MANAGEMENT PLAN
FOR THE
BLUE HILL NATURE RESERVE

Western Cape, South Africa.

2024 – 2029

Protected Area Management Plan

April 2024

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Cape Leopard, Blue Hill Nature Reserve

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Protected area management plan format has been developed by CapeNature with input from external partners and industry stakeholders

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STATUS

The Blue Hill Nature Reserve has been declared as a Section 23 Nature Reserve.

Declaration Date:	Government Gazette Notice:
2013-09-11	P.N.314/2013 Province of the Western Cape: Provincial Gazette 7174

AUTHORISATION

This Protected Area Management Plan for the Blue Hill Nature Reserve was drafted and recommended by the Dr Chris Lee.

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Review Date: 2024/11/06

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1 Site Description

1.1 Introduction

The Blue Hill Nature Reserve is located in the Garden Route District Municipality, in the Western Cape Province, and is about 25 km to the east of the town of Uniondale. It falls on the western boundary of the Baviaanskloof World Heritage Site.

The Blue Hill Nature Reserve is a biodiversity stewardship site and is declared as a nature reserve through an agreement between the MEC (represented by conservation authorities) and the private landowner of the site. Since the site falls within the Western Cape Province, the declaration of the nature reserve was facilitated by CapeNature, the provincial conservation authority for this province. However, since the site abuts the Baviaanskloof World Heritage Site, which is managed by the Eastern Cape Parks & Tourism Agency (ECPTA), the management planning process has been facilitated by the ECPTA in order to promote synergist management between the nature reserve and the world heritage site.

The foundation for this plan is the protected area management agreement for the Blue Hill Nature Reserve. The plan is divided into two parts: the Strategic Management Plan (the current document) and the Annual Operational Plan. The Strategic Management Plan (SMP) provides the context and justification for the nature reserve and outlines the policy and decision-making environment. Importantly, the SMP lists the management objectives for the nature reserve, which are also recorded in the protected area management agreement, and records policy statements for how these objectives will be achieved. The Annual Operation Plan, which will be developed after the SMP, decomposes the management objectives into specific management actions for a given year and assigns responsibilities and timeframes.

The nature reserve comprises the Remainder of the Farm Paarde Kraal No. 84 and Portion 2 (a Portion of Portion 1) of the Farm Paarde Kraal No. 84, in the Division of Uniondale, in the Western Cape Province, measuring 2 233.0 ha and 35.5 ha in extent respectively and held under Title Deed No. T26438/2009. The properties are owned by the Lee Family Trust (951/2009), which is represented by Dr Chris Lee. The property has two common borders with the Baviaanskloof World Heritage Site.

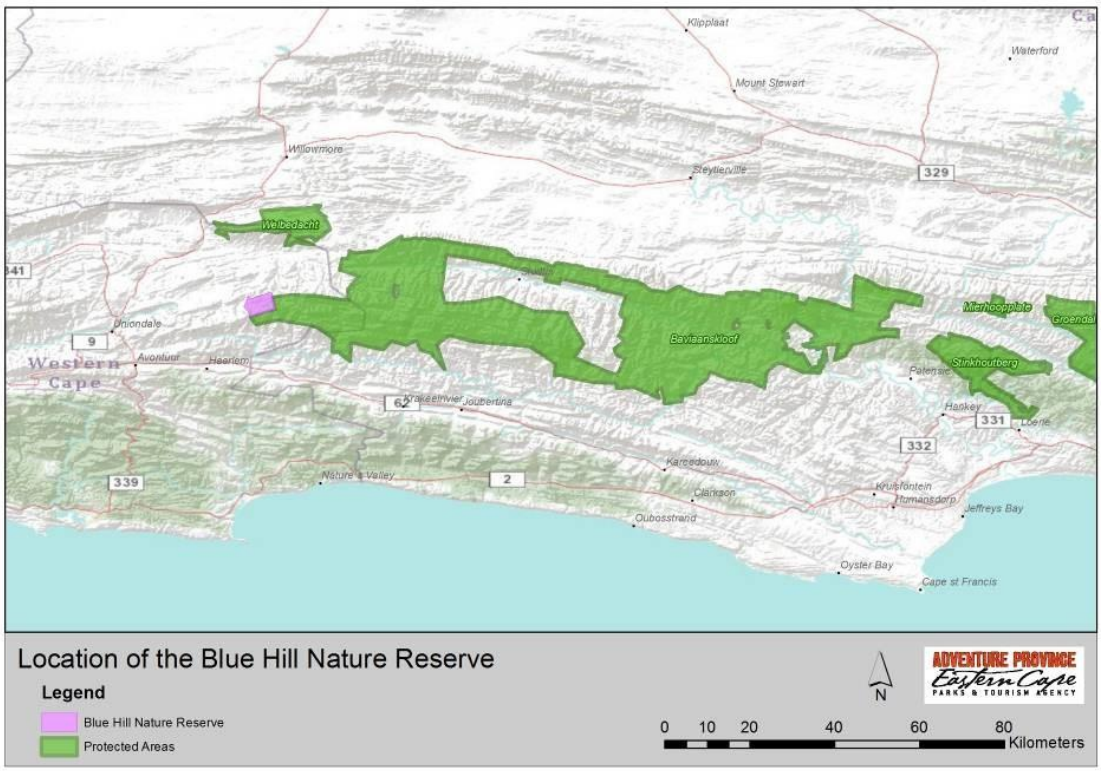

Figure 1.1 Regional location of Blue Hill Nature Reserve.

1.2 The values of Blue Hill Nature Reserve

Natural values	• Property adjoins the Baviaanskloof Provincial Nature Reserve on two boundaries and forms a critical buffer area. • The vegetation is in relatively pristine condition and consists of: Kouga Mesic Fynbos, Kouga Grassy Fynbos and Hartebeesvlakte Renoster Sandolienveld, which is not represented in any existing Protected Area. • Property contains unique geological features. • Important processes link to the Baviaanskloof Nature Reserve such as water flow. • Property also contains important protected habitat for species such as leopard and the associated prey species.
Ecosystem service values	• Provides ecosystems services (water purification, carbon sequestration, pollination, etc.). • Contributes to the Protected Area network within the United Nations Educational, Scientific and Cultural Organization (UNESCO) Gouritz Cluster Biosphere Reserve. • Provides refuge for animals and plants, storehouse for genetic material. • Provides Pollination Services.

Eco-cultural tourism values	• Offers self-catering accommodation and nature trails to the public. • Natural cape flora and scenic beauty. • Peace and tranquillity. • Unpolluted skies. • Contains wilderness attributes. • Existing infrastructure of roads. • Wildlife viewing.
Socio-Economic values	• Strong partnerships with governmental and non-governmental stakeholders. • Opportunities to improve environmental awareness and education. • Research opportunities. • Contains wilderness attributes.

1.3 Regional and local planning context

1.3.1 The Strategic Development Framework and Integrated Development Plan

This refers to the Integrated Development Plans (IDP), Spatial Development Frameworks (SDF) and Land Use Management Systems (LUMS) of the district and local municipalities within which the protected area falls.

Garden Route District, also known as the as the "Garden Route" is situated on the southern-eastern coast of the Western Cape Province is currently the third largest district municipality within the Western Cape. With a total earth surface coverage of approximately 23 332 km², the municipality shares its borders with four other district municipalities namely Cacadu District in the Eastern Cape, Overberg and Cape Winelands in the west and to the north the boundary with the Central Karoo District Municipality runs along the Swartberg mountains. In the east, the municipality runs up to the Eastern Cape provincial boundary. Oudtshoorn is the largest inland town, located along the R62 and N12 linking smaller inland towns of Ladismith, Calitzdorp, De Rust and Uniondale. The inland areas of the Garden Route District are characterised by a strongly rural setting with dispersed farming hamlets and small towns, which in some cases are isolated due to transport and social service delivery costs. Along the coast, the dominant port industrial town of Mossel Bay is functionally linked inland with George, the services centre of the District, as well as along the N2 to the tourism and lifestyle driven settlements of Knysna, Bitou to the East. To the west of Mossel Bay, the towns of Riviersonderend and Riversdale are gateways to the Garden Route and South to the coastal towns of Witsand, Stilbaai and Gouritzmond.

The IDP and SDF of the Garden Route Municipality recognise the importance of being part of the Cape Floristic Region which is classified to be a global biodiversity hotspot. These documents note that the Garden Route's outstanding natural beauty is made up of diverse wilderness and agricultural landscapes, estuaries and lagoons, mountain backdrops and coastal settings, including the verdant landscapes of the Garden Route. As a result of the natural beauty, the area is well known for its tourism. As it is stated that the Southern Cape coastal belt has been identified as a significant leisure, tourism, lifestyle and retirement economic destination, driven largely by the quality of life and climatic advantages of the region. The district's natural capital and its varied scenic and cultural resources are the attractions that make the Western Cape the country's premier tourism destination (SDF, 2020). Keeping the natural environment, wetlands, lakes and rivers in a pristine condition is key to future security in the future of the region.

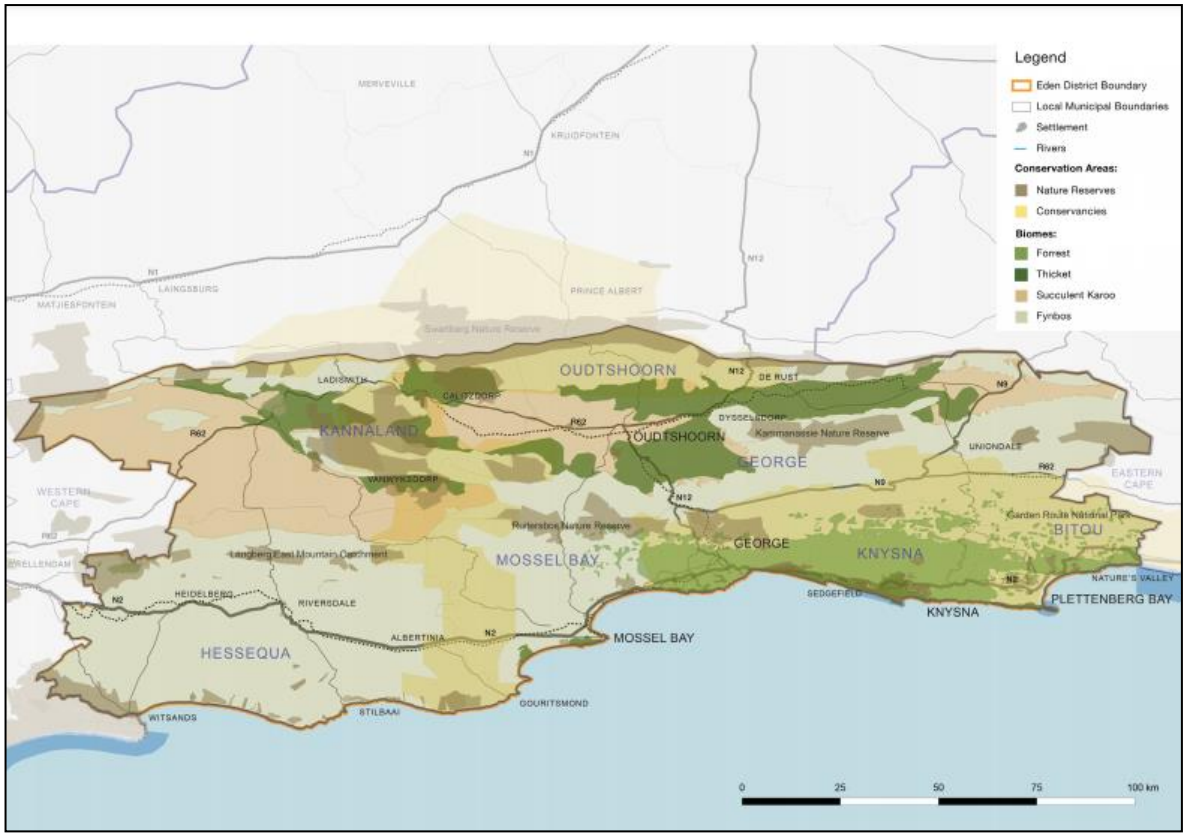

Figure 1.2 Local Spatial Development context for the Garden Route Municipality.

