Craigantlet (Klein Botrivier) Nature Reserve

Western Cape
South Africa

Management Plan

Prepared by
CapeNature Biodiversity Stewardship Programme

Citation
Klein Botrivier Nature Reserve Management Plan. Version 2.0, (2022) [Brink, Andri and Mabena, Thandeka].

AUTHORISATION

This Integrated Management Plan for the Klein Botrivier Nature Reserve was drafted and recommended by Melissa Nelsen (Management Authority).

Supported by:
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Review Date: 2032

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ABBREVIATIONS

APO	Annual Plan of Operations
CAPE	Cape Action Plan for the Environment
CBA	Critical Biodiversity Area
DEA&DP	Department of Environmental Affairs and Development Planning
DEA	National Department of Environmental Affairs
DEAT	National Department of Environmental Affairs and Tourism
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMP	Environmental Management Plan
FPA	Fire Protection Association in terms of the National Veld and Forest Fire Act (No.1 of 1998)
IFM	Integrated Fire Management
KPA	Key Performance Areas
LUPO	Land Use Planning Ordinance, No 15 of 1985
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NEMA	National Environmental Management Act
NEMPAA	National Environmental Management Protected Areas Act
NFEPA	National Freshwater Ecosystem Priority Area
NPAES	National Protected Area Expansion Strategy
RDB	Red Data Book
SANBI	South African National Biodiversity Institute
SOB	State of Biodiversity Report
SDF	Municipal Spatial Development Framework
SPC	Spatial Planning Categories

1) BACKGROUND

1.1 Purpose of the plan

Management plans for biodiversity stewardship sites are strategic documents that provide the framework for the development and operation of biodiversity stewardship sites. They inform management at all levels, from the landowner through to support staff within CapeNature. The purpose of the management plan is to:

- Provide the primary strategic tool for management of Klein Botrivier Nature Reserve, informing the need for specific programmes and operational procedures.
- Provide for capacity building, future thinking and continuity of management.
- Enable the landowner to develop and manage Klein Botrivier Nature Reserve in such a way that its values and the purpose for which it has been established are protected.

1.2 Structure of the plan

Section 1:	Provides an introduction and background to the management plan and Klein Botrivier Nature Reserve.
Section 2:	Sets out the vision and objectives for the biodiversity stewardship site.
Section 3:	Establishes the context of the biodiversity stewardship site, providing the basis for the operational management framework that follows.
Section 4:	Sets out the zonation of the biodiversity stewardship site, outlining the land uses in particular zones.
Section 5:	Describes the administrative structure that has been established for Klein Botrivier Nature Reserve.
Section 6:	Operational Management Framework - Sets out the management targets that must be achieved in managing the nature reserve.
Section 7:	Annual Plan of Operation and Review

1.3 Adaptive management

The preparation of this management plan has been undertaken based on the guiding principles of adaptive management, which is a structured, iterative process in which decisions are made using the best available information, with the aim of obtaining better information through monitoring of performance (Figure 1.1). In this way, decision making is aimed at achieving the best outcome based on current understanding, whilst accruing the information needed to improve future management. Adaptive management can lead to revision of a part or if necessary the whole management plan.

Figure 1.1 The adaptive management cycle (Management Strategy Evaluation, 2009)

Adaptive management enables landowners and managers to:

i) Learn through experience.

ii) Take account of, and respond to, changing factors that affect the biodiversity stewardship site.

iii) Develop or refine management processes.

iv) Adopt best practices and new innovations in biodiversity conservation management.

v) Demonstrate that management is appropriate and effective.

1.4 Introduction

The Klein Botrivier Nature Reserve (proclaimed as the Craigantlet Nature Reserve) is situated in the Overberg within the Theewaterskloof local Municipality boundary, approximately 4.6 km south of the town of Botriver (Figure 1.2) and east of the R43 at the turn-off with the Karwyderskraal road. The Bot River borders the property in the east and the Huiskraal River in the south.

The reserve is situated 4.6 km south of the town of Botriver which lies at the foothills of the Houw Hoek Mountains, next to the N2 on route to Hermanus and Caledon. Botriver is situated in one of the most fertile regions in the Southern Cape.

The Huiskraal River connects the reserve to the Kogelberg Nature Reserve, managed by CapeNature as part of the Hottentots Holland Mountain range.

The Klein Botrivier farm extends 48,3728 ha of which 11,9815 ha is declared as a Nature Reserve. A quarry exists in the middle of the reserve which is excluded from the conservation area of the reserve – it is currently used as a dam for storing water.

The property contains both 'Rûens Silcrete Renosterveld' and 'Elim Ferricrete Fynbos', which are categorized as "Critically Endangered" and "Endangered" vegetation types respectively by the South African National Vegetation Conservation Assessment, 2004.

The property supports significant populations of at least three Red Data Book (RDB) species, and therefore has a very high conservation value in local and regional terms.

The reserve also borders onto the Maremmana "Voluntary Conservation Site" in the west. Although voluntary, the landowners have committed themselves to conserve the natural environment and in doing so encourage cooperation with neighbouring properties to do the same.

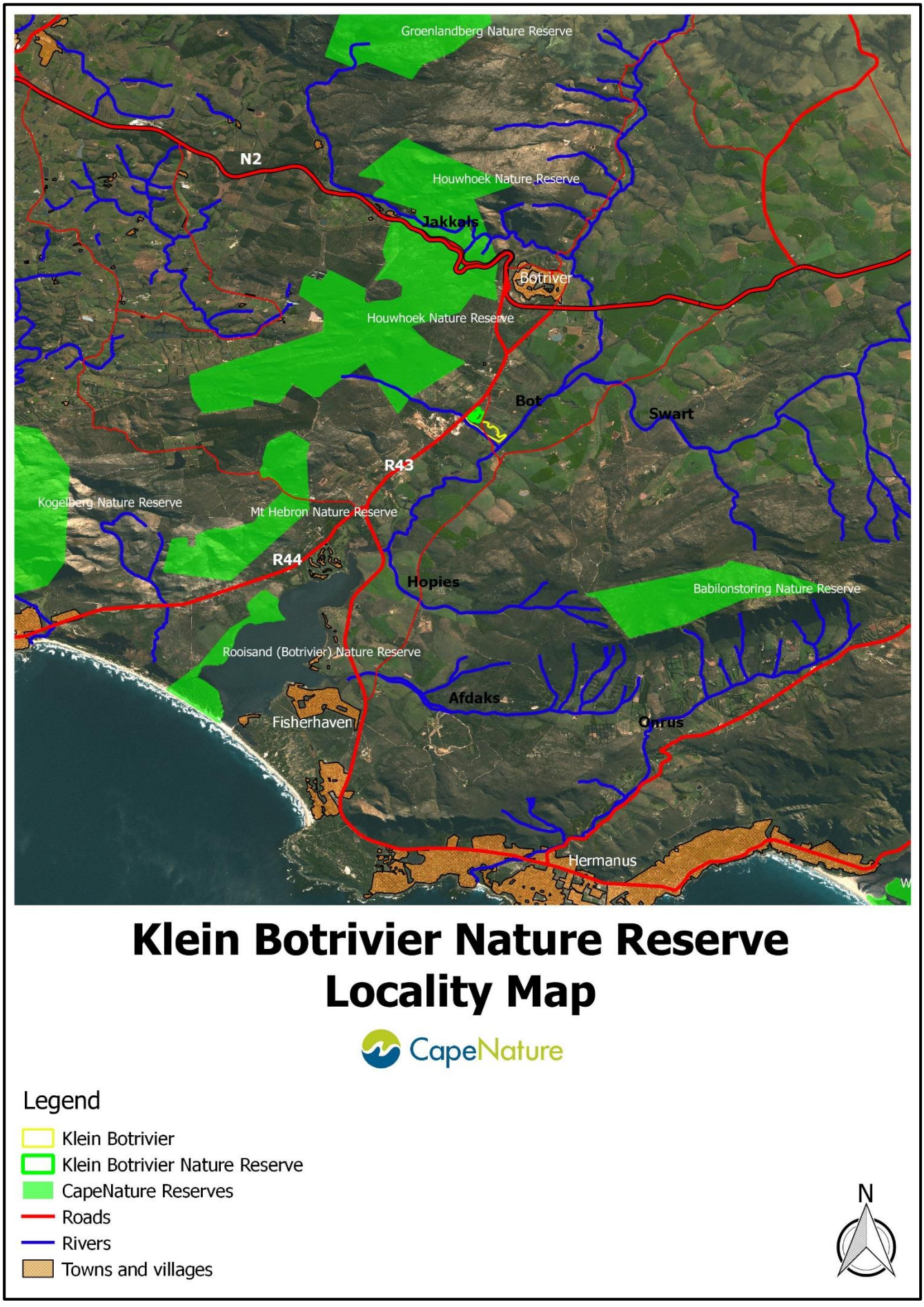

Figure 1.2 Regional location of Klein Botrivier Nature Reserve

1.5 Landowner details

Owner	Melnic Wine Solutions CC (owned by Melissa Genevieve Nelsen)
Contact Person	Melissa Genevieve Nelsen
Contact Details – Tel.	+27 83 302 6562
Contact Details – Email	melissanelsen@gmail.com melissa@genevievemcc.co.za
Management Authority	Melissa Genevieve Nelsen
Property Description	Remainder of Portion 4 of the Farm No. 781 situated in the Theewaterskloof Municipality, Division of Caledon. Deed of Transfer No. T17194/2010
Total Property Area	48, 8561 (Forty-Eight comma Five Six One) hectares in extent

1.6 The values of Klein Botrivier Nature Reserve

The values of a site are those remarkable attributes that led to it being identified as a priority for the Biodiversity Stewardship Programme. The values are important in planning and management, as they are the aspects of the place that must be protected. The values of Klein Botrivier Nature Reserve include:

Natural values	Vegetation types: • Both vegetation types found on this site are inadequately protected and regarded as 100% Irreplaceable ➢ Rûens Silcrete Renosterveld – Critically Endangered; 82% transformed and 1% conserved ➢ Elim Ferricrete Fynbos – Endangered; 67% transformed with 4% conserved • The protection of the site contributes significantly to Biodiversity Targets for this Vegetation type (Ruens Silcrete Renosterveld). • The presence of very significant populations of at least four rare species. • This Area has a very high local and regional conservation value.

Ecosystem service values	Habitat Provision: refuge for plants
Socio-Economic values	The landowner currently has 2 staff members employed on a full-time basis on the farm. Invasive vegetation clearing projects contribute to providing job opportunities on the farm.

1.7 Summary of management challenges and opportunities

Table 1.7.1 Management challenges and opportunities

Key performance area	Challenges and Opportunities
Fire management	Uncontrolled wildfires as well as areas surrounding the Nature Reserve with high density invasive vegetation serve as a threat to the Nature Reserve. The last fire over the Nature Reserve was in February 2018. The Greater Overberg Fire Protection Association (GOFPA) was established and serves large parts of the Overberg District Municipality. Their aim is to help landowners to prevent, manage and suppress wildfires by practicing Integrated Fire Management (IFM). The landowner is a member of the GOFPA.
Invasive vegetation management	In 2014 funding became available from Table Mountain Fund (TMF)/Conservation at Work to support in the removal of invasive vegetation on the Nature Reserve. The previous landowner also contributed funding for this project. After the wildfire in 2018, the alien invasive vegetation was cleared again with funding from TMF. All effort must be taken by the landowner to continue with the follow-up operations of the alien vegetation systematically as resources are available before the trees become too big. This will result in even more resources needed. The alien vegetation in the Huis kraal river north of the R43 has spread tremendously in the last few years, partly due to the Botriver Clay Brick Mine activities. Due to this, the river system is currently severely chocked-up by alien vegetation and needs urgent attention from government authorities to force the responsible parties to attend to the removal of alien vegetation.
Erosion prevention and control	The canal marking the southern boundary of the Nature Reserve and its edges needs to be monitored and rehabilitated if erosion occurs if not recovering naturally. Eskom's vehicle also drove through Nature Reserve in winter season causing large permanent tracks and scars. Needs to be monitored to see if intervention is required.
Biodiversity security	Mining - threat of potential prospecting and mining applications.

	Climate Change – potential climate change impacts on the environment e.g. more frequent and intense fires, changing seasons Inappropriate / unauthorised development – could impact on the Protected Area through edge effect and reduce viability of the nature reserve through further fragmentation of the habitat Overutilization of natural resources outside the nature reserve may impact on the reserve e.g. over-abstraction of water.
Development of tourism opportunities	Tourism potential of the Botriver area attracting visitors to the area and contributing to the local economy;
Management effectiveness	Annual audits to be done with CapeNature and landowner. Management plan to be updated accordingly.
Infrastructure	Two Eskom power lines run through the reserve north to south that has proved to be problematic in the past regarding access. Due to the sensitivity and the small size of the reserve, any unnecessary disturbance / edge effects should be avoided. CapeNature has tried since 2007 to arrange for a Memorandum of Understanding (MoU) between the then landowner and Eskom regarding access, with no success. CapeNature will continue to pursue some kind of agreement between Eskom and the landowner. Signage is now up to warn against driving and brush cutting along *Leucadendron elimense* subsp. *salteri* population on Nature Reserve. Illegal rubble dumping also occurs in the area, but this has seemed to lessen but needs to be monitored.

2) STRATEGIC MANAGEMENT FRAMEWORK

The strategic management framework is aimed at providing the basis for the protection, development and operation of the protected area over a five-year period. It consists of the vision, purpose and objectives of Klein Botrivier Nature Reserve. It has been prepared collaboratively through a process involving the landowner, and CapeNature.

2.1 Klein Botrivier Nature Reserves' Vision and Purpose

The Vision

To protect, preserve and nurture the natural flora and fauna that we have on Klein Botrivier Nature Reserve so as to ensure this rich biodiversity can continue to be enjoyed and appreciated by future generations.

Purpose

The purpose is the foundation on which all future actions are based and is in line with the overall management philosophy of the nature reserve.

According to S17 of NEMPAA, the purpose of declaring an area as a protected area is:

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

Klein Botrivier Nature Reserve serves in the protection of South Africa's threatened and rare species, provides protection to ecosystems and preserves ecological integrity. Benefits of appropriate nature based economic activities may be utilised to promote human, social, cultural and economic development while protecting ecosystems that are vulnerable and ecologically sensitive.

2.2 Objectives

The objectives were derived from the vision and purpose and are grouped into Key Performance Areas (KPA) in which achievement must be obtained in order to support the management intention. Objectives are then prioritised through the development of action plans which are set out in the Operational Management Framework.

Table 2.1 sets out the KPA's, the objective for each key performance area and the key deliverables, required to realise the objectives.

Table 2.1 Objectives and Key Deliverables for Klein Botrivier Nature Reserve

Key Performance Area	Objective	Key Deliverable
Biodiversity Management		
Fire management	To ensure conservation of species and processes by maintaining and improving ecosystem functioning. To allow for natural fire processes to occur without impacting on safety and infrastructure. To implement effective Integrated Catchment Management.	Reduce/Prevent the Spread of Fires. Maintain Partnerships to Improve Fire Management. Determine and Implement Thresholds of Potential Concern. Reduce Wildfires due to Human Negligence and implement an ecological burn programme (if applicable).
Invasive vegetation management	To enhance biodiversity protection and conservation. To ensure conservation of species and processes by maintaining and improving ecosystem functioning.	Eradicate Alien and Invasive Species. Implement Biological Control. Prevent Further Introduction of Aliens.
Wildlife management	To ensure effective conservation of species and processes by maintaining and improving ecosystem functioning. To enhance biodiversity protection and conservation.	Prevent the introduction of alien fauna species. Control invasive alien fauna. Manage the introduction of fauna on the Reserve. Evaluate and monitor impact of fauna on the Reserve.
Erosion prevention and control	To ensure implementation of effective conservation management interventions. To enhance biodiversity protection and conservation.	Prevent and mitigate soil erosion.
Monitoring and Baseline data collection	To manage biodiversity knowledge to ensure effective conservation management. To implement measures to ensure resilience and persistence of biodiversity in light of climate change. To ensure the implementation of effective conservation management interventions. To ensure conservation of species and processes by maintaining and improving ecosystem functioning.	Create a Biodiversity Resource Inventory. Implement Monitoring Programme. Implement Research Programme. Protection of Flora of Conservation Concern. Conservation of Threatened and Endemic Fauna.

		Manage consumptive utilisation of biological resources. Insert Ecological plan of Operation into CapeNature Conservation Services Ecological Matrix for the Area.
Biodiversity security	To enhance biodiversity protection and conservation. To ensure conservation of species and processes by maintaining and improving ecosystem functioning.	Improved security and safety of the biodiversity assets on the Nature Reserve.
Development		
Development of tourism opportunities	To evaluate potential tourism opportunities. To implement effective management systems. To ensure legal compliance and implementation of authorised development plans.	Development of tourism opportunities that generate revenue for the Nature Reserve.
Operational Management		
Legal compliance	To ensure legal compliance to all relevant legislation and policies.	Ensure that all legal requirements are met.
Management effectiveness	To implement effective management systems.	Conduct annual audits Auditing systems inform management and management plan revision.
Infrastructure	To ensure the implementation of effective conservation management interventions. To enhance biodiversity protection and conservation. To ensure conservation of species and processes by maintaining and improving ecosystem functioning.	All infrastructure on the Reserve is adequately maintained.

3) DESCRIPTION OF KLEIN BOTRIVIER NATURE RESERVE AND ITS CONTEXT

3.1 The legislative basis for the management of Klein Botrivier Nature Reserve

There is a large body of legislation that is relevant to the management of Klein Botrivier Nature Reserve, but the primary legislation guiding the management of protected areas is the National Environmental Management: Protected Areas Act (No.57 of 2003) (Hereafter referred to as the Act).

The Act establishes the legal basis for the creation and administration of protected areas in South Africa, as its objectives include provisions "for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes". The Act sets out the mechanisms for the declaration of protected areas and the requirements for their management.

In the Western Cape, CapeNature is the Provincial Conservation Authority and its Biodiversity Stewardship Programme facilitates the establishment and management of protected areas on private land.

A detailed list of relevant legislation is provided in Appendix A. Landowners should familiarise themselves with the purpose and contents of the statutes and their subsequent amendments and regulations.

3.1.1 Proclamation status of Klein Botrivier Nature Reserve

Klein Botrivier Nature Reserve is proclaimed as Craigantlet Nature Reserve under Section 23(1) of the National Environmental management: Protected Areas Act (Act 57 of 2003). The status of the reserve is as follows:

Reserve	Section 23 Nature Reserve
Declaration Date	14 August 2015
Government Gazette Notice	Provinve of the Western Cape: Provincial Gazette No 7466
Ref No:	Western Cape P.N. 271/2015

3.1.2 Invasive species control in terms of the Biodiversity Act

In terms of Section 76 of the National Environmental Management: Biodiversity Act (No. 10 of 2004), the management authority of a protected area must incorporate an invasive species control plan in the protected area management plan. This is addressed in Sections 6 and 8 below.

3.2 The regional and local planning context of Klein Botrivier Nature Reserve

3.2.1 The Protected Area Expansion Strategy and Implementation Plan

The Protected Area Expansion Strategy and Implementation Plan is a response to the National Protected Area Expansion Strategy (NPAES) (SANBI & DEAT, 2010) which calls on provinces to develop implementation plans in support of the NPAES and in support of provincial conservation efforts and priorities. The NPAES, which provides a broad national framework for Protected Area expansion in

South Africa, also identifies areas of importance to be targeted for Protected Area expansion in the country, and mechanisms to achieve this.

The CapeNature Protected Area Expansion Strategy addresses the formal proclamation of priority natural habitats as protected areas to secure biodiversity and ecosystem services for future generations. This strategy is aligned to the concepts and goals of the 2008 NPAES, but does identify some different spatial priorities.

The Overberg District Municipality (DM) consists of the Theewaterskloof, Overstrand, Cape Agulhas and Swellendam Municipalities.

