species but custodians – look after it, but do have some owner benefits. The species is owned by no-one, individual elephants are owned via economic ownership; there is uncertainty in the space on who owns elephants. There are few countries where you can own wildlife, and international community does not necessarily understand this. In terms of sustainable use, both non-consumptive and consumptive; what will the strategy say about sustainable use? There is the concept or user rights and contribution to the wildlife economy. Who gets user rights, but also then have accountability responsibility – must look after it, and who benefits from those rights – we have not unpacked these issues enough.
The concept of costs and who bears those costs – there are direct and indirect costs to owning and managing elephants, and if you want to make decisions on my land, you must also carry the costs of managing. The responsibility comes from both the landowner and broader "users/beneficiaries". There are direct broad economic linkages to tourism and hunting; key costs need to be put in the table, direct management costs, HEC, fences, ecological costs/risks, but also consider the direct benefits to biodiversity that are also an offset.
We need to expand the thinking – spiritual and cultural importance; importance to country as a whole – as a flagship species. There are jobs and benefits away from land where the elephants live, but are directly linked to elephants. Ownership in the broad sense, and access to elephants – needs to be clarified. We need to consider more strongly the reputational perspective; and scaling from local to national to global; our responsibility to the world – we and our neighbours may be the only ones with elephants in the future – this changes SA's responsibility.

What should be part of a vision/mission/goals for national elephant herd that would assist owners, and deliver for the people of South Africa?

Group 5
Strategy should speak to:
Roadmap for the N&S.
Acknowledge ownership of wildlife in some form.
Address equal user rights.
Speak to or address biodiversity and ecosystem functioning.
Individual rights of people with wildlife, and land under wildlife.
Conservation goals, morals, ethics, and sustainability of the ventures on the land.
Expectations at various levels, stakeholders expectations need to be included in elephant management.
Speak to communication between stakeholders, shared learning and feedback loop. Serve as a platform for communication.
Identify incentives and incentivize private landuse models.
Accommodate conflicting objectives.

Group 4:
Purpose – common approach to frame the conservation status and define the management actions to enable the stability and numbers of elephant populations through best practice active management.
Recognising the value of elephants to people and the environment.
Crafting – would have to be a bottom-up approach, gradient of importance which is the opposite of the gradient of influence we see at the moment. Landowner, communities, region, national.
Strategy would need to be defined under certain headings: research and education (educating everybody); legislation, ownership, user rights well defined, sustainable use of the animals; communication – and recognition of what has been achieved so far – helps with credibility of the reserve community.
Recognition of individuals running reserves, but as a collective – work together as to how it is used.
Beneficiation.
Placate the greenies – what is their argument against us – incorporate into the strategy how we would counter their arguments. Think from their side of the box.

Group 3:
Increase benefits and reduce risks and costs.
Guidance to sustainable use.
Maintaining viable populations – metapopulaton approach to elephant management.
Expanding the range and natural range of the species – look at areas where they can be introduced and used as a flagship species.
Socio-economic as well as socio-ecology.
Research objective and consultation.
Recognize the value of what has been achieved. In fragmented conservation management.
Decreasing risks – reputational risks (social media impacts, wrong decision-making) being proactive rather than reactive
Buffering risks.
More participation at international level.
Costs – collaboration and consolidation of resources.
Flexible ethical management – acknowledging the species and a sentient being.
Concerns over reintroductions in terms of marginal habitat and size
Trust and accountability, participation and feedback, and consensus to from communities and neighbours
Transparency.
Mitigation involving collaboration.

Group 2:
20 years time: sustainable healthy elephant populations and habitats and improving the wellbeing of people.

Objectives:
Simplified decision-making; solidified collective vision; guiding direction; acknowledge diversity and management requirements; promote working with all stakeholders; improving lives of elephants; evidence based framework to support mangers – to validate decisions to boards and others; improving understanding and trust that elephants are managed for the benefits of the community; sustainable responsible tourism; sustainable community involvement; improved economic contribution from elephants; minimise risks and costs to reserves; promote cultural values – a big part which need to be emphasized.

Group 1:
Strategy and precise and concise document to frame the national standing of elephants and give guidance as to how to manage elephants.
See elephants in years to come playing a key role in improving the wellbeing of South Africans and society in general (beyond SA).
Work on our communication, education, public awareness, educate the public get the right facts out there, maximize benefits to society in terms of elephants
Address consumptive and non-consumptive use of elephants.
Proper land use, creating corridors for elephants and tap into metapopulation management – reduce silos.
Maximise ecotourism associated with elephants.
Increase economic value for elephants and elephant products.

General discussion (includes some elements from additional mechanisms below to avoid repetition):
There is a responsibility to do this for the conservation of the species as whole, and, when we think of a national elephant herd, we need to consider broader issues such as linkages to other countries (transfrontier parks), and corridors. Needs to consider metapopulation approach.
Needs to capture the vision Elephants playing a key role in improving and benefiting South Africans and society in general. Sustainable, healthy elephant population and habitats improving the wellbeing of people; Happy people benefiting from happy elephants;
Bottom up approach is sound, and needs to be enhanced; Need to give more strength to the managers in controlling the conservation space. Include more communities into the conservation decisions. Reach out and include. Pull the greenies in and make them part of the solution. Especially the moderate NGOs that are also strong. Actions needs to be devolved and left to the people on the ground to decide.
Must be robust and defensible, but need to simplify.
The strategy needs to be principles rather than details – leave that to the N&S and management plans. Consideration that if there is a national strategy, and N&S, and we are taking more of a collective approach, may not need the emphasis on individual management plans, or this can be reduced to implementation plans.
Must be enabling as the context can change very quickly, and need to be responsive to this. Must enable all approaches to management.
Proactive and enabling rather than defensive. Need to better understand any counterarguments and deal with those proactively, to mitigate complex wicked problems.
Beneficiation needs to be emphasized; the right hand side of the socio-ecological framing; should improve and foster relationships with communities. Needs to give clear guidance on sustainable use.
Incentive and tax beneficiation - Can consider wildlife credits like carbon credits.
Define under certain headings: Research and Education, Legislation, Ownership & user rights (Recognition that there are individuals and a collective), Sustainable utilization, Beneficiation, Communication – recognition on what we have achieved so far which is substantial
Need to consider political issues, and land restitution – broader beneficiation.
Legislation – what is the strategy to be for legislative issues in the future, simplify it, make it more effective. Address this with a policy review.
Need to strongly consider the wellbeing of elephants, and has to consider their welfare. Needs to contribute to improve the lives of elephants.
Are we doing too much for or too elephants, when is intervention too much.
Needs to deal with Ethical vs Unethical practice – can't be one or other's view – have to be a collective view.
Need to consider orphanages and rehabilitation as part of the strategy.
The strategy must deal with DCA animals and HEC.
Move the guiding principles from the Norms and Standards to the National Elephant Conservation Strategy.

Elephant Wellbeing emerged as a key concern from managers, and these were discussed further in groups to identify key elements for elephant wellbeing to take forward into the strategy:

Group 1:
A life worth living – provide an environment that allows elephants to deal with stress naturally, or mimic what happens in natural environment, and minimize conflict with humans.
Size of area – elephants need sufficient space, and keep the social structure intact.

Group 2:
Where possible, in an ideal world, to be able to give them abundant resources and space they would like, according to their needs;
As far as possible maintaining natural herd structures and viable populations;
Minimal human interference. As soon as we interfere with the population, because they are sentient, we need to be concerned, if we contracept, or collar, is it for scientific purposes.

Group 3:
Social structure and family units, size, social dependence – social well-being; Enough space and habitat; Need the right resources

Group 4:
Secure and well managed habitats;
Functional; Food, Space; Physical security;
Social requirements of elephants as a species need to be provided for.

Group 5:
Basic needs, shelter, habitat, space, security, food, water, social/structural needs.
Allow for responsible management interventions.

Emergency issues that need to be addressed immediately – needs to be possible to do it immediately as this is in the best interest of the elephants to get it done quickly.
Cater for unnecessary disruptions in the populations.

Additional discussion
Elephant wellbeing is a critical issue of concern to managers and broader society, and needs to be at the forefront of the strategy.
The existing principles in the norms and standards capture the elements of elephant wellbeing, and need to be taken forward and incorporated into the strategy as guiding principles. They were seen as balanced, and not prescriptive to management.
Emergency issues that need to be addressed immediately – needs to be possible to do it immediately as this is in the best interest of the elephants to get it done quickly.

Mechanisms to take forward:

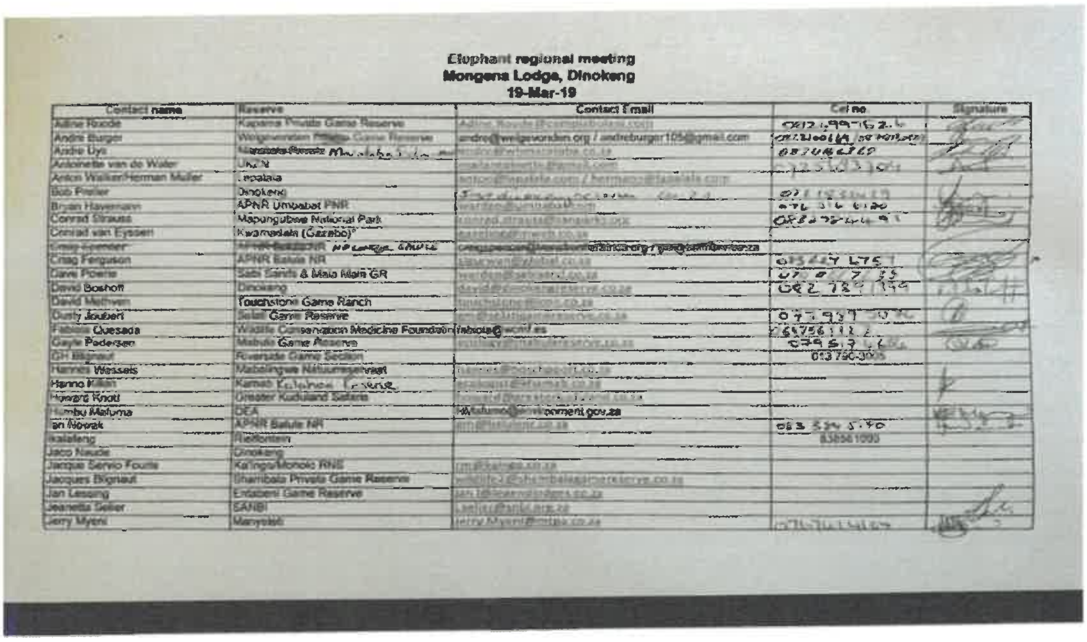
Group 2:
Wider community involvement, alternative approaches to what we have been doing up to now.
Educate the younger generation, especially in the communities.
Improve social media.
A lot of visitors to reserves are greenies, just as passionate about wildlife, if we can change the way that they see how we operate that would help a lot.

