KARIEGA
GAME RESERVE
Eastern Cape · South Africa

Kariega Game Reserve ("Kariega") is a Big 5 private game reserve located in South Africa's Eastern Cape. Kariega incorporates 11,500 hectares of pristine African wilderness, as well as two abundant rivers- the Kariega and the Bushmans rivers. The reserve was founded in 1989 in the Kariega River valley and has increased in size significantly since then, to also now incorporate large sections of the Bushmans River valley. The reserve is a declared Protected Environment in terms of the National Environmental Management: Protected Areas Act, No. 57 of 2003 and forms part of the greater Indalo Protected Environment. Please kindly visit https://www.kariega.co.za/ for more information about this pristine Eastern Cape tourism facility.

It has been a long-term objective, since 2007, to incorporate both sides of the Bushmans River above the Ghio Bridge into Kariega Game Reserve. The successful expansion of Kariega has resulted in Kariega now owning the land on both sides of the Bushmans River from the Ghio bridge northwards, as planned and envisaged. Since 2008, the upper reaches of the Bushmans River within Kariega have already had no fences along the river and Kariega's Big 5 animals in that area (excluding only lion) have had access to the river. This was possible due to Kariega owning the land on both sides of the river, which means that if an animal crosses the river, it is still within the reserve. Accordingly, there has always been an existing open river access point into Kariega on the Bushmans River.

On 18 January 2019, the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT: Sarah Baartman), granted Kariega Game Reserve ("Kariega") approval to proceed with a proposed expansion of its wilderness area in the Bushmans River Valley area. This included the approval to remove fences along portions of the Bushmans River, which would in theory allow lions access to a section of the Bushmans River (on both the Eastern and Western banks of the Bushmans River).

The planned expansion of Kariega in the Bushmans River valley area has been in discussion with provincial authorities and local government since 2017. The planned expansion will allow a more holistic tourism experience for all visitors to Kariega, will afford the opportunity to conserve a larger wilderness area, will allow Bushmans River boat users to access and enjoy a pristine Big 5 environment and will have tremendous long term conservation and biodiversity benefits for the region; culminating in the reserve's ability to conserve even more of South Africa's critically endangered wildlife and increase funding for the Kariega Foundation. It is also important to acknowledge the socio-economic implications for the Ndlambe/Makana municipal areas. This information is available on the final page of this document.

An opportunity is now being afforded to the public to comment on the Kariega Game Reserve expansion, specifically related to the removal of the last internal river fence and that lions will now have access to the Bushmans River within Kariega (eastern and western side). Comments and concerns are welcomed and will be submitted to the provincial department of environmental affairs (Department of Economic Development, Environmental Affairs and Tourism, DEDEAT) and to local government (Ndlambe Municipality) for consideration prior to Kariega Game Reserve removing the internal fence, the final step in this exciting wilderness expansion. To conceptualise what this will mean for you, as a business owner, neighbouring landowner, river user and member of the community, please find the explanatory map included in this document set.

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This Background Information Document (BID) includes the following additional appendices pertaining to this exciting expansion, for public perusal:

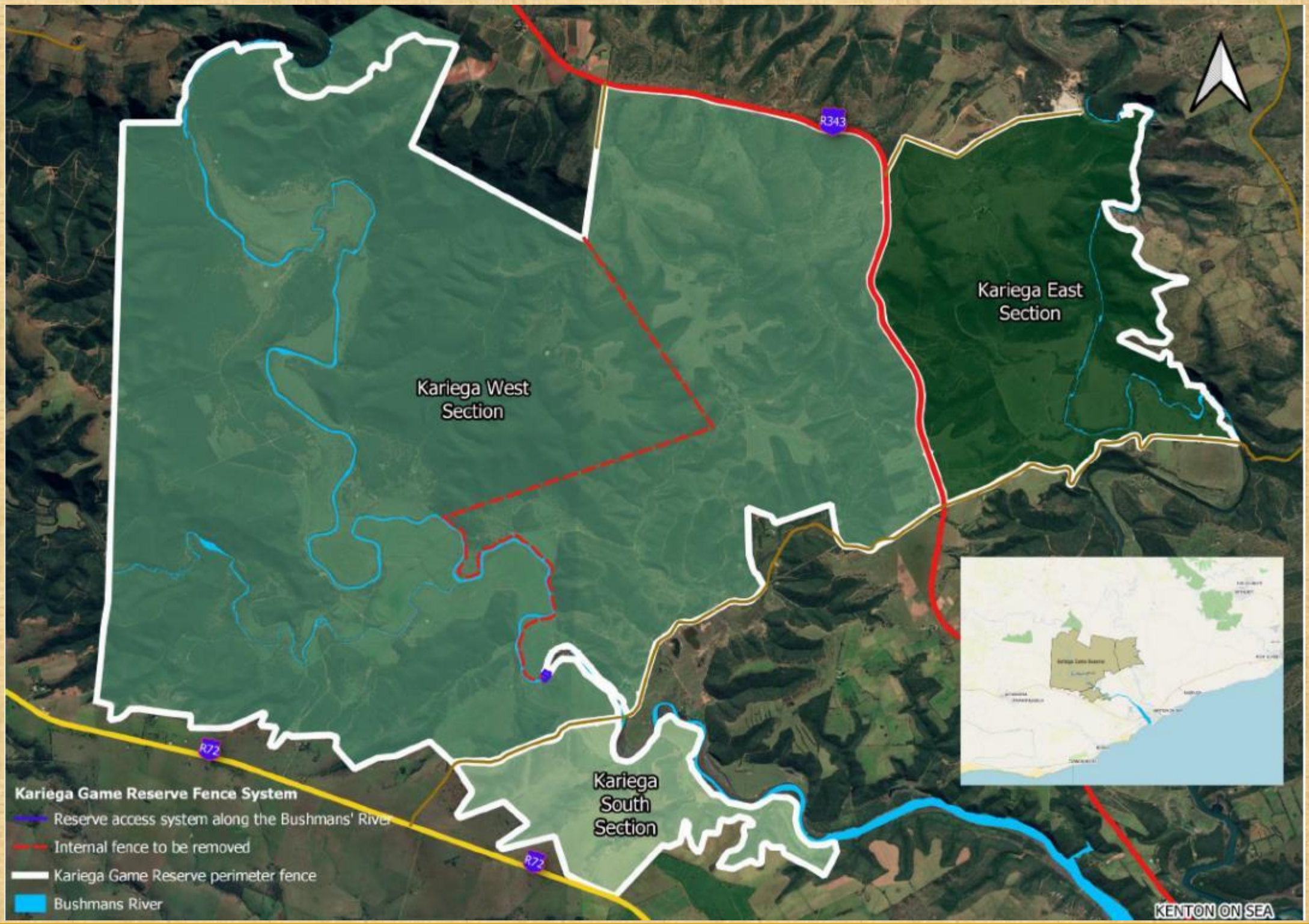
- APPENDIX 1: Bushmans River Entry Point, Signage and Other Images.
  - This has been included to contextualise the expansion for the public. It includes the signboards which are present along the river.
- APPENDIX 2: Kariega Game Reserve Expansion Opportunity.
  - This has been included to give the public insight into the expansion opportunity which finally arose in 2020 and which culminated in the expansion of the reserve.
- APPENDIX 3: Ecological Impact Assessment of the Expansion.
  - This has been included to give the public insight into the expansion in terms of the receiving environment, the integration of species and the effect of this expansion on some of the reserves critically endangered species initiatives.
- APPENDIX 4: Breakout Management Plan.
  - This has been included to give the public access to Kariega's existing plan to manage instances where animals are able to escape. This has been prepared in accordance with the Indalo Protected Environment Management Plan.
- APPENDIX 5: Kariega Game Reserve Socio-Economic Assessment.
  - This has been included to give the public access to the socio-economic initiatives that the Kariega Foundation has been undertaking and the knock-on effect that this expansion would have on these opportunities.

COASTAL AND ENVIRONMENTAL SERVICES (PTY) LTD. T/A CES HAS BEEN APPOINTED BY KARIEGA GAME RESERVE TO FACILITATE THE PUBLIC PARTICIPATION PROCESS. CES WILL FOLLOW THE NEMA EIA REGULATIONS, 2014, AS AMENDED IN TERMS OF CHAPTER 6.

Please submit your comments or concerns to Caroline Evans at c.evans@cesnet.co.za or submit comments in person at 67 African Street, Makhanda. All comments will be consolidated and responded to in a formal Comments and Response Report, which will be submitted to DEDEAT and Ndlambe Local Municipality.

Please kindly distribute this document to any individuals in the great Kariega Game Reserve area. This is a public document, and we would like to encourage stakeholders and interested and affected parties (I&APs) to engage with us during this consultation process.

This document set is being distributed via email (to pre-registered stakeholders and I&APs) and made available in hard copy format at tourism offices in Makhanda, Port Alfred and Kenton-on-Sea. The documents are available on the www.cesnet.co.za website, under public documents. Should individuals wish to receive a hard copy of this document then please kindly contact the PPP consultant. The proposed PPP process and procedure to access documentation is also being advertised in provincial newspapers.


R343
Kariega East Section
Kariega West Section
Kariega South Section
R72
R72
Kariega Game Reserve Fence System
Reserve access system along the Bushmans' River
Internal fence to be removed
Kariega Game Reserve perimeter fence
Bushmans River
KENTON ON SEA

FREQUENTLY ASKED QUESTIONS

Will public access to boating along the Bushmans River be restricted?

No, the public will be able to continue using the Bushmans River as they always have in the past.

How do I know where the dangerous game area starts along the Bushmans River?

Access into the Kariega Game Reserve section of the river is clearly sign posted and demarcated. Please see Appendix 1 of this document.