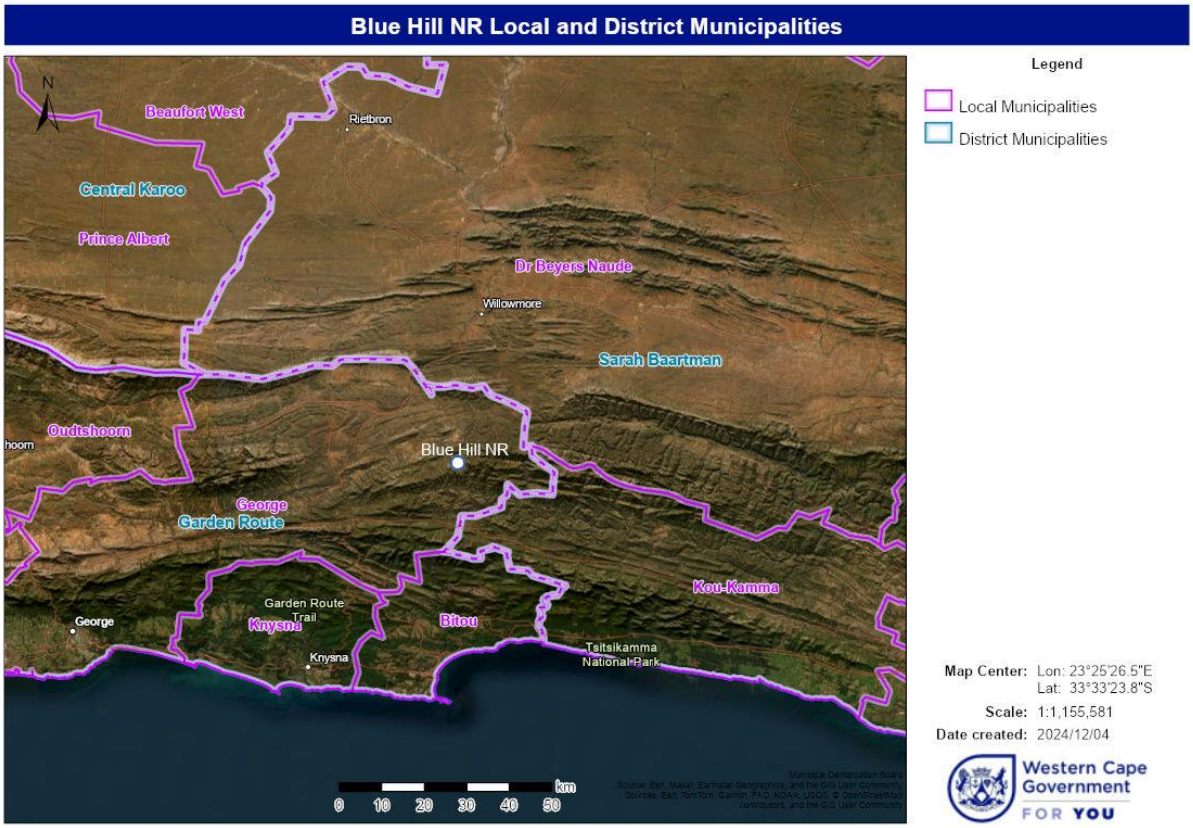

Figure 1.3 Location of Blue Hill NR in terms of municipal boundaries.

1.4 Socio-economic context

The Garden Route District currently has a population of 622 664, meaning it is the Third most populous municipal district in the Cape, after the Cape Winelands' and City of Cape Town. The total population is estimated to increase to 643 134 by 2023 which equates to 0.8 per cent average annual growth.

In 2017, the Garden Route District economy was dominated by the finance, insurance, real estate and business services (R10.733 billion; 24.9 per cent), wholesale and retail trade, catering and accommodation (R7.811 billion; 18.1 per cent) and manufacturing sectors (R6.312 billion; 14.6 per cent). Combined, these top three sectors contributed R24.856 billion (or 57.6 per cent) to the Garden Route District's economy, estimated to be worth R43.153 billion in 2017.

The wholesale and retail trade, catering and accommodation sector contributed the most jobs to the area in 2017 (55 985; 24.7 per cent), followed by the finance, insurance, real estate and business services sector (39 233; 17.3 per cent) and the community, social and personal services (35 255; 15.5 per cent) sector. Combined, these three sectors contributed 130 473 or 57.5 per cent of the 226 789 jobs in 2017.

The unemployment rate in the Garden Route District has been rising steadily since 2015, falling back slightly to 15.2 per cent in 2018. This is slightly lower than the Provincial rate of 17.7 per cent. Unemployment remains a key challenge for the Garden Route District area, with rising population numbers. Income inequality in the Garden Route District has worsened between 2012 and 2018, with the Gini coefficient increasing from 0.585 in 2012 to 0.614 in 2018.

There are 140 informal settlements in the District, together amounting to 15% of all households and the housing waiting list amounts to 65 000 households. Roughly, 80% of the district's population lives in urban areas along the coast.

1.5 Socio-political context

1.5.1 Historical inhabitants of the area

The Baviaanskloof area is an important meeting point of diverse cultures. Humans have occupied the Baviaanskloof area since at least the Middle Stone Age (100 000 to 30 000 years ago). After a period of low population density between 60 000 and 20 000 years ago, stable Late Stone Age human populations became established in a series of phases. Hunter-gatherer San occupied the area until the arrival of the Khoekhoen herders about 2000 years ago. The Khoekhoen mixed with the San to form a group known as the Khoisan. The Khoekhoen were followed by Bantu-speaking Iron Age agro-pastoralists, who migrated southwards from central and eastern Africa, and then followed by European colonists in the mid to late 18th century. The European settlers displaced the San, who by the end of the 19th century had ceased to exist as an independent people in the area (Boshoff 2005).

San art is preserved on the site in several rock overhangs on Blue Hill Nature Reserve.

The human population in the Baviaanskloof area reached a maximum of about 2 000 individuals between the mid-19th and mid-20th centuries, whereafter it began a decline that continues to today (Boshoff 2005).

1.5.2 Current inhabitants and land use

The area is marginal for agriculture. The surrounding land use is predominantly conservation and livestock farming. Small-scale cultivation occurs along the Hartebees and Olifants Rivers to the north.

The current land use on the Blue Hill Nature Reserve is eco-tourism and conservation. Accommodation on the reserve is self-catering units. Activities for visitors include hiking, mountain biking, wildlife watching and photography, geological walks, rock climbing, sustainable flower harvesting, geocaching and orienteering.

1.6 Ecological context

1.6.1 Climate

The Baviaanskloof area receives rain throughout the year, with peaks in March and November. The proportion of winter rainfall increases from east to west. Winter rain is cyclonic and orographic while summer rain occurs as thunderstorms. The average rainfall on the Kouga Mountains east of the Nature Reserve is 547 mm (651 mm on the southern slope and 448 mm on the northern slope). According to Lee & Barnard (2013) the long-term rainfall average prior to 2010 was 344 for Uniondale. A weather station was installed on the property in 2013. The rainfall record since 2013 suggests annual rainfall is now 307mm. 2023 received 468 mm of rain, representing an above average year (Figure 1.5).

In summer the prevailing wind from the south and southeast and in winter the prevailing wind is from the northwest. Hot, dry berg winds are experienced during autumn and winter.

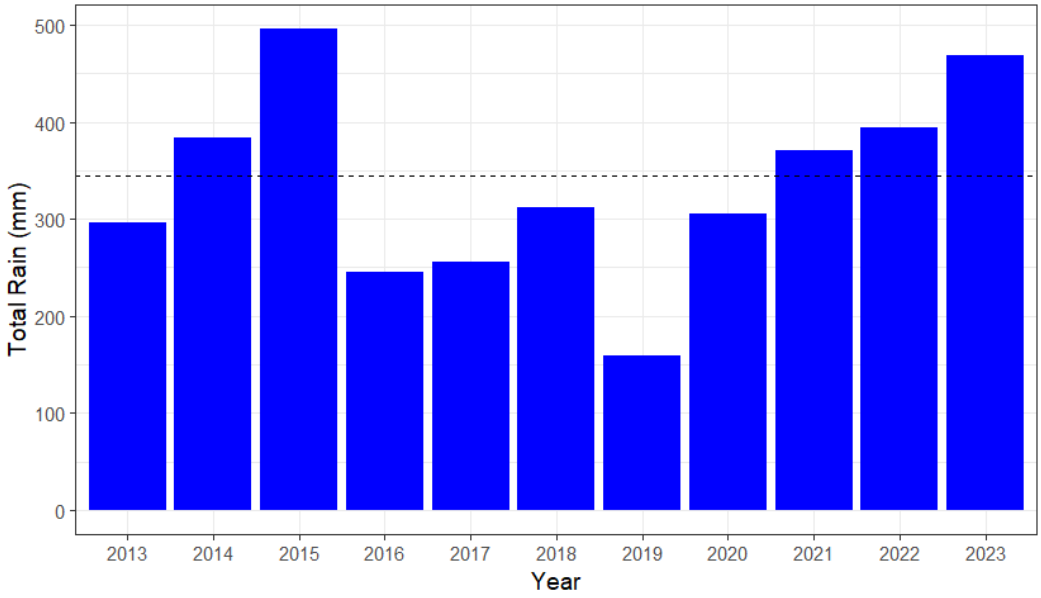

Figure 1.5 Annual rainfall totals from 2013 – 2023. Note the station was installed in April 2013, so 2013 year does not include rain for Jan - March. The dashed line represents the historical average for Uniondale (344mm).

The area experiences high fluctuation in daily and seasonal temperatures. The average daily maximum in low-lying areas is 32 °C in January and 18 °C in July. The average daily minimum is about 15 °C in January and 5 °C in July. Frost may occur from the beginning of June to the end of August.