Group 3:
Communication is key at all different levels, including on the own reserve, especially with the activist groups.
Capacity building – build it within the people with influence, and that will influence the process going forward.
Create incentives to having elephants. And the right environment with them.
Continue with all stakeholders – the more people involved the more likely to succeed.
Adaptive management and innovative management – create the space to do this right, think outside the box.

Group 4:
Strategy is a relatively long-term plan – there needs to be periods (every 5 years) it should be reviewed and amended.
Guiding principles in the norms and standards would be better placed in a strategy document, so they can be pulled through.
Come up with different headings of what should be in a strategy, and the words that the strategy should include.
Communication Social media – a common strategy as to how we deal with it.
Legislation – what is the strategy to be for legislative issues in the future, simplify it, make it more effective.
Sustainable use; Ownership; User rights; Research; Education; Beneficiation; Habitat expansion.
Need a common understanding and agreement (consensus) and what the strategy statement should be for each of these.

Group 5:
Simple and implementable, inclusive of all stakeholders, appropriate to the purpose, address policy review and adaptive management issues. Address research for purpose. Communication strategy, shared learning experience and collaboration, along the lines of getting a forum set up where elephant management, like with LIMF; maybe combine with LIMF, and with Rhino issues;
Reserve representation at fora to ensure the views are carried forward.

Participants



Elephant regional meeting
Mongena Lodge, Dinokeng
19-Mar-19

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Elephant expert workshop for Elephant Strategy, 25 June 2019

Summary of Key points that emerged:

Benefits of having elephants:

1. Ecosystem benefits, ecosystem integrity, Keystone ecological aspects; disturbance hypothesis. Ecosystem services associated with the protected area.
2. Benefit biodiversity. Play important role in diversifying habitats – creates habitats for rare species.
3. Umbrella species
4. Elephants as a flagship species – rather more a messenger species – message of intact landscapes, high quality of living – positive approach of the message that elephants get across.
5. Conservation value –, managing elephants for conservation value. Tops species, sp of concern.
6. Economic – think of other economic value chains – value of both consumptive and non consumptive trade/use. Ecotourism; Ivory trade benefits. Hunting benefits vs risks. Not sure if they are only kept for financial benefits, but in private it is one of the overarching reasons. Higher tourism numbers and hunts that can take place.
7. Intrinsic value of a wild elephant whether we see them or not, knowing that a wild elephant exists. Missing component is the intrinsic component of elephants, specifically in a SA or SADC perspective.
8. Spiritual values and Passion [emotional value].
9. Existence values (important) that show as benefits. Valuing elephant as an elephant
10. Do we associate with the society of elephants, but could be a risk if it is overemphasised.
11. People are proud of elephants
12. Affects sense of place
13. Education role,
14. Religious value,
15. Cultural value - Important in African context.
16. Couple this to human dignity – continued existence of elephants to our human dignity.
17. Heritage
18. Value is going to be very important – spectrum of values and extremes on both sides. Suite of societal values that are constantly being contested, and we need to accommodate this, but ensure that this is not polarized in the strategy or methods.
19. Cultural and.
20. International obligations
21. Branding and narrative of an area - Knysna – elephants contribute to the narrative of the area – how can we use this.
22. Protected areas that are recognized. Also comes with a risk, because the legislation is difficult to get it recognised as a protected area, and the costs outweigh the benefits.
23. Values of elephants as opposed to the benefits of elephants.
24. Societal values changed over last 50 years, chimps in Argentina is given personhood, river is given non-human rights.
25. What would you do without elephants – gives a different perspective.
26. Conflicts over how we are directly affected by elephants, missing inputs from groups of stakeholders that will reflect on SA's values.
27. Question who benefits from the value of elephants. Landowner vs community benefits of having elephants.
28. Narrative of restorative justice – in SA, and currently who should benefit from them.
29. big 5 branding
30. Recognize that we are not sure that there is a proper benefit analysis done, for keeping elephants, and looking at all the aspects of benefits and costs, and the returns for actually keeping elephants. A lot of populations are in private ownership, and not sure if the private farms realise what the actual benefits are of keeping elephants – there may be perceptions, but not sure if done.
31. Concern that approach is top-down – especially vis sustainable use, vs ecological sustainable use – does not capture other components such as ecotourism
32. Need to assess this on a temporal perspective, as values and benefits will change over time. Based on factors that contribute to the factors we see in front of us.
33. Two types of populations – free roaming vs intensively managed – in the latter there are specific elements such as interactions and ele back safaris.
34. Elephants are one of the 10 most charismatic species in the world (PLOS paper). Lot of opportunity for benefits

Risks of having elephants

1. Long-term planning and investment needed with elephants and planning to avoid mistakes further along
2. Different groups interpret value of elephants in different ways. Need to distill these distractions, and cover what general society says are the values of elephants and what general society indicates is sustainable use and the value.
3. The groups need to move closer to each other to find common ground. Need to develop framework or criteria.
4. Issue of trust in the system that is developed and the people taking decisions in such a system.
5. Current policy and legislation encourages loophole leopard crawling. N&S is there, but it allows people to look at loopholes – captive moving from non-protected to fully protected context. Understanding the role of a national park in society, its responsibilities and expectations
6. Should we be allowing so many populations of elephants in SA.
7. Misalignment of objectives between reserves and national mandate regarding elephant management – scale can be an issue
8. Risk of taking decisions without substantial evidence, but sometimes we can only learn by trying
9. Indecision about management authorities, and ascribed to lack of competence in decision making process, in reviewing alternatives and following a clear decision making process. Issue of costs of managing elephants and not well understood by potential owners.
10. Elephant escapes and incidents and effect on community, and community perspective of elephants as a nuisance instead of the value that they can add.
11. Issue of irritation, and that it is government's problem,

12. Risks – communication gap between government at different levels, scientists, reserve managers, society at large
13. Confusing messages – too many, too few
14. What are we trying to achieve, what are we achieving, Should we hunt them, Sustainable use, should we use them.
15. Lots of confusion of the law – ownership issues, confusing laws as to what to do.
16. Administrative boundaries – responsibilities stop at a fictional boundary from an elephant perspective (APNR and two provinces that issue permits – when it moves from an area with a permit into another province, the permit is not valid). Hampers areas where we want to increase range of elephants and the legislative framework does not allow these opportunities to take place.
17. Due to compartmentalised elephants, captive, free roaming, DCA etc. we don't have policies that allow for free flow of elephants across space (e.g. moving from Kruger to community.
18. Differentiate what elephants, captive, free roaming – are all captured in the strategy.
19. Do elephants become more important than other species if they are considered sentient being and the risks around that
20. Abundance/number of elephants
21. A gap in the strategy for captive elephants, their welfare and concerns
22. Whole bunch of people and the elephant in the room is the population explosion of people that adds a significant risk to elephants regionally and continentally, and we are not talking about that
23. Careful of international perceptions that drives our policy and what we do. Issue of incidents, and the impact of incidents on the tourism sector.
24. Overuse because of poorly defined ownership. Tragedy of the commons.
25. Risk is sustainable use and looking at commoditization of wildlife.
26. Polarization between groups, between consumptive and non-consumptive use ideas.
27. Expectations about what benefits can be generated, for who, and on what scale – if the benefits do not amount to what is expected, it may have the opposite effect. Do we overemphasise the use of elephants to local communities, and can then create antagonistic view by overemphasizing. Poorly educated neighbouring populations can create overdependence and feed into unrealistic expectations about the benefits. Unemployment and poverty
28. Landclaim risks on protected areas and how the management of these claims can be either costs of benefits
29. Lack of facilities for the movement of captive elephants if taken from where they are
30. Organized crime is high on the list of risks – need to assess how we will solve this problem.