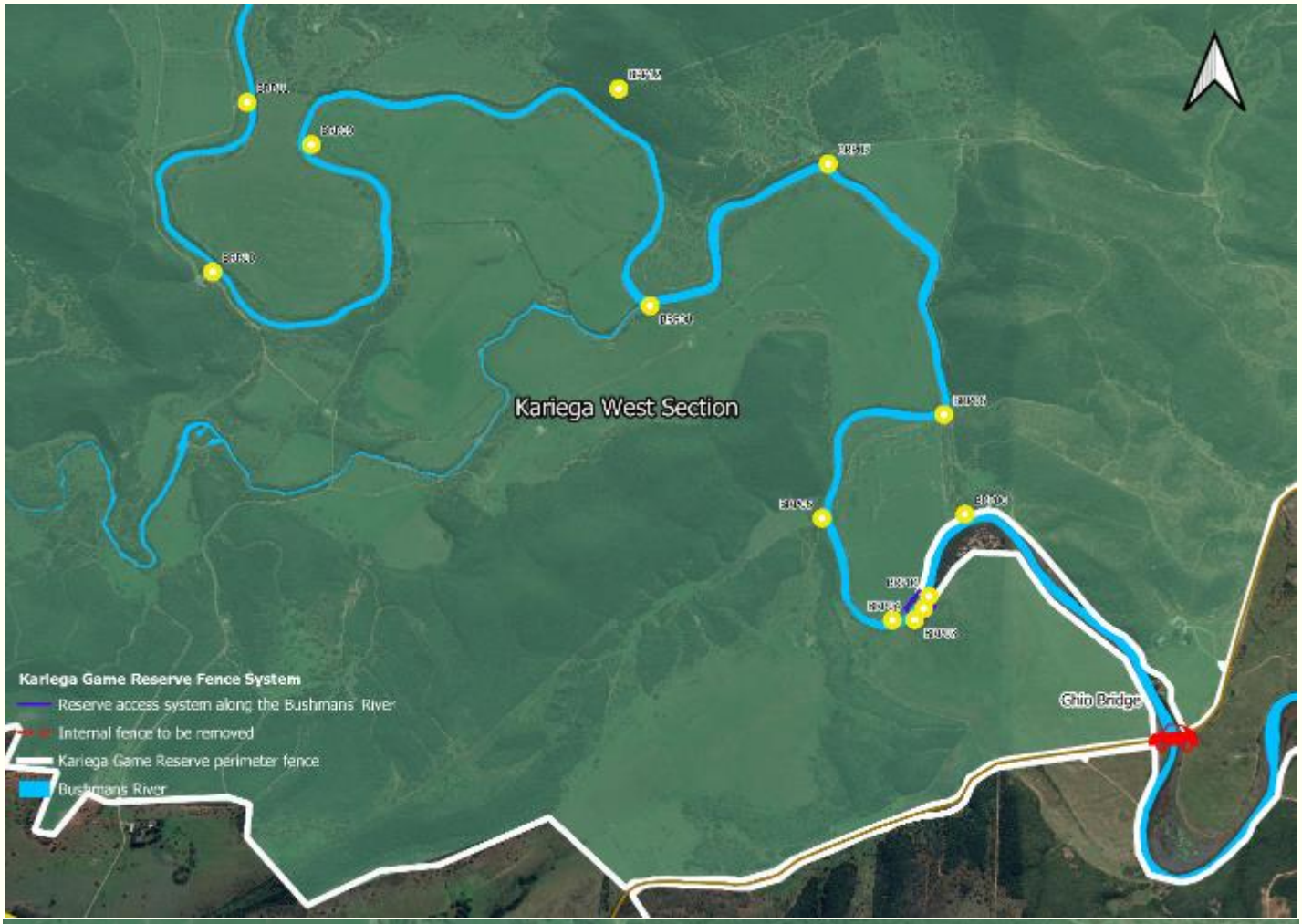
Can I stop and braai on the side of the Bushmans River within Kariega?

No, as it is private property. This restriction is not limited to the Kariega Game Reserve sections.

What happens if I'm distracted and miss the entrance sign into Kariega Game Reserve?

The Kariega Game Reserve section of the Bushmans River includes numerous warning signs adjacent to the Bushmans River to serve as reminders that you are within a dangerous game area.

APPENDIX 1 | BUSHMANS RIVER ENTRY POINT, SIGNAGE AND OTHER IMAGES



This section includes a number of photographs taken along the Bushmans River, please kindly refer to the maps above and below which references where each photograph has been taken.

BRP00 | A view of the fence which will remain between the river entrance point and the Ghio Bridge

BRP01a | The first view of the river entrance point into the Kariega Game Reserve above the Ghio Bridge

BRP01b | A view of the Kariega Game Reserve entrance point, including clear signboards on either side of the river, and a view of the three fencelines that form the two boxes.

BRP01c | Information and disclaimer signs at the Bushmans River entry point into Karieg Game Reserve

BRP01d | The outer fence of the first box at the Bushmans River entrance point into Kariega Game Reserve

BRP04 | The approaching view of the inner-box fence at the Bushmans River entrance point to Kariega Game Reserve (not with camera system which has now been installed)

BRP05 | The first of eight (8) dangerous game warning signs situated along the Bushmans River within the Kariega Game Reserve

The Conservation Opportunity of a Lifetime

"IT'S SURELY OUR RESPONSIBILITY TO DO EVERYTHING WITHIN OUR POWER TO CREATE A PLANET THAT PROVIDES A HOME NOT JUST FOR US, BUT FOR ALL LIFE ON EARTH."
DAVID ATTENBOROUGH.

INTRODUCTION

Kariega Game Reserve has secured the opportunity to acquire and incorporate an additional 1040-hectare area of the Bushman's River valley into the reserve.

As detailed in this document, the target property/s and area:

- is essential for long term conservation and protection of biodiversity;
- completes the Bushman's valley area of the reserve (as a legally Protected Environment);
- realises a 20-year vision of Kariega's owners; and
- is the culmination of 15 years of effort to achieve this objective.

This is simply a once in a lifetime conservation opportunity that cannot be missed. If the current farming owners of the target property/s sell to new farming owners, this critical conservation opportunity may be lost forever.

BACKGROUND

The Eastern Cape of South Africa is historically a natural Big-5 game area. However, during the 19th & 20th centuries most of the region's wild and natural land was converted to stock farming causing major harm to the biodiversity of this wild and environmentally rich area, along with the disappearance of its indigenous wild animals; many of which are now greatly endangered and, in some cases, close to extinct.