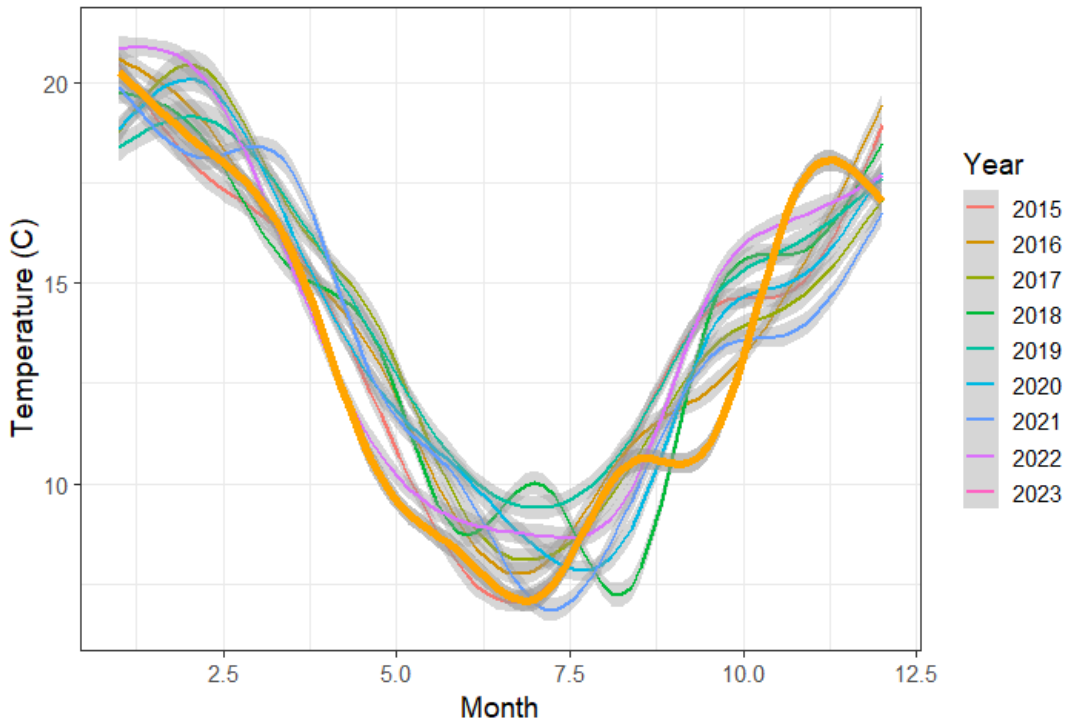

Figure 1.6 Monthly average temperature by years, with curve lines representing smoothed fits. 2023 is the orange line.

1.6.2 Topography and terrain morphology

The area is characterised by mountains of the Cape Fold Belt. The dominant topographic features of the region are the three parallel mountain ranges which are orientated in a roughly east-west axis. These ranges are the Baviaanskloof, Groot Winterhoek and Kouga Mountains. Their average height is more than 1 200 m above sea level.

The site is on the northern slopes of the Kouga Mountains, near the western extent of the range. The slopes have been eroded over geological time by tributaries of the Olifants River resulting in an undulating terrain (see map in the appendix).

Remnants of the African Land Surface, the product of near 100 million years of erosion from 120 million to 20 million years ago, are visible on site as relatively flat surfaces at intermediate elevations.

The Bloukop peak reaches 1 518 m above sea level and is the highest point on the site. It is situated on the south-western boundary of the site. The lowest parts of the site are the incised channels of the tributaries. The lowest point is in the northwest of the site at approximately 1 040 m above sea level.

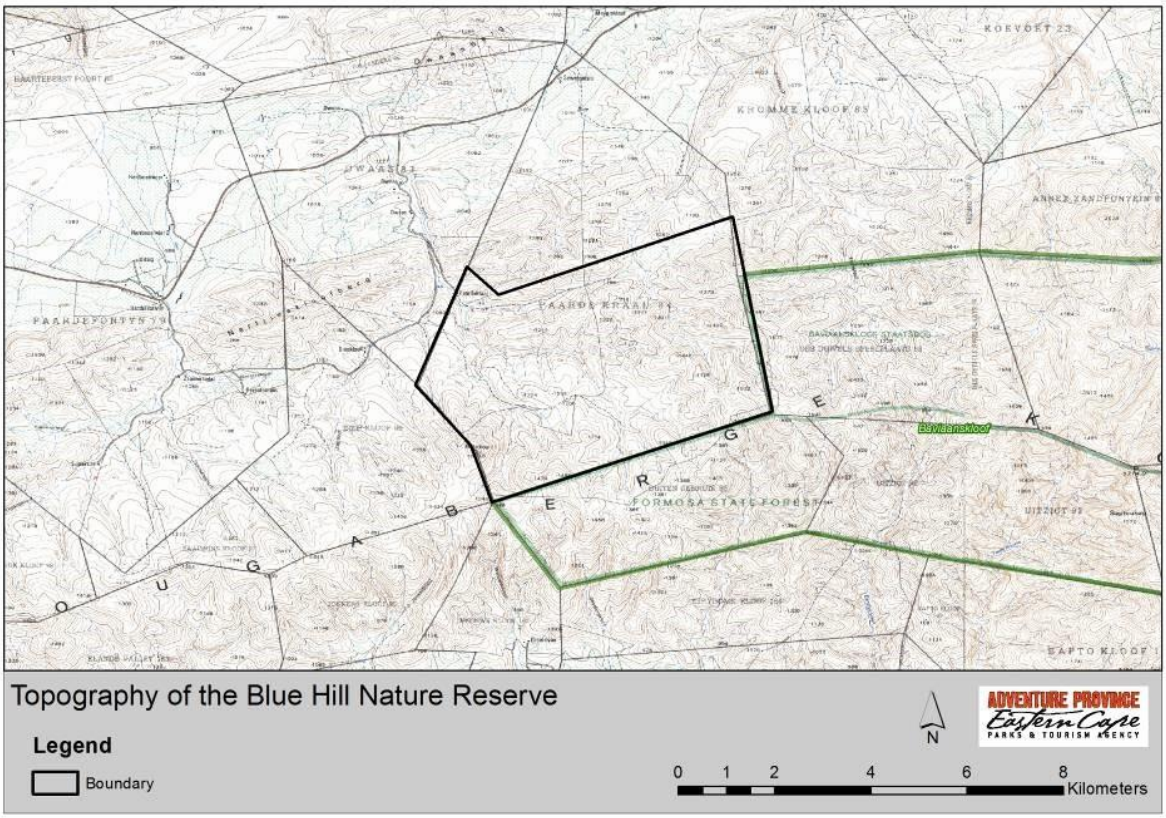

Figure 1.7 Topography of Blue Hill Nature Reserve.

1.6.3 Geology and soils

The geology of the site is characterised by rocks of the Table Mountain Group, folded and thrusted into east-west ridges and formed about 450 million years ago. Minor shale sequences are inter-bedded.

Three formations within the Table Mountain Group occur on site (see map in the appendix):

- Goudini Formation – quartzitic sandstone, generally brown in colour and can often be recognised by the numerous shallow caves in the cliffs.
- Cedarberg Formation – separates the Peninsula from the Goudini Formations with a 10-40 m wide bar and is usually associated with lower lying necks and saddles. Comprised of shale, siltsone and subordinate sandstone.
- Peninsula Formation – this is the oldest formation of the Table Mountain Group and usually dominates at higher altitudes and the peaks. It is comprised of quartzitic sandstone, minor conglomerate and shale.

Cretaceous duricrusts occur on the African land surface at intermediate elevation surfaces. Holocene (20 000 – 50 000 years ago) landfill of intercalated silt, sand, pebble layers occur in the valleys.

The soils derived from the sandstones of the Table Mountain Group are generally sandy, shallow and acidic. Residual shallow soils are weakly structured sandy to sandy loams. These soils occur on, or close to, the slopes are nutrient poor, have poor water retention properties and generally provide an inhospitable medium for plant growth. Fynbos vegetation has adapted to these harsh growing conditions. Shale-derived soils in the lower lying areas have higher proportions of clay and generally have a higher nutrient status and water holding capacity.

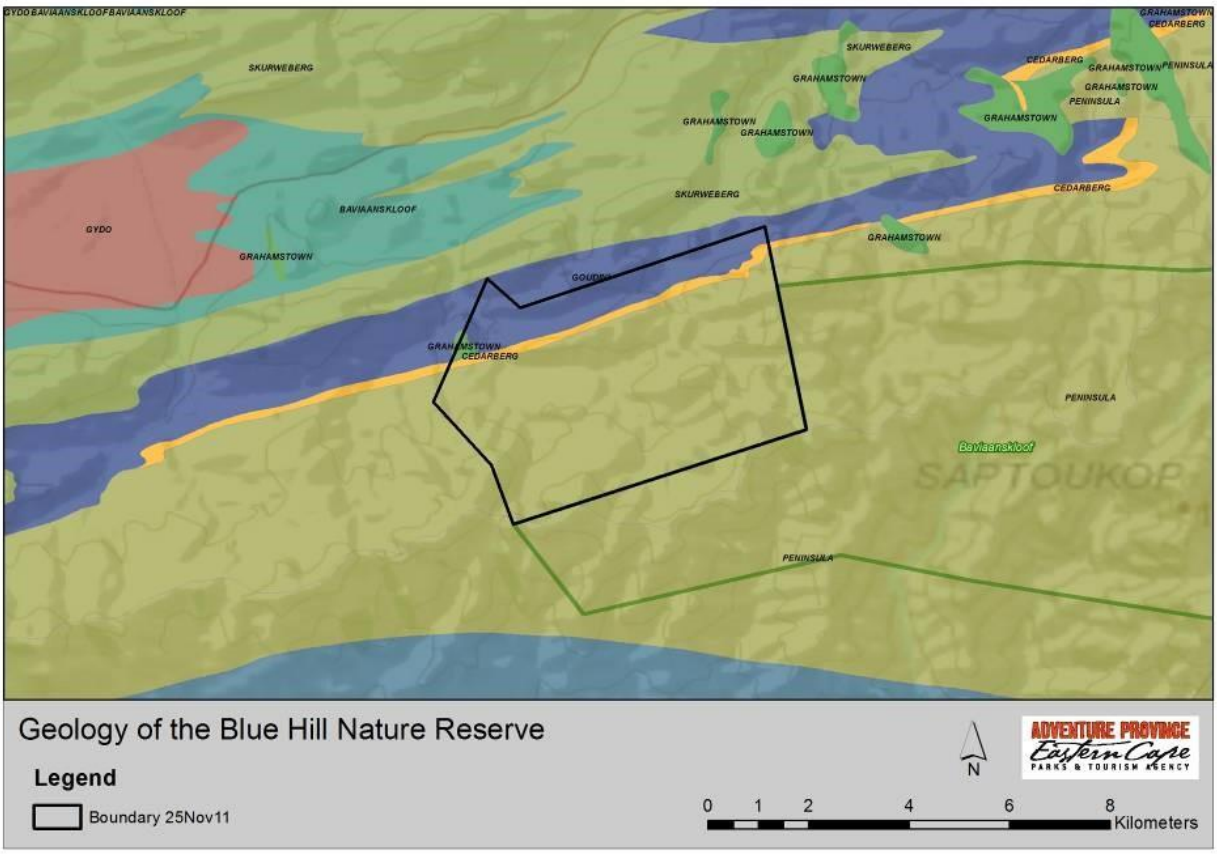

Figure 1.8 Geology of Blue Hill Nature Reserve.