Costs of having elephants:

1. Costs of having elephants in small reserves and degradation to that reserves environment
2. Normal costs of management – fencing, veterinary, response cost if there is an escape or incident. Potential elephant owners may not fully realise the costs of ownership, which we need to emphasizes. Management actions that are chosen, and the associated costs of the management options
3. Contraceptive costs, security, HEC, translocation, fencing,
4. Risks to tourism opportunities – homogenising the tourist experience. Previous birdwatching or hiking cannot be used for that because they have elephants in them.
5. Cost of not having elephants is missed. Whatever the process is, we must assess our benefits, risks costs in a different way
6. Understand that the how of what we do affects different components, from jobs, reputation, brand, individual animals to populations. Scenario planning to assess different approaches

Key approaches to managing elephants:

1. Alternative dispute resolution as a mechanism to solve disputes, to solve beneficiation, as opposed to court systems/internal appeal processes.
2. Watchdog institutions, their role, after the facts, lawfare. If you don't have well designed institutional processes at the outset and not inclusive enough, you have watchdog institutions that are engaged in activities around rights, inevitably end up going through the courts, and have a low-intensity lawfare approach that you are trying after the fact to fix misunderstandings – not a useful approach.
3. Institution design and processes need to be sound.
4. Needs to be long-term, plan for future projections.
5. Need to have a strategic intent, moving across from state/private/communal and dealing with the private ownership challenge to look at them across systems that encompass the different land-uses and ownership.
6. Feel it critical to have a temporal strategy for land planning for people and elephants, and done in a way to retain the integrity of ecosystems as best we can.
7. Integration of environment with economic development – sustainable development and SDGs
8. Incorporate ele management plan, pa management plan, BMP into IDP process – influence the municipal level, and bring in the components of municipal planning and development.
9. Restorative justice being a key element.
10. Opportunities of elephants to help deal with the dual economics that we have. In the same landscape we have people who have ownership of elephants, but others that done have access to the elephant to benefit from them. Raises the issue of access, tenure and ownership. Also the issue of different value systems in the same landscape. If you are in the affluent group that can harness opportunities from elephants, you have a different value proposition when you look at elephants, compared to those that don't have access.Conservation finance – protected areas are challenged by finances – could we use elephants to attract finance.
11. Discussion about financial developments not being enough, but building capacity.
12. Restoring peoples dignity, and not just giving them money.
13. Elephant management plan – sharing rights matched by responsibilities – enforceability – making sure it is not just ticking the boxes.
14. Potential owners are not aware of full costs of keeping elephants, these need to be well articulated and outlined, and this should form part of when an application is evaluated that this is fully understood
15. Links to issue of responsibility – people are eager to take on elephants, but not necessarily full responsibility.
16. Develop and draw on best practice that must have enforcement and accountability.
17. Expand the scope and terminology of the N&S and the ideology as to how we manage elephants across range states, AfESG, AEAP – SA is unique in the N&S and also in indicating that they are sentient
18. Target having self regulating elephant populations, but in altered systems how do we address elephant impact

19. Creative in thinking, and looking at opportunities north of the broader, and learn from elephants in other range states, including India where elephants move through the landscape. Maybe we need to do away with some fences, and increase the footprint for them.
20. Looking at elephants themselves to indicate the level of planning that needs to be at the level of the elephants and how they are using the landscape.
21. Elephants can be seen as a scaler – from small reserve, to Kruger, to continental. There are risk with small reserves. In large areas you can operate on a landscape domain, vs smaller to a metapopulation domain, and from there you go to the increasing/decreasing population domain, and then the small population domain. In each of these you have different options, and this can be confusing – hands-on in some and not others. Elephants fall across those, and are a scaler for dealing with this conceptually.
22. Ecotourism and hunting – the relationship between the two models and risk of allowing hunting in KNP.

General

1. Were does a document fit into the broader legislative environment – it is actually very important as a reference document that a court could reference to in a case. Courts see these types of documents and its content as really important for courts.
2. Issue of responsibilities of government and their mandates, together with the ownership of elephants when you are a private landowner, and the legal context will have to be challenged at some stage in court. Gun theft act, and ownership people get through that are not understood very well. Some of the responsibilities of government is devolved to the landowner, but his rights are infringed on (belief of landowner) no one is clear what this is – the strategy would have a meaningful impact on the long term if this is clarifies – from escapes, injury, trade issues etc. Fine to develop a strategy, but the issue of ownership needs to be addressed.
3. Lawfare vs dispute resolution – interested to hear about this. Dispute resolution mechanism is established to deal with issues related to the strategy of the norms and standards. Needs to be supported by DEA – if established, could give access to local communities, owners etc., to have a more cost effective method to approaching issues. Mediator – ombuds etc. Not only to a legal dispute, but could relate to landowner disputes around management approaches.
4. Non-court based processes are a good idea, but need to be aware that it should be a low-cost process, but should not be a zero cost process, which opens you up to frivolous processes. Voluntary process, but quasi-binding process, but cannot be a completely binding process, because that is when you go to law. Not opposite to a court process, but part of a spectrum of tools, which has a lower costs, and also leads you to convergent solutions rather than win or lose solutions.
5. If I have a lot of elephants on a key biodiversity areas, would my not managing my elephants be an issue. What law would this fall under – is this an agricultural mandate – overuse of land in the older laws. Also, welfare laws fall under different departments, and there is not cohesion in the processes.
6. When you are a private owner you can ownership of a species – when does the thing that you are trying to achieve impact or contribute to national objectives- vague, but may not be a legal area.
7. Responsibility of environmental protection is government – by issuing a permit for x elephants, government should have dealt with this as part of the decision. There is an assessment for change in land-use (ploughing), which needs EIA, but intensifying wildlife as part of the same landuse does not need an EIA process. Comes down to the EMP, and who delivers and constructs the EMP.
8. Challenge is lack of clarity as to the legislative enablers for elephant management – fragmented legislation and regulation. There is sufficient elements that enable government to manage the process, and government can manage what they should and take responsibility for it. We can improve on it, but it does not mean that there are certain things that we cannot regulate.
9. Decision needs to be taken by someone about the impact on land, but then the issue is whether the number or impact is acceptable is the challenge. There is level of incompetence and lack of understanding, but coupled with fear. Because there is so much attention on elephant management (incl culling) when a person has to take the decision, he is fearful of taking a decision, as they are going to be put under the scrutiny. There is an issue within the institution or outside the institution. Paralyseed by fear.
10. Elephants as a land-use - Need a biodiversity conservation plan for elephants – like for other land-uses. It is not only about ecology, but also tourism – complicated decisions, that ends up with a spatial plan for the country, to allow the authorities to be able to make the correct decision. Need to follow a biodiversity planning exercise for elephants as a land-use.
11. Land-use planning legislation says that they have to take into account policies and strategies, so this could fit in there as well as an influential document.
12. Linking elephants to other economic value chains. In a normal economic value chain, you take inputs from other sectors of the economy and you add to those to produce outputs. Intermediate inputs are half the value of the product. Linkage to other sectors is important for economic development.
13. If you linking elephants into a local economic development context, to attract tourists, link to other procedures that attract tourists, (variety of habitats – birders) processing elements for leather footware that derives some inputs from consumptive use of certain species, even tenuous links to elephant itself, but elephant can be associated with a particular area, become the brand of an area.
14. Legal issues and who governs what – not sure what role local authorities have in terms of environmental resources – in a range of other areas, they are poorly capacitated – engagement and institutional structures that you have to have in place to derive economic impact need to be long-term, and politicians tend to look at big investment projects which serve as a distraction for the hard work that is required for success. Institutional framework that is required at a local level, as well as provincial.
15. Land-use issue discussion – at a local level there is the bioregional planning process where the conservation plans are supposed to feed into bioregional plan. Risk that few conservation agencies have the capacity to engage with local government at that level, so there is no engagement with the local planning level – it requires a different type of person from a typical conservationist.
16. As part of biodiversity economy, need to identify areas of opportunity, and engage municipalities, and set aside areas with high opportunity for the biodiversity economy. Messaging problem. Wildlife sector is not seen as contributing to local development, and rather seen as a trade-of. Whereas it is a key element.
17. This is an elephant centric group, but what we are talking about is standard conservation discussions, and are we loosing the focus as an elephant issue. Not convinced that all this stuff is elephants stuff, but is more general. Need to ensure there is a focus.
18. As we vision, we need to have scenarios – high vs low road, poaching vs not developing, future looking.
19. Need to see this as one aspect of management among many. Cant have separate for a or processes around each of our species. Need to have some way of more generalised approaches that come up around one species or another, or one value vs alternative. Not an absolute either – if you set things up as generic. Elephants are different from field mice – there are degrees to which this is no different from other problems, and degrees to which this is different.

Towards a National Elephant Conservation Strategy

Vision elements of a strategy:

1. Broad approach – if you can allow your human populations to recognize and appreciate all the value and benefits that elephant populations hold for them that his enables the expansion of the existing range of elephants, and appropriate populations to that range.
2. Interconnected elephant populations for future generations. All elephant populations contribute to national conservation objectives.
3. National metapopulation that interacts with neighbouring range states, embrace complexity of elephant existence in intact ecosystems landscape mosaic, coexistence with people cooperatively managed and where people value elephants.
4. Recognise that it should be more on the social value, centred more around the social value of elephants and any biological spinoffs emanating from that. Based on holistic approach. All levels, global, national and local. Elephants are values by south African at all levels. Sustainability, from ecological, economic, social point of view. Responsibility and Accountability,
5. Purpose of the strategy to guide vision elements – facilitate and inform and guide responsible management and decision making around elephant and establish a broad based societal approach to elephants and their conservation that is capable of being understood by society – consideration given to how we can make decision making rational robust and shared. How do we move away from elephants being considered as a problem to being considered part of biodiversity. In a national context, considering what their value is and how do we mainstream biodiversity.