In the last few decades there has been a radical change in the attitude toward wildlife conservation in the Eastern Cape. Kariega Game Reserve helped pioneer this shift and has an inspiring 30-year history, including the following:

- Starting with 1 farm in 1989, Kariega has managed to acquire and consolidate the land within the reserve.
- The reserve has been fully re-wilded and is a significant conservation success story (animal re-introduction, range expansion, restoration, protection of endangered species and so much more).
- The reserve is a declared Protected Environment in terms of National Environmental Management: Protected Areas Act, No. 57 of 2003 and forms part of the Indalo Protected Environment.
- The reserve incorporates significant and important biodiversity, including the Kariega and Bushman's Rivers and valleys and 5 of South Africa's 7 biomes, the important Albany Thicket amongst them.

Kariega has become a world renowned, malaria free, Big 5 game reserve. It's a special place of stunning beauty, significant conservation and biodiversity importance and a remarkable blend of land, rivers, animals and community. A safe haven for all creatures great and small.

OPPORTUNITY

However, conservation is not static and habitat restoration and protection is possibly the most important conservation objective of our time.

Kariega has secured the option to purchase and incorporate an additional 1040 hectares of habitat in the Bushman's River Valley into the reserve, with massive conservation benefits. Very significantly, this will result in the existing 4 sections of the reserve (currently necessitated by not having this area as part of the reserve) being consolidated into only 2 sections, with the main section becoming a material conservation size of approximately 9000 hectares. This will be achieved by removing all fences along the public Bushman's River in the reserve which the South African conservation authorities have agreed to in principle, subject to certain achievable conditions, Ndlambe Municipality agreement and a public participation process.

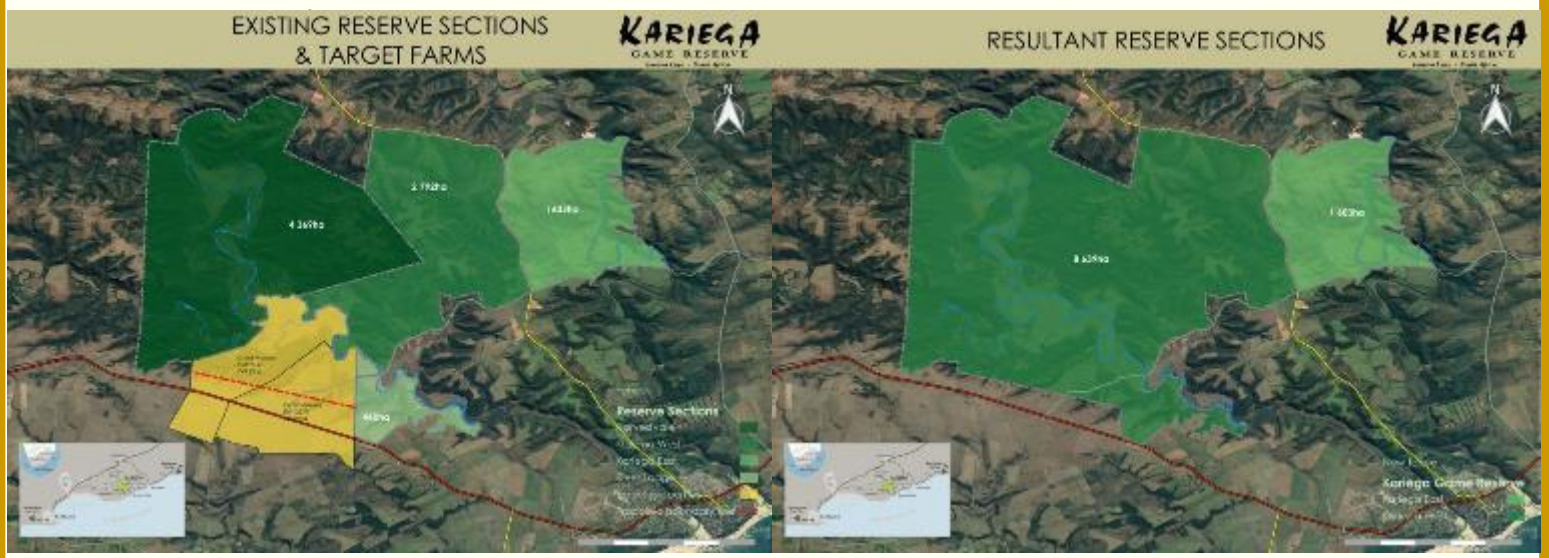
As can easily be seen from the reserve diagrams, this target area is the missing piece of the Kariega land puzzle and is an opportunity that simply cannot be missed. It has taken 15 years of discussions with the current owners of the 2 target farms to reach this point. The owner of target farm 1 (1040 hectares) has recently decided to sell and the owner of target farm 2 is now willing to agree a land swap of a section of his farm to ensure that all the required natural habitat is incorporated into the reserve, with the farming grazing areas which are not suitably located for inclusion in the reserve being retained for farming. It's a win-win situation.