According to Holness and Bradshaw (2010) the Critical Biodiversity Areas (CBA) map for the Overberg DM aims to guide sustainable development by providing a synthesis of biodiversity information to decision makers. It serves as the common reference for all multi-sectoral planning procedures, advising which areas can be lost to development, and which areas of critical biodiversity value and their support zones should be protected against any impacts. As part of the C.A.P.E. fine scale biodiversity planning, a systematic biodiversity assessment of the Overberg DM was undertaken, and a CBA map was produced. This district-wide biodiversity assessment is used to inform Spatial Development Frameworks (SDF), Biodiversity Sector plans, Environmental Management Frameworks (EMFs), Strategic Environmental Assessments (SEAs) and the Environmental Impact Assessment (EIA) process. This biodiversity assessment, through the development of a CBA map for the district, is aimed at assisting biodiversity and land use managers and decision makers in this demanding task.

The Overberg DM SDF (CNdV Africa Planning and Design cc, 2013) divided the area into Spatial Planning Categories (SPCs') with different policies for each category.

- Formally Protected Conservation Areas:
  - Formally protected areas, including those under SANParks and CapeNature control, should continue to enjoy the highest levels of protection.
  - Further continuous corridors between the mountain and sea should be promoted.
  - The municipality should engage with the conservation authorities to ensure that economic growth and employment opportunities are maximized.
- CBAs outside of formally protected conservation areas:
  - Conservation of endangered vegetation areas shall be encouraged through the promotion of conservancies and stewardship projects with limited eco-tourism development and/or donations to formal conservation agencies.
  - Conservation of CBAs should be incentivized through the granting of limited development rights as per the rural Land Use Planning and Management Guidelines for holiday accommodation, low density rural housing, low impact tourist and recreational facilities.
- River corridors and wetlands:
  - River corridors and wetlands, including ephemeral pans, must be protected from urban, agricultural and mining activities to a distance of at least 32 meters from their banks unless closer setback lines have been determined by a geohydrologist and freshwater ecologist.
- Extensive agriculture/grazing:
  - Rotational grazing and other veld management best practices shall be promoted livestock grazing so as to improve biodiversity and stocking rates.

The desired management objective for Formal Protected Areas in the Overberg District Municipality is to maintain the natural land, rehabilitate degraded to natural or near natural and manage for no further degradation (Holness and Bradshaw, 2010).

The following additional biodiversity-related conditions/controls are included from the provincial Land-Use Planning and Management Guidelines for conservation:

- Land-uses are limited to very low transformation levels for infrastructure development. Where possible, existing infrastructure should be used. Alternatively transformed areas should be utilized.
- Environmental Management Plans (EMPs) are required to ensure appropriate protection of the receiving environment e.g. harvesting volumes, periods, etc.
- Green technology and architectural design principles adopted.
- The entire property or a part thereof is under some form of conservation agreement of mechanism. These mechanisms would include formal Protected Areas in terms of NEMPA, appropriate zoning (in terms of the Land Use Planning Ordinance, No 15 of 1985 (LUPO)) and other conservation areas, such as stewardship agreements or conservancies.

In March 2017 CapeNature announced the availability of all Western Cape Biodiversity Spatial Plan data layers. These are made available in order that any spatial planning process can be effectively informed of biodiversity and ecological infrastructure priority areas in the Western Cape Province.

The products depict Critical Biodiversity Areas and Ecological Support Areas and provide other information to be used in land- and resource-use planning and decision-making. See Figure 3.1 for the CBA map of Klein Botrivier Nature Reserve.

3.2.2 The Strategic Development Framework and Integrated Development Plan

Integrated Development Plans (IDP) are a requirement by South Africa's Local Government laws for municipalities. These Integrated Development Plans are compiled by municipalities and every five years are subject to a review. The Local Government: Municipal Systems Act 32 of 2000 (s 23(1)(c)) has stated that one of core components of IDP's are to include guidelines for Spatial Development Frameworks (SDF) in terms of delineating land use within a municipality. Spatial Development Frameworks are used for current and potential land uses within a municipality, in connection with the IDP by allocating development priorities for a municipality.

The Klein Botrivier Nature Reserve falls within the Overberg District Municipality (DM) specifically to the Theewaterskloof Municipality. The Theewaterskloof Municipality consists of the following towns: Botriver, Caledon/Myddleton, Genadendal, Grabouw, Greyton, Riviersonderend, Villiersdorp and Tesselaarsdal. The reserve is located near the town of Botriver.

The aims of the Theewaterskloof Municipality's Integrated Development Plan (2022/27 IDP) are to encourage both the public and private sectors towards sustainable development. The municipality is characterized by rural areas and a dominance of agricultural activities with small towns distributed within the municipality. Theewaterskloof Municipality recognizes the importance of its catchment areas, rivers and the natural environment. The threat of climate change is highlighted in the future risk of floods, potential risks to river systems and alien vegetation by Theewaterskloof Municipality's 2022/27 IDP. The municipality has updated their 5-year Integrated Development Plan (2022/27 IDP), and the current SDF is under review published as the Theewaterskloof Municipality Spatial Development Framework 2023. This is an update of the 2019 Spatial Development Framework. See Figures 3.2 and 3.3 for the maps of Botrivier Spatial Concept and the Botrivier Development Proposals.

The Theewaterskloof Municipality Spatial Development Frameworks has the following objectives:
Objectives:

- The conservation of significant habitats and to afford protection to those habitats.
- To formally protect both public and private conservation areas and execute actions for Critical Biodiversity Areas and Ecological Support Areas that are not formally proclaimed.
- To institute ecological corridors as a means to counter the effects of climate change.
- The protection of both the aesthetic and natural conservation value of landscapes within the Theewaterskloof Municipality.

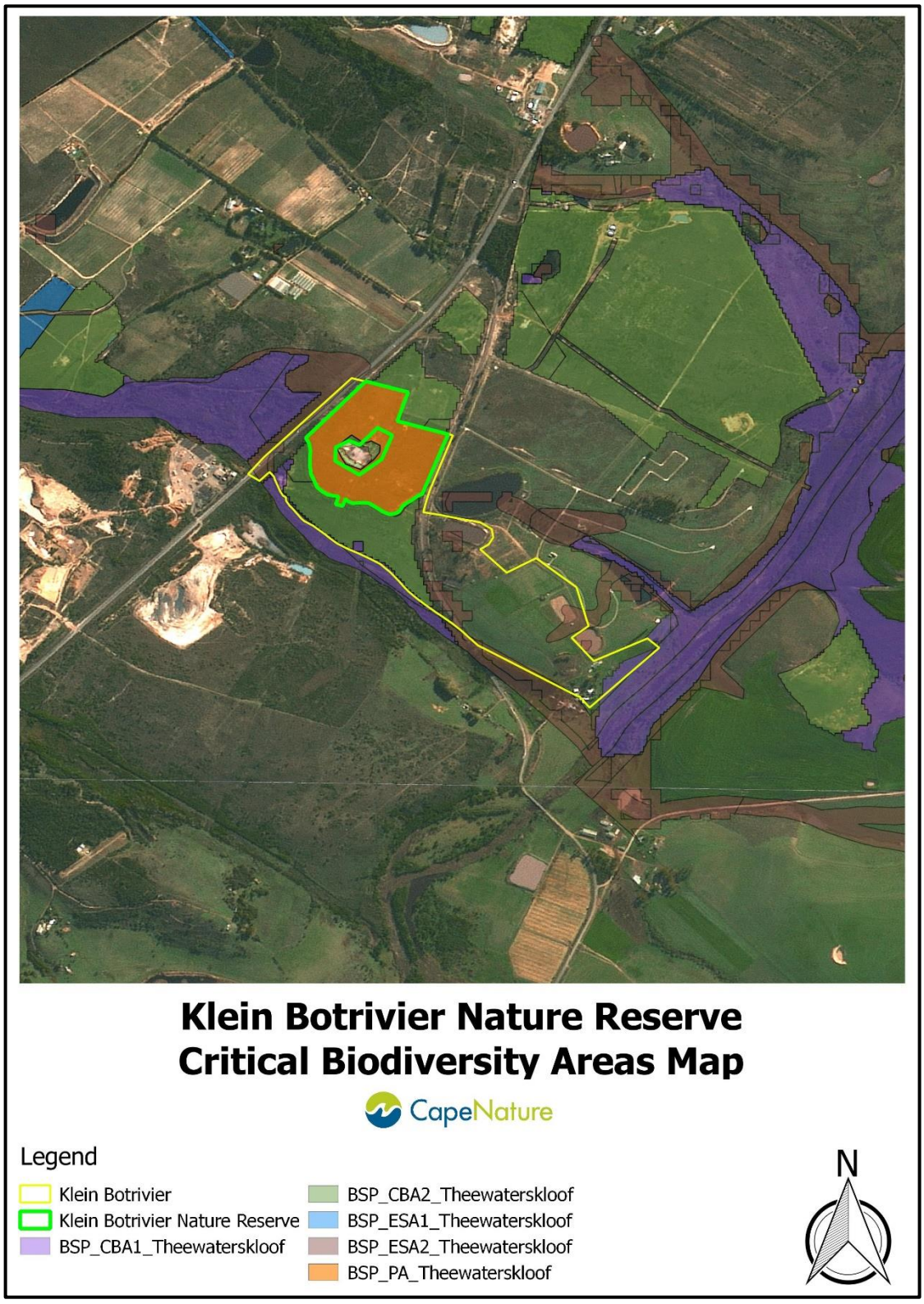

Figure 3.1 Critical Biodiversity Area map of Klein Botrivier Nature Reserve

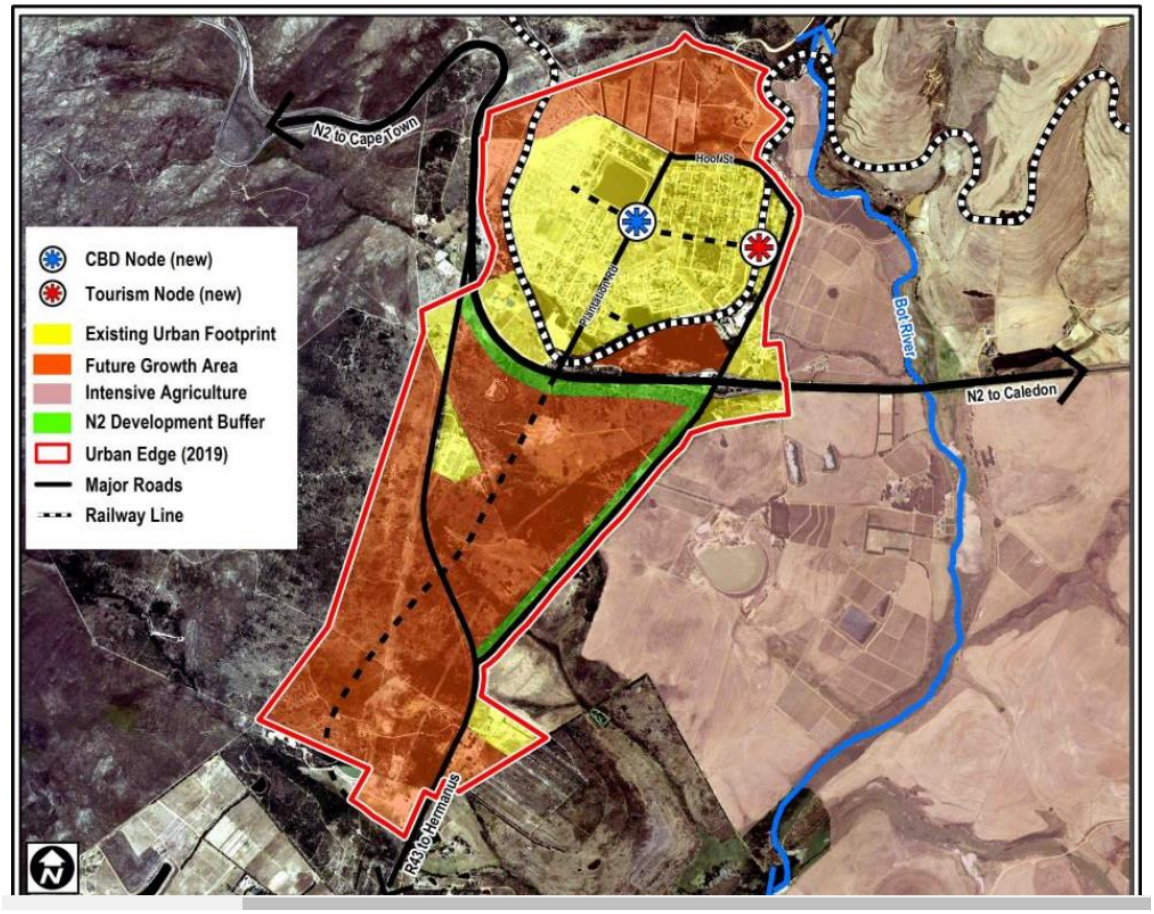

Figure 3.2 Botrivier Spatial Concept (Map sourced from Draft 2022/27 Integrated Development Plan –Theewaterskloof Municipality)

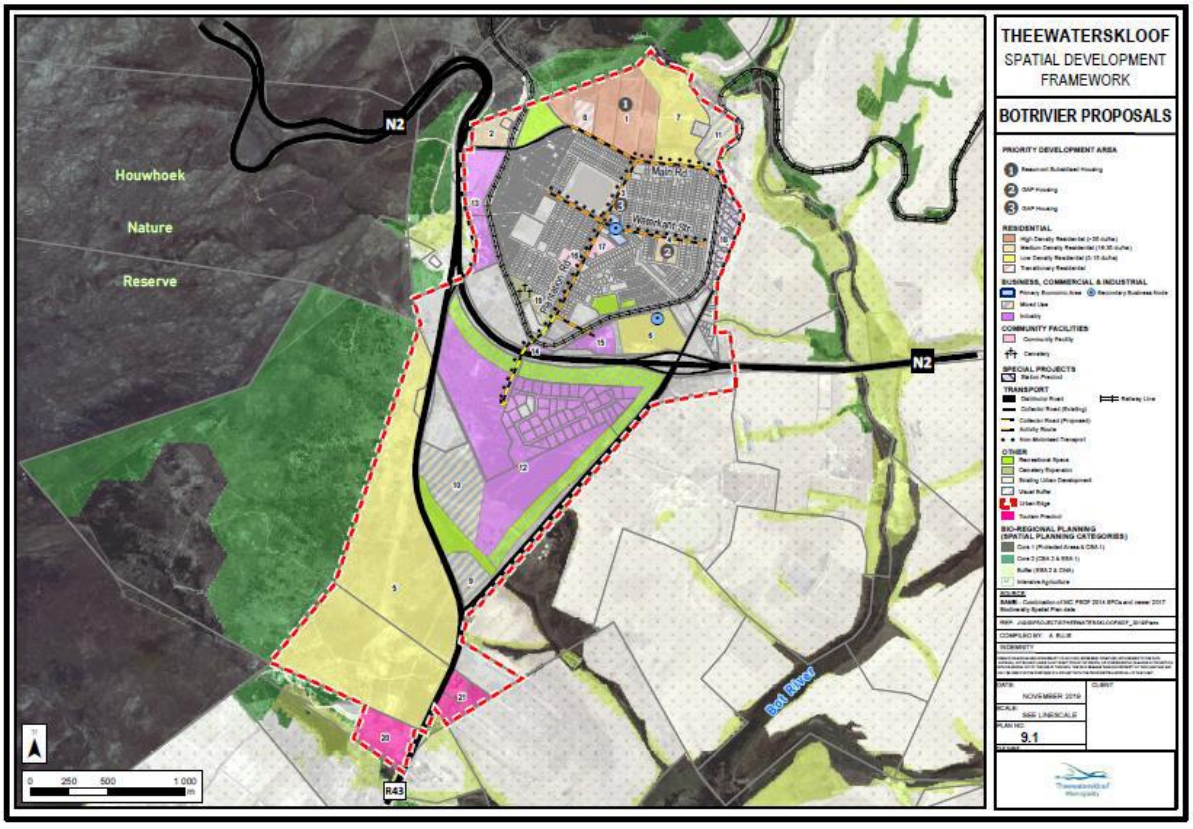

Figure 3.3 Botrivier development proposals (Map sourced from Draft Spatial Development Framework – June 2023, Theewaterskloof Municipality)

3.3 The history of Klein Botrivier Nature Reserve

The reserve is situated 4.6 km south of the town of Botriver which lies at the foothills of the Houw Hoek Mountains, next to the N2 on route to Hermanus and Caledon. Botriver is situated in one of the most fertile regions in the Southern Cape.

The Khoi-Khoi tribes, who pastured their cattle here, called the river the 'Couga', which can be translated as 'rich in fat', or 'lots of butter'. Early European setters journeyed here to barter for barrels of butter and they adopted the Khoi name for the river, calling it first the Botter, then later the Botriver (Dennis Moss Partnership, 2004)

This area falls within the Cape Floristic Region (CFR). The CFR in South Africa is the smallest and richest of the six floral kingdoms in the world, and it is the only one to be found entirely within one country. This rich biodiversity is under serious threat for a variety of reasons including conversion of natural habitat to permanent agriculture, inappropriate fire management, rapid and insensitive development, over-exploitation of water resources, and infestation by invasive species. The region has been identified as one of the worlds "hottest" hotspots of biodiversity (Myers et al 2000).

In response to this challenge, a process of extensive consultation involving various interested parties, including local government and non-governmental organisations resulted in the establishment of a strategic plan (CAPE Project Team 2000) referred to as Cape Action Plan for the Environment (C.A.P.E) which, identified the key threats and root causes of biodiversity losses that need to be addressed in order to conserve the floral kingdom.

The C.A.P.E. partnership was formed that works together to implement the C.A.P.E. vision and plan by strengthening institutions, supporting conservation efforts, supporting education, developing tourism benefits, and involving people in conservation.

Renosterveld originally covered the entire clay / shale-based lowlands of the Overberg. These represent the most fertile soils of the region and so, were first identified as being most suitable for agriculture by early European settlers. It is uncertain what exactly these habitats looked like in the past, as they were radically transformed (through livestock grazing and subsequent ploughing) relatively soon after European settlement. Adjacent to these habitats, are the mountainous and strandveld-type habitats, which are generally based on poor, acid soils and are less transformed than their renosterveld counterparts (Overberg Renosterveld Conservation Trust, 2014).

Before a subdivision application in 2008, the property formed part of the ‘Record of Decision’ for the Maremmana Polo Field Development; Dept of Environmental Affairs and Development Planning (DEA&DP) ref: E12/2/1-557-Farm 781/4 Botrivier. Roderic and Taryn Hall bought the property in 2010 from Peter Stuart. In 2017, Melnic Wine Solutions CC bought the property from Roderic and Taryn Hall. Melissa Nelsen, representing Melnic Wine Solutions CC, changed Craigantlet Nature Reserve’s name to Klein Botrivier Nature Reserve to be more descriptive or its location.

No reserve expansion is envisaged for the future as most of the areas surrounding the reserve have been transformed.

3.4 Ecological context of Klein Botrivier Nature Reserve

This section reflects the ecological conditions of Klein Botrivier Nature Reserve.

3.4.1 Climate and weather

The climate is hinterland (further from oceanic influences) Mediterranean, with cool, rainy winters and warm, dry summers. Winters (May to August) are generally mild and wet with temperatures ranging between 5º C and 22º C. Cold fronts often bring in gale-force north-westerly winds, with snow falling occasionally on the higher peaks. The mountainous topography has a significant effect on the average annual rainfall. Annual rainfall across the landscape varies between 700 mm to 1 700 mm per year.

In contrast summer (December to February) winds shift to predominantly southeast with fair amounts of moisture coming from clouds formed over the coastal mountains. Inland summer temperatures average 28ºC and tend to be cooler at the coast. Occasionally temperatures soar to 40ºC.The dry and windy conditions of summer make this the most hazardous time for fires. Natural fires that result from lightning strikes occur mostly during the late summer months.