1.6.4 Hydrology

Four seasonal streams and one perennial north flowing stream drain from the Kouga range from the south of the property. Knick points have waterfalls, upstream of which are vlei areas. The perennial stream has a weir to pipe water for domestic and gardening use. There are no boreholes, windpumps or artificial water points on the property.

1.6.5 Vegetation

According to Euston-Brown (2006), the following vegetation types occur on the site: Kouga Mesic Fynbos, Kouga Grassy Fynbos and Hartebeesvlakte Renoster Sandolienveld (see Table 1.1 and Figure 1.9 below).

Table 1.1: Vegetation types and area (hectares) on Blue Hill Nature Reserve

Vegetation type	Area (ha)
Haartebeesvlakte Renoster Sandolienveld	377
Kouga Grassy Fynbos	565
Kouga Mesic Fynbos	1294
Total	**2236**

The biodiversity stewardship site assessment for the Blue Hill Nature reserve describes the vegetation on the reserve as being in near-pristine condition. There are a small number of patches of disturbed ground where cultivation was attempted in the past, but these are reverting to stable secondary vegetation.

The vegetation types are described in more detail below.

1.6.5.1 Hartebeesvlakte Renoster Sandolienveld

This unit ends in the west at the top of the Baviaanskloof valley and is replaced by Baviaanskloof Renoster Sandolienveld. It is at relatively high altitude (1 000 m above sea level) so it has a relatively cool temperate climate. However, extremely hot temperatures in summer and below freezing temperatures in winter limits plants that occur here. *Erica saxigena* can be found growing out of rocky cracks on the south side of quartzitic sandstone outcrops.

Indicator species are *Rhodocoma fruticosa, Phylica axillaris, Passerina obtusifolia, Oedera squarrosa, Rhus undulata, Machairophyllum acuminatum, Aloe comptonii, Aloe ferox, Euclea undulate* and *Dodonea angustifolia.*

The Baviaanskloof Conservation Plan classifies Hartebeesvlakte Renoster Sandolienveld as Least Threatened (Skowno *et al.* 2007).

1.6.5.2 Kouga Grassy Fynbos

Grassy Fynbos occurs on lower, warmer and drier mountain slopes below Mesic Fynbos. Grasses are common, including *Pentaschistis eriostoma, Merxmuellera arundinaceae, Themeda triandra* and *Cymbopogon marginatus*.

Grassy Fynbos is variable in structure and vulnerable to fire induced changes to vegetation composition. Historically, much of this unit has been burnt frequently in order to stimulate grass growth for improved grazing. In some areas, this has led to the local extinction or population collapse of reseeding fynbos shrubs with long juvenile periods.

Indicator species are *Pentachistis eriostoma, Merxmuellera arundinaceae, Themeda triandra, Cymbopogon marginatus, Hypodiscus striatus, Rhodocoma fruticosa, Restio triticeus, Ischyrolepis gaudichaudiana, Protea nitida, Protea tenax, Erica cerinthoides, Erica simulans, Erica demissa, Leucadendron salignum, Leucadendron nobile, Leucospermum cuneiforme, Agathosma mucronulata* and *Muraltia juniperifolia* (Euston-Brown 2006).

The Baviaanskloof Conservation Plan classifies Kouga Grassy Fynbos as Least Threatened (Skowno *et al.* 2007).

1.6.5.3 Kouga Mesic Fynbos

Mesic Fynbos is restricted to upper mountain slopes on sandstone and generally on shaded south facing slopes. Restios and sedges dominate the graminoid layer. Many different species of Erica are common as are members of the *Protea* family. If unburned for more than 20 years, this fynbos can become as tall as 8 m, and *Leucadendron eucalyptifolium* often dominates.

Indicator species are *Leucadendron eucalyptifolium, Leucadendron uliginosum, Leucadendron comosum, Paranomus esterhuyseniae, Protea cynaroides, Protea eximia, Protea punctata, Protea mundii, Protea nerifolia, Widdringtonia schwarzii, Encephalartos longifolius,Geissorhiza elsiea, Lachnaea glomerata, Cannamois virgata, Hypodiscus albo-aristatus, Elegia juncea, Erica copiosa, Erica newdigateae Erica tragulifera, Erica chamissonis* and *Erica cordata* (Euston-Brown 2006)

The Baviaanskloof Conservation Plan classifies Kouga Mesic Fynbos as Least Threatened (Skowno *et al.* 2007).

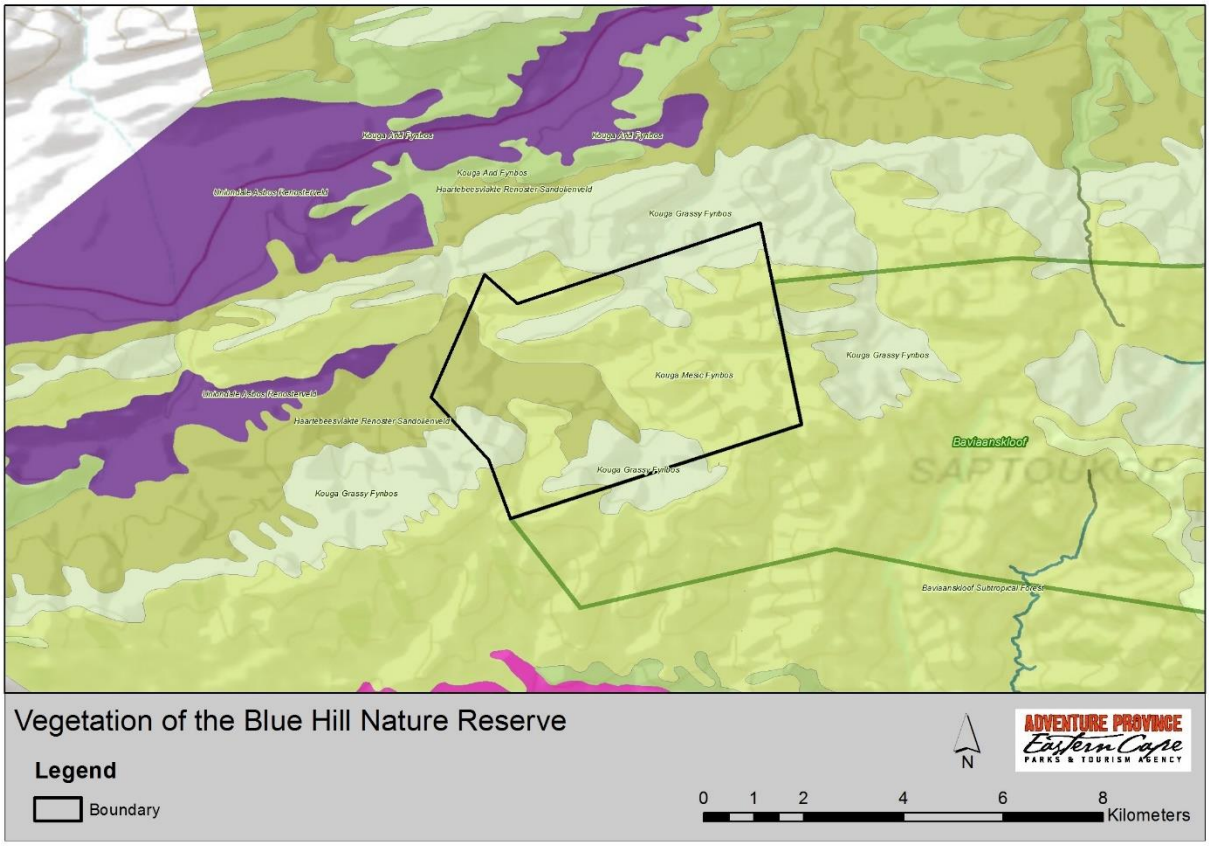

Figure 1.9 Vegetation types of Blue Hill Nature Reserve.

1.6.6 Species of Special Concern

The following species of special concern have been recorded on the Blue Hill Nature Reserve:

- Leopard *Panthera pardus* (Near Threatened)
- Mountain Reedbuck (Vulnerable)
- Fynbos Buttonquail (Endangered)
- Cape Rockjumper (Near Threatened)
- Protea seedeater *Crithagra leucopterus* (Near Threatened)

2 Biodiversity significance of the nature reserve

The significance of the nature reserve in terms of biodiversity plans and strategies and contributions to the conservation of biodiversity pattern, ecological processes and ecosystem services is described below.

2.1 Significance in terms of biodiversity plans and strategies

Below is a brief analysis of the nature reserve in relation to relevant biodiversity plans and strategies:

- The most recent biodiversity assessment for the area, the Little Karoo Biodiversity Assessment identified the site as falling within a Critical Biodiversity Area (Skowno *et al.* 2010).
- The C.A.P.E. conservation plan irreplaceability map shows that an irreplaceable area for fixed process (river corridor) occurs within the nature reserve (Cowling *et al*. 2003).
- The north-western section of the site is classified as Critical Biodiversity Area 2 by the Eastern Cape Biodiversity Conservation Plan (Berliner & Desmet 2007).
- The site is not identified as a critical biodiversity area in the Baviaanskloof Conservation Plan.
- The area falls outside of the planning domain for the study conducted by Desmet & Berliner (2007) on recommendations for protected area expansion in the Eastern Cape.
- The area is not recognised as a priority area for protected area expansion in the CapeNature Protected Area Expansion Strategy and Implementation Plan (Purnell 2010).
- The area is not identified as a focus area in the National Protected Areas Expansion Strategy (Jackalman *et al.* 2008). The course scale of this plan, however, limits its utility for cadastral level protected area expansion initiatives.

Although the nature reserve is not identified in any existing protected area expansion strategy, the fact that it borders on the Baviaanskloof World Heritage Site adds justification for its status as a nature reserve.

The nature reserve is part of the Hartebeesrivier-Baviaansberg Conservancy.

2.2 Contribution to the conservation of biodiversity pattern

The site contributes 377 ha to the conservation target for Hartebeesvlakte Renoster Sandolienveld, which amounts to 12 % of the target for this vegetation type (3 080 ha). This vegetation type is not represented in any protected area in the vicinity.

The conservation targets for Kouga Grassy Fynbos and Kouga Mesic Fynbos have already been achieved.

2.3 Contribution to the conservation of critical ecological processes

- The site is adjacent to the Baviaanskloof World Heritage Site and thus can contribute area to the spatial components of landscape-scale ecological processes, such as the continuance of a natural fire regime, migration of species and predation.
- The property forms an important upland-lowland link to the world heritage site through a variety of habitats and a number of drainage lines.
- The site is important in terms of water flow dynamics from the higher catchment areas to lower lining drainage lines.
- The site was identified in the Little Karoo Biodiversity Assessment as being an area of topographic variability which is important for climate change adaptation and for ensuring that a range of microclimates are protected (Skowno *et al.* 2010).
- The site is part of an east-west biodiversity corridor identified by the Gouritz Initiative and included in the Little Karoo Biodiversity Assessment (Skowno *et al.* 2010). These corridors were designed to support long term ecological processes in the region.