CONSERVATION BENEFITS

The conservation consequences and benefits of this reserve expansion (and especially the creation of the resultant larger sections) are enormous and of significant importance. These include, but are not limited to, the following:

- General range & habitat expansion and restoration
- Protection of biodiversity; thicket vegetation and grasslands (with resultant climate benefits)
- Expanding the declared Protected Environment in terms of the Protected Areas Act
- Range and habitat expansion for elephant
- Additional habitat to expand the already highly successful endangered species breeding programmes
- Entry into additional endangered species custodianship and breeding programmes
- Introduction of a second pride of lion
- Introduction of additional apex predators like leopard and cheetah (now critically endangered)
- Protection of approximately 25kms of the tidal Bushman's River Estuary

Although Kariega operates safari lodges on the reserve and is maintaining a sustainable balance between business, conservation and community, it is important to note that this additional land will not generate additional revenue (but will actually increase costs). It obviously improves the reserve generally but is being pursued mainly for conservation reasons and our continued vision to reclaim and restore natural land for wildlife.



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INTRODUCTION

The extent to which protected area expansion programs affect the natural environment is complex and multi-dimensional but the direction in which it affects it is almost always positive. Not only does it affect the natural environment, but it can have cascading effects onto other sectors which can eventually result in a much larger conservation footprints than what can be measured in hectares.

Although the effects of expanding a protected area are of an integrated nature, with multiple factors acting and reacting on one another, this document will attempt to set out the advantages of including the proposed area into Kariega Game Reserve under separate headings with the understanding that all these factors eventually filter down to conservation.

ECOLOGY

The issues discussed will be on the assumption that the inclusion of the proposed land will support the proposed dropping of the internal fence that currently separates Kariega West and Harvestvale sections.

Habitat

The expansion of any protected area should not just be viewed concerning the area's size but also how the inclusion will influence the shape of the reserve. Aside from increasing the size and production potential, the shape of the reserve is one of the most significant factors that would affect the areas' ability to house sustainable populations of key species, but it will also be a determining factor in animal movements and habitat selection which in turn will result in a more stable and resilient system that could function within greater limits of change.

a) The size of the reserve

Although the inclusion of the new properties will increase Kariega Game Reserve by 13.4%, it can bring the Kariega West, Harvestvale and River Lodge sections together into one ecological management unit of 8949.80ha and increase the western section of the reserve significantly.

b) The shape of the reserve

The proposed expansion may only add approximately 1200ha to the reserve but what is more valuable is its location in relation to the rest of the reserve and the exponential effect that its inclusion will have on improving the shape of the western section.

- The boundary of a reserve can have a profound impact on a conservation area and often leads to intensified management practices. The ideal shape is a circle but due to the method in which farmland has been divided this objective is very difficult to achieve, therefore the next best is a square. Internal corners and fence lines along rivers limit natural movements and result in either over or underutilized habitats or over and under hunting predators which need to be rectified by more intensive wildlife and habitat management.
- The inclusion of the proposed area will give an opportunity to remove all the fences along the river above the Ghio Bridge and all the internal corners on the southern part of this section.
- Core edge ratio (CER) Improvement: Is a term used to express the surface area of the core of the reserve in relation to a buffer zone on the inside of the reserve along its perimeter. A strong CER reduces human-wildlife conflict, improves introduction success, facilities natural movement, reduces negative impacts, especially in the case of apex predators and megaherbivores, while absorbing negative ecological influences from outside.

The Kariega West section has a negative CER of 0.76, meaning that if the edge is defined as a buffer zone of 750m, there is currently more land in the buffer zone than in the core of the reserve, while the Harvestvale section has a positive CER of 1.33. With the inclusion of the proposed land and the dropping of the internal fence, the CER for the western section will be 2.31 which is a 74% improvement by just adding a strategically significant 1200ha.

c) Biodiversity

- The proposed inclusion will increase the number of southern facing slopes within the Kowie Thicket vegetation and will also include a significant portion of Alexandria grassland that is currently not well represented on the reserve. It will furthermore include thicket vegetation associated with the seasonal freshwater along the Biga River. Therefore, it can be assumed that the biodiversity index of diversity, used to monitor the reserve's biodiversity, will reflect these attributes.
- A system's health and resilience to absorb disturbance events like droughts/fires etc. is related to its biodiversity as well as its ability for self-regulation.

Wildlife

The increase in available habitat directly increases the reserves carrying capacity, which will move from a total of 691.92 LSU, that is currently divided among three ecologically isolated properties, to a single ecological unit with a total carrying capacity of 829 LSU. Aside from the advantages that a single ecological unit provides, the proposed expansion will increase the carrying capacity by 20%. More significant is that the limited grazing lands of 1250ha on Kariega West, Harvestvale and River lodge which currently account for 16% of the reserve area will be increased by 1200ha. Thus, although the expansion will only increase the western side of the reserve by 16% it will increase preferred grazing areas by 80%. This will contribute immensely in lifting the current grazing pressure that has resulted in large scale historic degradation on Harvestvale.