Attributes of strategy:

1. Involve all relevant stakeholders at national provincial and local levels – may be a messy process, but ultimately the chances of success are greater. Collaborative.
2. Planning processes – processes that guide conflict resolution.
3. Processes that enhance communication, recognising the differences in values.
4. Ongoing process – idea that you can formulate a strategy and let people go away and do it is nice in theory, but would fail. Recognising that it does need to evolve, and is not set in stone.
5. Institutional arrangements – at least at the national and provincial level. Because it has to be ongoing process, you need to have appropriate people involved, and have budgets attached to that.
6. Ongoing communication back to the stakeholders. Could be scope for annual or regular indaba's which review the strategy and act as a report-back mechanism.
7. Needs to provide scope for action, but need clear boundaries for proceeding in line with the broad strategy.
8. Accountability
9. In the formulation, broad principles and then processes to meet those principles. Some of them are: Elephants are part of an ecosystem – ecosystem functionality; Sentient beings; Commitment to a metapopulation approach; Consideration given to global views – how we manage them, and how we give due consideration to international concerns. Taking decisions that are multinational in nature at the multinational level – internal trade – issue that are national in nature should be nationally addressed; Self regulatory approach – allowing natural systems to manage themselves as much as possible to promote resilience
10. Process that acknowledges that there are difference in the experience that difference stakeholders have with elephants and would influence the benefits that they would derive from elephants
11. Principles – recognising that there are a diversity of values, and in recognition of these diverse values that there are broad principles applied to all stakeholders. Multiple values attributed to elephants and elephant conservation. Should acknowledge the broader elements of elephants, not only ecological, but religious and cultural elements. Understand the common values or specific values of different groups with regard to elephants and this should also be incorporated.
12. Consider external factors and drivers as well as the global economy.
13. Flexible and adaptive. Adaptive management approach
14. Holistic approach. All approaches taken are broad based
15. Scale dependent. Recognising the different domains of elephants populations, going to be managed at different scales differently.
16. Sharing information
17. Fair just and equitable
18. Dealing only with savanna elephant.
19. Acknowledge that it impacts on the subregion and the continent.
20. Issue of sustainability.
21. Knowledge or evidence based. Basic and applied research that is informed by management – focused on the issues experienced by management.
22. Lack of recruitment of skills and passion for recruitment of elephant management, and we need to ensure that this is diversified moving forward.

Risks to mitigate in the strategy:

1. Leading with a positive vision, and the risk involved in creating strategies based on fear
2. Confirm that consideration needs to be given to risks that would jeopardise the implementation of the strategy. In identification of those risks, we need to ensure that the strategy is legitimate, credible and salient (to the point).
3. Choosing your battles – don't reinvent the wheel and fight every fight.
4. Give due consideration to existing mechanisms and principles.
5. Implementation risk – should be implemented in a structured and focused way.
6. Decision making without information is a risk – knee jerk reaction, or decisions taken at certain levels without thinking about the consequences at a population or another level.
7. Critical that you are faced with potential competing land-uses, and risk that some of those could provide larger returns to particular interests or society as a whole. Ensuring that national parks stay relevant for future populations in SA.
8. Land expropriation.
9. Global change – climate change and landuse change, excessive fragmentation.
10. Population expansion could be a risk as it increases the potential for conflict between elephants and local populations.
11. Potential alienation of existing landowners. Especially if that happens in a context of a land use pattern different to the existing one.

12. Confusing state of legislative framework that governs elephants and other populations. Complexity in ownership – owners arguing that the Norms and Standards are too strict and government too constrictive.
13. Ownership of the process by society – feeds back to the attribute of inclusive process. Society where value in elephants is not found or is limited. Important to have buy in from all stakeholders, government and politicians, NGOs, local communities.
14. Constitutional elements – if these are ceded by government to the private sector or NGOs – what would be the implications for long-term conservation of elephants.
15. Cross border impacts – important for the movement of elephants within transfrontier parks.
16. Shifting value of SA elephant population relative to the reset of the southern African population as poaching in KAZA ramps up. In central Africa large scale poaching, but in SA sitting with overpopulation in certain areas.
17. Increasing poaching, Increasing illegal wildlife trade, Recognition of traditional chinese medicine by WHO could aggravate. Mixed signalling around illegal trade in ivory.
18. Global recession causing collapse of tourism markets in SA.
19. Governance issues, especially corruption and war in neighbouring countries.

Key considerations for the strategy to address:

1. Inclusion of local viewpoints in the management plan.
2. Is not overly influenced by northern viewpoints and political interference.
3. Limitation is those that have to implement the strategy
4. Limitations in leadership and in political buy-in
5. Need for adaptive management
6. Debate around legal rights being given to certain species
7. Need for effective land-use planning – biodiversity and conversation landuse planning and integrating this with other landuse planning needs.
8. Elephants Sentient beings, cognition, and consciousness and how that attributes to their value
9. How it could be used to facilitate responsible decision making
10. Not included in the strategy but could speak to best practice guidelines and expert groups that could enhance decision making

Additional Considerations/Mechanisms to take forward:

1. Upskilling local academics and those involved in ele management to ensure that SA viewpoints influence the management plan.
2. Use of scenario planning
3. Need for very discrete and well defined deliverables and outputs – e.g. revision of legislative context
4. Need to define issues around ownership
5. National legislation – consistency in national legislation.
6. Strengthen Working Group 1 and mechanisms which establish national consistency, rather than the problems associated with the current ability of provinces to follow their own direction
7. Value of education and awareness to promote the value of elephant. conservation in this and the next generation of human society.
8. Value of linking that to research on fundamental features of elephants such as their sentience. Idea that this should be multidisciplinary research.
9. Effective enforcement regimes.
10. Lack of allocation of resources
11. Adaptive management – working on current knowledge and best practice.
12. Section on context
13. Confirming that we are a developing country, elephant range state, providing an overview of the legal framework, confirming section 24 of the constitution.
14. As part of the strategy, to tabulate rights and responsibilities of stakeholders.

General discussion.

1. Key issue at this stage is to establish a process going forward. Once you convene a group like this, you are a long way down the track, and bring it to completion. Having established trust and awareness, have to have an iterative electronic process, and need to keep that momentum up, otherwise you need to start again from the start. What will be delivered, who has the right to interact and how, and what is the end-point, and where is this going to.
2. Should be key deliverables and outputs in the strategy that are accountable and enforced, so that is it not only general principles, but remains living and current.
3. Relevance – a process that does not start and end – a key thing is that it has to stay relevant. In the face of changes that are taking place all the time. Challenge to keep this strategy relevant.
4. Strategy needs to be Achievable. And transparent
5. Must not be over burdensome on government such that all other species are neglected. Must not divert resources from other biodiversity management issues. Must leverage benefits more broadly for biodiversity.
6. Incorporate pluralism – all the stakeholders views are considered and included. With common sense.
7. Intergenerational legacy – building on and for a legacy with what we are formulating which will make it very positive.
8. Still need to think about specifying the beneficiaries (for intergenerational legacy and more broadly.)
9. Understanding that we have moved from DEA process to our process – people are saying we – shows that people have gained ownership of the process – need to have this ownership continue into the implementation process and making it happen.
10. Simple, clear **pragmatic**
11. Linked to transparency – important to document the process that we followed, and for particular decisions or issues that are derived at. So that this is clear in the future.
12. Strategy has to be simple clear, pragmatic, short, additional document that pulls together the consultation and process, and documents this transparently.

Notes as captured during the meeting:

General
Discussion of scale – focus at a national scale or at the level of a property – need clear consideration of scale. – national scale and not property scale.
Both scales – different decision-makers involved. Property – few people focus on their agenda – vs meeting a national agenda that is in the interests of society – cannot ignore that society is a set of component parts – important component part is those that are tasked with operating pieces of land with elephants. Whatever the national group says, there are people on the ground that have to deal with elephants.
Economics – alignment of incentives have to be aligned, otherwise the strategy cannot work at the national scale. In a scale context – advantages of a big 5 reserve has a 30% revenue benefit compared with those that done. Increased properties with big 5 – individual benefit is diluted as they are less scarce, and premium is reduced.
If not aligned, you end up with regulations that are meaningless and not enforceable, and you have conflict between property owners and authorities.
Needs to be a bottom-up thing, rather than international/national feeding down.
Continental scale that we cannot ignore – conventions and cultures we need to respect. SADC, CITES, AU – but need to speak to the norms and standards, and we cannot apply the national legislation (N&S beyond our border)
To who do elephants belong – how do you need to consider when you speak about an elephant.
Elephant on a property is your elephant – problem when an elephant walks from Kruger to Sabi – it is Sabi sand and they can do what they want. Into a communal area, it is a problem elephant that needs to be chased out.
N&S does not mention Fencing Act and common law issues.
Issue about Responsibility and who takes responsibility. Ownership is linked to benefits – want to take ownership to benefit, but dont want to take responsibility and the risks associated with it. Co-ownership or comanagement – communities that have co-ownership, may not have co-management in practice.
Land ownership change, land redistribution, land-use change are also having an influence. Land and assets belong to the community trust, but the animals still belong to the state – so community has no rights over the animals – immediately a point of conflict.
No success examples we can refer to and build on – sitting in the background, and we have not come up with a model system that can be used to unlock this.