3.4.2 Topography

The Fynbos Biome is topographically diverse and this heterogeneity of habitats has been a major driving force in the creation of arguably the most diverse and unique of the temperate floras.

The reserve has a relatively even topography with the highest point being just south of the quarry at 60 m.a.s. The rest of the reserve flattens out towards the northern boundary with the Karwyderskraal road and in the south up until the Huiskraal River. See Figure 3.4.

3.4.3 Geology and soils

During Nick Helme's botanical report of this property in 2004 (Helme, 2004), he found that this area comprises Bokkeveld shales that underlie the majority of the site which have weathered to form clays and loamy clay soils, with a strong ferricrete (koffieklip) element in certain areas, especially in the west. The ferricrete weathers to form the special iron-rich gravels characteristic of the area. Ferricrete is a distinctive geological formation that contains iron. It is visible as loamy soil with ironstones pebbles or even as laterite or "koffieklip" bank. The shale seldom outcrops, and the high point on the site (just north of the quarry) is a small silcrete hill. In the northeast is an area of acid sand overlying the shales and terrace gravels, and this sand is derived from the nearby Table Mountain Sandstones.

According to the geology layer the Nature Reserve comprises river-terrace gravel in the north and grey shale, siltstone and fine-grained sandstone to the south (see figure 3.5).

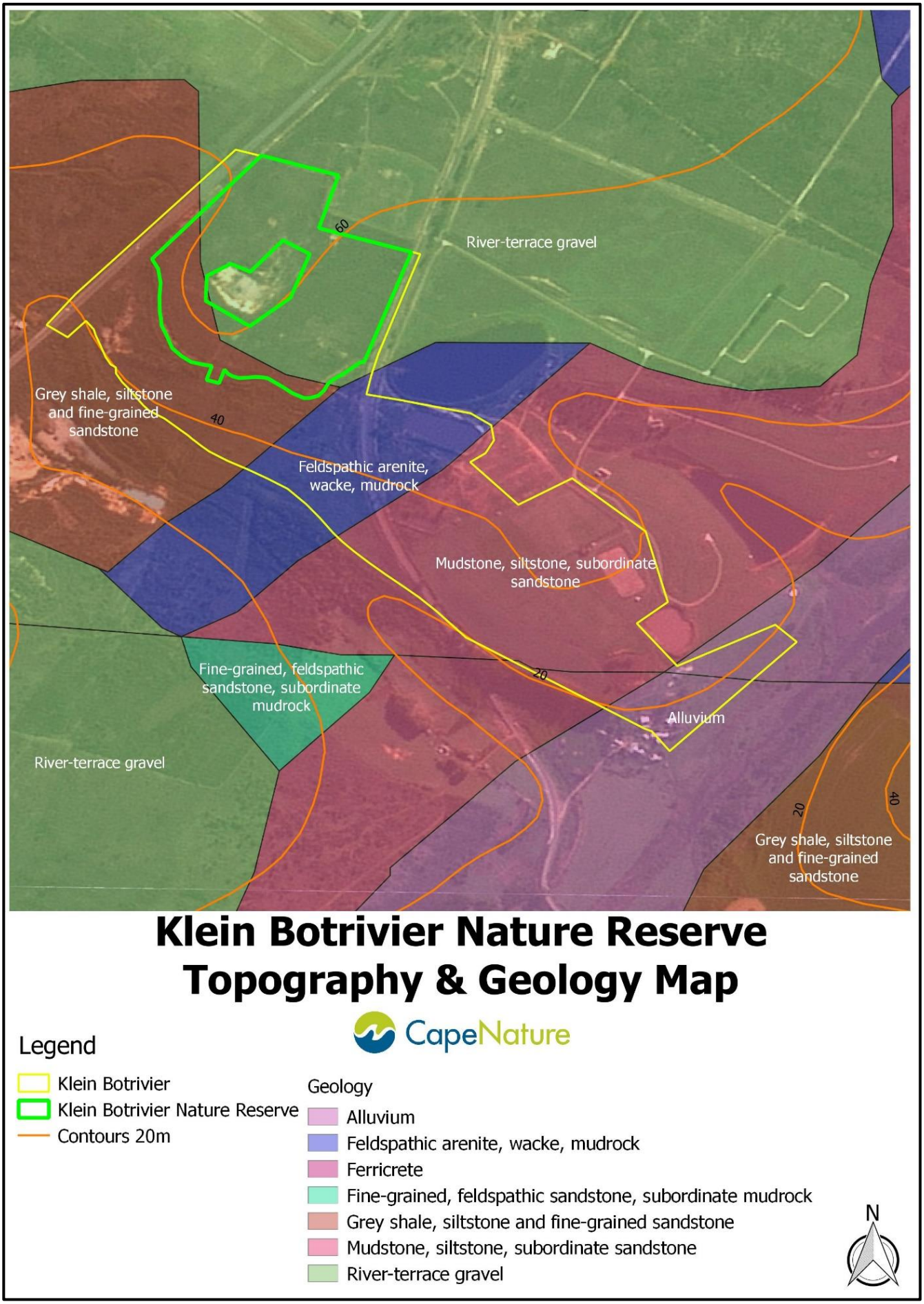

Figure 3.4 Topography and Geology of Klein Botrivier Nature Reserve

3.4.3.1 Soil interfaces

Where two soil types meet there is often a “tension zone”. Different soils support different vegetation types and the meeting point is known as an ecotone. The vegetation here is often a unique combination of both parent types. These ecotones are biologically important because they are often areas of active speciation. For this reason disturbance in this zone must be avoided and it is preferable to buffer it with at least 30m of vegetation on either side.

Klein Botrivier Nature Reserve has the following two soil types on the conservation area: rock with limited soil in the north as well as soils with a marked clay accumulation- strongly and reddish colour to the south (see figure 3.5).

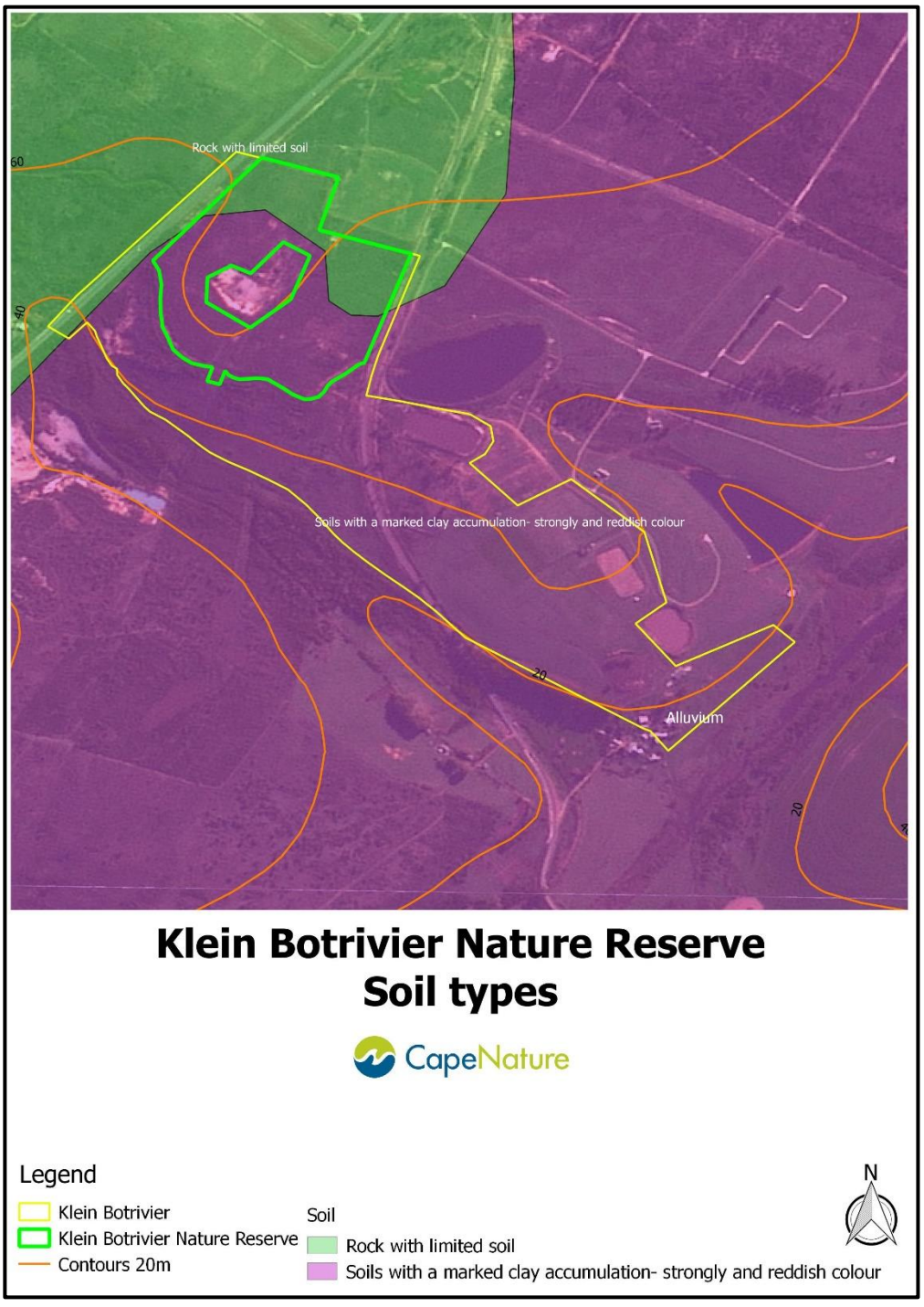

Figure 3.5 Soil types of Klein Botrivier Nature Reserve

3.4.4 Geomorphology

The ferricrete weathers to form the special iron-rich gravels characteristic of the area. The shale seldom outcrops, and the high point on the site (just north of the quarry) is a small silcrete hill. In the northeast is an area of acid sand overlying the shales and terrace gravels, and this sand is derived from the nearby Table Mountain Sandstones.

3.4.5 Hydrology

An old quarry is located in the southwest of the reserve and a small secondary seasonal wetland has established as a result. On the southern boundary of the reserve an artificial canal was dug for agricultural purposes. The area immediately along this canal has re-vegetated with a small group of typical wetland species such as *Restio festuciformis* and *Berzelia lanuginosa*, and is also home to various frogs.

The southern boundary of the property borders onto the Huiskraal River which originates from the Kogelberg Nature Reserve (KGBNR), about 2.5 km north-west. This river is heavily impacted on where it exits the KGBNR by agricultural activities and a clay brick mine. The section bordering onto the Klein Botrivier Nature Reserve is heavily infested with alien vegetation, mostly *Acacia saligna*.

The Bot River borders the property in the east.

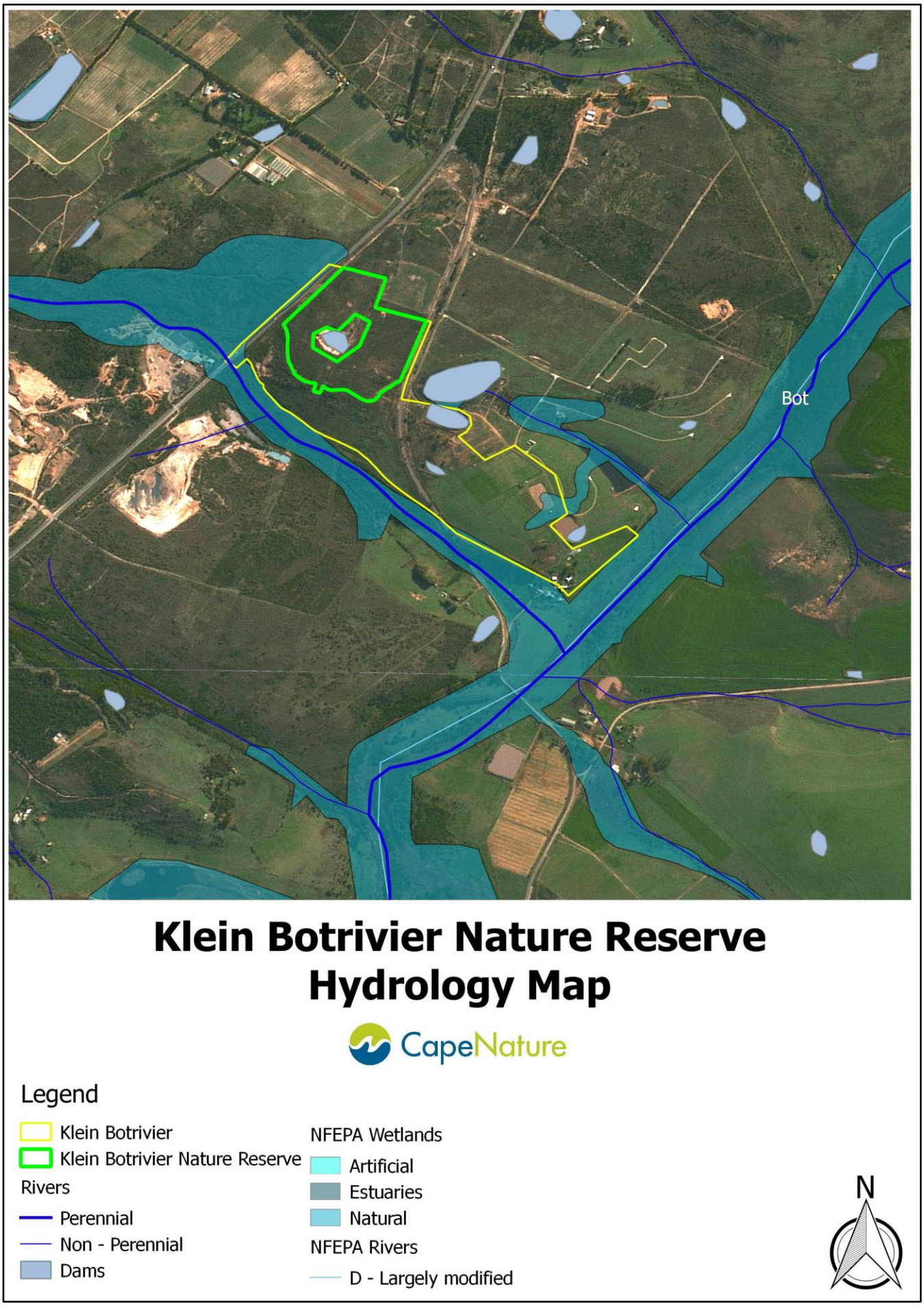

Figure 3.6 Hydrology of Klein Botrivier Nature Reserve

3.4.6 Vegetation

The Cape Floristic Kingdom, one of six world floral kingdoms, is internationally renowned for its special rich flora containing an estimated 9 000 species of vascular plants of which almost 69% are endemic (restricted to the region). This makes it one of the richest regions in the world in terms of botanical diversity. It is characterized by five endemic families and by the conspicuous presence of, amongst others, species belonging to the families Aizoaceae, Ericaceae, Fabaceae, Iridaceae, Orchidaceae, Proteaceae, Restionaceae, Rutaceae and Scrophulariaceae (Goldblatt & Manning, 2000).

The Cape Lowlands project (Von Hase *et al* 2003) singled this area out as one of the smaller habitat units within the Overberg Renosterveld region, calling it the Lower Botriver Mosaic, which refers to the intricate mosaic of fynbos on sands and renosterveld on shales, ferricretes, and silcretes.

The latest SA vegetation map (Mucina & Rutherford 2006) categorises the vegetation of this area as 'Elim Ferricrete Fynbos' and 'Rûens Silcrete Renosterveld' (Figure 3.7), the first being categorised as 'Endangered' and the latter as 'Critically Endangered'.

Red Data spp. includes *Erica rhodopis*, which is currently known from only this reserve and Paardekloof farm at the northern base of the Babilonstoring Mountains. The species is Red Data Book (RDB) listed as "Critically Endangered", as all the other previously known populations (two or three other sites) have been destroyed in the last thirty years, usually by poorly informed developments (quarries, agriculture, houses, etc.). There are approximately 300 plants in this patch, with a number of plants even establishing in previously disturbed areas nearby, and this is thus a globally significant site for this species. The second rare species is *Serruria flagellifolia*, a curious creeping member of the Protea family, which is currently RDB listed as "Vulnerable", and which is restricted to the area between the Palmiet River and Onrus. About 70 plants of this cryptic species were recorded during a botanical survey by Nick Helme in 2004. An *Otholobium* (Fabaceae) species was recorded that could be *O. thomii*, which is a RDB listed regional endemic, listed as "Endangered", but identification could not be confirmed until the plant has flowered in spring (Helme, 2004).

A very interesting find during the 2004 botanical study was a very large population of a then yet un-described (i.e. a new species of) *Cliffortia* (climbers friend; Rosaceae), which is known from only three other localities, all within 3km of this site, and all on ferricrete gravels. This species was named *Cliffortia ferricola*. This 0.6m prickly, reddish shrub has an RDB status of "Critically Endangered", and this site supports by far the largest population yet recorded (C. Whitehouse – pers. comm.), being well over 5000 plants. Also highly significant is the presence of a few individuals of *Erica ustulescens*, which is a threatened species known only from the area between Botriver and Babilonstoring, and which is currently RDB listed as "Critically Endangered". Another rare and local endemic is *Phylica diosmoides* (Rhamnaceae), listed as "Endangered" as it clearly has a very restricted range on these gravels, being known from only a few collections. Only two living plants of *Leucadendron elimense* ssp. *salteri* (Proteaceae) were found in the reserve in 2005. This subspecies was RDB listed as "Endangered", but is now so threatened that it was upgraded to "Critically Endangered". The species occurs on deeper, slightly damp clays, just above the artificial canal.

In total the reserve harbours at least seven Red Data Book species, as described in the Botanical Survey of 2004, conducted by Nick Helme. See Appendix B for the species list.