An increase in available habitat provides the ability to diversify and increase the species that the reserve can house as well as the number of animals within a specie which further improves the reserve's heterogeneity potential which is further amplified by mechanisms of constant movement.

a) Elephants

Elephants are the species that would certainly benefit the most from the proposed expansion in terms of:

- Densities: The current elephant densities on Kariega West is 0.015 elephants/ha, almost double the upper recommended density of 0.008elephants/ha for the Eastern Cape. With the inclusion of the area under discussion, KGR's elephants will move to a more desirable level of 0.0065 elephants/ha.
- Herd separation: Currently the Kariega West population move 90% of the time in a herd of 35 elephants, known as a bond group. In open systems, the formation of bond and clan groupings are periodically and for a limited time. In a small area, there is limited space for the group to split into the more stable group sizes of 8-12. With a large group moving together their impact increases exponentially. The proposed expansion will most likely promote herd separation which will reduce short term impacts and reduce sighting pressure and defuse the stress related to high levels of vehicle interaction.
- Sustainable population: Land expansion will assist greatly in establishing population dynamics that should result in maintaining a sustainable population size, where natural mortalities more closely resemble natalities.
- Vegetation impact: A lower density and an increase in available habitat will significantly reduce and dissipate vegetation impacts which in turn will assist in obtaining a more sustainable model.
- Stress: An increase in range size will result in a positive change of social-, feeding- and tourism intensity stressors. This will furthermore filter down onto the sustainability objective as there exists a correlation between physiological stress and vegetation impact by elephants and levels of aggression.
- Social benefits: An elephant breeding herd generally consists of between 8-12 individuals, currently 30 of the 43 elephants of the Kariega West move as on group for the overwhelming majority of the time. Although the populations' age is a contributing factor to this phenomenon, it is mainly due to the limited range, thus

expansion and the amalgamation of the properties can facilitate herd separation to more natural group sizes which will also assist in limiting long term impacts, social stress, and tourism pressure.

- Restoration: Unfortunately, due to the problems associated with elephant overpopulation a stigma exists where too often only the negative impact is focused on. Elephants are actually regarded as keystone species, in other words, a species that could transform their environment to the benefit of other species. At optimal densities (0.006- 0.008elephants/ha for the Albany thicket); elephants are crucial for biodiversity and even promote the restoration of thickets through propagation, the flow of genetic material, and their positive effects can even be seen at a hydrological level.

b) Existing Endangered Species

- Sustainable population: The merging of the properties and increase in available grasslands will dramatically improve the sustainability of existing endangered species on Harvestvale, which has until now proved very challenging This will further be assisted by the access existing endangered species will have to the sour-veld grazing areas to the north of Kariega West.
- Territorial disputes: More habitat reduces the level of intra-species competition and mortalities due to fighting.

c) New Endangered Species

- Sustainable population: The proposed expansion will allow for the introduction of sustainable populations of additional endangered species.

d) General game

- Heterogeneity: The expansion will permit an increase in the number of individuals/species, which will allow for genetically more sustainable populations, especially for those species where the total number of animals exceeds 200 individuals providing an acceptable sex ratio at an inbreeding coefficient of < 0.25.
- Species richness: The inclusion of this area, especially its massive positive contribution towards available grasslands and the shape of the reserve will provide an opportunity to further diversify the species on the reserve even under predation conditions.

e) Apex predators

- Sustainable population: The expansion will justify the introduction of a second pride of lions, which creates opportunities for internal population density mechanisms that will facilitate infanticide, reverse pride fragmentation, and support meta-population strategies.
- Prey species movement: The presence of apex predators in open systems force prey species to adapt almost a rotational grazing system as part of their predator avoidance strategy, which results in more evenly distributed use of both marginal and preferred feeding areas. This limits overutilization and underutilization, which in turn reduces management intervention.
- Population control of target prey species: The proposed expansion, will provide a relatively safe habitat, in terms of type, size, and position, to support the introduction of other apex predators like Leopard and Cheetah. Lions are not highly effective in controlling the current impala and warthog populations and the introduction of these predators should assist greatly in maintaining more sustainable densities of these targets and thereby reducing the level of intensive management
- Introduction success: There exists a direct correlation between the survival rate of lower hierarchy predators and a positive core edge ratio (CER), on smaller reserves in the presence of lions, providing available habitat. Thus, the proposed expansion will significantly improve the successful introduction of predators like cheetahs, which till now has not been possible due to the negative CER, lion fragmentation, and lack of preferred and available habitat.

RESERVE & WILDLIFE MANAGEMENT

Level of management intensity

Although there will be a significant cost to erect the southern fence and drop internal fences, over time the level of management intensity will be decreased even with an increase in size. Economies of scale come into play regarding the cost of /ha/month to maintain infrastructure and will decrease exponentially. Some management functions that would be positively affected are:

- Monitoring and adaptive management: Currently management needs to monitor and implement intensive strategies on essentially 4 separate reserves/farms. By consolidating the areas one less intensive strategy can be implemented
- Population control: Game capture and introductions will be reduced to maintain genetic integrity by the natural balance of a larger open system. With a larger more self-regulating system game capture and culling operations would also become less intensive.
- Fences: Perimeter fences to be maintained will reduce from 60km to 41km which is a reduction of 30%. Better accessibility of fences will improve monitoring.

SECURITY

The increase in land size will demand a significant expansion of the reserve's current Anti-poaching capabilities (which has been planned and will be implemented). Although the reserve will only be expanding by 16%, the current APU team will need to expand by a minimum of 50% to fulfil its mandate. Aside from increasing the number of staff, there will also be a need to establish a base camp in the far western section, equipment, firearms, and vehicles for the teams.

The presence and higher density of apex predators (see below) will assist as a deterrent to certain categories of poachers as has been demonstrated in similar areas to date.

ECO-TOURISM

Having an open area of around 10 000ha will enhance Kariega Game Reserve’s reputation and desirability as a safari destination in the Eastern Cape and benefit the region generally.