Key areas for discussion:

Benefits of having elephants:
Group 1:
Ecosystem benefits
Ecosystem integrity
Economic – think of other economic value chains – value of both consumptive and non consumptive trade/use.
Existence values (important) that show as benefits – education role,, religious value, important in African context cultural value. Couple this to human dignity – continued existence of elephants to our human dignity.
Question who benefits from the value of elephants.
Narrative of restorative justice – in SA, and
currently who should benefit from them
Group 2:
Value is going to be very important – spectrum of values and extremes on both sides. Cultural and spiritual values. Conflicts over how we are directly affected by elephants, missing inputs from groups of stakeholders that will reflect on SA s values.
Heritage
Ecotourism – big 5 branding
Keystone ecological aspects
Intrinsic value of a wild elephant whether we see them or not, knowing that a wild elephant exists
Hunting benefits vs risks
Landowner vs community benefits fo having elephants
Ivory trade benefits
Group 3:
Did not look at ecological risks benefits costs – know them – adopted a more philosophical context.
Values of elephants as opposed to the benefits of elephants. Missing component is the intrinsic component of elephants, specifically in a SA or SADC perspective
Suite of societal values that are constantly being contested, and we need to accommodate this, but ensure that this is not polarize din the strategy or methods.
Societal values over last 50 years, chimps in Argentina is given personhood, river is given non-human rights.
Concern that approach is top-down – especially vis sustainable use, vs ecological sustainable use – does not capture other components such as ecotourism
Need to asses this on a temporal perspective, as values and benefits will change over time. Based on factors that contribute to the factors we see in front of us.
Group 4:
Recognize that we are not sure that there is a proper benefit analysis done, for keeping elephants, and looking at all the aspects of benefits anc costs, and th returns for actually keeping elephants.
A lot of populations are in private ownership, and not sure if the private farms realise what the actual benefits are of keeping elephants – there may be perceptions, but not sure if done.
Not sure if they are only kept for financial benefits, but in proviate it is one of the overarching reasons
Higher tourism numbers and hunts that can take place.
Two types of populations – free roaming vs intensively managed – in the latter there are specific elements such as interactions and ele back safaris.
Other reasons why:
Passion and spirital value from them
valuing elephant is an elephant

conservation value – disturbance hypothesis, managing elephants for conservation value.
Group 5:
Elephants are one of the 10 most charismatic species in the world (PLOS paper). Lot of opportunity for benefits
Reserve level
National
Continental
Ecological
Benefit biodiversity
Umbrella species
International obligations – protected areas that are recognized. Also comes with a risk, because the legislation is difficult to get it recognised as a protected area, and the costs outweigh the benefits.
Ecosystem services associated with the protected area
Play important role in diversifying habitats – creates habitats for rare species. Tops species, sp of concern. There is a risk of scale for this – in small areas may homogenise.
Elephants as a flagship species – rather more a messenger species – message of intact landscapes, high quality of living – positive approach of the message that elephants get across.
Socio-economic
Knysna – elephants contribute to the narrative of the area – how can we use this. What would you do without elephants – gives a different perspective.
Affects sense of place
People oar proud of elephants
Do we associate with the society of elephants, but could be a risk if it is overemphasised.
Do we overemphasise the use of elephants to local communities, and can then create antagonistic view by overemphasizing.

Risks of having elephants
Group 1:
Careful of international perceptions that drives our policy and what we do
Abundance/number of elephants
Overuse because of poorly defined ownership. Tragedy of the commons.
Expectations about what benefits can be generated, for who, and on what scale – if the benefits do not amount to what is expected, it may have the opposite effect.
Poorly educated neighbouring populations can create overdependence and fed into unrealistic expectations about the benefits.
Group 2:
Should we be allowing so many populations of elephants in SA.
Long-term planning and investment needed with elephants and planning to avoid mistakes further along
Misalignment of objectives between reserves and national mandate regarding elephant management – scale can be an issue
Risk of taking decisions without substantial evidence, but sometimes we can only learn by trying
Do elephants become more important than other species if they are considered sentient being and the risks around that
Landclaim risks on protected areas and how the management of these claims can be either costs of benefits
Unemployment and poverty
Understanding the role of a national park in society, its responsibilities and expectations
A gap in the strategy for captive elephants, their welfare and concerns
Lack of facilities for the movement of captive elephants if taken from where they are
Group 3:
Differentiate what elephants, captive, free roaming – are all captured in the strategy
Language is not relevant to paradigm shifts
Current policy and legislation encourages loophole leopard crawling. N&S is there, but it allows people to look at loopholes – captive moving from non-protected to fully protected context. Due to compartmentalised elephants, captive, free roaming, DCA etc. we don't have policies that allow for free flow of elephants across space (e.g. moving from Kruger to community.
Risk is sustainable use and looking at commoditization of wildlife.
Whole bunch of people and the elephant in the room is the population explosion of people that adds a significant risk to elephants regionally and continentally, and we are not talking about that.
Group 4:
Polarization between groups, between consumptive and non-consumptive use ideas.
Different groups interpret value of elephants in different ways
Needs to distill these distractions, and cover what general society says are the values of elephants and what general society indicates is sustainable use and the value.
The groups need to move closer to each other to find common ground
Need to develop framework or criteria
Issue of trust in the system that is developed and the people taking decisions in such a system
Issue of incidents, and the impact of incidents on the tourism sector
Issue of costs of managing elephants and not well understood by potential owners.
Elephant escapes and incidents and effect on community, and community perspective of elephants as a nuisance instead of the value that they can add.
Issue of irritation, and that it is governments problem,
Indecision about management authorities, and ascribed to lack of competence in decision making process, in reviewing alternatives and following a clear decision making process.
Group 5:
Risks – communication gap between government at different levels, scientists, reserve managers, society at large
What are we trying to achieve, what are we achieving,
Confusing messages – too many, too few
Should we hunt them

Sustainable use, should we use them.
Organized crime is high on the list of risks – need to assess how we will solve this problem.
Lots of confusion of the law – ownership issues, confusing laws as to what to do. Administrative boundaries – responsibilities stop at a fictional boundary from an elephant perspective (APNR and two provinces that issue permits – when ti moves from an area with a permit into another province, the permit is not valid).
Hampers areas where we want to increase range of elephants and the legistlative framework does not allow these opportunities to take place.

Costs of having elephants:
Group 1:
Group 2:
Costs of having elephants in small reserves and degradation to that reserves environment
Contraceptive costs, security, HEC, translocation, fencing,
Risks to tourism opportunities – homogenising the tourist experience. Previous birdwatching or hiking cannot be sued for that because they have elephants in them.
Group 3:
Cost of not having elephants is missed. Whatever the process is, we must assess our benefits, risks costs in a different way
Scenario planning to assess different approaches
Understand that the how of what we do affects different components, from jobs, reputation, brand, individual animals to populations.
Group 4:
Normal costs of management – fencing, veterinary, response cost if there is an escape or incident. Potential elephant owners may not fully realise the costs of ownership, which we need to emphasizes.
Management actions that are chosen, and the associated costs of the management options.
Group 5:

Key approaches to managing elephants:
Group 1:
Alternative dispute resolution as a mechanism to solve disputes, to solve beneficiation, as opposed to court systems/internal appeal processes.
Institution design and processes need to be sound.
Integration of environment with economic development – sustainable development and SDGs
Watchdog institutions, their role, after the facts, lawfare. If you don't have well designed institutional processes at the outset and not inclusive enough, you have watchdog institutions that are engaged in activities around rights, inevitably end up going through the courts, and have a low-intensity lawfare approach that you are trying after the fact to fix misunderstandings – not a useful approach.
Restorative justice being a key element.
Discussion about financial developments not being enough, but building capacity. Restoring peoples dignity, and not just giving them money.
Elephant management plan – sharing rights matched by responsibilities – enforceability – making sure it is not just ticking the boxes.
Group 2:
Target having self regulating elephant populations, but in altered systems how do we address elephant impact
Ecotourism and hunting – the relationship between the two models and risk of allowing hunting in KNP.
Group 3:
Feel it critical to have a temporal strategy for land planning for people and elephants, and done in a way to retain the integrity of ecosystems as best we can.
Needs to be long-term, plan for future projections.
Creative in thinking, and looking at opportunities north of the broader, and learn from elephants in other range states, including India where elephants move through the landscape. Maybe we need to do away with some fences, and increase the footprint for them.
Expand the scope and terminology of the N&S and the ideology as to how we manage elephants across range states, AfESG, AEAP – SA is unique in the N&S and also in indicating that they are sentient
Need to have a strategic intent, moving across from state/private/communal and dealing with the private ownership challenge to look at them across systems that encompass the different land-uses and ownership.
Develop and draw on best practice that must have enforcement and accountability.
Incorporate ele management plan, pa management plan, BMP into IDP process – influence the municipal level, and bring in the components of municipal planning and development.
Looking at elephants themselves to indicate the level of planning that needs to be at the level of the elephants and how they are using the landscape.
Group 4:
Potential owners are not aware of full costs of keeping elephants, these need to be well articulated and outlined, and this should form part of when an application is evaluated that this is fully understood
Links to issue of responsibility – people are eager to take on elephants, but not necessarily full responsibility.
Group 5:
Elephants can be seen as a scaler – from small reserve, to Kruger, to continental. There are risk with small reserves. In large areas you can operate on a landscape domain, vs smaller to a metapopulation domain, and from there you go to the increasing/decreasing population domain, and then the small population domain. IN each of these you have different options, and this can be confusing – hands-on in some and not others. Elephants fall across those, and are a scaler for dealing with this conceptually.
Conservation finance – protected areas are challenged by finances – could we use elephants to attract finance.
Opportunities of elephants to help deal with the dual economics that we have. In the same landscape we have people who have ownership of elephants, but others that done have access to the elephant to benefit from them. Raises the issue of access, tenure and ownership. Also the issue of different value systems in the same landscape. If you are in the affluent group that can harness opportunities from elephants, you have a different value proposition when you look at elephants, compared to those that don't have access.

General discussion:
Where does a document fit into the broader legislative environment – it I actually very important as a reference document that a court could reference to in a case. Courts see these types of documents and its content as really important for courts.