2.4 Contribution to the conservation of ecosystem goods and services

The site makes the following contributions to the continued provision of ecosystem goods and services:

- Recreational opportunities – the site provides excellent recreational opportunities. Accommodation on the reserve is self-catering units. Activities for visitors include hiking, mountain biking, wildlife watching and photography, geological walks, rock climbing, sustainable flower harvesting, geocaching and orienteering (see www.bluehillescape.co.za).
- Educational opportunities – the management authority has encouraged the use of the site for educational and research purposes. It has procured and installed camera traps to monitor wildlife and is initiating research projects. Holocene valley-fill sequences record climate and vegetation variations over 12000 years being a research project with NMMU.
- Community outreach – the management authority has engaged with the community by holding slideshows, talks and walks (see www.bluehillescape.co.za). The management authority has also provided firewood from cleared invasive alien plants to the community.

2.5 Threats to biodiversity

There are no major threats facing the biodiversity on the site. The following low-level threats have been identified:

- Invasive alien plants – the low-lying section of the river was previously infested with black wattle *Acacia mearnsii.* These plants have now been cleared through a Working for Water / LandCare initiative. Spiny cactus is being controlled through the use of herbicide. The landowner has also cleared low density *Hakea sericea* invasions, leaving the site largely free of invasive alien plants.
- Accelerated soil erosion – there is some erosion at various points on the site (see management map in the appendix). The management authority has initiated control measures and since the site is not grazed by domestic stock, natural vegetation is returning to the eroded areas, and they are recovering.
- Fire – the reserve contains vegetation with a variety of post-fire ages. An inappropriate fire regime (such as fires occurring too frequently or infrequently) will threaten biodiversity. This is not currently a concern.

3 Protected area policy and Strategic Management Framework

3.1 Purpose

The purposes for protected areas are described in Chapter 3, Section 17 of the National Environmental Management: Protected Areas Act (Act No. 57 of 2003). The relevant purposes for the declaration of the Blue Hill Nature Reserve are indicated in Table 3.1.

Table 3.1: The purposes of the Blue Hill Nature Reserve

Purposes outlined in the Protected Areas Act	Applicability
(a) to protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes in a system of protected areas	Applicable

(b) to preserve the ecological integrity of those areas	Applicable
(c) to conserve biodiversity in those areas	Applicable
(d) to protect areas representative of all ecosystems, habitats and species naturally occurring in South Africa	Applicable
(e) to protect South Africa's threatened or rare species	Applicable
(f) to protect an area which is vulnerable or ecologically sensitive	Applicable
(g) to assist in ensuring the sustained supply of environmental goods and services	Applicable
(h) to provide for the sustainable use of natural and biological resources	Applicable
(i) To create or augment destinations for nature-based tourism	Applicable
(j) to manage the interrelationship between natural environmental biodiversity, human settlement and economic development occurring in South Africa	Applicable
(k) generally, to contribute to human, social, cultural, spiritual and economic development	Applicable
(l) to rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species	Applicable

3.2 Vision

The Blue Hill Nature Reserve returns to as pristine a state as possible and acts as an extension to the Baviaanskloof World Heritage Site, being indistinguishable from it in terms of fauna and flora and land use.

3.3 Mission

The Lee Family Trust is a custodian of the land and manages it in a manner that achieves the vision through collaboration with CapeNature.

3.4 Management Objectives under Key Performance Areas

The objectives that follow are intended to provide the basis for the achievement of the vision.

The objectives are derived from the vision and purpose and are grouped under Key Performance Areas (KPAs). Tables 3.2 – 3.5 below set out the key performance areas, the objective for each key performance area and the key deliverables of each objective.

In the Annual Plan of Operations, the objectives below are prioritised in terms of importance and urgency and detailed management activities are described that will deliver the desired outcomes under each objective.

Table 3.2 Biodiversity and ecological components objectives and deliverables

KPA: Biodiversity and ecological Components		
OBJECTIVE	**OBJECTIVE STATEMENT**	**KEY DELIVERABLES**
Integrated Wildfire and Invasive Alien Plants	To maintain a natural fire regime on in the primitive zone, collaborate for fire management at a landscape scale & maintain the current un-invaded state of the primitive zone.	Wildfire/Fire management • Allow natural fire processes to take place. • Reduced risk of uncontrolled wildfire. • Staff trained and equipped to manage wildfires. • Monitor extent of wildfires and establish thresholds of concern. Invasive alien plant control • Eradicate invasive alien species using mechanical and biological control methods. • Effective monitoring to prevent further introductions of invasive aliens.
Rehabilitation and restoration	To allow disturbed area to recover naturally and to halt or minimise accelerated soil erosion on the nature reserve.	• Extent and cause of degradation determined, and restoration/rehabilitation measures planned. • Soil erosion effectively prevented and eroded sites restored/rehabilitated. • Long-term monitoring of degraded sites and restoration/rehabilitation effectiveness

Table 3.3 Sustainable utilisation of natural resources objectives and deliverables

KPA: Sustainable utilisation of Natural Resources		
OBJECTIVE	**OBJECTIVE STATEMENT**	**KEY DELIVERABLES**
Sustainable harvesting	To allow for sustainable natural resource use that does not compromise the integrity of the primitive zone.	• Harvesting Plan with well managed harvesting activities. • Possession of all necessary harvesting permits. • Accurate and up-to-date records of all harvesting operations maintained. • Monitor and evaluate long-term impacts of harvesting operations.

Table 3.4 Management authority effectiveness and sustainability objectives and deliverables

KPA: Management Authority effectiveness and sustainability		
OBJECTIVE	**OBJECTIVE STATEMENT**	**KEY DELIVERABLES**
Legal Compliance	To ensure all reserve declaration documentation is in order and that all activities are compliant with relevant legislation and policies.	• Fully compliant with the Protected Area legislation.
Management of infrastructure and equipment	The reserve has the necessary infrastructure and equipment to enable the cost-effective achievement of the management objectives.	• Infrastructure needed to support personnel in implementing the management plan is in place. • Personnel have the necessary vehicles and equipment to carry out management activities. • Infrastructure is adequately maintained, and equipment serviced and kept in safe working order.
Signage, access control and security	Signage, access control and security measures are put in place that effectively address related threats.	• The perimeter boundary of the reserve is clearly marked with fencing and signage. • Access onto the property in remote areas is restricted with locked gates and controlled through a limited number of managed entry points. • Security measures are put in place to address specific threats.

3.5 Zonation plan

Blue Hill Nature Reserve is divided into two zones: Primitive and the Private area.

3.5.1 Primitive area

The Primitive area corresponds to the area described as such in the declaration agreement and framed in the associated declaration diagram. Apart from two access roads, there is one small cottage in this zone. There is no other development or infrastructure within this zone.

3.5.2 Private area,

The private area corresponds to the area described as such in the declaration agreement and framed in the associated declaration diagram. All buildings and market gardening are within this private use area. The developed area will be retained for domestic use, ecotourism and accommodation facilities and small-scale cultivation.

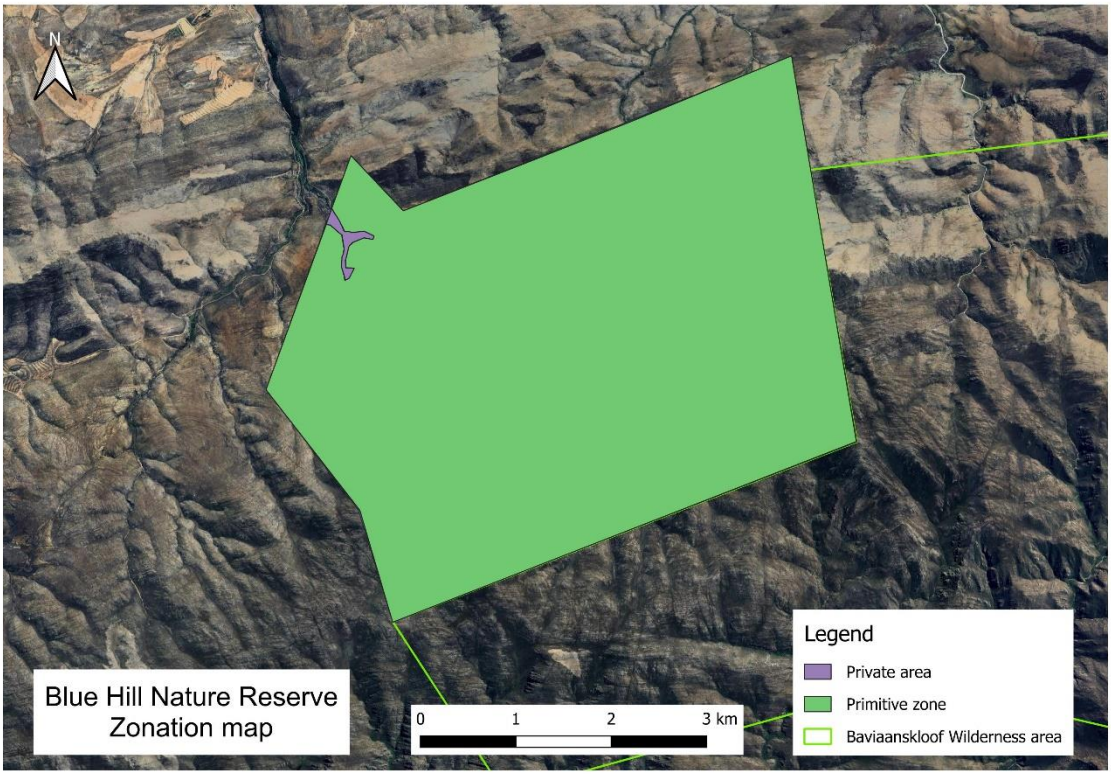

Figure 3.1 Blue Hill Nature Reserve Zonation map.

3.6 Development plan

No further development is planned on primitive area.

3.7 Restricted activities

The activities listed in Table 3.6 are restricted on the primitive zone by virtue of its nature reserve status and the provisions of the Protected Area Management Agreement for the Blue Hill Nature Reserve.