CONSERVATION

Habitat conservation

The proposed area will be included in the reserve’s tourism intensity land-use plan to optimize its conservation value which will:

- Result in a larger protected area that will be more effective and efficient in filling its conservation mandate.
- Contribute to the national targets of protected areas.
- Allow access to restore degraded thicket areas.
- Assist in the sequestration offset to carbon (5000kg/ha/year).
- Increased biodiversity, Alexandria grasslands, Biga river, and alluvial plains.
- Increased the area of the river to be included and protected by Kariega Game Reserve as part of the new Ndlambe Marine Protected Area Management plan.
- Serve as a more attractive target area to build corridors to link previously isolated and fragmented habitats.

Species Conservation

Potential expansion for species conservation and future collaboration with NGOs and the public sector.

a) New Endangered species expansion project (WWF)

- Habitat for endangered species: Since 2018, Kariega has been considered for inclusion in various endangered species Expansion Programs, as part of INDALO and other initiatives. The range expansion will support and allow these initiatives, and the completed assessments centred around the lifting of the internal fence to create a more favourable recipient area.
- The proposed expansion will give Kariega an open system area of approximately 10000ha and in conjunction, with other INDALO reserves, a meta-population strategy will be adopted.
- Global impact: in terms of establishing a source population to contribute to the conservation of endangered species.
- Community projects: These projects can potentially open avenues to financially support CBNRM projects.
- Conservation status: An association with a conservation partner like WWF will not only add weight to Kariega's conservation status but also open the door for future conservation outputs.

b) Existing Endangered species

- Implications of breeding success: Breeding success of existing endangered species has already been remarkable and will improve with the expanded areas.
- The expanded area has ideal Alluvial plains that have been well managed by the previous landowners and will be sufficient to support additional hubs on the reserve, thereby providing more habitat to build in a buffer when implementing metapopulation management strategies. Accordingly, it will address the following issues:
  - Inbreeding
  - Mortalities due to fighting
  - Available habitat
- Alternative feeding areas: The dropping of the internal fence will also allow existing endangered species populations to migrate to new areas, when necessary, for example, during droughts, which should prevent some problems experienced in the past.

c) Cheetah Meta-population management (EWT)

Cheetahs (Acinonyx jubatus) are current classified as threatened due to habitat destruction and fragmentation, human-wildlife conflict and limited levels of heterogeneity. The Thus, inclusion of the expanded property will create:

- Habitat for threatened species: One of the main factors in species conservation is habitat destruction and or fragmentation. This expansion will put KGR in a position to provide much-needed space for cheetahs.
- Co-operate on a national level: Maintaining an optimal level of heterogeneity is the second major challenge that cheetah conservationist face and by establishing a source population within the current national meta-population framework, Kariega can make a noteworthy contribution to this species.
- Conservation Status: An association with EWT as a conservation partner will contribute further to Kariega GR's conservation goals

Conservation extension

a) Socio-economic investment:

A high-status conservation area attracts investment outside its borders. The increased transformation of Hoedspruit, in the Limpopo Province, is an excellent example of this and a model that can be replicated in the Albany region of the Eastern Cape.

CONCLUSION

The proposed inclusion of new properties and removing internal fences will be a massive improvement on the status of not only Kariega Game Reserve but will also be of great value to the conservation of landscapes and species in the Eastern Cape and contribute to the expansion of green capital and tourism in general in the region. The conservation footprint of the proposed expansion far exceeds the 1200ha it represents on the ground and although it will of great value to Kariega Game Reserve, it has the potential to have far-reaching effects that can create a synergy effect on the conservation potential of the area/region.

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KARIEGA BREAKOUT PLAN (EXTRACTED FROM APPROVED INDALO PROTECTED ENVIRONMENT MANAGEMENT PLAN)

Mitigating systems and processes which have been put in place to prevent and manage breakouts:

- Daily checks on the status of the electric fences.
- Weekly checks on the condition of all fence lines.
- A dedicated fence maintenance team.
- All newly introduced predators are fitted with at least one LoRa/ VHF tracking device, set on an hour interval for the first 3 months and thereafter on a 3-hour interval that should allow for approximately a 2-year lifespan on a device.
- Early detection alert systems in Earthranger automatically notify breakouts directly to managers and the operations room via WhatsApp.
- Geofence alert systems notify of predators crossing the reserve perimeter.
- Manned operations room to receive information, notify managers and direct actions.
- 24/7 qualified and equipped Field Rangers' reaction team.
- An environmental monitoring system that captures data and reports via EarthRanger® and SMART systems.
- Cameras with artificial intelligence monitor animal movements and sends reports directly to the management and operations room.
- Hikvision cameras, that stream to the operations room from reserve access points including the Bushman's River access point.
- WhatsApp groups with all neighbouring properties and Salem community groups to ease communications and accessibility to KGR's management and operations room.
- Representation as a member of the local farmers association and AgriSA.
- Should an individual or group break out, the reserve manager must be immediately informed, and the following information is obtained and recorded on the EarthRanger® report under emergencies procedures/ breakouts:
  - Name & contact details of the first person to report the breakout
  - Date and time of breakout
  - Species
  - Number of animals
  - Description: [Age and gender/Group structure], [Distinct markings or collars].
  - Where they were last seen.
  - Status: Resting, mobile, feeding other
  - If they were moving, the direction they were going
  - Risk assessment: [To human life]; [To livestock]
  - Other comments: [Movement direction]; [Damage caused]; [Injuries sustained]

Once the necessary information has been obtained the following breakout protocol will be implemented:

- Kariega has public liability insurance, but the animal will be destroyed should any human life be in danger. In all instances, decisions will be made on-site by the most senior manager on duty.
- All communications will be maintained on the wildlife channels (5/9), with cell phones as backup communication

- Notify the reserve manager of the breakout
- The senior manager on duty needs to simultaneously:
  - Notify all neighbours & communities of the breakout via the “Kariega neighbours” & “Salem Information” WhatsApp groups as well as the Grahamstown Conservation officer (066 430 3864) and Kenton-on-sea police station (046 648 1222) of the situation.
  - Despatch a two-man team to relocate the animal(s) via EarthRanger® and monitor the position of the animal(s), this team will be responsible for maintaining visual contact with the animal and communications with the reserve manager while informing and controlling people and bystanders accordingly.
  - Snr Field ranger: Task Field Rangers to determine the position of the breakout point and guard its tills such time the fence can be repaired.
- The senior manager on duty: Once the animal(s) are found, access the possibility of driving them/it back into the reserve by vehicle, drone or foot can also be considered with cheetahs, while dropping a section of the fence, if necessary, should driving the animal(s) not be a variable option:
  - Contact IKHALA Veterinary Services at 083 419 4122 to immobilise the animal and transport it back into the reserve.
  - Should air support be needed, request a helicopter from INYATI Game Services at 082 929 0812.
  - As a very last option, the animal will be destroyed, when considering the threat that cheetahs pose, this should only be in an extreme case.
- Reserve manager: Close the breakout point and if needed where fences might have been dropped to drive the animal(s) back in.
- Snr Field Ranger: Resolve the EarthRanger® report.
- Reserve Manager: Notify neighbours, Community, Grahamstown Conservation Officer, and Kenton-on-sea police station that the matter has been resolved.
- Ecologist and Reserve manager: Determine the cause of the breakout and implement mitigating actions.
- Conservation manager: Submit a full report to DEDEA Port Elizabeth and Grahamstown Office at the following email addresses: Thembinkosi.Tyali@dedea.gov.za; Carin.Swart@dedea.gov.za; as well as to Ashia Cheetah Conservation (ACC).
- Wildlife monitors: Monitor the animal for 24 hours after the incident has been resolved.

APPENDIX 5 | SOCIO-ECONOMIC INFORMATION

KARIEGA FOUNDATION
PARTNERS IN COMMUNITY UPLIFTMENT

The Kariega Foundation was established in 2012 with the focus on rhino protection during the poaching crisis at the time. By 2016, Kariega Game Reserve had built a robust commercial model and a new vision emerged to leverage that commercial success and start investing intentionally into community rejuvenation and advanced conservation practices. From January 2017 a nominal conservation and community levy was charged per person per night and transferred to the Kariega Foundation Trust to deliver on the joint mandate of Kariega Game Reserve and the Kariega Foundation:

TO CREATE A SUSTAINABLE ECO-TOURISM MODEL THAT DELIVERS ON A HOLISTIC MANDATE TO PROTECT AND PRESERVE THE KARIEGA WILDERNESS AND UPLIFT THE PEOPLE AND COMMUNITIES THAT LIVE IN AND AROUND THE RESERVE.

Our numerous, meaningful and diverse projects flow from these core motives to protect and preserve our precious natural heritage as well as uplift and educate our neighbouring communities so that, together, we may reform that which threatens its existence.

OUR VISION IS TO BUILD A CONSERVATION COMMUNITY THAT WORKS COLLECTIVELY TO REJUVENATE OUR PLANET, PEOPLE AND WILDLIFE.

Please read and refer to the Kariega Foundation's 2022 report: https://www.kariega.co.za/blog/reflections-on-2022-the-kariega-foundation The following is the impact summary for 2022:

- Total investment into conservation and community: R7 million
  - Direct investment into community: R2.2 million (30%)
  - Direct investment into wildlife protection: R1.4 million (20%)
- Seven (7) APU rangers live in our communities.
  - Direct investment into conservation including habitat expansion: R1.2 million (17%)
- Thirty (30) people are employed by the Kariega Foundation (21 live in Ekuphumleni, Marselle and Klipfontein)
- Kariega Game Reserve employs almost 300 people who mostly live in these communities.
- Approximately 300 children are registered in our youth development programme and engage in:
  - Social and emotional learning; sports development; environmental education.
- We work with and support 10 ECD centres and 5 community kitchens.
- Current projects in partnership with Ndlambe Municipality include:
  - Upgrade of Ekuphumleni Library with a computer lab including 16 computers and a dedicated project manager.
  - Building a new ECD Centre in Marselle.
- New skills being developed in the community:
  - Permaculture gardening for sustainable food production.
  - Mounted Unit horsemanship skills.
  - Anti-Poaching Ranger qualifications.
  - Field Guide training and qualifications.
  - Alien vegetation management skills development and certifications.

This extremely positive impact on our communities and environment is made possible by the commercial and conservation success created by Kariega Game Reserve. The Kariega Foundation 2023/2024 budget is R7.9 million. The conservation and community levy raises 60% of this budget and the 40% balance is raised through international fundraisers or events that leverage the hospitality and beauty of Kariega Game Reserve. 100% of funds raised and reinvested into our communities and environment are as a result of Kariega Game Reserve.

Any bid or proposal to improve Kariega Game Reserve from an ecological or commercial perspective will have a direct and increasingly positive impact on the Kariega Foundation budget and fundraising ability for the benefit of our local communities and our environment.