Issue of responsibilities of government and their mandates, together with the ownership of elephants when you are a private landowner, and the legal context will have to be challenged at some stage in court. Gun theft act and ownership people get through that are not understood very well. Some of the responsibilities of government is developed to the landowner, but his rights are infringed on (believe of landowner) no one is clear what this is – the strategy would have a meaningful impact on the long term if this is clarifies – from escapes, injury, trade issues etc. fine to develop a strategy, but the issue of ownership needs to be addressed.
Lawfare vs dispute resolution – interested to hear about this. Dispute resolution mechanism is established to deal with issues related to the strategy of the norms and standards. Needs to be supported by DEA – if established, could give access to local communities owners etc to have a more cost effective method to approaching. Mediator – ombuds etc.
Not only to a legal dispute, but could relate to landowner disputes around management approaches.
Land-use planning legislation says that they have to take into account policies and strategies, so this could fit in there as well as an influential document.
Non-court based processes are a good idea, but need to be aware that it should be a low-cost process, but should not be a zero cost process, which opens you up to frivolous processes. Voluntary process, but quasi binding process, but cannot be a completely binding process, because that is when you go to law. Not opposite to a court process, but part of a spectrum of tools, which has a lower costs, and also leads you to convergent solutions rather than win or lose solutions.
If I have a lot of elephants on a key biodiversity areas, would my not managing my elephants be an issue. What law would this fall under – is this an agricultural mandate – overuse of land in the older laws. Also, welfare laws fall under different departments, and there is not cohesion in the processes.
When you are a private owner you can ownership of a species – when does the thing that you are trying to achieve impact or contribute to national objectives- vague, but may not be a legal area.
Responsibility of environmental protection is government – by issuing a permit for x elephants, government should have dealt with this as part of the decision. There is an assessment for change in land-use (ploughing), which needs EIA, but intensifying wildlife as part of the same landuse does not need an EIA process.
Comes down to the EMP, and who delivers and constructs the EMP.
Challenge is lack of clarity as to the legislative enablers for elephant management – fragmented legislation and regulation. There is sufficient elements that enable government to manage the process, and government can manage what they should and take responsibility for it. We can improve on it, but it does not mean that there are certain things that we cannot regulate.
Decision needs to be taken by someone about the impact on land, but then the issue is whether the number or impact is acceptable is the challenge. There is level of incompetence and lack of understanding, but coupled with fear. Because there is so much attention on elephant management (incl culling) when a person has to take the decision, he is fearful of taking a decision, as they are going to be put under the scrutiny. There is an issue within the institution or outside the institution. Paralyseed by fear.
Need a biodiversity conservation plan for elephants – like for other land-uses. It is not only about ecology, but also tourism – complicated decisions, that ends up with a spatial plan for the country, to allow the authorities to be able to make the correct decision. Need to follow a biodiversity planning exercise for elephants as a land-use.
Linking elephants to other economic value chains. In a normal economic value chain, you take inputs from other sectors of the economy and you add to those to produce outputs. Intermediate inputs are half the value of the product. Linkage to other sectors is important for economic development.
If you linking elephants into a local economic development context, to attract tourists, link to other procedures that attract tourists, (variety of habitats – birders) processing elements for leather footware that derives some inputs from consumptive use of certain species, even tenuous links to elephant itself, but elephant can be associated with a particular area, become the brand of an area.
Legal issues and who governs what – not sure what role local authorities have in terms of environmental resources – in a range of other areas, they are poorly capacitated – engagement and institutional structures that you have to have in place to derive economic impact need to be long-term, and politicians tend to look at big investment projects which serve as a distraction for the hard work that is required for success. Institutional framework that is required at a local level, as well as provincial.
Land-use issue discussion – at a local level there is the bioregional planning process where the conservation plans are supposed to feed into bioregional plan. Risk that few conservation agencies have the capacity to engage with local government at that level, so there is no engagement with the local planning level – it requires a different type of person from a typical conservationist.
Wildlife sector is not seen as contributing to local development, and rather seen as a trade-of. Whereas it is a key element.
As part of biodiversity economy, need to identify areas of opportunity, and engage municipalities, and set aside areas with high opportunity for the biodiversity economy. Messaging problem.
This is an elephant centric group, but what we are talking about is standard conservation discussions, and are we loosing the focus as an elephant issue.
Not convinced that all this stuff is elephants stuff, but is more general. Need to ensure there is a focus.
As we vision, we need to have scenarios – high vs low road, poaching vs not developing, future looking.
Need to see this as one aspect of management among many. Cant have separate for a or processes around each of our species. Need to have some way of more generalised approaches that come up around one species or another, or one value vs alternative. Not an absolute either – if you set things up as generic. Elephants are different from field mice – there are degrees to which this is no different from other problems, and degrees to which this is different.

Towards a National Elephant Conservation Strategy

Vision elements of a strategy:
Group 1:
Broad approach – if you can allow your human populations to recognize and appreciate all the value and benefits that elephant populations hold for them that his enables the expansion of the existing range of elephants, and appropriate populations to that range.
Group 2:
Interconnected elephant populations for future generations. All elephant populations contribute to national conservation objectives.
Group 3:
National metapopulation that interacts with neighbouring range states, embrace complexity of elephant existence in intact ecosystems landscape mosaic, coexistence with people cooperatively managed and where people value elephants.
Group 4
Recognise that it should be more on the social value, centred more around the social value of elephants and any biological spinoffs emanating from that. Based n holistic approach. All levels, global, national and local. Elephants are values by south African at all levels. Sustainability, from ecological, economic, social point of view. Responsibility and Accountability,
Group 5:

Purpose of the strategy to guide vision elements – facilitate and inform and guide responsible management and decision making around elephant and establish a broad based societal approach to elephants and their conservation that is capable of being understood by society – consideration given to how we can make decision making rational robust and shared. How do we move away from elephants being considered as a problem to being considered part of biodiversity. In a national context, considering what their value is and how do we mainstream biodiversity.

Attributes of strategy:
Group 1:
Involve all relevant stakeholders at national provincial and local levels – may be a messy process, but ultimately the chances of success are greater.
Ongoing process – idea that you can formulate a strategy and let people go away and do it is nice in theory, but would fail.
Needs to provide scope for action, but need clear boundaries for proceeding in line with the broad strategy.
Accountability
Ongoing communication back to the stakeholders.
Process that acknowledges that there are difference in the experience that difference stakeholders have with elephants and would influcen the benefits that they would derive from elephants
Institutional arrangements – at least at the national and provincial level. Because it has to be ongoing process, you need to have appropriate people involved, and have budgets attached to that.
Links to communication, and ongoing processes – could be scope for annual or regular indaba's which review the strategy and act as a report-back mechanism.
Group 2:
Consider external factors and drivers as well as the global economy.
Adaptive management approach
Holistic approach
Scale dependent
Group 3:
Sharing information
Collaborative
Multiple values attributed to elephants and elephant conservation
Flexible and adaptive
Fair just and equitable
Dealing only with savanna elephant.
Group 4
Acknowledge that it impacts on the subregion and the continent.
Should acknowledge the broader elements of elephants, not only ecological m but religious and cultural elements.
Issue of sustainability.
Knowledge or evidence based. Basic and applied research that is infrmed by management – focused on the issues experienced by management.
Lack of recruitment of skills an passion for recruitment of elephant management and we need to ensure that this is diversified moving forward.
Understand the common values or specific values of different groups with regard to elephants and this should also be incorporated.
Recognising the different domains of elephants populations, going to be managed at different scales differently.
Group 5:
Adaptive
Recognising that it does need to evolve, and is not set in stone.
All approaches taken are broad based
In the formulation, broad principles and then processes to meet those principles.
Principles – recognising that there are a diversity of values, and in recognition of these diverse values that there are broad principles applied to all stakeholders
Inherently general in nature.
Some of them are:
Elephants are part of an ecosystem – ecosystem functionality
Sentient beings
Commitment to a metapopulation approach
Consideration given to global views – how we manage them, and how we give due consideration to international concerns. Taking decisions that are multinational in nature at the multinational level – internal trade – issue that are national in nature should be nationally addressed.
Self regulatory approach – allowing natural systems to manage themselves as much as possible to promote resilience.
Processes to be included:
Planning processes – processes that guide conflict resolution
Processes that enhance communication, recognising the differences in values.

Risks to mitigate in the strategy:
Group1:
Critical that you are faced with potential competing land-uses, and risk that some of those could provide larger returns to particular interests or society as a whole
Population expansion could be a risk as it increases the potential for conflict between elephants and local populations.
Potential alienation of existing landowners. Especially if that happens in a context of a land use pattern different ot the existing one.
Confusing state of legislative framework that governs elephants and other populations.
Ownership of the process by society – feeds back to the attribute of inclusive process.
Group 2:
Landuse changes and expropriation.
Cross border impacts – important for the movement of elephants within transfrontier parks.
Global recession causing collapse of tourism markets in SA
Ensuring that national parks stay relevant for future populations in SA.