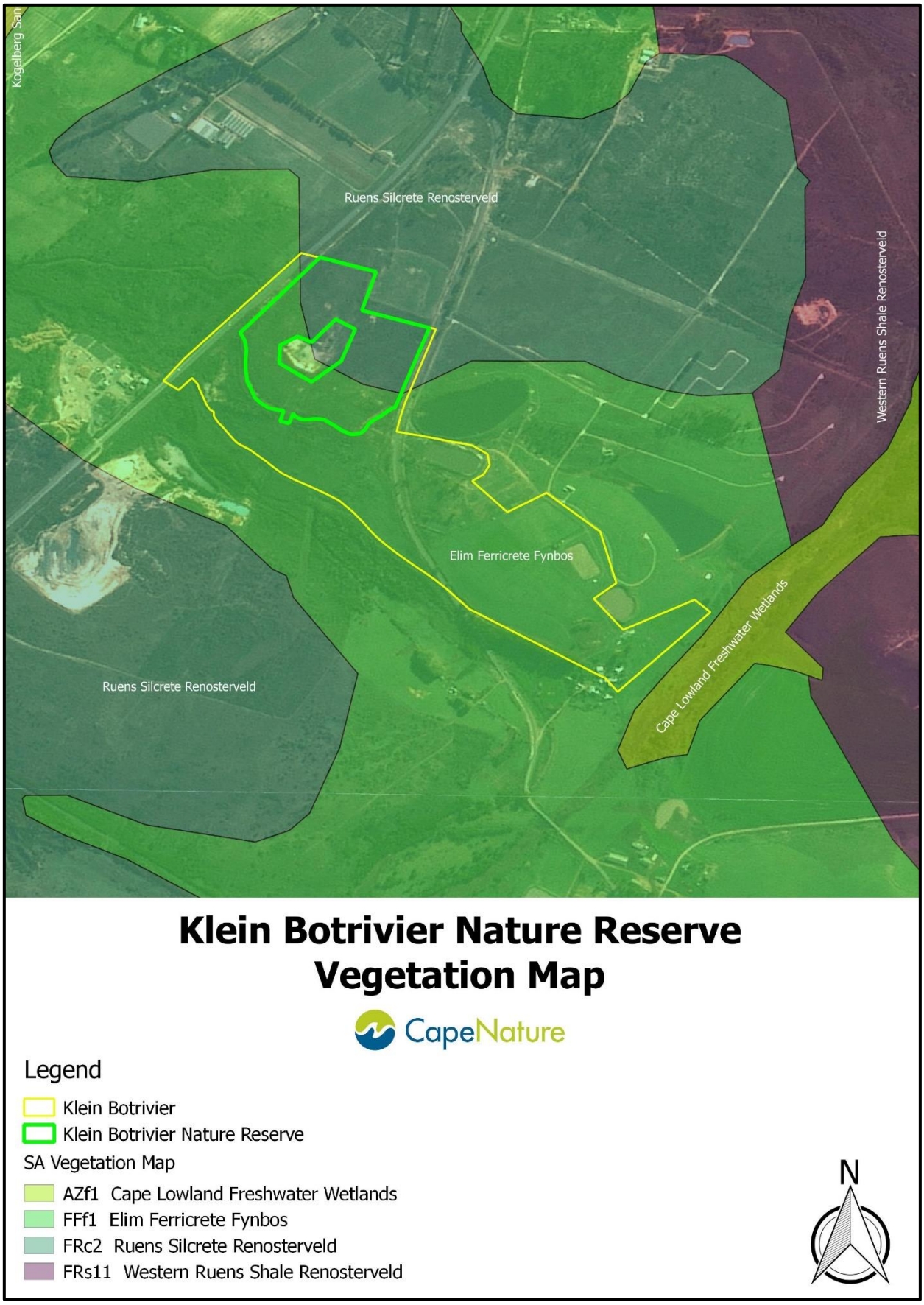

Figure 3.7 Vegetation types found on Klein Botrivier Nature Reserve

3.4.7 Fire regime

The last fire over the Nature Reserve was in February 2018. In March 2006 an uncontrolled fire went through a large portion of the reserve as well. The veld age of the vegetation in the Nature Reserve for the last three fires, was 12 years, 11 years, and 17 years.

The Greater Overberg Fire Protections Association (GOFPA) was established in 2013 and serves large parts of the Overberg District Municipality. Their aim is to help landowners to prevent, manage and suppress wildfires by practicing Integrated Fire Management (IFM). The landowner of Klein Botrivier Nature Reserve is a member of the GOFPA.

ESKOM power lines runs across the reserve. A MoU between Eskom and the previous landowner have been drafted and submitted to Eskom in 2007. No feedback has been received even with numerous requests. Should the current landowner experience access issues with Eskom, the MoU will be pursued again. This MoU dictates protocol to be followed to gain access to the property during times of routine maintenance or emergency repairs, as well as procedures to be followed by Eskom when on the property.

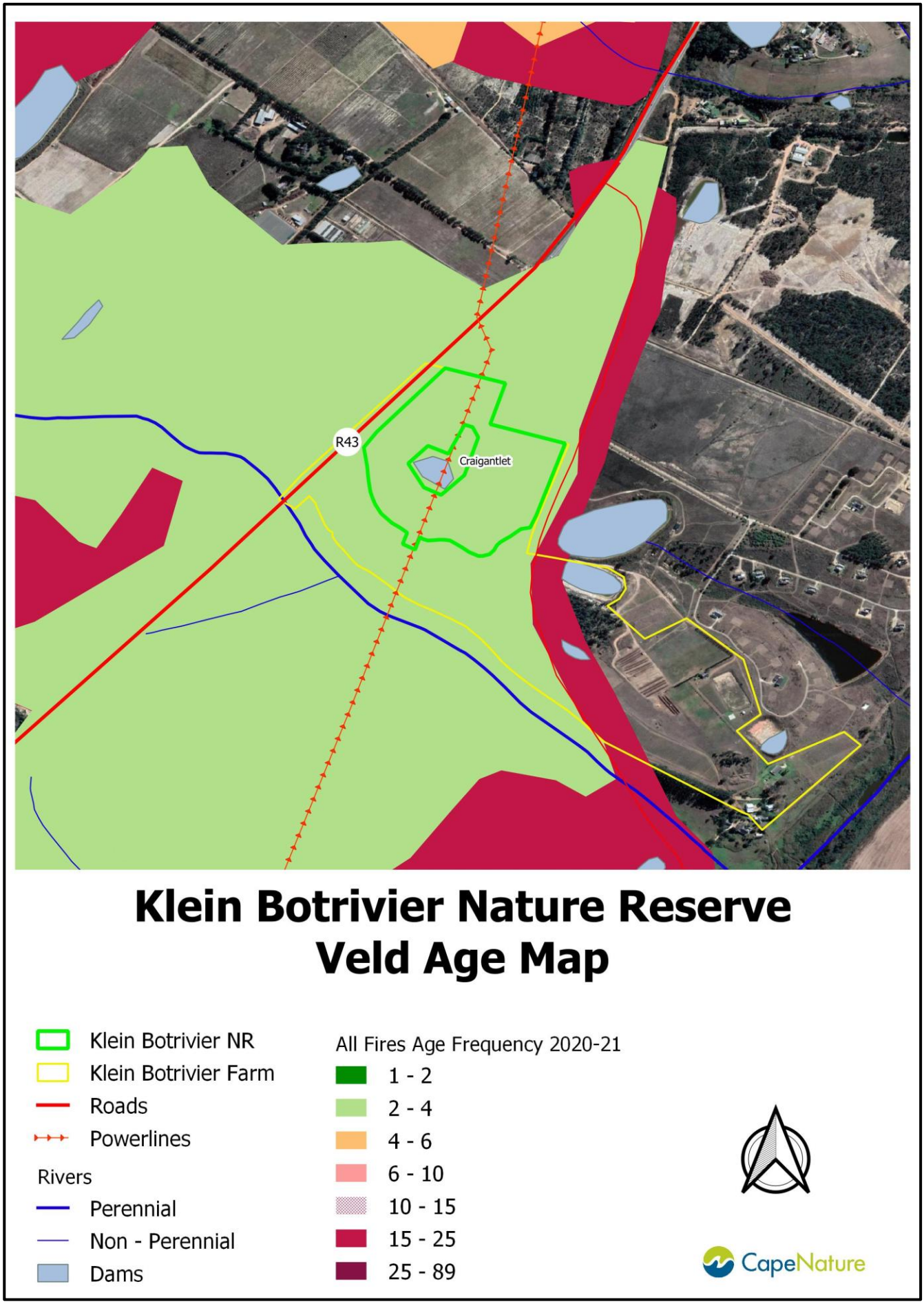

Figure 3.8 Veld Age map of Klein Botrivier Nature Reserve

3.4.8 Invasive species

In 2014 funding became available from Table Mountain Fund through Conservation at Work to support in the removal of invasive vegetation on the Nature Reserve. The previous landowner, Roderick Hall, also provided funding for this project. Invasive vegetation clearing operations were completed by the end of October 2014.

After the fire in 2018 which swept through the Nature Reserve, the alien invasive species became a problem again and TMF provided funding for the removal of invasive alien vegetation over the entire Nature Reserve.

All effort must be taken by the landowner to continue with the follow-up operations of the alien vegetation systematically as resources are available before the trees become too big. This will result in even more resources needed.

The alien vegetation in the Huis kraal river north of the R43 has spread tremendously in the last few years, partly due to the Botriver Clay Brick Mine activities. Due to this, the river system is currently severely chocked-up by alien vegetation and needs urgent attention from government authorities to force the responsible parties to attend to the removal of alien vegetation.

The reserve have been invaded by various aliens, notably *Acacia saligna* (Port Jackson), *Acacia longifolia* (long leaf wattle), *Pinus pinaster* (pine), *Eucalyptus sp.* (blue/spider gum), with a little *Acacia cyclops* (rooikrans), and *Leptospermum laevigatum* (Australian myrtle).

Table 3.1. The invasive vegetation species, densities and age for the Management Unit of the Klein Botrivier Nature Reserve.

Manage-ment Unit	Size (ha)	Invasive vegetation species	Density (%)	Invasive vegetation species age
CR01	12 ha	Port Jackson	25	Young
		Long Leaf Wattle	5	Young
		Pine	3	Young
		Australian Myrtle	2	Young
		Rooikrans	0.5	Young
		Eucalyptus	0.5	Young

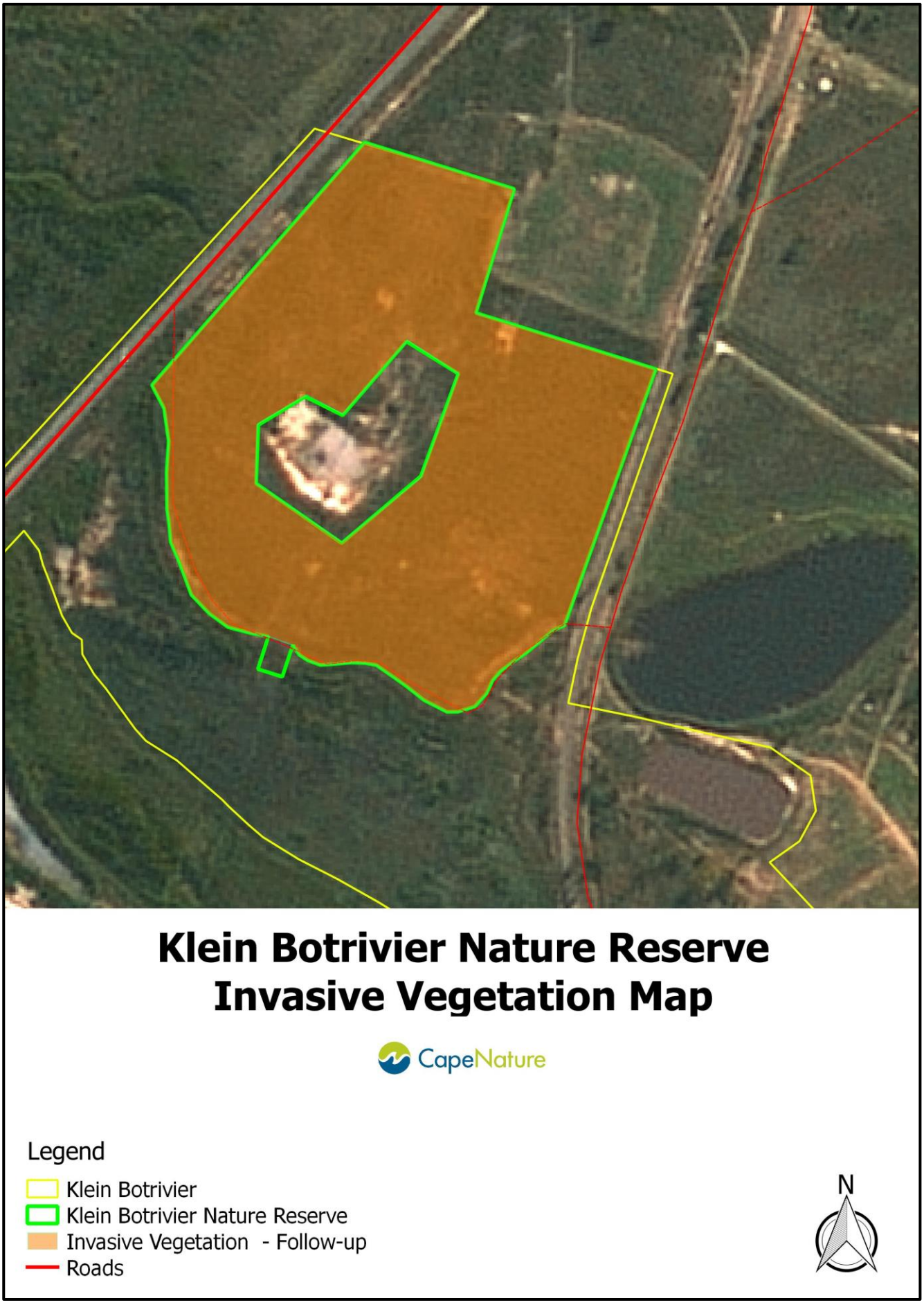

Figure 3.9 Invasive vegetation map for Klein Botrivier Nature Reserve

3.4.9 Mammalian fauna

Large mammals have largely been absent from fynbos for almost two centuries and we can only speculate as to their effects on the vegetation. Fynbos however has evolved with animals and is reliant on them for its fundamental processes such as pollination and dispersal.

No data collection has been formally conducted to record mammal species in the area, but the list as per Appendix B are likely to occur here.

3.4.10 Avifauna

No data is available for this reserve.

3.4.11Herpetofauna (reptiles and amphibians)

3.4.12 Invertebrates

3.5 Socio-economic context

According to the Theewaterskloof Municipality's Draft Integrated Development Plan (IDP) of 2014/2015, the potentially economically active people (aged between 15 and 65) in the Overberg District increased from 92 202 in 2001 to 112 072 in 2011, indicating that 19 870 more people were available for employment in the municipal area. Employment increased from 71 564 in 2001 to 98 061 in 2011, while the unemployment rate declined from 22.4% to 17.0% over the same time. About 11.8% of the households in the municipality have no income at all, while 3.4% earn less that R9 601.00.

Major causes of unemployment in the Theewaterskloof area is the shrinking agricultural sector, capital intensity of agricultural activities, poor labour absorption in the manufacturing sector, seasonal nature of employment in the agricultural sector and the low industrial base in some of the areas in the Theewaterskloof area. The employment growth in the agricultural sector from 1996 to 2001 was notably high and can partly be contributed to the growth in fruit and wine producing activities which are more labour intensive than other farming activities.

The main income generator is agriculture in the form of fruits, vegetables, livestock and wine farming. The demographic make-up of the valley is a combination between lifestyle and substance farming.

The landowner has 2 staff members who comes in twice a week.

Invasive vegetation clearing projects also contribute to providing job opportunities on the farm.

4) Zonation plan

The purpose of the zonation of Klein Botrivier Nature Reserve is to control the intensity and type of use within it, in efforts to ensure the main goal of biodiversity conservation is met. On this basis, within some zones, the permissible intensity of use will be relatively higher than in others. Refer to Figure 4.1 for the zonation map of Klein Botrivier Nature Reserve.

Due to the small size of the reserve, it is difficult to identify different use / activity zones within the 'conservation area' however, low impact activities such as hiking on the existing management roads will be compatible. The entire conservation area is classified into the following zone: 'Nature Access'.

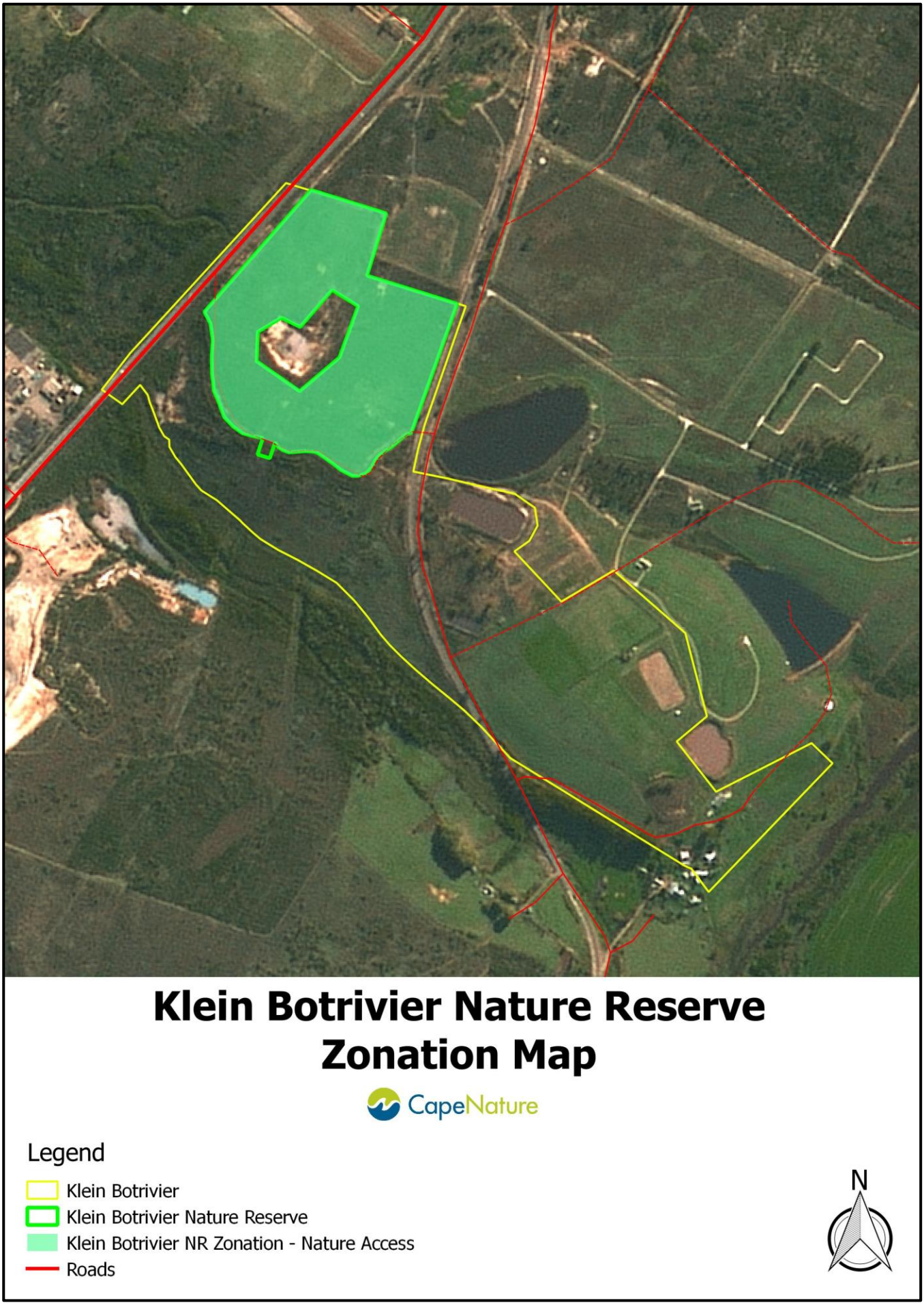

Figure 4.1 Zonation map of Klein Botrivier Nature Reserve

Table 4.1 Conceptual development guidelines

Zone	Zone Objective	Characteristics	Visitor Activities	Facilities / Infrastructure	Visitor Access	Management Guidelines
Nature Access	***Conservation:*** To manage and direct visitor use, and plan infrastructure to minimise impact on sensitive environments. To actively manage users and visitor impacts. Allows for minimal or more intensive biodiversity management intervention. *Provide additional protection to sensitive or threatened habitats, species or other features by Special Management Overlays* ***Users:*** To provide easy access to natural landscapes with low expectation of solitude at all times. Can buffer wilderness or Primitive Zone.	Areas with extensive lower sensitivity habitats: Areas able to accommodate higher numbers of visitors regularly, with no identified sensitive or regionally rare biodiversity. Extensive areas able to accommodate roads, trails and tracks without high risk of erosion and degradation. Areas accessible for regular management of roads and trails Areas where roads and trail infrastructure can be located with low visibility from the surrounding landscape, particularly from adjacent Primitive or Wilderness Zones. Usually areas that require active fire management with firebreaks to stay within thresholds of concern, but may also include natural burning regimes.	Guided or unguided nature observation. Day hiking trails and/or short trails. Bird hides, canoeing, mountain biking & rock-climbing where appropriate. Other activities if specifically considered and approved as part of specific reserve zoning scheme. Motorised 2x4 self-drive access on designated routes. No accommodation or camping. Frequent interaction with other users.	Some deviation from natural/pristine state allowed particularly on less sensitive or already disturbed/transformed sites. No accommodation; but ablution facilities may be provided. May have defined or beaconed hiking routes, tourism and management access roads, and management tracks and firebreaks. Infrastructure should be designed to reduce impacts of higher visitor numbers. Roads open to the public should be accessible by 2x4 sedan. Full width tarred or surfaced roads or roads and tracks to accommodate two vehicles are appropriate. Unsurfaced roads may be surfaced if a road planning exercise has confirmed that the location is suitable.	No special access control or permits required for this zone. Will cater for larger number of visitors than primitive zone Vehicle access on dedicated routes, with pedestrian access from parking areas or adjacent Development Zones. On water – only non-motorised crafts allowed	***Visitor Management:*** More frequent monitoring of these areas is necessary to prevent damage or degradation. More frequent footpath maintenance must be scheduled for busy routes, with particular attention paid to use of railings or other access control to prevent damage to sensitive areas. Unless visitor access can definitely be intensively guided and managed, re-route trails away from any sensitive local habitats or plant and animal species. Trail layout, design and construction must be specified to reduce maintenance requirements under higher use. Visible & audible human impacts to adjacent Primitive or Wilderness 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 may be appropriate subject to a formal assessment and application in accordance with CapeNature policies.