Table 3.5 Restricted activities

Restriction	Applicable legislation / by agreement
There will be no unauthorised buildings or other structures in the primitive zone.	Protected Areas Act
There will be no ploughing, cutting, ripping of any indigenous vegetation, ecosystems or habitats on the primitive zone.	National Environmental Management Act, Biodiversity Act.
There will be no mining within the primitive zone.	Protected Areas Act, Property Rates Act
There will be no dumping of refuse or other waste within the primitive zone.	Biodiversity stewardship agreement
There will be no introduction of invasive alien plants into the primitive zone.	Biodiversity Act
There will be no introduction of non-indigenous or extra-limital fauna within the primitive zone.	Biodiversity Act
There will be no destruction or removal of indigenous flora in the primitive zone, except for seed collection for restoration projects or where prior agreement has been obtained in terms of the agreement.	Biodiversity stewardship agreement
There will be no hunting on the primitive zone, unless this is specifically catered for by management plan.	Biodiversity stewardship agreement, Nature Conservation Ordinance, 1974
There will be no new activities which may adversely affect the natural state, flow, supply, quantity or quality of any water resource located in the primitive zone. This excludes approved and legally compliant restoration activities.	National Water Act 1998
There will be no operation of, any trade, industry or business on the primitive zone, unless provided for in the management agreement.	Protected Areas Act
There will be no placement of any transmission lines, telecommunication lines, cellular towers or public works in the primitive zone.	Biodiversity stewardship agreement
There will be no subdivision of the property parcels that comprise the primitive zone.	Biodiversity stewardship agreement
There will be no motorcycles or four-wheel drive vehicles in the primitive zone unless their use is necessary for management or provided for in the management plan.	Biodiversity stewardship agreement
There will be no public access to the primitive zone unless specifically catered for in the management plan.	Protected Areas Act

4 Legal and administrative framework

4.1 Legal and policy framework

4.1.1 National Environmental Management: Protected Areas Act, No. 57 of 2003

The National Environmental Management: Protected Areas Act, No. 57 of 2003, aims to provide a representative network of protected areas on state, private and communal land, and to promote the sustainable utilisation of protected areas.

The Act encourages local community participation in the management of protected areas and balances the relationship between the environment, biodiversity, human settlement and economic development.

The Act establishes the platform for biodiversity stewardship by creating a legal framework for cooperation between the state and landowners for the declaration and management of protected areas.

4.1.2 National Environmental Management: Biodiversity Act, No. 10 of 2004

The National Environmental Management: Biodiversity Act, No. 10 of 2004, provides planning instruments for various aspects of biodiversity conservation. The planning tools provided for in the act are aimed at assisting provincial authorities and conservation agencies in identifying biodiversity priorities and addressing threats. The identified tools include the National Biodiversity Framework, bioregional plans, biodiversity management plans, the listing of threatened and protected species or ecosystems, and the control and enforcement of species and organisms posing a potential threat to biodiversity.

Section 76(1) of the Biodiversity Act states that the management authority of a protected area must incorporate into the management plan an invasive species control and eradication strategy.

4.1.3 National Environmental Management Act: EIA Regulations, GNR. 543 of 2010

The National Environmental Management Act EIA Regulations of 2010 lists activities that cannot proceed without prior environmental authorisation. Dependent on the nature of the activities, and on which listing notice applies, authorisation may require either a Basic Assessment process or a Scoping and Environmental Impact Reporting process. It is important to note that the existence of a biodiversity stewardship agreement does not negate the requirement for environmental authorisation should the landowner or any other party which to pursue a listed activity.

4.1.4 National Veld and Forest Fire Act, No. 101 of 1998

In terms of the National Veld and Forest Fire Act, No. 101 of 1998, landowners may form fire protection associations for the purpose of predicting, preventing, managing and extinguishing veld fires.

The Act requires landowners to prepare and maintain firebreaks on the boundaries of their lands. The Minister may exempt any owner or group of owners from the duty to prepare and maintain a firebreak for good reason. Furthermore, every landowner must have equipment, protective clothing and trained personnel for extinguishing fires and ensure that in his absence responsible persons are present on or near his or her land.

In the case of runaway fires, if the fire spreads from a property where the landowner is a member of a fire protection association, he will be presumed innocent of negligence in terms of the Act until proven guilty.

4.1.5 Conservation of Agricultural Resources Act, No. 43 of 1983

The Conservation of Agricultural Resources Act, No. 43 of 1983 compels landowners to control declared invader plants on their properties and makes provision for penalties for landowners who do not comply.

4.1.6 Eastern Cape Parks and Tourism Agency Act, No. 2 of 2010

The Eastern Cape Parks and Tourism Agency Act, No. 2 of 2010, establishes the legal platform for the ECTPA. The Act also provides the mandate for biodiversity stewardship in the province to the ECPTA, in particular the Baviaans Wilderness.

4.1.7 National Protected Area Expansion Strategy, 2008

The National Protected Areas Expansion Strategy (NPAES) was commissioned by the National Department of Environmental Affairs and serves as a national framework for an integrated, co-ordinated and uniform approach to the expansion and consolidation of the national protected areas system (Jackelman *et al.* 2008).

The NPAES identifies biodiversity stewardship, principally through the declaration of nature reserves on private land, as a preferred mechanism for protected areas expansion.

4.1.8 National Biodiversity Stewardship Guideline Document, 2009

The Biodiversity Stewardship Guideline Document provides guidelines to provincial conservation agencies on the development and implementation of biodiversity stewardship programmes. The Eastern Cape Biodiversity Stewardship Programme is aligned to the guidelines set out in this document.

4.1.9 Protected Area Management Agreement for the Blue Hill Nature Reserve, 2011

The Protected Area Management Agreement for the Blue Hill Nature Reserve is an agreement between the landowner and the ECPTA governing the management of the nature reserve. The agreement is the foundation for the current management plan and outlines the agreed upon management objectives for the nature reserve, responsibilities for implementation, support provided by the ECPTA and restricted and permissible activities.

4.2 Administrative framework

4.2.1 Management authority

The representative of the Lee Family Trust, represented by Dr Chris Lee, is assigned as the management authority for the Blue Hill Nature Reserve. The management authority is empowered in terms of the Protected Areas Act to make administrative and management decisions on the nature reserve, within the framework of the Act and the biodiversity stewardship agreement. CapeNature will support the management of the nature reserve by providing ecological and other advice.

4.2.2 Nature reserve advisory committee

An advisory will be established for the nature reserve in terms of regulations in terms of the Protected Areas Act. The advisory committee will comprise of, at a minimum, a representative of the management authority and a representative from CapeNature. The management committee will meet at least once per year.

4.3 Policy statements and guiding management principles

4.3.1 Fire management

The management authority will strive to maintain a natural fire regime on the site. Artificial fires (from human ignition sources) will not be used for management purposes. Natural fires (i.e. from natural ignition source, normally lightning) will be allowed to burn within the primitive area, but infrastructure will be protected. No internal or boundary firebreaks will be installed, but low fuel loads will be maintained around the private area to protect infrastructure. The legislative requirements for firebreaks will be addressed through a landscape perspective and agreements with neighbours via participation in the Southern Cape Fire Protection Association (FPA).

The management authority is already a member of the Southern Cape FPA and the site falls in the Hartebeesrivier Management Block.

4.3.2 Invasive alien species management

No alien flora or fauna will be introduced onto the primitive area. The management authority will conduct follow up clearing for areas where initial clearing has already taken place. The management authority will monitor for new invasions aliens and will strive to maintain the primitive area in its current un-invaded state.

4.3.3 Species introductions

No extra-limital or alien fauna will be introduced.

4.3.4 Rehabilitation of disturbed vegetation

Previously disturbed areas, which now are covered by stable secondary vegetation, will be allowed to recover naturally. Climax species, such as proteas are already returning to these areas.

4.3.5 Accelerated soil erosion and control

The management authority will continue to manage accelerated soil erosion by planting *Carpobrotus edulis* to stabilise the soil, by affixing logs in the gullies to trap soil and by installing gabions.

4.3.6 Research

The management authority encourages research on the primitive area and would like to see the nature reserve become a research centre for visiting scientists.

4.3.7 Access

The management authority will control access to the nature reserve. CapeNature may request access for the purposes of fulfilling its obligations in terms of the protected area management agreement and this plan.

4.3.8 Financial and Human Resources

Management actions will be funded by management authority. The CapeNature will endeavour to support the management of the site, within its capacity to do so.

The management authority includes doctoral graduates in both the biological and earth sciences and its capacity to manage the nature reserve is recognised.

4.3.9 Fences

The internal fences on the primitive area have been removed, with funding from the Table Mountain Fund. It is also desirable for the old fence between the site and the Baviaanskloof World Heritage Site to be removed.

4.3.10 Natural resource use

Sustainable natural resource use will be permitted provided that it does not impact on the ecological integrity of the primitive area.

5 Operational Management Guidelines

This section translates the strategic framework described in Section 3 above into Key Deliverables and Management Activities, which will be used to inform annual plans of operation and the resources required to implement them. The management targets will form the basis for monitoring of performance in implementing the plan and are thus measurable.

5.1 Biodiversity and ecological components

5.1.1 Integrated Wildfire and Invasive Alien Plants

5.1.1.1 Wildfire/Fire management

Deliverables –

- Allow natural fire processes to take place.
- Reduced risk of uncontrolled wildfire.
- Staff trained and equipped to manage wildfires.
- Monitor extent of wildfires and establish thresholds of concern.

WILDFIRE/FIRE MANAGEMENT			
Objectives	To maintain a natural fire regime on in the primitive zone, collaborate for fire management at a landscape scale.		
Key Deliverable	**Management Activities**	**Responsibility**	**Timeframe**
Allow natural fire processes to take place.	• Develop Fire Management plan (including map). • Ensure Fire Breaks are in place as well as measures to combat fire and protect infrastructure. • If all is in place, then allow natural fires to take place.	MA	Ongoing
Reduced risk of uncontrolled wildfire.	• Participation in the Southern Cape FPA around planning (e.g. using existing features at a landscape scale as firebreaks, agreements with neighbouring landowners) for the Hartebeesrivier Management Block.	MA	Ongoing

	• Reporting fires to the Southern Cape FPA and CapeNature. • Ensuring a low fuel load around buildings and other infrastructure. • Maintaining equipment for fire response. • Responding to fires that threaten infrastructure.		
Staff trained and equipped to manage wildfires	• Ensure staff are trained and equipped to combat fires.	MA and FPA	As required
Monitor extent of wildfires and establish thresholds of concern.	• Maintain Fire History • Conduct post-fire regeneration monitoring. • Set and monitor thresholds of potential concern.	MA and CapeNature	Ongoing

5.1.1.2 Invasive alien plants

Objective: *To maintain the current un-invaded state of the conserved area.*

Deliverables –

- Eradicate invasive alien species using mechanical and biological control methods.
- Effective monitoring to prevent further introductions of invasive aliens.

INVASIVE ALIEN PLANTS			
Objectives	To maintain the current un-invaded state of the primitive zone.		
Key Deliverable	**Management Activities**	**Responsibility**	**Timeframe**
Eradicate invasive alien species using mechanical and biological control methods.	• Draw up a basic Invasive Alien Plant Control Plan. • Continued clearing of prickly pear through use of volunteers, herbicide and biocontrol.	MA and CapeNature	As required and annually ongoing
Effective monitoring to prevent further introductions of invasive aliens.	• Update Alien vegetation map. • Follow-up operations for areas that have already been cleared. • Prevent new invasions through surveillance and rapid response.	MA	Ongoing

5.1.2 Rehabilitation and restoration

Management objective: To allow disturbed area to recover naturally and to halt or minimise accelerated soil erosion on the nature reserve.