Group 3:
Increasing poaching,
Increasing illegal wildlife trade
Recognition of traditional chinese medicine by WHO could aggravate
Excessive fragmentation
Competing landuses
Society Where value in elephants is not found or is limited
Global change – climate change and landuse change
Governance issues, especially corruption and war in neighbouring countries
Shifting value of SA elephant population relative to the reset of the southern African population in poaching in KAZA ramps up
Mixed signalling around illegal trade in ivory
Group 4:
Important to have buy in from all stakeholders, government and politicians, NGOs, local communities.
Implementation risk – should be implemented in a structured and focused way.
Decision making without information is a risk – knee jerk reaction, or decisions taken at certain levels without thinking about the consequences at a population or another level.
In central Africa large scale poaching, but in SA sitting with overpopulation in certain areas.
Complexity in ownership – owners arguing that the and standards are too strict and government too conscriptive.
Constitutional elements – if these are ceded by government to the private sector or NGOs – what would be the implications for long-term conservation of elephants.
group 5:
confirm that consideration neds to be given to risks that would jeopardise the implementation of the strategy. In identification of those risks, we need to ensure tha the strategy is legitimate, credible and salient (to the point).
Leading with a positive vision, and the risk involved in creating strategies based on fear
Choosing your battles – don't reinvent the wheel and fight every fight
Give due consideration to existing mechanisms and principles

Key considerations for the strategy to address:
Group1:
Mixed in above.
Group 2:
Inclusion of local viewpoints in the management plan.
Is not overly influenced by northern viewpoints and political interference.
Group 3:
Limitation is those that have to implement the strategy
Limitations in leadership[and in political buyin
Need for adaptive management
Debate around legal rights being given to certain species
Need for effective land-use planning – biodiversity and conversation landuse planning and integrating this with other landuse planning needs.
Elephants Sentient beings, cognition, and consciousness and how that attributes to their value
Group5;
How it could be used to facilitate responsible decision making
Not included in the strategy but Could speak to best practice guidelines and expert groups that could enhance decision making

Additional Considerations/Mechanisms to take forward:
Group 2:
Upskilling local academics and those involved in ele management to ensure that SA viewpoints influence the management plan.
Group 3:
Use of scenario planning
Need for very discrete and well defined deliverables and outputs – e.g. revision of legislative context
Need to define issues around ownership
National legislation – consistency in national legislation.
Strengthen WG1 and mechanisms which establish national consistency rather than the problems associated with the current ability of provinces to follow their own direction
Value of education and awareness to promote the value of elephant conservation in this and the next generation of human society
Value of linking that to research on fundamental features of elephants such as their sentience. Idea that this should be multidisciplinary research.
Effective enforcement regimes.
Group 4:
lack of allocation of resources
adaptive management – working on current knowledge and best practice.
Group 5:
Section on context
Confirming that we are a developing country, elephant range state, providing an overview of the legal framework, confirming section 24.
As part of the strategy, to tabulate rights and responsibilities of stakeholders.
General discussion.
Key issue at this stage is to establish a process going forward. Once you convene a group like this, you are a long way down the track ,and bring it to completion. Having established trust and awareness, have to have an iterative electronic process, and need to keep that momentum up, otherwise you need to start again from the start. What will be delivered, who as the right ti interact and how, and what is the end-point, and where is this going to.
Should be key deliverables and outputs in the strategy that are accountable and enforced, so that is it not only general principles, but remains living and current.

Relevance – a process that does not start and end – a key thing is that it has to stay relevant. In the face of changes that are taking place all the time.
Challenge to keep this strategy relevant.
Strategy needs to be Achievable. And transparent
Must not be over burdensome on government such that all other species are neglected. Must not divert resources from other biodiversity management issues. Must leverage benefits more broadly for biodiversity.
Incorporate pluralism – all the stakeholders views are considered and included. With common sense.
Intergenerational legacy – building on and for a legacy with what we are formulating which will make it very positive.
Still need to think about specifying the beneficiaries (for intergenerational legacy and more broadly.)
Understanding that we have moved from DEA process to our process – people are saying we – shows that people have gained ownership of the process – need to have this ownership continue into the implementation process and making it happen.
Simple, clear **pragmatic**
Linked to transparency – important to document the process that we followed, and for particular decisions or issues that are derived at. So that this is clear in the future.
Strategy has to be simple clear, pragmatic, short, additional document that pulls together the consultation and process, and documents this transparently.

ANNEXURE B

Records of meetings with the contractual partners at Marakele.

MARAKELE NATIONAL PARK

MARATABA – SANPARKS EMP REVIEW (Minutes-Draft)
VENUE: Virtual
DATE: 6 July 2021
TIME: 9am – 12pm

Attendance:

Mr. Mphadeni Nthangeni (MN) – Park Manager of Marakele National Park
Dr. Hugo Bezuidenhout (HB – Vegetation Ecologist
Dr. Sam Ferreira (SF) – Large Mammal Ecologist
Dr. Ernest Daemane (ED) – GM of Arid and Central Node
Dr. Danny Govender (DG) – GM of Savanna Node
Mr. Steven Khosa (SK) – Biotechnician in Marakele National Park
Mr. Naude Smit (NS) – Operations Manager (Marataba)
Dr. Andre Uys (AU) – GM of The Marakele PTY (Ltd)
Mr. Cornou Rykaart (CR) – Finance Manager (Marataba)
Dr. Charlote Nkuna (CN) – GM of Veterinary Wildlife Services
Dr. Corli Wigley-coetsee (CWC) – Vegetation Ecologist
Mr. Tshifhiwa Mauda (TM) – Conservation Manager of Marakele NP
Dr. Nkabeng Mzileni (NM) – Regional Ecologist for Arid and Central Parks

Item	Description	Comment	Outcome
1	Welcome	Welcome to participants made by NM.	
2	Apologies	None, all invited were in attendance.	
3	Introductions	Introductions made by individuals in attendance.	
4	New Items	No new items were added.	
5	Marakele – State of Vegetation Review	HB gave a presentation regarding the history of vegetation monitoring in MNP. The purpose and process of establishing the park. Focus was made on the dominant vegetation structure which is woody (with browsers and mixed feeders but no grazers). It was noted that fire, drought, bush densification are key drivers in this environment. Indicated that the herbivores tend to congregate in two areas (based on aerial census) in the north west and south west which are within Marataba. Two rainfall gauges from ARC at the main gate and on the mountain. Piet van Staden studies were referred to regarding climate over 26 years (690 mm per annum). Third highest lightning strike rate in SA which causes fire which is a major driver in Marakele. Almost every other year there is a fire in the eastern mountainous area. The plants are adapted however given grazing pressure as well this plays a role as a driver of the vegetation. Bush densification is natural woody species (not encroachment). Emphasised that the area is bush veld and not savannah which has caused misunderstanding of how the vegetation structure should look. In this area, bush densification is normal. Vegetation monitoring of 15 plots on 4 plant communities in 1996, 1997, 1998, 2002, 2010 and 2019 and used some fixed point photos and point centred quadrant method to measure elephant impacts. Examples were given in the *Vachelia karroo – Eragrostis chloromelas* short closed woodland (elephant impact was minimal), *Rhus leptodictya – Mimusops zypheri* termitarium thicket (the termiterium was reduced over time through natural browse by various herbivores, elephants and fire) and the Tlopi forest (tall closed woodland) which does not get affected by fire. It was decided that the Tlopi forest does require an exclosure because of natural fluctuations. Essentially the examples indicate the need for long term monitoring to observe changes over time and better understand the drivers. Biodiversity monitoring (2010 and 2011) within plots which included ants, vegetation, birds and herbivore dung to indicate the usage of the habitat. A total of 15 plots were monitored in 2018 and veld condition assessment index was below 25% which is low.	CWC asked if there was long term VCA data available from SK who indicated that it was available. AU - mentioned concerns of repetitive reference of historical landuse practices and requests that we also discuss and focus on the impacts of changes in landuse and the management. More reflection on contemporary changes is required.

6.a	Marakele – Some Key Lessons from Elephants	SF gave a presentation. Marakele populations have grown since introduction and not all animals are seen due to vegetation. Recent work has indicated that fire, soil, carbon dioxide and rainfall are also key drivers of woody vegetation cover. Elephant cumulative impacts are not evenly distributed and are specific to vegetation types. Some elephant disturbance is helpful for systems, the high and low extreme are not good for the system biodiversity. Recent data suggests that effects of elephants on biodiversity are varied and do not support that the reduction of elephants is a method to mitigate impacts. The impact of elephants is mismatched to how elephants use landscapes which is basically localised. This is particularly true for water points. This also varies according to type of water availability, ie natural spring, flowing river, artificial etc. and water distribution. When SANParks stopped culling in Kruger NP, removed fences and naturalised water, the elephant numbers stabilised and distribution clumped. Food, water, comfort and safety influence the behaviours, distribution and influence on landscape of the elephants and consequently the impacts. This is more relevant to management than the number of elephants especially in small parks. Also a note that rainfall influences population demographics. We also need to be aware that Marakele is one of five populations managed by SANParks for South Africa as a whole.	
6.b	Marataba population	AU gave feedback of VCA's and elephant impact assessments on an annual basis. The situation is complex with multiple drivers and the size constraints an resource distribution make practical elephant management challenging. Marakele and Marataba have shared the VCA and elephant impact data. SF – agrees that a discussion on the mechanisms leading to the elephant impacts would help. ` AU supported by CWC enquired as to how we practically create resource gradients and impact elephant use? How can we develop practical responses to these mechanisms and ultimately interventions? AU – Marataba impact assessments indicate widespread impact and not localised to specific vegetation communities which is of concern. ED – Value judgement of scale of impacts, what is acceptable and what is the trajectory of impact. Essentially to what degree should we be concerned? AU – Has observed intensified impact throughout the park and not specific to areas. Perhaps combine our monitoring efforts and work together. Agrees with ED that we need to clearly state the concerns.	SF – The mechanisms are not the same throughout the park therefore scale of impact needs to be defined and addressed. DG – In KNP the damage may appear widespread but there are some preferences to woody species, distance from water etc. therefore recommends a discussions with rangers and people on the ground to point out on a map to identify where the impacts have been observed. AU – Recommendation to condense and set achievable goals for the next EMP in terms of the rate of large tree loss and practical approaches. DG/CN/ CWC – Recommend a discussion of level of trade off and the desired state.