Other zones which can overlap any of the above zones = Special Management overlays:

Special Management overlays	Objective of zone	Characteristics	Type of Activities	Facilities / Infrastructure	Type of Access	Management Guidelines
Species/Habitat protection	Protection of localised identified important Biodiversity Feature	Could overlap any other zone, Permanent, temporary or temporal zone to manage important cultural or heritage features	Specific activities dependent on ability to manage activity and feature in question.	Usually none, but specific infrastructure dependent on feature in question.	Specific access dependent on ability to manage access and feature in question.	Feature specific – as required
Rehabilitation		This should fall under specific management objectives for any zone				

Research is permissible in all zones, except Species/Habitat protection or Cultural Protection where it may be considered on a case by case basis. Research that requires extensive destructive harvesting, or manipulation of more than a few square meters of habitat should not be considered in any of the Protection overlays, except where research outputs are considered essential for management of that ecosystem research cannot be done at an equivalent site elsewhere, and research results are certain to contribute substantially to management objective

5) ADMINISTRATIVE STRUCTURE

The landowner is appointed as the management authority for the Nature Reserve as agreed to in the Management Agreement concluded between CapeNature and the landowner.

Where applicable, Management decisions are made collaboratively between the Management Authority and CapeNature.

The role of the conservation agency – CapeNature - is to provide support, advice and assist with the implementation of the management plan of the Nature Reserve as agreed upon.

CapeNature is also responsible for conducting an annual audit of the Nature Reserve and updating the Management Plan accordingly.

6) OPERATIONAL MANAGEMENT FRAMEWORK

This section translates the strategic framework described in Section 2 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.

6.1 Biodiversity management

6.1.1 Fire management

Fire plays an important role in southern African ecology, and has important effects on vegetation composition, primary productivity and nutrient cycling. In developing a fire management strategy for the site, the following guiding principles should be adhered to:

- Burning should be undertaken in such a way that it maintains spatial and temporal heterogeneity within the landscape.
- A patch mosaic of burnt and un-burnt areas should be maintained.
- The burning of areas should be undertaken in such a way that promotes patchy burns (i.e. within the block being burnt, some patches will remain un-burnt rather than aiming for a complete burn).
- Burning must be undertaken with consideration of the biodiversity conservation requirements of the site and the need to protect rare and endangered species.
- Burning and fire management must be undertaken in a safe manner that is legally compliant with the National Veld and Forest Fire Act (No.101 of 1998).

See Figure 6.1 for a fire management map of Klein Botrivier Nature Reserve.

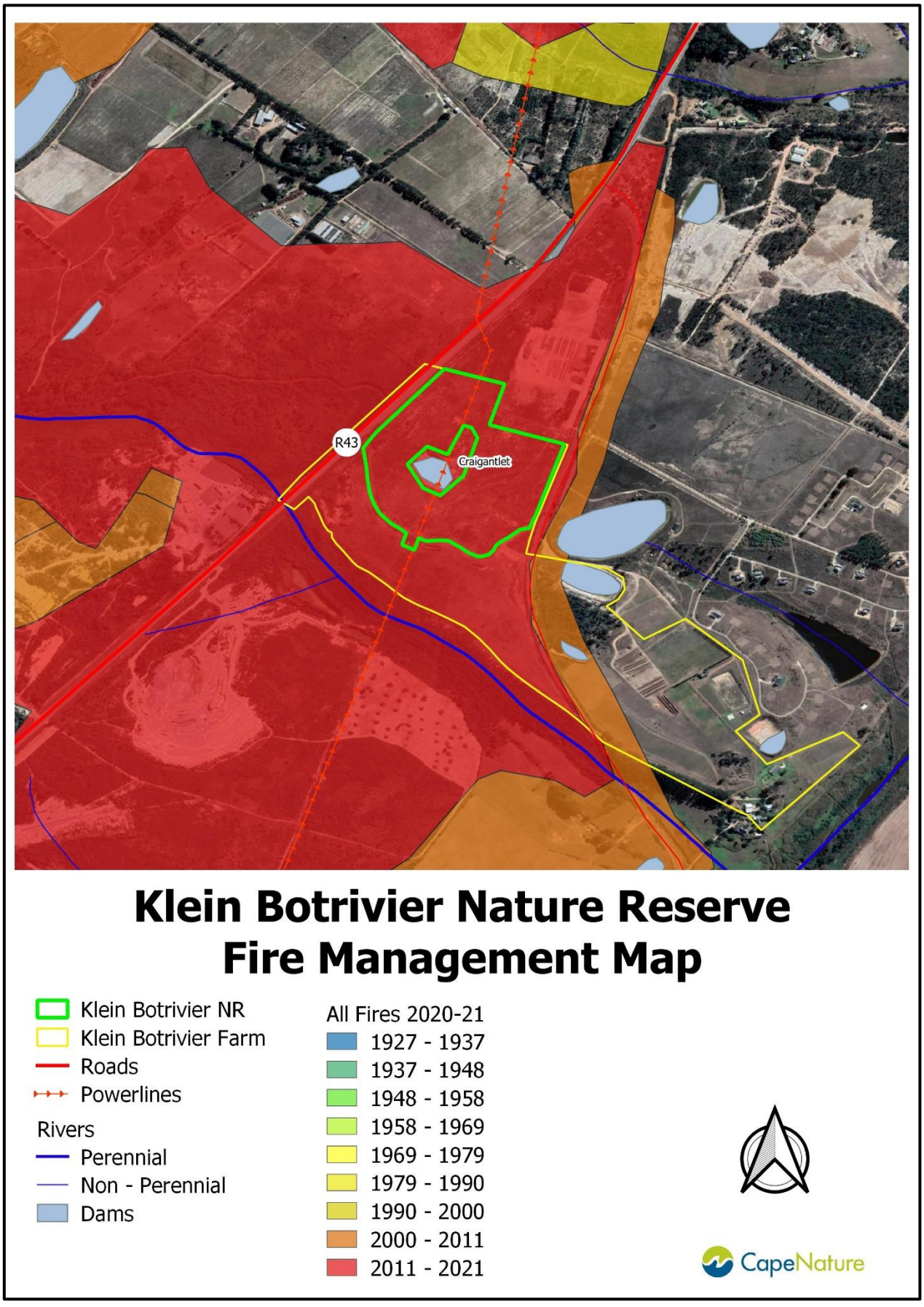

Figure 6.1 Fire Management Map for Klein Botrivier Nature Reserve

Table 6.1 Operational Management Framework

FIRE MANAGEMENT			
Objectives	· To ensure conservation of species and processes by maintaining and improving ecosystem functioning. · To implement effective Integrated Catchment Management. · To allow for natural fire processes to occur without impacting on safety and infrastructure.		
Key Deliverables	**Management Activities**	**Responsibility**	**Timeframe**
Reduce/Prevent the Spread of Fires.	Construct Priority Firebreaks according to Schedule. Negotiate Firebreak Agreement with Neighbours. Fuel Reduction around Infrastructure to Minimise Risk. Conduct Pre-Fire Season Fire Audit. Mapping of all Fires and Capture on GIS.	Management Authority	Annually
Maintain Partnerships to Improve Fire Management.	Attend Local FPA Meetings. Maintain Firebreak Agreements with Neighbours. Attend Pre-Fire Season meetings with local Fire & Rescue Service.	Management Authority	Annually
Determine and Implement Thresholds of Potential Concern.	Establish a series of Fixed Point Photography Monitoring Plots. Conduct Permanent *Protea spp.* Plot Monitoring. Conduct Post-Fire Regeneration Monitoring. Set and Monitor Thresholds of Potential Concern.	Management Authority CapeNature	Annually
Reduce Wildfires due to Human Negligence.	Create Fire Awareness Programme for Members and Staff Eradication and Control of Alien Vegetation Infestations where and when necessary (see AVM management)	Management Authority	Annually

6.1.2 Invasive vegetation management

A listed invasive species means any species, which is listed in terms of section 70 of the Biodiversity Act, whose establishment and spread occurs outside of its natural distribution range. In undertaking invasive plant control, the following guiding principles will be adhered to:

- Invasive plant control will require an ongoing programme that prioritises key infestations along water courses, drainage lines and upper catchment areas.
- Initial clearing efforts should focus on containing infestations that are most likely to spread into new areas.
- All follow-up requirements must be strictly adhered to otherwise the problem will be exacerbated.
- Strategic partnerships and poverty relief programmes such as the Working for Water programme should be utilised.

INVASIVE VEGETATION MANAGEMENT			
Objectives	· To enhance biodiversity protection and conservation. · To ensure conservation of species and processes by maintaining and improving ecosystem functioning. · To implement effective Integrated Catchment Management.		
Key Deliverables	**Management Activities**	**Responsibility**	**Timeframe**
Eradicate Alien and Invasive Species	Identify and Map all Alien Invasive Flora Within or Threatening the Reserve. Compile a Management Unit Clearing Plan. Identify Areas in Maintenance Phase.	MA / CapeNature	Annually
Implement Biological Control	Identify Potential Biological Control Sites and Prioritise Accordingly. Map and Update Biological Control Sites. Implement New and Supplement Existing Biological Control. Monitor Success of Biological Control. Ensure Accurate Record keeping of Biological Control Data. Ensure Biological Control Site Security.	MA / CapeNature	Ongoing
Prevent Further Introduction of Aliens	Ensure Surrounding Landowners are aware of Relevant Legislation.	CapeNature	Ongoing

6.1.3 Wildlife Management

To promote the conservation of indigenous fauna as an important component contributing to and maintaining ecosystem functioning.

Small antelope (Cape Grysbok, Common (Grey) Duiker, Steenbok and Vaal (Grey) Rhebok) occur naturally in the area, and move freely between farms. There is currently no need to manage these populations.

WILDLIFE MANAGEMENT			
Objectives	· To enhance biodiversity protection and conservation. · To ensure conservation of species and processes by maintaining and improving ecosystem functioning. · To implement effective Integrated Catchment Management.		
Key Deliverables	**Management Activities**	**Responsibility**	**Timeframe**
Prevent the Introduction of Alien Species	Formulate Policy regarding Domestic Animals in the Reserve. No Introduction of Alien Fish Species into River Systems.	MA	Ongoing
Control Alien and Invasive Species	Identify the Occurrence of Alien Fauna on Nature Reserve. Monitor Populations of Alien Fauna on the Reserve. Implement Control Measures where appropriate. Measure Success of Control Methods utilised.	MA / CapeNature	Ongoing
Manage the introduction of fauna on the Reserve	All possible introductions of game needs to be in accordance with all the necessary permits and permissions of CapeNature. This includes the construction of and maintenance of a fence according to the CapeNature policy, after which a Certificate of Adequate Enclosure (CoAE) certificate will be issued		
Evaluate and monitor the impact of fauna on the Reserve	Impact in the Reserve by large herbivores needs to be closely monitored. Monitoring is to be carried out by a mutually agreed third party, who will prescribe indicators of change to determine when management interventions will be necessary. Hunting of game is permitted under the hunting proclamation and rights obtained from the CoAE in the Contract Reserve provided it is to manage the game population and remove surplus game		

6.1.5 Erosion Prevention and Control

In addressing soil erosion, the following guiding principles should be adhered to:

- Areas impacted by soil erosion should be stabilised and re-vegetated with indigenous plant species to prevent the spread of listed invasive plant species.
- Areas susceptible to soil erosion, or showing early signs of soil erosion such as loss of vegetation cover, must be managed to prevent soil erosion.

EROSION PREVENTION AND CONTROL			
Objectives	· To ensure the sustainable use of Wild Fynbos Resources. · To ensure the conservation of biodiversity where harvesting operations occur. · To monitor the impact of harvesting on selected Fynbos species.		
Key Deliverables	**Management Activities**	**Responsibility**	**Timeframe**
Prevent and Mitigate Soil Erosion	Conduct a Soil Erosion Assessment Map Erosion Sites and Ensure Photographs are available. Compile an Erosion Maintenance Plan. Monitor the effectivity of the Erosion Control Mitigation. Monitor Cost Effectiveness of Maintenance. Monitor Site Recovery Conduct a Roads and Footpath Assessment.	MA	Annually

6.1.6 Monitoring and Baseline Data Collection

Information on the locality of Rare, Endangered and Endemic species is necessary to ensure effective management and monitoring of populations. This objective aims to improve the biological knowledge base through the implementation and promotion of effective baseline data collection and research opportunities.

MONITORING AND BASELINE DATA COLLECTION			
Objectives	· To manage biodiversity knowledge to ensure effective conservation management. · To implement measures to ensure resilience and persistence of biodiversity in light of climate change. · To ensure the implementation of effective conservation management interventions. · To ensure conservation of species and processes by maintaining and improving ecosystem functioning.		
Key Deliverables	**Management Activities**	**Responsibility**	**Timeframe**
Compile Ecological Plan of Operations (in APO) and insert into CapeNature Conservation Services Ecological Matrix	Collate all relevant Monitoring and Research Protocols and Data Sheets. Insert Klein Botrivier Nature Reserve into the CapeNature Conservation Services Ecological Matrix for the Area.	MA/CapeNature	Annually
Create a Biodiversity Resource Inventory	Prioritise Species for inclusion in the CapeNature Conservation Services Ecological Matrix. Collect Specimens and Submit to CapeNature Scientific Services.	MA/CapeNature	Annually
Implement Monitoring Programme	Review Monitoring Protocols. Identify Monitoring Needs of Nature Reserve in consultation with CapeNature. Establish Indicators for Monitoring. Implement Monitoring Activities as per Ecological Matrix (see above). Report on Monitoring Activities as per Ecological Matrix (see above). Analyse data, re-assess and implement Adaptive Management Strategies.	MA/CapeNature	Annually

6.1.7 Biodiversity and security

Develop an integrated security strategy for the Nature Reserve. Access to the Nature Reserve needs to be controlled and conditions of entry for visitors into the Nature Reserve should be clearly stipulated on signboards at access points.

BIODIVERSITY SECURITY			
Objectives	· To enhance biodiversity protection and conservation. · To ensure conservation of species and processes by maintaining and improving ecosystem functioning.		
Key Deliverables	**Management Activities**	**Responsibility**	**Timeframe**
Improved security and safety of the biodiversity assets on the Nature Reserve	Ensure Notarial Deed with surveyor diagram and title deed restrictions are registered with the Notary and Surveyor General against the property Ensure Conservation Area is rezoned to appropriate conservation zoning, e.g. Open Space III Ensure appropriate signage at access points.	MA/CapeNature	Once off

6.2 Tourism development

In developing tourism within the biodiversity stewardship site, the following guiding principles should be adhered to:

- Tourism products must be appropriate to the site's values and must not threaten its biodiversity or ecological function.
- In developing tourism products, requirements for environmental authorisation must be considered and adhered to.
- Tourism products should be designed to capitalise on the unique beauty and biodiversity features of the site.
- Tourism products should be developed in response to tourism market demands and opportunities within the site and should be carefully assessed to determine their viability.

DEVELOPMENT OF TOURISM OPPORTUNITIES			
Objectives	· To evaluate potential tourism opportunities. · To implement effective management systems. · To ensure legal compliance and implementation of authorised development plans.		
Key Deliverables	**Management Activities**	**Responsibility**	**Timeframe**
Development of tourism opportunities that generate revenue for the Nature Reserve	Planning and development of hiking routes, mountain bike trails, and basic facilities to cater for visitors to the Nature Reserve Development of a business plan for tourism accommodation facilities.	Management Authority	As required

6.3 Operational Management

6.3.1 Legal Compliance

Through the landowners of the biodiversity stewardship site, the management authority has been mandated to enforce laws related to the conservation of the site, which prohibit particular activities. In fulfilling this role, the managers of Klein Botrivier Nature Reserve will adhere to the following guiding principles:

- Law enforcement efforts should be coordinated with the relevant authorities including CapeNature and the South African Police Service in addressing offences and breaches of the law.
- Law enforcement at the site will be undertaken through surveillance, monitoring and appropriate reaction in the event of an offence.

LEGAL COMPLIANCE			
Objectives	· To ensure legal compliance to all relevant legislation and policies.		
Key Deliverable	**Management Activities**	**Responsibility**	**Timeframe**
Ensure that all legal requirements are met.	All development needs to be done according to the NEMA principles and follow the applicable legislation and procedures of all relevant stakeholders. All water management within the Reserve must comply with the National Water Act (No 36 of 1998). Abstraction of water from water sources originating in the Reserve must not affect the biodiversity of the Reserve.	Management Authority	Ongoing

6.3.2 Management Effectiveness

MANAGEMENT EFFECTIVENESS			
Objectives	· To implement effective management systems.		
Key Deliverable	**Management Activities**	**Responsibility**	**Timeframe**
Annual audit completed. Auditing systems inform management	Conduct annual audits. Implementation , annual review and update of management plan Compile detailed work plan identifying specific targets for achieving management	Management Authority/ CapeNature	Annually

6.3.3 Infrastructure development and management

In order for Klein Botrivier Nature Reserve to operate appropriately, adequate infrastructure needs to be developed and maintained both for management and tourism purposes. In addressing infrastructure needs at the site, the following guiding principles will be adhered to:

- Infrastructure must be maintained to avoid any damage to the environment and ensure the safety of staff and visitors to the site.
- Infrastructure must be provided to ensure the effective management and operation of the nature reserve.