Deliverables:

- Extent and cause of degradation determined, and restoration/rehabilitation measures planned.
- Soil erosion effectively prevented and eroded sites restored/rehabilitated.
- Long-term monitoring of degraded sites and restoration/rehabilitation effectiveness.

5.1.2.1 Rehabilitation of disturbed vegetation

These areas were cultivated between the 1940's and 1970's. They have thus been fallow for at least forty years and have reverted to a stable secondary vegetation community. Climax species, such as proteas, have begun to return to these areas.

5.1.2.2 Rehabilitation of eroded areas

Areas affected by accelerated soil erosion are depicted on the management map in Appendix D.

REHABILITATION AND RESTORATION			
Objectives	To allow disturbed area to recover naturally and to halt or minimise accelerated soil erosion on the nature reserve.		
Key Deliverable	**Management Activities**	**Responsibility**	**Timeframe**
Extent and cause of degradation determined, and restoration/rehabilitation measures planned.	Draw up a basic Rehabilitation Plan and Implement.	MA	Ongoing
Soil erosion effectively prevented and eroded sites restored/ rehabilitated.	• Planting of *Carpobrotus edulis* to stabilise soil. • Installation of logs and gabions in the gullies to trap soil.	MA	Ongoing
Long-term monitoring of degraded sites and restoration/rehabilitation effectiveness.	Maintain a photographic record of disturbed areas to monitor their recovery.	MA and CapeNature	Ongoing

5.2 Sustainable utilisation of Natural Resources

5.2.1 Sustainable Harvesting

Management objective: To allow for sustainable natural resource use that does not compromise the integrity of the primitive zone.

Deliverables:

- Harvesting Plan with well managed harvesting activities.
- Possession of all necessary harvesting permits.
- Accurate and up-to-date records of all harvesting operations maintained.

- Monitor and evaluate long-term impacts of harvesting operations.

Harvesting of honeybush tea has taken place on the primitive area over two-to-three-year intervals. This provides income for workers in the Uniondale area and is currently considered to be a sustainable use of the area. It is proposed this activity will continue. The impacts of this activity will be monitored.

Flower harvesting will be permitted on a sustainable basis, under permit from CapeNature.

SUSTAINABLE HARVESTING			
Objectives	To allow for sustainable natural resource use that does not compromise the integrity of the primitive zone.		
Key Deliverable	**Management Activities**	**Responsibility**	**Timeframe**
Harvesting plan with well-managed harvesting activities.	Draw up a basic Sustainable Harvesting Plan.	MA & CapeNature	Ongoing
Possession of all necessary harvesting permits.	• Oversight of individuals harvesting honeybush tea. • Adhere to the latest sustainable industry harvesting standards per species. • Where no industry standard exists use must be made of CapeNature guidelines. • Pickers/Contractors must be accredited. • Possession of valid CapeNature flora license.	MA	Annually and as required
Accurate and up-to-date records of all harvesting operations maintained.	• Daily harvesting record maintained. • Monthly harvesting records submitted. • Invoice and delivery note system maintained.	MA	Ongoing
Monitor and evaluate long-term impacts of harvesting operations.	Monitoring of the impacts of harvesting of honeybush tea.	MA and CapeNature	Ongoing

5.3 Management Authority effectiveness and sustainability

5.3.1 Legal Compliance

Management objective: To ensure all reserve declaration documentation is in order and that all activities are compliant with relevant legislation and policies.

Deliverables:

- Fully compliant with the Protected Area legislation.

LEGAL COMPLIANCE			
Objectives	To ensure all reserve declaration documentation is in order and that all activities are compliant with relevant legislation and policies.		
Key Deliverable	**Management Activities**	**Responsibility**	**Timeframe**

Fully compliant with the Protected Area legislation.	• Conduct annual audits and METT. • Implement METT actions. • Comply with Biodiversity Management Plan for species (BMS) where applicable. • Draw up annual Annual Plan of Operations (APO) and implement Management Activities.	MA & CapeNature	Ongoing

5.3.2 Infrastructure and equipment

Deliverables:

- Infrastructure needed to support personnel in implementing the management plan is in place.
- Infrastructure is adequately maintained, and equipment serviced and kept in safe working order

5.3.2.1 Fences

Management objective: To remove internal fences to allow for the movement of biota.

Internal fences have been removed. The possibility of removing the fence between the Baviaanskloof and the Blue Hill Nature Reserve will be examined.

5.3.2.2 Roads and trails

Management objective: To maintain the roads and trails infrastructure in such a manner that they are fit for purpose and do not cause any erosion.

INFRASTRUCTURE AND EQUIPMENT			
Objectives	To remove internal fences to allow for the movement of biota. Maintain the roads and trails infrastructure in such a manner that they are fit for the purpose and do not cause erosion.		
Key Deliverable	**Management Activities**	**Responsibility**	**Timeframe**
Infrastructure needed to support personnel in implementing the management plan is in place.	• Draw up an infrastructure management schedule. • Maintain priority fences, roads and infrastructure according to schedule.	MA	Ongoing
Infrastructure is adequately maintained, and equipment serviced and kept in safe working order.	• Discussions with Eastern Cape Parks and Tourism Agency and CapeNature around removing fence between Baviaanskloof and Blue Hill Nature Reserve. • Standard and ongoing road and trail maintenance as required.	MA	Ongoing

6 Monitoring Plan

The following recording and monitoring mechanisms will be implemented according to a Monitoring Plan within the nature reserve and will be included on the APO Template.

- Camera traps – the management authority currently utilises four camera traps for observing the occurrence of wildlife on the primitive area. These are moved to various points on the primitive area. Digital images are kept of any wildlife recorded. The management authority has stated its intention to purchase additional camera trap.
- Fixed point photography – the management authority will take photographs, aligned to the cardinal points, from selected positions within the primitive area. This will occur twice annually (summer and winter), at approximately the same time in the year.
- Records of fires – the management authority will record all fires that occur on the primitive area. Aspects that will be recorded will include the date and time of the fire, temperature and wind speed, behaviour of the fire and any management response.
- Records of invasive alien plant control – the management authority will maintain records of invasive alien plant control operations.
- Records of rehabilitation or restoration work – the management authority will record any rehabilitation or restoration work undertaken within the primitive area. This will include the area restored or rehabilitated and the methods used. Photographs will be taken of restored or rehabilitated areas annually to record their recovery.
- Species lists: the management authority, possibly in partnership with groups such as the Custodians of Rare and Endangered Wildflowers (CREW), will update species lists as additional species are encountered on the nature reserve.

7 Implementing the Strategic Management Plan

7.1 Five-year Costing Plan

A broad estimate of the costs to implement the management plan is provided in **Error! Reference source not found.**.

Table 7.1 Costing plan

Management objectives	2025	2026	2027	2028	2029
1. Fire management	R 7000,00	R 7490.00	R 8014,30	R 8575,30	R 9175,57
2. Invasive vegetation management /Invasive Alien Plant Control	R 2000,00	R 2140,00	R2289,80	R 2450,09	R 2621,59
3. Rehabilitation & restoration	R 2000,00	R 2140,00	R 2289,80	R 2450,09	R 2621,59
4. Natural resource use/Sustainable harvesting	R 2000,00	R 2140,00	R 2289,80	R 2450,09	R 2621,59
5. Legal compliance	R 1000,00	1070,00	R1144,90	R1225,04	R1310,80
6. Infrastructure and equipment	R 14000,00	R 14980,00	R 16028,60	R 17150,60	R 18351,14
Estimated Annual Management Cost:	**R27 000,00**	**R28 890,00**	**R30912,30**	**R33 076,16**	**R35 391,49**

8 The Annual Review and Planning Workshop

8.1 Annual Plan of Operation

The Annual Plan of Operation (APO) forms an integral part (Part B) of the Protected Area Management Plan. The APO is documented within an associated excel spreadsheet (as shown in **Annexure E**) for the following reasons:

- to allow for ease of use as a management tool;
- to facilitate updates and changes;
- to simplify the annual audit process;
- to simplify the drafting of subsequent versions of the APO after the annual review and planning workshop.

8.1.1 Drafting the next year's APO

Either as part of the review process or directly after the review, the reserve management team should compile the list of management actions for the following years APO.

The following steps should be taken:

- Review performance of previous year's management actions under each Management Objective. Make note of actual performance relative to the KPI targets set. Discuss challenges experienced and ways to overcome them.

The management of the nature reserve will be audited by CapeNature on an annual basis. The foundation for the audit will be the annual schedule of management activities contained in Part B of the management plan. One of the purposes of the audit is to understand the realities of implementing the plan and any difficulties encountered.

8.2 Five-year revision of the Strategic Management Plan.

The Strategic Management Plan will be reviewed every five years. This will provide an opportunity to review the management objectives and whether they are still appropriate in order for the vision and mission to be achieved.

Legislation stipulates a maximum of a five-year management period prior to the revision of the (Part A) Strategic Management Plan (SMP). The SMP can be revised after a shorter management period, and this is recommended for a newly establish Nature Reserve where significant management outcomes and infrastructure development is taking place.

9 References

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10 Appendices

10.1 APPENDIX A - Copy of Blue Hill Nature Reserve declaration

P.N. 314/2013 20 September 2013

WESTERN CAPE NATURE CONSERVATION BOARD

NOTICE

PROVINCE OF THE WESTERN CAPE

NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT, NO. 57 OF 2003

DECLARATION OF THE BLUE HILL NATURE RESERVE

I, Anton Bredell, Provincial Minister of Local Government, Environmental Affairs and Development Planning in the Western Cape, under section 23(1) of the National Environmental Management: Protected Areas Act, No. 57 2003, declare a nature reserve on:-

Portion 2 (a portion of Portion 1) of the Farm Paarde Kraal No. 84, situated in the Eden District Municipality, Division of Uniondale, Western Cape Province, measuring 35, 5058 (Thirty Five comma Five Zero Five Eight) hectares in extent and;

Remainder of the Farm Paarde Kraal No. 84, situated in the Eden District Municipality, Division of Uniondale, Western Cape Province, measuring 2233, 0446 (Two Thousand Two Hundred and Thirty Three comma Zero Four Four Six) hectares in extent.

Both properties are held by Deed of Transfer No. T26438/2009.