		MN – Perhaps focus on numbers (in terms of carrying capacity) and impacts on the vegetation should be the focus of the next EMP and using monitoring to inform the EMP. CWC – In KNP vegetation monitoring of large trees for the past 12 years and observations were made of large tree loses as a consequence of multiple drivers including fire, rainfall, elephants and other factors. Are we comfortable with change and losing certain vegetation? CN – We need to define what the desired outcome and state is. Do we go forward or do we attempt to restore? AU – Marataba desirous to see no increase in current impact, reduce population growth to a max of 3% per annum, reduce numbers, buy time for the future	MN – Recommends that the revised EMP address desired number as well as acceptable levels of impact in the various plant communities.
7	Discussion on Elephant Management Plan (Management actions and co-management)	Feedback on Objective 1 actions from the EMP were presented by MN. Actions were discussed and determined if they were completed or not and if they should be taken over into the next EMP. Reflection on lessons learned (Refer to Appendix A). AU – Concerns of the current legality of the current EMP which is absent of any objectives until 2023 effectively forcing us into a "not able to do anything scenario, requests that we aim to comply with Norms and Standards and also set achievable goals. SF/DG –Norms and Standards form part of the legal management (e.g in terms of DCA's etc) but also creates constraints of elephant management. From a legal perspective the EMP is valid until end of 2021 as confirmed during meeting by Magdel Boshoff from DFFE AU - It is important to note that the performance against objectives was never meant to be undertaken internally. An external advisory committee should have reviewed the performance against objectives bi-annually and provided extensive reviews once every 5 years. This is an important component of the EMP that has not been addressed.	AU – Recommends in future an external committee, as was supposed to have been implemented in existing plan, review future EMP every 2nd or 5th year of the plan. The need for external reviewers needs to be acknowledged at the next meeting when discussing sections of the current EMP and plan accordingly for this to be included and implemented in the reviewed plan. ED/DG – Recommend that we continue with regular internal reflections and discussions of actions and processes as part of a reflection and learning with stakeholders. MN/MN – Need to have a discussion of the desired state and objectives of the next EMP. NM – To discuss with park management what data exists and which actions can be finalised. ED – Start the processes of reviewing and developing next EMP which will need to be in place by the end of 2021

			AU – Do we have records of the prior reviews by the external advisory committee that was supposed to be established?
8	Follow up meeting		**31-08-2021 from 09:00 – 13:00**

Appendix A

Objective 1: ***To manage elephant ecological impact, damage causing elephants and their interactions with humans through inucing spatial and temporal variation in elephant use of landscapes by restoring the spatial limitations of the landscape.***

No.	Action	Comments	Outcome
1.1	Identify zones of biological importance and areas of ecological and social risk	Publications and reports available.	Achieved
1.2	Define zones of impact tolerance based on action 1.1	Publications and reports available.	Achieved
1.3	Where appropriate, acquire additional zones of biological importance through contracts and agreements	Limitations with funding	Partially achieved
1.4	Define zones of elephant-human interactions, damages caused by elephants and impact	Limitations with funding	Partially achieved
1.5	Engage with local communities and neighbours around human-elephant conflict and damages caused by elephants and how to minimize that	Limited engagement with local communities.	Future engagements with stakeholders will take place with the new EMP.
1.6	Identify the type and distribution of diseases	No issues to report.	Ongoing and needs to be included in the following EMP.
1.7	Identify the modes of transmissions and how elephants may affect these	No issues to report.	Ongoing and needs to be included in the following EMP.
1.8	Identify zones of potential disease hot spots	No issues to report.	Ongoing and needs to be included in the following EMP.
1.9	Remove fences between existing and adjacent patches of the National Park, where appropriate	No issues to report.	Achieved
1.10	Remove ground dams that provide additional water		Achieved but needs to be reviewed in the next EMP in regards to distribution and localised pressure.
1.11	Advocate the removal of , obtain permission to and remove dams that have legal maintenance status.		Achieved
1.12	Implement the Damage Causing Animals Policy to damage-causing incidences associated with elephants		Achieved but still ongoing
1.13	Propose short- to medium-term reactive fencing, develop scenarios and risk assessments		Ongoing

1.14	Develop and implement Wildlife Management Proposal for short to medium term re-active fencing		Achieved but still ongoing
1.15	Measure the spatial response of elephants by placing collars on selected individuals	Two breeding herds were collared in 2009. Data received was used to help locate and set up survey grids for vegetation monitoring.	Achieved.
1.16	Measure the spatial response of elephants by evaluating annual distribution	Aerial census in Marataba and Marakele superficially addresses the demographics.	Partially achieved but collaboration between Marakele and Marataba can address this.
1.17	Model landscape use from elephant spatial data	Aerial census in Marataba and Marakele superficially addresses the demographics.	Not achieved but collaboration between Marakele and Marataba can address this.
1.18	Measure the demographic response by determining age- and sex structures	Aerial census in Marataba and Marakele superficially addresses the demographics.	Partially achieved but collaboration between Marakele and Marataba can address this.
1.19	Measure the demographic response by determining the fecundity schedule	Need to identify the cow calf ratios and calving intervals.	Not achieved but collaboration between Marakele and Marataba can address this.
1.20	Model population change from demographic data	This will be challenging to accomplish given the limited demographic data.	Not achieved but collaboration between Marakele and Marataba can address this.
1.21	Count elephants using an optimized design	During the aerial census the elephants are included and counted.	Partially achieved because we only use annual census and not a specific elephant survey.
1.22	Measure other biodiversity values	No issues to report.	Partially achieved in both Marataba and Marakele. However the biodiversity values have not been measured.
1.23	Relate elephant spatial use underpinned by landscape features to measures of change in biodiversity	Regular VCA monitor change but other biodiversity impacts are not monitored.	Partially achieved.
1.24	Measure the conflict profile of humans in and around Marakele National Park		Ongoing
1.25	Relate elephant spatial use underpinned by landscape features to measures of human-elephant conflict	No issues to report.	Not achieved.
1.26	Measure the disease profile of humans and wildlife in and around Marakele National Park	No issues to report.	Not achieved.
1.27	Relate elephant spatial use underpinned by landscape features to measures of disease profiles and disease outbreaks	No issues to report.	Not achieved.

ANNEXURE C

Farm names and additional information.

TITLE DEED	FARM	PORTION NO	EXTENT	OWNER	SECTION	GG	PROCLA DATE	PERIOD	RESTRICTIONS
T21440/2001	Remainder of Hoopdaal 96	Portion 0	67.9290	CCG108	2B(1)(b)	22335	2001/05/29		
T21441/2001	Hoopdaal 96	Portion 6	42.8266	CCG108	2B(1)(b)	22335	2001/05/29		
T21441/2001	Hoopdaal 96	Portion 7	192.2528	CCG108	2B(1)(b)	22335	2001/05/29		
T21440/2001	Hoopdaal 96	Portion 11	222.6003	CCG108	2B(1)(b)	22335	2001/05/29		
T96214/1999	Diamant 228	Portion 19	1284.7980	CCG108	2B(1)(b)	22335	2001/05/29		
T4635/2001	Klipdrift 231	Portion 2	873.6626	CCG108	2B(1)(b)	22335	2001/05/29		
T96214/1999	Klipdrift 231	Portion 3	873.6626	CCG108	2B(1)(b)	22335	2001/05/29		
T96214/1999	Klipdrift 231	Portion 4	873.6626	CCG108	2B(1)(b)	22335	2001/05/29		
T96214/1999	Klipdrift 231	Portion 5	873.6626	CCG108	2B(1)(b)	22335	2001/05/29		
T4806/2001	Retseh 594	Portion 0	878.9510	CCG108	2B(1)(b)	22335	2001/05/29		
T3295/2001	Remainder of Waterval 267	Portion 0	1708.0761	CCG108	2B(1)(b)	22335	2001/05/29		
T30444/2001	Remainder of Buffelspoort 265	Portion 0	1997.5010	CCG108	2B(1)(b)	22492	2001/07/27	30 years.	
T41029/1994	Vygeboomfontein 239	Portion 4	534.4720	Aapiesrivierpark CC	2B(1)(b)	16527	1995/07/14	50 years from 14 July 1995 and shall continue thereafter until terminated by 6 months notice.	Development by the owner.
T74496/1991	Waterval 267	Portion 1	1713.0640	NPT of SA	2B(1)(b)	25562	2003/10/17	99 years from 17 October 2003 with an option to renew for further 25 years.	
T74496/1991	Jagtersrus 418	Portion 0	1000.0000	NPT of SA	2B(1)(b)	25562	2003/10/17		None.

ANNEXURE D

The plant communities of the plains:

1. *Elionurus muticus-Brachiaria serrata* Grassland
2. *Rhynchosia totta-Diplorhynchus condylocarpon* Woodland
3. *Parinari capensis-Faurea saligna* Woodland
4. *Terminalia brachystemma-Burkea africana* Woodland
5. *Loudetia simplex-Peltophorum africanum* Woodland
6. *Digitaria eriantha-Pterocarpus rotundifolius* Woodland
   - 6.1 *Waltheria indica-Grewia tenax* Variant
   - 6.2 *Evolvulus alsenoides-Digitaria eriantha* Variant
7. *Bothriochloa radicans-Senegalia erubescens* Shrubland
8. *Albuca glauca-Senegalia mellifera* Shrubland
9. *Panicum maximum-Vachellia erioloba* Woodland
   - 9.1 *Senegalia erubescens-Vachellia erioloba* Variant
   - 9.2 *Dichrostachys cinerea-Vachellia luderitzii* Variant
   - 9.3 *Vachellia tortilis-Vachellia erioloba* Variant
   - 9.4 *Schmidtia pappophoroides-Vachellia erioloba* Variant
10. *Aristida congesta-Grewia monticola* Shrubland
11. *Searsia lancea-Vachellia nilotica* Woodland
12. *Phragmites australis-Combretum erythrophyllum* Woodland
13. *Clerodendron glabrum-Euphorbia ingens* Thicket
14. *Calpurnia aurea-Mimusops zeyheri* Closed Woodland
    - 14.1 *Lippia javanica-Calpurnia aurea* Variant
    - 14.2 *Cryptolepis transvaalensis-Calpurnia aurea* Variant