INFRASTRUCTURE			
Objectives	· To ensure the implementation of effective conservation management interventions. · To enhance biodiversity protection and conservation. · To ensure conservation of species and processes by maintaining and improving ecosystem functioning.		
Key Deliverable	**Management Activities**	**Responsibility**	**Timeframe**
All infrastructure on the Reserve is adequately maintained.	Develop and implement a scheduled maintenance programme to maintain facilities and infrastructure in a condition that meet relevant environmental, health and safety requirements.	Management Authority	Ongoing

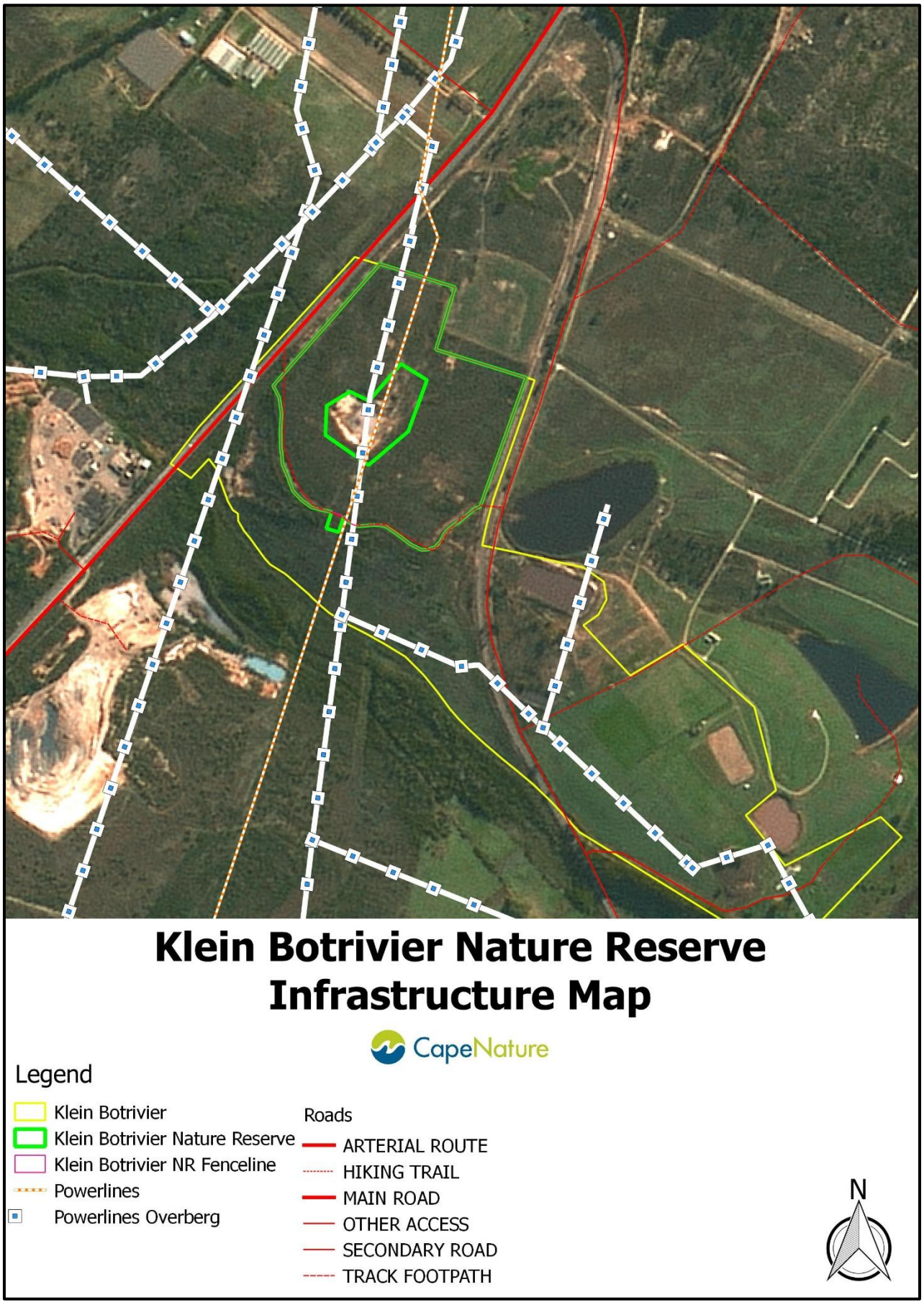

Figure 6.2 Infrastructure on Klein Botrivier Nature Reserve

7) Implementing the Strategic Management Plan

Monitoring and reporting enables the effective assessment of management interventions. If necessary it can be used to direct modifications of management in an effort to achieve the outcomes required.

7.1 Annual Plan of Operation

The Annual Plan of Operation (APO) gives life to the Operational Management Framework on an annual basis and allows for progress to be tracked.

See Table 7.1

7.2 Management Plan Review

The purpose of undertaking an annual review of implementation of the protected area management plan will be to:

- Determine how effectively the management plan has been implemented.
- Assist in determining the focus for the annual plan of operation and the setting of appropriate time frames and budgets.
- Enable effective adaptive management by identifying changes and modifying management interventions.

The annual audit will form the basis of the management plan review. This should include records of recommendations for update/changes to the annual revision of the management schedules as well as the five-year plan. The Annual Plan of Operation (APO) is in a similar format to the Annual Audit (See Appendix C), allowing for a seamless transition of information from Audit to new APO.

7.3 Ten-year costing plan

The purpose of compiling a budget is to estimate the costs needed to implement Annual Plan of Operation (APO) and allocate funds to projects that need to be undertaken.

See Table 7.3

Table 7.1 Annual Plan of Operation of Klein Botrivier Nature Reserve

Management target	2022/23 Actions & Comments	Completion date	Responsibility
FIRE MANAGEMENT			
Reduce/Prevent the Spread of Fires:			
Construct Priority Firebreaks according to Schedule.	Maintain firebreaks by brush cutting only. Maintain identified firebreaks at least once pre fire season. Karwyderskraal Road and R43 forms fire break on E and W side of Reserve respectively. *Comment: Melissa planted 5ha Teff grass below the Nature Reserve, planning to plant the other 5ha next year.* *Melissa's workers cleared alien vegetation in the portion next to the Karwyderskraal road, planning to clear next to R44 next year.*	Ongoing	Landowner
Negotiate Firebreak Agreement with Neighbours.	*Comment: The landowner joined the Greater Overberg Fire Protection Association (FPA) in 2017 and firebreaks was discussed at a meeting with the Fire Management Unit (FMU).*	Ongoing	Landowner
Fuel Reduction around Infrastructure to Minimise Risk.	No infrastructure on reserve except fences and Eskom poles. Clearing around the Eskom poles are a concern as this is impacting the Critically Endangered *Leucadendron elimense* subsp *salteri.* Signage was made to be put up around the population to restrict further damage.	N/A	N/A
Conduct Pre-Fire Season Fire Audit.	*Comment:* Conduct Pre-Fire Season Fire Audit. The size of the Reserve does not warrant a full scale audit – rather just a check to see that available equipment is maintained. Will be done in conjunction with the rest of the farm or the FPA.	Annually in September	Landowner
Mapping of all Fires and Capture on GIS.	Update vegetation age map in management plan. *Comment: No fires in last year.*	Ongoing	CapeNature
Maintain Partnership to Improve Fire Management:			
Attend Local FPA Meetings.	*Comment:* The landowner became a GOFPA member end 2017. *No meetings were held in the past year. Communicating via WhatsApp group.*	Ongoing	Landowner
Maintain Firebreak Agreements with Neighbours.	*Comment: To be done through GOFPA and FMU.*	Ongoing	Landowner
Determine and Implement Thresholds of Potential Concern:			
Establish a series of Fixed Point Photography Monitoring Plots.	*N/A*	N/A	Landowner/ CapeNature

Conduct Permanent Protea spp. Plot Monitoring.	Was done 14 September 2021, to be done again in August/September 2022.	N/A	CapeNature/ Landowner
Conduct Post-Fire Regeneration Monitoring.	This was done in September 2020. Quite a few seedlings were observed but concerned about Eskom vehicles driving into Nature Reserve.	N/A	CapeNature/ Landowner
Set and Monitor Thresholds of Potential Concern.	*Comment:* Biggest threat is on Southern side where the alien vegetation is quite thick and big. Ampie (neighbour) is busy clearing the alien invasive species in the river.		Landowner/ CapeNature

Management target	**2022/23 Actions & Comments**	**Completion date**	**Responsibility**
INVASIVE ALIEN MANAGEMENT			
Eradicate Alien and Invasive Species:			
Identify and Map all Alien Invasive Flora Within or Threatening the Reserve.	*Comment: Last completed 31 March 2015. FPP of the site to be done with the monitoring of the* Leucadendron salteri.	Ongoing	CapeNature/ Landowner
Compile a Management Unit Clearing Plan.	*Comment:* Whole Reserve had a follow-up clearing in 2014 & 2018 funded by TMF. Melissa's workers cleared alien vegetation in the portion next to the Karwyderskraal road, planning to clear next to R44 next year. Urgent follow-up is required for the whole Nature Reserve before the plants start to flower and set seed. CapeNature provided 5l of Nuvogon and 1kg Ecoblue on 8 December 2021.	Ongoing	CapeNature/ Landowner
Identify Areas in Maintenance Phase.	Maintain and continue with alien vegetation clearing. *Comment: Alien vegetation clearing took place in 2014 & 2018. Whole area in maintenance phase.* The Conservation Area needs an urgent follow up.	Ongoing	Landowner/ CapeNature
Implement Biological Control:			
Identify Potential Biological Control Sites and Prioritise Accordingly. Map and Update Biological Control Sites. Implement New and Supplement Existing Biological Control. Monitor Success of Biological Control. Ensure Accurate Record keeping of Biological Control Data. Ensure Biological Control Site Security.	Biological control can be considered as a secondary means where applicable, but as whole NR is in maintenance phase, it is not necessary or recommended in the reserve. *Comment:* In 2012 the Flower Galling Midge was released targeting Black Wattle in the Botriver Valley and this seems to be working effectively.	Ongoing	CapeNature/ Landowner
Prevent Further Introduction of Aliens:			

Ensure Surrounding Landowners are aware of Relevant Legislation.	Through neighbour relations with FPA	Ongoing	Landowner/ Greater Overberg FPA

Management target	2022/23 Actions & Comments	Completion date	Responsibility
WILDLIFE MANAGEMENT			
Prevent the Introduction of Alien Species:			
Formulate Policy regarding Domestic Animals in the Reserve.	No Action Required	N/A	CapeNature/ Landowner
No Introduction of Alien Fish Species into River Systems.	No Action Required	N/A	Landowner/ CapeNature
Control Alien and Invasive Species:			
Identify the Occurrence of Alien Fauna on VNR.	No Action Required. *Comment: No Alien fauna present in the Conservation Area.*	N/A	Landowner/ CapeNature
Monitor Populations of Alien Fauna on the Reserve.	No Action Required. *Comment: No Alien fauna present in the Conservation Area.*	N/A	CapeNature/ Landowner
Implement Control Measures where appropriate.	No Action Required. *Comment: No Alien fauna present in the Conservation Area.*	N/A	CapeNature/ Landowner
Measure Success of Control Methods utilised.	No Action Required. *Comment: No Alien fauna present in the Conservation Area.*	N/A	CapeNature/ Landowner
Manage the introduction of fauna on the Reserve:			
All possible introductions of game needs to be in accordance with all the necessary permits and permissions of CapeNature. This includes the construction of and maintenance of a fence according to the CapeNature policy, after which a Certificate of Adequate Enclosure (CoAE) certificate will be issued.	No Action required *Comment: The area is too small to consider reintroduction of species.* A big caracal was seen in the area in 2021.	N/A	Landowner/ CapeNature
Evaluate and monitor the impact of fauna on the Reserve:			
Monitoring is to be carried out by a mutually agreed third party, who will prescribe indicators of change to determine when management interventions will be necessary.	N/A	N/A	Landowner

Hunting of game is permitted under the hunting proclamation and rights obtained from the CoAE in the Contract Reserve provided it is to manage the game population and remove surplus game	No Action Required. *Comment: No hunting is allowed in the Conservation Area.*	N/A	Landowner/ CapeNature

Management target	**2022/23 Actions & Comments**	**Completion date**	**Responsibility**
EROSION PREVENTION AND CONTROL			
Prevent and Mitigate Soil Erosion:			
Conduct a Soil Erosion Assessment	No Action Required.	N/A	Landowner/ CapeNature
Map Erosion Sites and Ensure Photographs are available.	No Action required *Comment:* The dam where erosion is more likely to occur is zoned outside of the Nature reserve.	N/A	CapeNature/ Landowner
Compile an Erosion Maintenance Plan.	No Action required	N/A	CapeNature/ Landowner
Monitor the effectivity of the Erosion Control Mitigation.	No Action required	N/A	CapeNature/ Landowner
Monitor Cost Effectiveness of Maintenance.	No Action required	N/A	CapeNature/ Landowner
Monitor Site Recovery	No Action required	N/A	CapeNature/ Landowner
Conduct a Roads and Footpath Assessment.	*No erosion at present. Only walking is currently taking place in Conservation Area – no access to road at present.* Concerned about Eskom vehicles driving into Nature Reserve as it seems they don't stick to one pathway. Could possibly drive onto last remaining population of *Leucadendron elimense* ssp *salteri*. Signs were made to warn regarding critically endangered species on the property with TMF funding, one was erected on 8 December, the other four still to be put up.	Ongoing	Landowner

Management target	2022/23 Actions & Comments	Completion date	Responsibility
MONITORING AND BASELINE DATA COLLECTION			
Compile Ecological Plan of Operations and Ecological Matrix:			
Compile an Ecological Plan of Operations and insert into the Conservation Services Ecological Matrix.	Ecological matrix done annually by CapeNature with Ecological team. ➢ Vegetation Communities • Monitor rare and endangered species - *Leucadendron elimense* ssp. *salteri* Allistair to discuss this at South Landscape ecological meeting.	Ongoing	CapeNature/ Landowner
Collate all relevant Monitoring and Research Protocols and Data Sheets.	*Comment:* Sent monthly to Ecological Coordinator.	Ongoing	CapeNature/ Landowner
Create a Biodiversity Resource Inventory:			
Prioritise Species for inclusion on the Ecological Matrix. Compile and Implement the Ecological Matrix. Collect Specimens and Submit to CapeNature Scientific Services. Analyse data, re-assess and implement Adaptive Management Strategies.	*Comment:* Monitoring of rare species, *Leucadendron salteri,* done annually in August.	Ongoing	CapeNature/ Landowner
Implement Monitoring Programme:			
Review Monitoring Protocols. Identify Monitoring Needs of VNR in consultation with CapeNature. Establish Indicators for Monitoring. Implement Monitoring Activities as per Ecological Matrix. Report on Monitoring Activities as per Ecological Matrix. Analyse data, re-assess and implement Adaptive Management Strategies. Implement Monitoring Programmes as per Ecological matrix.	*Comment:* Reviewed annually during audit and at ecological matrix review. Report and send data monthly to ecological coordinator.		CapeNature/ Landowner

Management target	2022/23 Actions & Comments	Completion date	Responsibility
BIODIVERSITY SECURITY			
Improved security and safety of the biodiversity assets on the Nature Reserve:			
Ensure Notarial Deed with surveyor diagram and title deed restrictions are registered with the Notary and Surveyor General against the property	*Comment:* Has been done. No Further action required	Done	CapeNature/ Landowner
Ensure Conservation Area is rezoned to appropriate conservation zoning, e.g. Open Space III	*Comment:* Appropriate zonation of Conservation Area still to be done. Application for rates rebate from Theewaterskloof Municipality was sent in 2019 and approved.	Ongoing	Landowner/ CapeNature
Ensure appropriate signage at access points.	No Action Required *Comment: Signage has been supplied by CapeNature in 2013.* Andrie applied for funding for small signs to be placed where the *Leucadendron elimense* ssp. *salteri* populations are. Five signs were made and will be delivered to the property on 8 December 2021. One sign was erected on 8 December 2021, the other four still to be put up.	Completed	Landowner

Management target	2022/23 Actions & Comments	Completion date	Responsibility
LEGAL COMPLIANCE			
Ensure that all legal requirements are met:			
All development needs to be done according to the NEMA principles and follow the applicable legislation and procedures of all relevant stakeholders.	Maintain Compliance. No Development envisaged within Nature Reserve.	ongoing	Landowner
All water management within the Reserve must comply with the National Water Act (No 36 of 1998).	Maintain Compliance. Melissa to follow up whether the membership as a water user of BGCMA is still applicable to them.	Ongoing	Landowner
Abstraction of water from water sources originating in the Reserve must not affect the biodiversity of the Reserve	Maintain Compliance. No abstraction from Reserve.	Ongoing	Landowner

Creation of cooperative structures with law enforcement officials. Regular patrols covering the full extent of the nature reserve. Prosecution of any offender caught committing an offence.	*Comment:* Compliance maintained	Ongoing	Landowner

Management target	**2022/23 Actions & Comments**	**Completion date**	**Responsibility**
MANAGEMENT EFFECTIVENESS			
Annual management report completed:			
Conduct annual management report	*Comment:* Previous annual management report conducted 8 December 2021. Next annual management report due October – December 2022.	Annually	CapeNature/ Landowner
Auditing systems inform management:			
Implementation, annual review and update of management plan	Need to update management plan with changes from new landowner. Must resubmit signed management plan for 10-year review.	Reviewed annually, updated & signed every 10 years	CapeNature
Compile detailed work plan identifying specific targets for achieving management	*Comments:* Included in Management Plan. Done with review of management plan annually.	Ongoing	CapeNature

Management target	**2022/23 Actions & Comments**	**Completion date**	**Responsibility**
INFRASTRUCTURE			
All infrastructures on the Reserve is adequately maintained:	Maintain all infrastructures on the Reserve. Only fencing on boundary of Conservation Area needs to be maintained. *Comment: Fence line at northern boundary was moved in 2021 to correct position by neighbour, Peter Stuart..* *ESKOM maintains their own powerlines.*	Ongoing	Landowner

Develop and implement a scheduled maintenance programme to maintain facilities and infrastructure in a condition that meet relevant environmental, health and safety requirements.	No Action Required	Ongoing	Landowner

Table 7.3. Estimated annual management cost breakdown.

Management objectives	Reasons	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1. Reduce/Prevent the Spread of Fires												
Manpower:2	Construction of firebreaks and maintenance	R 2,994.75	R 2,475.00	R 2,722.50	R 2,994.75	R 3,294.23	R 3,623.65	R 3,986.01	R 4,384.61	R 4,823.08	R 5,305.38	R 5,835.92
Working hours: 3	Tools for firefighting											
Working days: 1	Daily wages											
Subtotal	**R 41,694.13.**											
2. All infrastructure on the reserve is adequately maintained												
Manpower:2	Fence patrol	R1,000.00	R1,100.00	R1,210.00	R1,331.00	R1,464.10	R1,610.51	R1,771.56	R1,948.72	R2,143.59	R2,357.95	R2,593.74
Working hours: 3	Purchase of fence maintenance items											
Working days: 1												
Subtotal	**R21,531.17**											
3. Eradicate Alien and Invasive Species												
Manpower:4	Herbicide and tools	R 8,000.00	R 8,800.00	R 9,680.00	R 10,648.00	R 11,712.80	R 12,884.08	R 14,172.49	R 15,589.74	R 17,148.71	R 18,863.58	R 20,749.94
Working hours: 7	Daily wages											
Working days: 5	Petrol for chainsaw											
	Chainsaw maintenance											
Subtotal for 10-year period	**R 148,249.34**											
Estimated Annual Management Cost:		R 11,994.75	R 12,375.00	R 13,612.50	R 14,973.75	R 16,471.13	R 18,118.24	R 19,930.06	R 21,923.07	R 24,115.38	R 26,526.91	R 29,179.60
*1.10 yearly estimated increase due to fuel costs, manpower costs and or inflation.												

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Appendix A

LIST OF STATUTES TO WHICH THE KLEIN BOTRIVIER NATURE RESERVE IS SUBJECT

Biodiversity and Cultural Resource Management and Development:

- Animals Protection Act [No. 71 of 1962]
- Atmospheric Pollution Prevention Act [No. 45 of 1965]
- Conservation of Agricultural Resources Act [No. 43 of 1983]
- Constitution of the Republic of South Africa [No. 108 of 1996]
- Criminal Procedures Act [1977]
- Environment Conservation Act [No. 73 of 1989]
- Forest Act [No. 122 of 1984]
- Hazardous Substances Act [No. 15 of 1973]
- Western Cape Heritage Management Act [No. 10 of 1997]
- Western Cape Nature Conservation Management Act [No. 9 of 1997]
- National Environmental Management Act [No. 107 of 1998]
- National Environmental Management: Biodiversity Act [No. 10 of 2004]
- National Environmental Management: Protected Areas Act [No. 57 of 2003]
- National Forests Act [No. 84 of 1998]
- National Heritage Resources Act [No. 25 of 1999]
- National Water Act [No. 36 of 1998]
- National Water Amendment Act [No. 45 of 1999]
- National Veld and Forest Fire Act [No 101 of 1998]
- Nature Conservation Ordinance [No. 15 of 1974]

General Management:

- Development Facilitation Act [No. 67 of 1995]
- Disaster Management Act [No. 57 of 2002]
- Fire Brigade Services Act [No. 99 of 1987]
- Local Government: Municipal Systems Act [No. 32 of 2000]
- National Road Traffic Act [No. 93 of 1996]
- National Building Standards Act [No. 103 of 1977]
- Occupational Health and Safety Act [No. 85 of 1993]
- Western Cape Planning and Development Act [No. 5 of 1998]
- Water Services Act [No. 108 of 1997]

Financial Management:

- Public Finance Management Act [No. 1 of 1999]

Human Resource Management:

- Basic Conditions of Employment Act [No. 75 of 1997]
- Broad-Based Black Economic Empowerment Act [No. 53 of 2003]
- Compensation for Occupational Injuries and Diseases Act [No. 130 of 1993]
- Employment Equity Act [No. 55 of 1998]
- Labour Relations Act [No. 66 of 1995]
- Occupational Health and Safety Act [No. 85 of 1993]
- Pension Funds Act [No. 24 of 1956]
- Skills Development Act [No. 97 of 1998]
- Skills Development Levies Act [No. 9 of 1999]
- Unemployment Insurance Act [No. 63 of 2001]

A brief summary of the most applicable legislation:

Protected Areas are proclaimed under section 23(1) of the National Environmental Protected Areas Act, 57 of 2003, ("the Protected Areas Act").