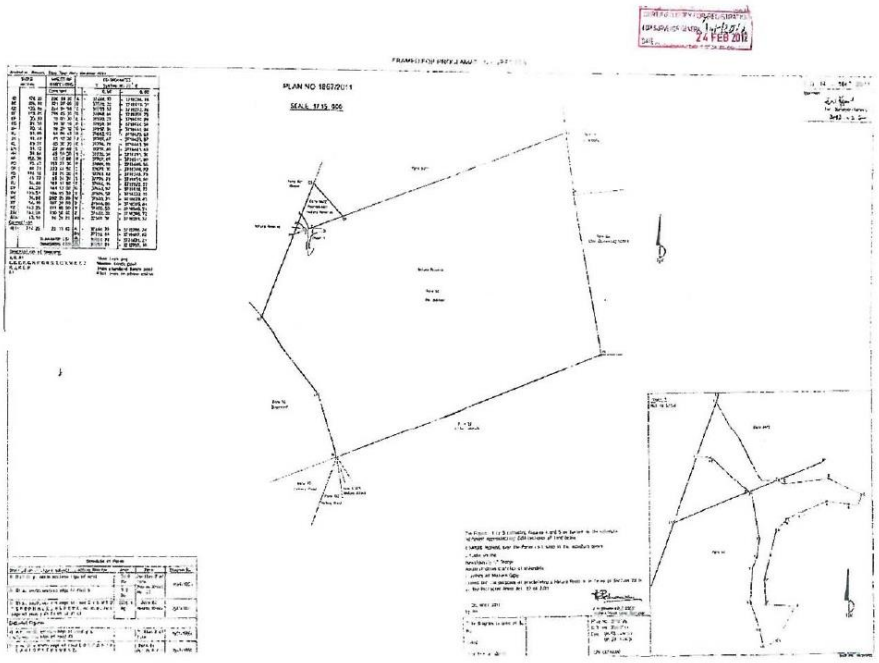
The boundary of the nature reserve is reflected on Diagram No. 1867/2011 as set out in the Schedule, and I assign the name **"Blue Hill Nature Reserve"** to it.

Signed at CAPE TOWN this 11th day of SEPTEMBER 2013.

A BREDELL, MINISTER OF LOCAL GOVERNMENT, ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

SCHEDULE

DESCRIPTION OF PROPERTY



10.2 APPENDIX B - Species lists

Attached species lists are preliminary and will be updated as knowledge of the site improves.

Plant list

As of 2024, 359 plant species have been photographed and recorded on the property.

https://www.inaturalist.org/observations?place_id=any&project_id=65440&ttl=900&verifiable=any&view=species&iconic_taxa=Plantae

Mammal list

Common name	Scientific name
Aardvark	*Orycteropus afer*
Aardwolf	*Proteles cristatus*
Baboon	Papio ursinus
Vervet Monkey	*Chlorocebus pygerythrus*
Cape Clawless Otter	*Aonyx capensis*
Honey badger	*Mellivora capensis*
Cape Grey Mongoose	*Herpestes pulverulentus*
Marsh Mongoose	*Atilax paludinosus*
Common duiker	*Sylvicapra grimmia*
Grysbok	*Raphicerus melanotis*
Grey rhebok	*Pelea capreolus*
Mountain reedbuck	*Redunca fulvorufula*
Klipspringer	*Oreotragus oreotragus*
Greater Kudu	*Tragelaphus strepsiceros*
Cape hare	*Lepus capensis*
Southern Red Rock rabbit	*Pronolagus saundersiae*
Porcupine	*Hystrix africaeaustralis*
African wild cat	*Felis silvestris*
Leopard	*Panthera pardus*
Caracal	*Caracal caracal*
Cape Rock Sengi	*Elephantulus edwardii*

Various small rodents, including Striped Field Mouse, Spectacled Dormouse, Vlei Rat, Namaqua Rock Mouse, Karoo Bush Rat, Climbing Mouse, Tiny Mouse, Southern African Pouched Mouse, Reddish-grey Musk Shrew,

https://www.inaturalist.org/observations?place_id=any&project_id=65440&ttl=900&verifiable=any&view=species&iconic_taxa=Mammalia

Bird list

The protected area falls over 2 pentads of the second Southern African Bird Atlas Project: 3335_2325 and 3335_2320. As of 2024, 114 species has been recorded at 3335_2325 and 167 at 3335_2320

Species lists can be found here:

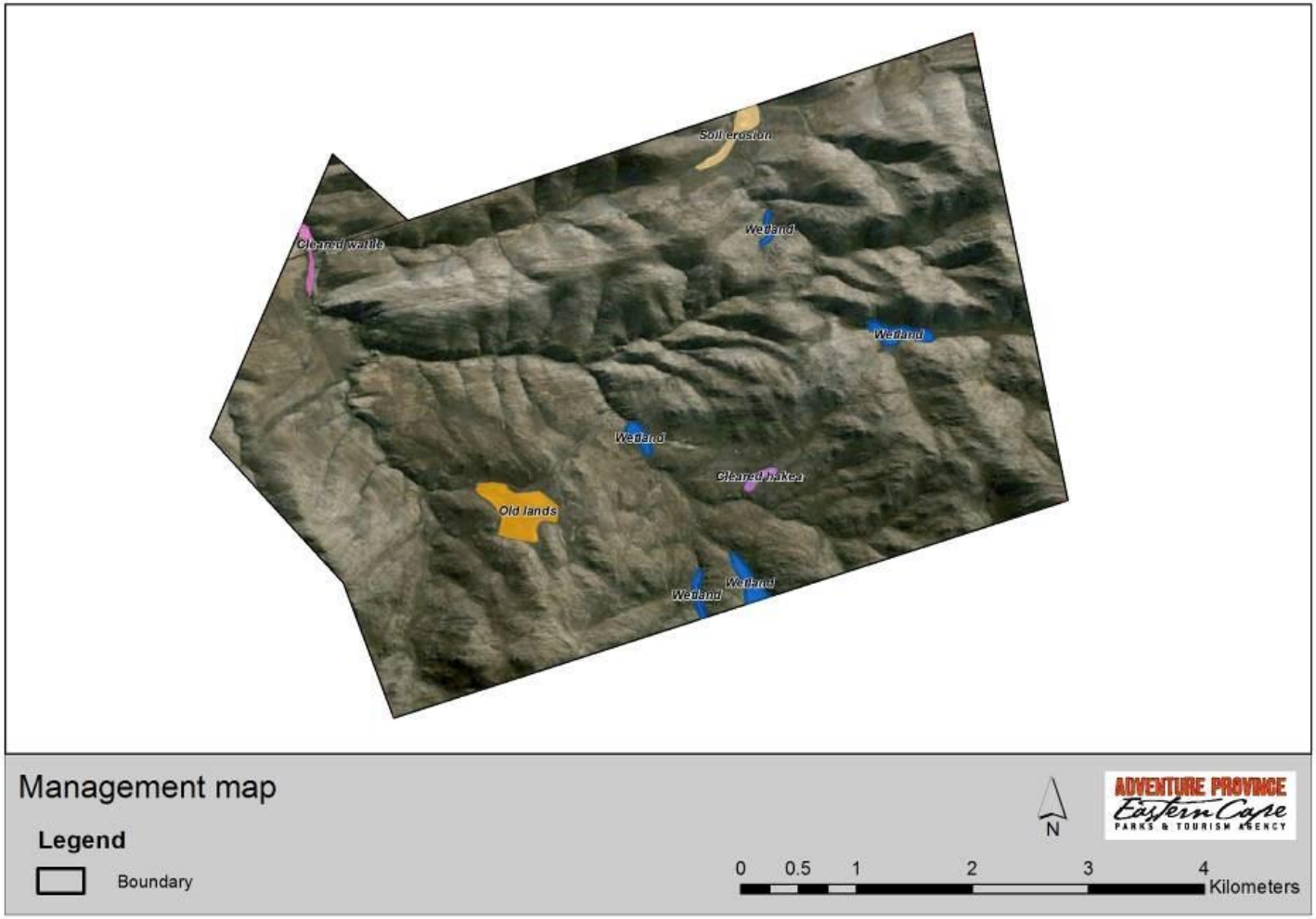
https://sabap2.birdmap.africa/coverage/pentad/3335_2325

https://sabap2.birdmap.africa/coverage/pentad/3335_2320

10.3 APPENDIX C – Zonation and special management overlay categories

Zone	Zone Objective	Characteristics	Visitor Activities	Facilities / Infrastructure	Visitor Access	Management Guidelines
Primitive	*Conservation:* To limit visitor use, numbers and infrastructure to minimise impact in sensitive environments. To reduce need for management of users and visitor impacts. Allows for minimal or more intensive biodiversity management intervention. Include extensive areas of sensitive or threatened habitats & species in this low use zone when sites do not meet the criteria for wilderness *Users:* To provide an experience of solitude in natural landscapes with little nearby evidence of human presence. Can provide access to and buffer Wilderness Zones	Intrinsically wild appearance & character. Areas where users will seldom encounter other human groups or presence. Any visible human impact or infrastructure inside the zone is unobtrusive. Human activities outside zone may be audible or visible in places. Areas remote from management centres, or otherwise difficult or expensive to access for management. Areas that might not meet the criteria for Wilderness but can serve as undeveloped visual buffers for Wilderness. Areas that may have natural burning regimes, with no active fire management and road/firebreak infrastructure OR areas that require active fire management to stay within thresholds of concern.	Guided or unguided nature observation Primarily intended for hiking or walking access. Only allows for 4x4 routes and if specifically considered and noted. Only allows for non-hiking accommodation node if specifically considered and noted.	Deviation from the natural and/or pristine state to be minimised[1] No visible infrastructure in Wilderness viewsheds. May provide isolated, small, unobtrusive accommodation facilities for up to 16 guests on restricted footprints, particularly for overnight hiking trails. May have defined or beaconed hiking routes, management access roads, tracks and firebreaks. Roads for visitor use may only be existing roads or new routes that also allow access for essential management needs. All roads, tracks or trails should be located and constructed to reduce maintenance, visibility and erosion. Where unsurfaced tracks will result in erosion, use double concrete strip or interlocking pavers to stablise. Re-route unstable or erosion-prone road sections if this will lower long-term visual and environmental impact. Avoid full width tarred or surfaced roads or roads and tracks wider than required for a single vehicle.[2]	Visitor access only by permit. Control of visitor numbers, frequency and group sizes to meet zone objectives. Only users of facilities/activities will access to this zone. Defined or non-defined hiking and day trail routes On foot always, or by bicycle, 2x4 or 4x4 vehicle on designated routes. No access without zone permit	Visitor Management: Manage to conserve natural and cultural resources, ecological processes and wild appearance & character. Restrict numbers of visitors and allow for no-use rest periods if required. All facilities will be small, very basic, self-catering and distributed to avoid contact between users There should be limited if any interaction between groups Since visitor use usually cannot be intensively managed, re-route trails away from any areas with sensitive local habitats or plant and animal species. Trail layout, design and construction must reduce maintenance requirements. Visible & audible human impacts from adjacent zones should be mitigated Conservation Management: Habitats with lower or higher management requirements. May be natural burning zones. Prevent or restore visible trampling or any other visitor impact. Rehabilitate non-useful roads to natural vegetation. Consumptive Use: Sustainable use can be appropriate under controlled circumstances subject to a formal assessment and application in accordance with CapeNature policies.

10.4 APPENDIX D – Management map



10.5 APPENDIX E – Annual Plan of Operations

Annual Plan of Operation

Blue Hill Nature Reserve

2024

REPORT

Resp. Person

(blank)

KPA	Objective	Objective Statement	This Years Plan	Budget	Management Activities	Evidence	Resp. Person	Priority	Annual Status	Q1 Jan-Mar			Q2 Apr-Ju	
				R0						J	F	M	A	M