- **Protected Areas Act (Act No. 57 of 2003)**

The *[Minister/MEC]* is empowered, under section 23(1) of the National Environmental Protected Areas Act, 57 of 2003, ("the Protected Areas Act") to declare an area as a Conservation Area if:

1 It has significant natural features or biodiversity;

2 Is in need of long-term protection for the maintenance of its biodiversity or for the provision of environmental goods and services.

Both of the above criteria pertain to the De Rust Nature Reserve and are discussed in detail under "Conservation Significance".

Biodiversity management agreements

The Minister may enter into a biodiversity management agreement with the person, organization or organ of state identified in terms of section 43(2), or any other suitable person, organization or organ of state, regarding the implementation of a biodiversity management plan, or any aspect of it.

- **Biodiversity Act (Act No. 10 0f 2004)**

Objectives of Act

(a) within the framework of the National Environmental Management Act, to provide for—

(i) the management and conservation of biological diversity within the Republic and of the components of such biological diversity;
(ii) the use of indigenous biological resources in a sustainable manner; and
(iii) the fair and equitable sharing among stakeholders of benefits arising from bio-prospecting involving indigenous biological resources;
(b) to give effect to ratified international agreements relating to biodiversity which are binding on the Republic;
(c) to provide for co-operative governance in biodiversity management and conservation; and
(d) to provide for a South African National Biodiversity Institute to assist in achieving the objectives of this Act.

- **National Veld and Forest Fire Act (Act No. 101 of 1998)**

Purpose

'The purpose of the Act is to prevent and combat veld, forest and mountain fires throughout the Republic.''

Firebreaks

In terms of section 12 and 14 every landowner must prepare and maintain a firebreak as determined in section 13. Failure to do so is an offence in terms of section 25(3), unless he has been exempted by the Minister in terms of section 15.

Fighting Preparedness

There is also a further duty on landowners to have equipment, protective clothing and trained personnel available in the eventuality that there may be fire on their property (section 17). Failure to meet this requirement is an offence in terms of section 25(4).

- **Conservation of Agricultural Resources Act, 1983 (No 43 of 1983)**

Purpose

CARA is an act of the National Department of Agriculture and makes provision for the conservation of the natural agricultural resources of South Africa through:

1. Maintaining the production potential of land;
2. Combating and preventing erosion;
3. Preventing the weakening or destruction of water sources;
4. Protecting the vegetation; and
5. Combating weeds and invader plants.

Applicable CapeNature policies

- Nature Conservation Ordinance (19/1974)
- Western Cape Nature Conservation Board Act No 15 of 1998
- Nature and Environmental Conservation Regulations (Provincial Notice 955/1975)
- CNC WC Fire Management Plan and Guidelines
- CNC Guidelines for the management of leopard management areas
- CNC Baseline and monitoring manual
- CNC guideline for river maintenance
- Policy on the re-establishment of Cape Mountain Zebra Populations
- Policy on the certificates of adequate enclosure
- Hunting Proclamation
- National Water Act, 1998 (No 36 of 1998)

Other Relevant Legislation:

- Municipal Systems Act
- National Water Act, 1998 (No 36 of 1998)
- Constitution of the Republic of South Africa Act, 1996 (No 108 of 1996)
- Environment Conservation Act No 73 of 1989
- Forest Act No 122 of 1984
- National Environmental Management Act, 1998 (No 107 of 1998)
- National Heritage Resources Act, 1999 (No 25 of 1999)
- World Heritage Convention Act, 1999 (No 109 of 1999)
- Western Cape Tourism Act, No. 3 of 1997
- Mountain Catchment Areas Act, 1970 (Act No. 63 of 1970)
- The administration of the Act has been assigned to the Board by virtue of Act 3 of 2000 as published in Provincial Gazette Extraordinary No. 5442 dated 24 March 2000
- Land Use Planning Ordinance 15/1985 (section 29)

(THERE MIGHT BE OTHER LEGISLATION APPLICABLE TO THE CONTRACT NATURE RESERVE AND IT IS THE LANDOWNER'S RESPONSIBILITY TO DETERMINE THIS IF NECESSARY.)

Appendix B

P.N. 271/2015 14 August 2015

WESTERN CAPE NATURE CONSERVATION BOARD

NOTICE

PROVINCE OF THE WESTERN CAPE

NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT, NO. 57 OF 2003:
DECLARATION OF THE CRAIGANTLET 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:—

- Remainder of Portion 4 of the Farm No. 781, situated in the Theewaterskloof Municipality, Division of Caledon, Western Cape Province, measuring 48, 8561 (Forty Eight comma Eight Five Six One) in extent and held by Deed of Transfer No. T17194/2010.

The boundary of the nature reserve is reflected on Diagram No. 851/2012 as set out in the Schedule, and I assign the name **"Craigantlet Nature Reserve"** to it.

Signed at Cape Town this 13th day of July 2015.

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

SCHEDULE

DESCRIPTION OF PROPERTY

CERTIFIED COPY FOR REGISTRATION
FOR SURVEYOR-GENERAL
DATE 19 MAY 2012

Diagram framed for Proclamation Purposes
AFRICAN CONSULTING SURVEYORS

SIDES Metres		ANGLES OF DIRECTION		CO-ORDINATES Y System WG 19°	X
AB	136,69	286 50 40	A	-16 400,34	+3 793 306,58
BC	112,75	17 14 50	B	-16 531,17	+3 793 348,19
CD	171,14	287 15 40	C	-16 497,74	+3 793 453,87
DE	199,44	18 31 30	D	-16 661,17	+3 793 504,65
EF	20,45	22 54 00	E	-16 597,81	+3 793 693,75
FG	14,25	22 54 00	F	-16 589,85	+3 793 712,59
			G	-16 584,30	+3 793 725,72
HJ	35,26	17 50 40	H	-16 343,92	+3 793 749,92
JK	30,66	119 04 20	J	-16 333,12	+3 793 783,48
KL	31,35	198 31 10	K	-16 306,14	+3 793 768,49
			L	-16 316,10	+3 793 738,78
MA	225,31	221 57 30	M	-16 249,70	+3 793 474,13
	Excluded figure:				
NP	18,66	290 01 40	N	-16 441,71	+3 793 455,01
PQ	29,62	335 17 40	P	-16 459,24	+3 793 481,40
QR	102,10	16 27 00	Q	-16 471,62	+3 793 488,31
RS	75,27	44 27 20	R	-16 442,71	+3 793 586,23
ST	42,84	118 17 20	S	-16 389,99	+3 793 639,98
TU	71,51	151 36 40	T	-16 352,44	+3 793 619,75
UV	63,51	223 02 50	U	-16 318,44	+3 793 556,84
VW	49,06	295 18 20	V	-16 361,79	+3 793 510,43
WN	84,27	204 58 10	W	-16 406,14	+3 793 531,40
	53	Botrivier	Δ	-19 007,74	+3 793 828,85
	54	Rietvlakte	Δ	-14 030,27	+3 788 909,91

S.G. No. 851/2012
Approved
for Surveyor-General
18-05-2012
Sheet 1 of 2 sheets

Servitude Notes:
1. The line ab represents the Centre Line of an Electric Power Transmission Servitude extending 11,00 metres on each side of the line.
Vide Dgm.3742/1994. D/S. K214/2003s
2. The line cd represents the Centre Line of an Electric Power Transmission Servitude extending 11,00 metres on each side of the centre line.
Vide Dgm.1585/2007. D/S. K1455/2007s
3. The line ef represents the Centre Line of Electric Power Line Servitude.
Vide Dgm.5429/1958. D/S. 66/1960 (Rem of Bot River Outspan)
4. The line ghj represents the Electric Power Line Servitude.
Vide Dgm.2684/1948. D/S. 225/1949
5. The curvilinear line GM represents the Centre Line of a Servitude Road and Furrow 8 metres wide.
Vide Dgm.3289/2002
6. The line lmn represents the Centre Line of a Pipeline Servitude 3 metres wide.
Vide Dgm.3689/2010

The figure A B C D E F G mid-furrow H J K L mid-furrow M excluding figure N P Q R S T U V W represents approximately 12 hectares of land, being Nature Reserve (Craigantlet) over Remainder of Portion 4 of the Farm 781 in the Theewaterkloof Municipality Administrative District of Caledon

Framed for the purpose of proclaiming a Nature Reserve in terms of Section 21(3) of the National Environmental Management Protected Areas Act, 57 of 2003, in March 2012 by me John Ward (PLS0700) Professional Land Surveyor

This diagram is annexed to No. dated I.f.o. Registrar of Deeds	The parent diagram is SG. No. 3289/2002 annexed to Transfer D/T. 2003 - - 20077	File No. Cldn.781 S.R. No. 358/2012 Comp. A1-3ABA (3346) Comp. A1-3ABB (3347) I.P.I C0130000

NATURE RESERVE OVER PORTION 4 OF THE FARM 781 (Caledon)
Proclamation Diagram 851/2012

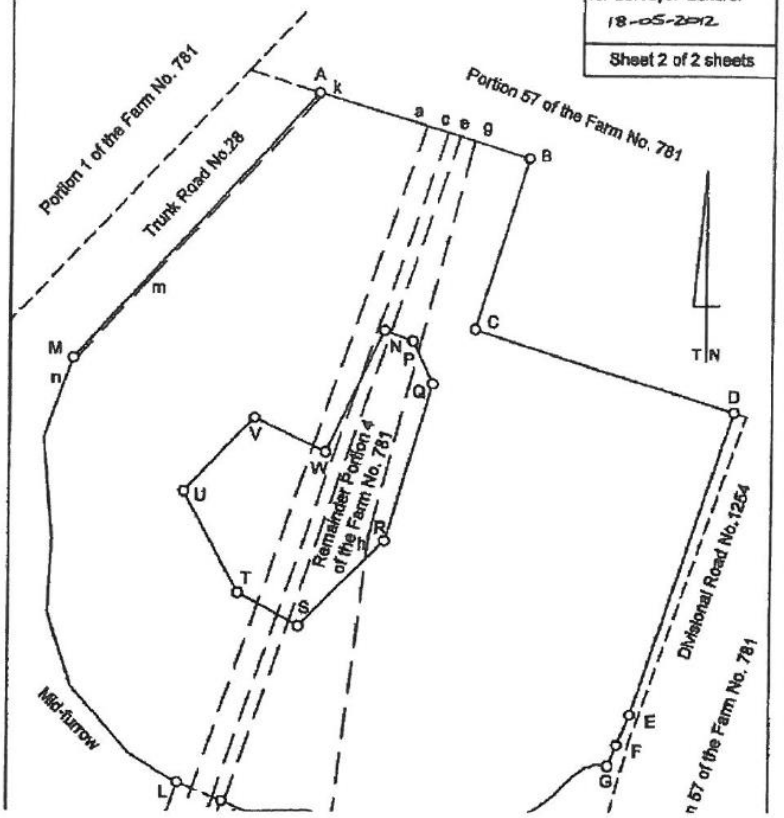
Diagram framed for Proclamation Purposes

AFRICAN CONSULTING SURVEYORS

CERTIFIED COPY FOR REGISTRATION
FOR SURVEYOR-GENERAL
DATE 19 MAY 2012

Beacon Descriptions:
A,B,C = 20mm round iron peg
D,N-W = 12mm round iron peg in small cairn
E,F,J,K = Wood fence post
G = mid-furrow on line E-F produced
H,L,M = mid-furrow on fence line

S.G. No.
851/2012
Approved
for Surveyor-General
18-05-2012
Sheet 2 of 2 sheets



P.K. 271/2015 14 Augustus 2015

WES-KAAPSE NATUURBEWARINGSRAAD

KENNISGEWING

PROVINSIE WES-KAAP

NASIONALE OMGEWINGSBESTUUR: WET OP BESKERMDE GEBIEDE, NR. 57 VAN 2003:
VERKLARING VAN DIE CRAIGANTLET NATUURRESERVAAT

Ek, Anton Bredell, Provinsiale Minister van Plaaslike Regering, Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaap, kragtens Artikel 23(1) van die Wet op Nasionale Omgewingsbestuur: Beskermde Gebiede, Nr. 57 van 2003, verklaar 'n natuurreservaat op:—

- Restant van Gedeelte 4 van die Plaas Nr. 781, geleë in die Theewaterskloof Municipaliteit, Afdeling Caledon, Provinsie Wes-Kaap, 48, 8561 (Agt en Veertig komma Agt Vyf Ses Een) hektaar groot en gehou deur Titelakte Nr. T17194/2010.

Die grense van die natuurreservaat is soos aangedui op Diagram Nr. 851/2012 soos uiteengesit in die Skedule, en ken ek die naam **"Craigantlet Natuurreservaat"** daaraan toe.

Geteken te Kaapstad op hede die 13de dag van Julie 2015.

A BREDELL, MINISTER VAN PLAASLIKE REGERING, OMGEWINGSAKE EN ONTWIKKELINGSBEPLANNING

SKEDULE

BESKRYWING VAN EIENDOM

Diagram framed for Proclamation Purposes
AFRICAN CONSULTING SURVEYORS

CERTIFIED COPY FOR REGISTRATION
FOR SURVEYOR-GENERAL
DATE 19 MAY 2012

SIDES Metres		ANGLES OF DIRECTION		CO-ORDINATES Y System WG 19°	X
AB	136,69	286 50 40	A	-16 400,34	+3 793 306,58
BC	112,75	17 14 50	B	-16 531,17	+3 793 348,19
CD	171,14	287 15 40	C	-16 497,74	+3 793 453,87
DE	199,44	18 31 30	D	-16 661,17	+3 793 504,66
EF	20,45	22 54 00	E	-16 697,61	+3 793 693,76
FG	14,25	22 54 00	F	-16 589,85	+3 793 712,59
			G	-16 584,30	+3 793 725,72
HJ	36,26	17 50 40	H	-16 343,92	+3 793 746,92
JK	30,86	119 04 20	J	-16 333,12	+3 793 783,48
KL	31,35	199 31 10	K	-16 306,14	+3 793 788,48
			L	-16 316,10	+3 793 738,76
MA	226,31	221 57 30	M	-16 249,70	+3 793 474,13
	Excluded figure:				
NP	16,56	290 01 40	N	-16 441,71	+3 793 455,01
PQ	29,62	335 17 40	P	-16 459,24	+3 793 461,40
QR	102,10	16 27 00	Q	-16 471,62	+3 793 488,31
RS	75,27	44 27 20	R	-16 442,71	+3 793 586,23
ST	42,84	118 17 20	S	-16 389,99	+3 793 639,98
TU	71,51	151 36 40	T	-16 352,44	+3 793 619,75
UV	68,51	223 02 50	U	-16 318,44	+3 793 556,84
VW	49,06	295 18 20	V	-16 361,79	+3 793 510,43
WN	84,27	204 58 10	W	-16 406,14	+3 793 531,40
	53	BotMer	Δ	-19 007,74	+3 793 828,85
	54	Rietvlakte	Δ	-14 030,27	+3 788 909,91

S.G. No. 851/2012
Approved
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18-05-2012
Sheet 1 of 2 sheets

Servitude Notes:
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Vide Dgm.5428/1955. D/S. 66/1960 (Rem of Bot River Outspan)
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Vide Dgm.2684/1948. D/S. 225/1949
5. The curvilinear line GM represents the Centre Line of a Servitude Road and Furrow 8 metres wide.
Vide Dgm.3289/2002
6. The line kmn represents the Centre Line of a Pipeline Servitude 3 metres wide.
Vide Dgm.3689/2010

The figure A B C D E F G mid-furrow H J K L mid-furrow M excluding figure N P Q R S T U V W represents approximately 12 hectares of land, being Nature Reserve (Craigantlet) over Remainder of Portion 4 of the Farm 781 in the Theewaterkloof Municipality Administrative District of Caledon

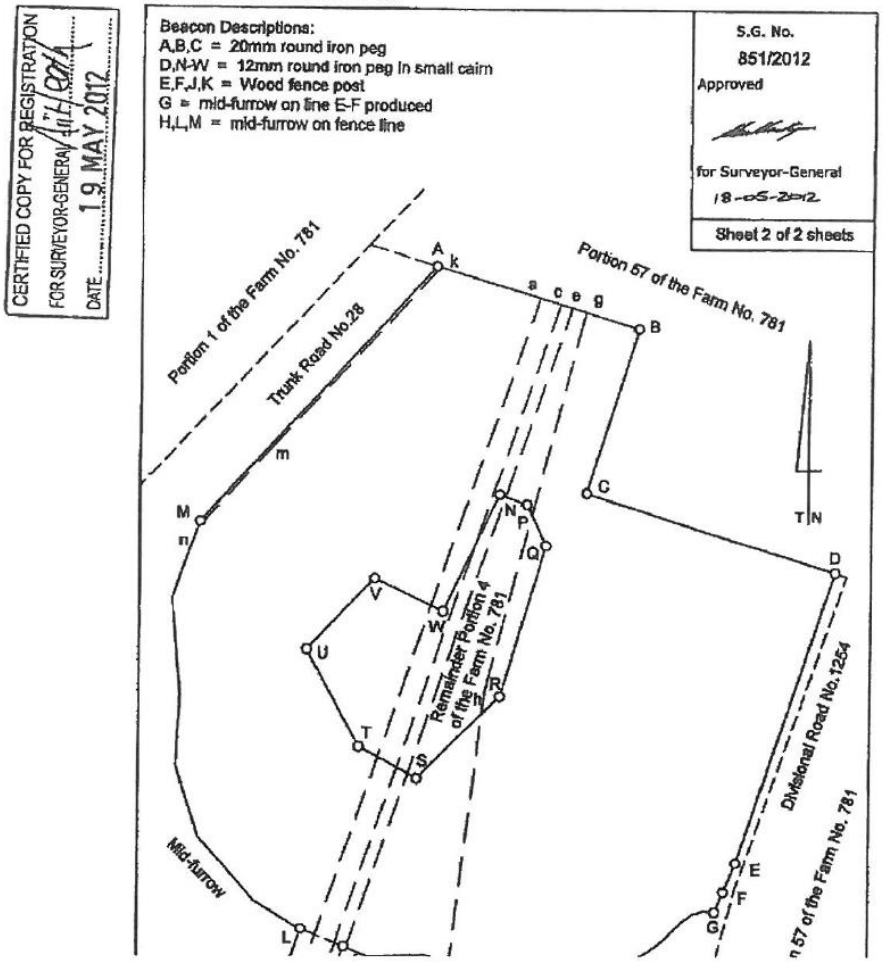
Framed for the purpose of proclaiming a Nature Reserve in terms of Section 21(3) of the National Environmental Management Protected Areas Act, 57 of 2003, in March 2012 by me John Ward (PLS0700) Professional Land Surveyor

This diagram is annexed to No. dated I.f.o. Registrar of Deeds	The parent diagram is SG. No. 3289/2002 annexed to Transfer D/T. 2003 - - 20077	File No. Cldn.781 S.R. No. 358/2012 Comp. A1-3ABA (3346) Comp. A1-3ABB (3347) LPI C0130000

NATURE RESERVE OVER PORTION 4 OF THE FARM 781 (Caledon)
Proclamation Diagram 851/2012

Diagram framed for Proclamation Purposes

AFRICAN CONSULTING SURVEYORS



I.S. 271/2015 14 kweyeThupa 2015

IBHODI YOLONDOLOZO LWENDALO YENTSHONA KOLONI

ISAZISO

IPHONDO LASENTSHONA KOLONI

ULAWULO LOKUSIGNQONGILEYO LWESIZWE: UMTHETHO WEENDAWO EZIKHUSELWEYO, INOMB. 57 WAMA-2003: ISIBHENGEZO SOLONDOLOZO LWENDALO YASE-CRAIGANTLET

Mna, Anton Bredell, uMphathiswa wePhondo looMasipala, iMicimbi yokusiNgqongileyo nesiCwangciso soPhuhliso eNtshona Koloni, phantsi kwecandelo 23(1) loLawulo lokusiNgqongileyo lweSizwe: Umthetho weeNdawo eziKhuselweyo, iNomb. 57 ka-2003, ndazisa ngendawo yolondolozo lwendalo:—

- Inxalenye 4 eseleyo yeFama eyiNomb. 781, ekuMasipala waseTheewaterskloof, iCandelo laseCaledon, kwiPhondo leNtshona Koloni, engumlinganiselo oziihektare ezingama-48, 8561 (Amashumi amaNe anesiBhozo ikoma Sibhozo Ntlanu Ntandathu Nye) ubukhulu kwaye ephantsi kweNcwadi yesigqibo yokuTshintshela eyiNomb. T17194/2010.

Umda wendawo yolondolozo lwendalo uboniswe kuMfanekiso oyiNomb. 712/2012 njengoko kuchaziwe kuShedyuli, yaye ndiyinika igama elithi **"Craigantlet Nature Reserve"**.

Ityobelwe eKapa ngomhla we-13 ka keyeKhala 2015.

A BREDELL, UMPHATHISWA KAMASIPALA, IMICIMBI YOKUSINGQONGILEYO NESICWAGCISO SOPHUHLISO

KWESHEDYULI

INGCACISO YEPROPATI

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NATURE RESERVE OVER PORTION 4 OF THE FARM 781 (Caledon)
Proclamation Diagram 851/2012

Diagram framed for Proclamation Purposes

AFRICAN CONSULTING SURVEYORS

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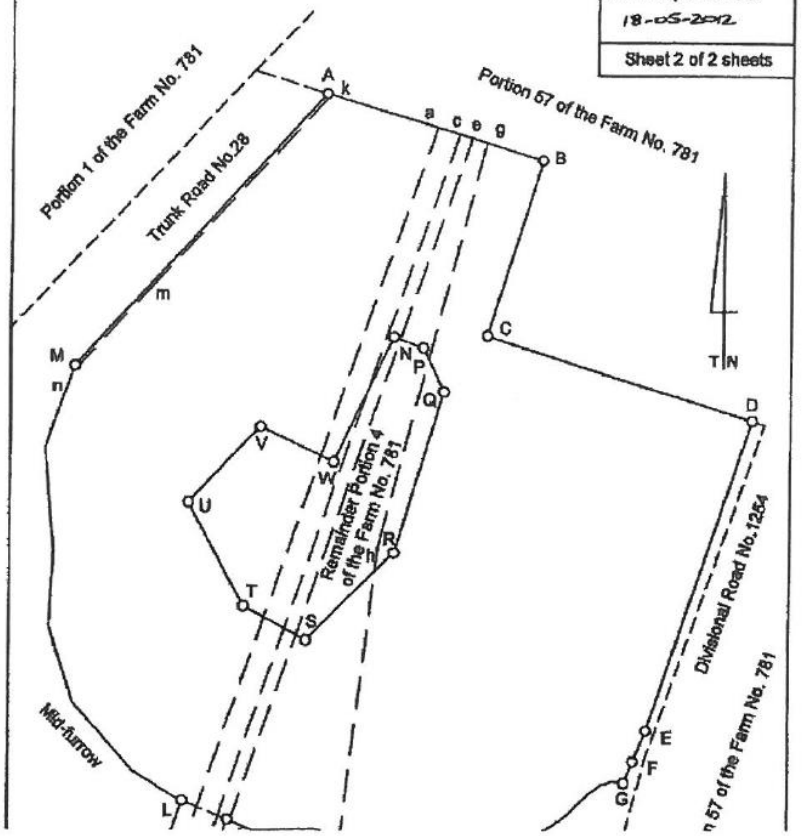
DATE 19 MAY 2012

Beacon Descriptions:
A,B,C = 20mm round iron peg
D,N-W = 12mm round iron peg in small cairn
E,F,J,K = Wood fence post
G = mid-furrow on line E-F produced
H,L,M = mid-furrow on fence line

S.G. No.
851/2012
Approved
for Surveyor-General
18-05-2012
Sheet 2 of 2 sheets



SPECIES LISTS

Flora/ Plant species

Red Data Book species recorded on Klein Botrivier Nature Reserve

Source: Helme, 2004

TAXON	DRAFT STATUS
Erica rhodopis	Critically Endangered
Serruria flagellifolia	Vulnerable
Otholobium thomii	Endangered
Cliffortia ferricola	Critically Endangered
Erica ustulescens	Critically Endangered
Phylica diosmoides	Endangered
Leucadendron elimense ssp. *salteri*	Critically Endangered

Other plant species found on Klein Botrivier Nature Reserve

Taxon	Common Name	Status
Phaenocoma prolifera	Cape Everlasting	Least Concern
Drosera cistiflora	Doublom / Snotrosie	Least Concern
Hyobanche sanguinea	Katnaels	Least Concern
Leucospermum cordifolium	Red Pincushion Protea	Near Threatened
Cliffortia ruscifolia	Climber's Friend	Least Concern
Serruria flagellifolia	Houwhoek Spiderhead	Vulnerable
Erica coriifolia		
Leucospermum truncatulum	Oval-leaf Pincushion	Near Threatened
Restio festuciformis		Least Concern
Berzelia lanuginosa	Kolkol, Kuikentjiebos, Vleiknopbos	Least Concern
Wachendorfia paniculata	Koffiepit, rooikanol, spinnekopblom	Least Concern

Fauna / Mammal species

No data collection has been formally conducted to record mammal species in the area but the following are likely to occur:

MAMMALS	
Scientific Name	**Common Name**
Felis silvestris lybica	African Wildcat
Otocyon megalotis	Bat eared fox
Aonyx capensis	Cape clawless otter
Raphicerus melanotis	Cape Grysbok
Felis caracal	Caracal
Papio ursinus	Chacma Baboon
Sylvicapra grimmia	Grey duiker
Pelea capreolus	Grey rhebuck
Mellivora capensis	Honey badger
Oreotragus Oreotragus	Klipspringer
Herpestes ichneumon	Large Grey Mongoose
Genetta tigrina	Large -Spotted Genet
Panthera pardus	Leopard
Hystrix africaeaustralis	Porcupine
Procavia capensis	Rock hyrax
Galerella pulverulenta	Small grey mongoose
Genetta genetta	Small -Spotted Genet
Raphicerus campestris	Steenbok
Atilax paludinosus	Water mongoose

Reptile species

Reptiles observed on Klein Botrivier Nature Reserve

REPTILES		
Scientific Name	**Common Name**	**Status**
Chersina angulata	Angulate tortoise	CITES II; Protected Species

Avian/Bird species

Birds observed at Klein Rivier Nature Reserve

REPTILES		
Scientific Name	**Common Name**	**Status**
Anas undulata	Yellow-billed duck	Least concern

Appendix D Annual Management Report Schedule for Craigantlet (Klein Botrivier) Nature Reserve

Management target	2021/22 Progress	2022/2023 Goals	Completion date	Responsibility	Actions
1 FIRE MANAGEMENT					
1.1 Reduce/Prevent the Spread of Fires:					
1.1.1 Construct Priority Firebreaks according to Schedule.	*Comment:* Firebreaks should be maintained by brush cutting only. Karwyderskraal Road and R43 forms firebreak on E and W side of Reserve respectively. Maintain identified firebreaks at least once pre fire season? The channel at the bottom of the reserve can also be used as a firebreak. The landowner is planning to clear the alien vegetation on the southern side of the nature reserve in 2020/21. This will create a firebreak on the property on this high-risk side.	Melissa planted 5ha Teff grass below the Nature Reserve, planning to plant the other 5ha next year. Melissa's workers cleared alien vegetation in the portion next to the Karwyderskraal road, planning to clear next to R44 next year.	Ongoing	Landowner	
1.1.2 Negotiate and maintain Firebreak Agreement with Neighbours	*Comment:* FPA meeting was held & firebreaks were discussed. A small group of the neighbouring farmers got together with a FPA manager for a discussion.	They are a still a member, no meetings were held this year.	Ongoing	Landowner	
1.1.3 Fuel Reduction around Infrastructure to Minimise Risk.	*Comment:* No infrastructure on reserve except fences and Eskom poles.	Clearing around the Eskom poles are a concern as this is impacting the Critically Endangered *Leucadendron elimense* subsp *salteri.*	N/A	Landowner	
1.1.4 Conduct Pre-Fire Season Fire Audit.	*Comment:* The size of the Reserve does not warrant a full-scale audit – rather just a check to see that available equipment is maintained. Two new beaters are available. The land is currently not at high risk, the quarry and the high invasive	Ongoing	Annually in November	Landowner	

	species on the neighbouring property is posing the highest risk.				
1.1.5 Mapping of all Fires and Capture on GIS.	*Comment*: Fire occurred on property in March 2018; CapeNature (Kogelberg Nature Reserve) mapped this fire.	No fires occurred in the past year.	Ongoing	CapeNature	
1.2 Maintain Partnership to Improve Fire Management:					
1.2.1 Attend Local FPA Meetings.	*Comment:* Local FPA meetings were attended.	None were held in the past year. Communicating via WhatsApp group.	Ongoing	Landowner	
1.2.2 Maintain Firebreak Agreements with Neighbours.	*Comment:* A "cell" meeting was held with the close neighbours and the FPA.		Ongoing	Landowner	
1.3 Determine and Implement Thresholds of Potential Concern:					
1.3.1 Establish a series of Fixed Point Photography Monitoring Plots.	*Comment:*	N/A		CapeNature/ Landowner	
1.3.2 Conduct Permanent *Protea* spp. Plot Monitoring.	*Comment:* Was done 14 September 2021.	Was done 14 September 2021, to be done again in August/September 2022.	Annually in August	CapeNature/ Landowner	CapeNature to conduct monitoring in August 2022
1.3.3 Conduct Post-Fire Regeneration Monitoring.	*Comment:* Completed	This was done in September 2020. Quite a few seedlings were observed but concerned about Eskom vehicles driving into Nature Reserve.	Only after fire occurs	CapeNature/ Landowner	
1.3.4 Set and Monitor Thresholds of Potential Concern.	*Comment:* The biggest concern is the very dense invasive species on the neighbouring property. The landowner is planning to clear the section of alien vegetation south of the reserve in 2020/21.	Ampie (neighbour) is busy clearing the alien invasive species in the river.	Ongoing	Landowner/ CapeNature	

Management target	2021/22 Actions & Comments	2022/2023 Actions	Completion date	Responsibility	Actions
2 INVASIVE ALIEN MANAGEMENT					
2.1 Eradicate Alien and Invasive Species:					
2.1.1 Identify and Map all Alien Invasive Flora Within or Threatening the Reserve.	*Comment:* Table Mountain Fund gave R 29 735-74 for alien vegetation clearing for the Nature Reserve in 2018. The whole conservation area was cleared. Andrie received a fact sheet from Dr Clüver regarding *Cylindrobasidium laeve* (a fungus to prevent re-growth of black, green and golden wattle stumps after it is cut). Might be an option to investigate using this on these wattles on the rest of the farm when the landowner clears the alien vegetation. The reserve has herbicide but needs application assistance. Andrie will speak to Vivi from Landcare regarding possible assistance to Craigantlet Nature Reserve with alien clearing teams.	*Comment:* Melissa's workers cleared alien vegetation in the portion next to the Karwyderskraal road, planning to clear next to R44 next year. Urgent follow-up is required for the whole Nature Reserve before the plants start to flower and set seed. CapeNature provided 5l of Nuvogon and 1kg Ecoblue on 8 December 2021.	Ongoing	CapeNature/ Landowner	Andrie to speak to Vivi regarding assistance with teams to clear alien vegetation on property.
2.1.2 Compile a Management Unit Clearing Plan.	*Comment:* Whole Reserve had a follow-up clearing in 2014 and 2018.		Ongoing	CapeNature/ Landowner	
2.1.3 Identify Areas in Maintenance Phase.	A follow up was done on the whole Conservation Area (2014 & 2018).	The whole NR is in maintenance phase, but if not cleared soon, it could be fully infested again.	Ongoing	CapeNature/ Landowner	

Management target	2021/22 Actions & Comments	2022/2023 Actions	Completion date	Responsibility	
3 WILDLIFE MANAGEMENT					
3.1 Prevent the Introduction of Alien Species:					
Formulate Policy regarding Domestic Animals in the Reserve.	No Action Required *Comment:*	N/A A big caracal was seen in the area.	Ongoing	Landowner/ CapeNature	
3.2 Control Alien and Invasive Species:					
3.2.1 Identify the Occurrence of Alien Fauna on NR.	No Action Required.		Ongoing	Landowner/ CapeNature	
3.2.2 Monitor Populations of Alien Fauna on the Reserve.	No Action Required. *Comment:*		Ongoing	Landowner/ CapeNature	

Management target	2021/22 Actions & Comments	2022/2023 Actions	Completion date	Responsibility	
4 EROSION PREVENTION AND CONTROL					
4.1 Prevent and Mitigate Soil Erosion:					
4.1.1 Conduct a Soil Erosion Assessment	No Action Required. *Comment:*		Ongoing	Landowner / CapeNature	
4.1.2 Map Erosion Sites and Ensure Photographs are available.	No Action required *Comment:* The dam where erosion is more likely to occur is zoned outside of the Nature reserve.		Ongoing	Landowner / CapeNature	
4.1.3 Conduct a Roads and Footpath Assessment.	*Comment:* Concerned about Eskom vehicles driving into Nature Reserve as it seems they don't stick to one pathway. Could possibly drive onto last remaining population of *Leucadendron elimense* ssp *salteri.*	Signs were made to warn regarding critically endangered species on the property with TMF funding, one was erected on 8 December, the other four still to be put up.	Ongoing	Landowner with technical advice from CapeNature	

Management target	2021/22 Actions & Comments	2022/2023 Actions	Completion date	Responsibility	
5 MONITORING AND BASELINE DATA COLLECTION					
5.1 Compile Ecological Plan of Operations and Ecological Matrix:					
5.1.1 Compile an Ecological Plan of Operations.	*Comment:* Done annually by CapeNature with Ecological team.	Allistair to discuss this at South Landscape ecological meeting.	Ongoing	CapeNature / Landowner	Allistair to discuss adding this to their ecomatric.
5.1.2 Collate all relevant Monitoring and Research Protocols and Data Sheets.	*Comment:* Sent monthly to Ecological Coordinator.		Ongoing	CapeNature / Landowner	
5.2 Create a Biodiversity Resource Inventory:					
5.2.1 Prioritise Species for inclusion on the Ecological Matrix.	*Comment:* Post fire monitoring of rare species, *Leucadendron elimense* ssp. *salteri,* was done in September 2020. Permanent *Protea* spp. plot monitoring was done on 14 September 2021.	Permanent Protea monitoring to be done annually.	Ongoing	CapeNature / Landowner	CapeNature to conduct monitoring on *Leucadendron elimense* ssp. *salteri* in August/September 2022
5.2.2 Collect Specimens and Submit to CapeNature Scientific Services.	*Comment:* Done ad hoc			Landowner / CapeNature	

Management target	2021/22 Actions & Comments	2022/2023 Actions	Completion date	Responsibility	Actions
6 BIODIVERSITY SECURITY					
6.1 Improved security and safety of the biodiversity assets on the Nature Reserve:					
6.1.1 Ensure Notarial Deed with surveyor diagram and title deed restrictions are registered with the Notary and Surveyor General against the property	*Comment:* Has been done	No Further action required	Completed	CapeNature	
6.1.2 Ensure Conservation Area is rezoned to appropriate conservation zoning, e.g. Open Space III/Conservation Zone II	*Comment:* Appropriate zonation of Conservation Area still to be done.			Landowner/ CapeNature	

	Application for rates rebate from Theewaterskloof Municipality was sent in 2019 and approved.				
6.1.3 Ensure appropriate signage at access points.	*Comment:* Craigantlet Nature Reserve signage was erected in 2013. Andrie applied for funding for small signs to be placed where the *Leucadendron elimense* ssp. *salteri* populations are. Five signs were made and will be delivered to the property on 8 December 2021.	One sign was erected on 8 December, the other four still to be put up.	Completed	Landowner/ CapeNature	Signs to be erected on site where possible access can be gained. Andrie to send map to Melissa.

Management target	**2021/22 Actions & Comments**	**2022/2023 Actions**	**Completion date**	**Responsibility**	**Actions**
7 LEGAL COMPLIANCE					
7.1 Ensure that all legal requirements are met:					
7.1.1 All development needs to be done according to the NEMA principles and follow the applicable legislation and procedures of all relevant stakeholders.	Maintain Compliance.		Ongoing	Landowner	
7.1.2 All water management within the Reserve must comply with the National Water Act (No 36 of 1998).	Maintain Compliance *Comment:* Registered as a water user with Breede Gouritz Catchment Management Agency (BGCMA). Melissa to follow up whether the membership as a water user of BGCMA is still applicable to them.		Ongoing	Landowner	
7.1.3 Abstraction of water from water sources originating in the Reserve must not affect the biodiversity of the Reserve	Maintain Compliance. *Comment:* Registered as a water user with BGCMA		Ongoing	Landowner	

Management target	**2021/22 Actions & Comments**	**2022/2023 Actions**	**Completion date**	**Responsibility**	**Actions**

8 MANAGEMENT EFFECTIVENESS					
8.1 Annual management report completed:					
8.1.1 Conduct annual management report.	*Comment:* Previous annual management report was conducted 9 March 2021.	Next annual management report due October – December 2022.	Ongoing	CapeNature/ Landowner	
8.2 Auditing systems inform management:					
8.2.1 Implementation, annual review and update of management plan	Management plan was updated in 2016 and handed over to CapeNature legal services on 22 March 2016. Will have to be reviewed and signed by Melissa.	Need to update management plan with changes from new landowner. Must resubmit signed management plan for 10-year review.	Ongoing / every 10 years	CapeNature	Andrie to update management plan. Melissa to review, edit and sign MP. Andrie to then send plan to be signed by MEC.
8.2.2 Compile detailed work plan identifying specific targets for achieving management	*Comments:* Included in Management Plan	Done with review of management plan annually.	Ongoing	CapeNature	

Management target	**2021/22 Actions & Comments**	**2022/2023 Actions**	**Completion date**	**Responsibility**	**Actions**
9 INFRASTRUCTURE					
9.1 All infrastructures on the Reserve is adequately maintained	*Comment:* Only fencing on boundary and road of Conservation Area needs to be maintained.	Fence line being moved in 2021.		Ongoing	Landowner
9.2 Develop and implement a scheduled maintenance programme to maintain facilities and infrastructure in a condition that meet relevant environmental, health and safety requirements.	No Action Required			Ongoing	Landowner