Addendum Report

Farm Rocklands 57/633

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“It seems to me that the natural world is the greatest source of excitement; the greatest source of visual beauty; the greatest source of intellectual interest. It is the greatest source of so much in life that makes life worth living.”

David Attenborough

GENERAL

This document serves as an addendum to the original ***Terrestrial Species Assessment Report*** (Draft Version1.1) as submitted by Jacques van Rensburg of ***Nature Works*** in respect of the Agricultural Development on Portion 57 of Farm 633 (Rocklands) and the DEA&DP Compliance Notice Ref: 14/1/1/E2/7/9/3/0733/22.

The addendum 1.2 document specifically addresses the points highlighted by Cape Nature (Rhett Smart) in the correspondence dated 27 June 2024 which was in response to the Draft NEMA – Section 24G Rectification Report submitted.

PRESCRIPT

Although the Fynbos Biome was subject to intensive study from 1977 to 1989 under the Fynbos Biome Project (Kruger 1978, Day et al. 1979, Kruger 1979, Campbell et al. 1981, Jarman et al. 1981, Boucher & McDonald 1982, Deacon et al. 1983, Bond & Goldblatt 1984, Jarman 1984, MacDonald & Jarman 1984,Moll et al. 1984, Pierce 1984, Hall & Veldhuys 1985, Kruger et al. 1985, MacDonald et al. 1985, Cowling et al. 1987, Manders & Dicks 1987, Rebelo 1987a, Cowling 1992), it is clear that many gaps in our knowledge still exist (Huntley 1992).

Although a Red Data Book was published (Hall & Veldhuys 1985), in which the presence of many rare species with small (less than 50 mature plants) isolated (with no seed dispersal) populations was documented, it is still not understood how such small populations can be self-sustaining over the time scales during which they have been observed (over 200 years).

What is alarming about these deficiencies, and many others not mentioned, is that they are the cornerstone of management and monitoring of fynbos communities, especially in a world of habitat destruction, alien invasive plant infestations and global climate change. The initiatives to complete the conservation status of species in a the Red Data List, which is updated periodically , such as the list for Proteaceae (A.G. Rebelo, unpublished data), highlight these problems, but do not address them.

An understanding of the biogeography of the Fynbos Biome requires detailed inventories of species for the different vegetation types. However, due to the high species richness and turnover, the data required to map the biodiversity of the region do not exist, except for a few isolated units. Whilst we know that endemism is high for the biome—it appears to be exceptionally high also for individual mountains and vegetation types, but we do not have the data to discern patterns at any scale finer than 25 x 25 km grid units (Oliver et al. 1983), and even these are patchy. The Protea Atlas Project (Rebelo 1991), running over 10 years from 1991–2001, discovered more than 10 new taxa of Proteaceae, one of the best researched plant families of the Fynbos Biome.

More importantly, it hints that much subspecific diversity exists locally that has never been adequately documented. Primary taxonomy and vegetation inventories are totally inadequate, and more work is urgently needed.

Although detailed and comprehensive plans exist for the CFR (Cowling et al. 1999b, Pressey et al. 2003, Rouget et al. 2003a, b, 2004), two key assumptions require more detailed research— the long-term effects of fragmentation, and the significance of corridors. The proposed network is robust enough to cater for the inadequacies of current knowledge. We need to understand which units and links are indispensable and which can be sacrificed.

Another *key assumption* of the conservation plan is that invasive alien plants will be brought under control and that future invasive species will be controlled timeously. Legislation, in particular the Conservation of Agricultural Resources Act and National Environmental Management: Biodiversity Act (Act No. 10 of 2004), to achieve this, is in effect.

Guidelines to assessing environmental impact are also available (De Villiers et al. 2005)

Given the threat of global climate change in the region, we must be able to predict what changes will occur within the region. Unfortunately, the models are not very robust at predicting possible future rainfall patterns. Specifically, to determine the degree of habitat transformation that global climate change will affect, we have to know the annual distribution of precipitation and changes in predictability. We also have to profile which taxa and vegetation types are likely to be most affected and what mitigation (if any) is required. This must take into account that suitable alternative habitats are sometimes already occupied by sister taxa that are also under stress.

A further problem is the conservation of fynbos. Current antipollution and fire legislation prevents burning of fynbos areas during peak fire periods.

Mowing, which effectively destroys the communities, is preferred as an alternative to fire by some managers. Remnants become invaded with bird-dispersed strandveld species and invasive alien Acacia and grasses. The net effect is that prime conservation land—including some Critically Endangered vegetation units are not being conserved, even though they are in conservation areas and in conservation-managed road reserves.

We know very little about veld ecology, despite it having been used for livestock for over 300 years. It is unique among productive ecosystems worldwide by its very high geophytic flora. These are flagged in regional plans as not available for conversion to agriculture or other land uses (Cowling et al. 1999b). Whether this strategy will be sufficient to prevent the further loss of these vegetation types remains to be seen.

However, the remnants are too fragmented and too small for effective conservation and any effective conservation plan will require large-scale restoration of agricultural land linking these fragments into coherent units (Krug et al. 2004b).

VEGETATION TYPE

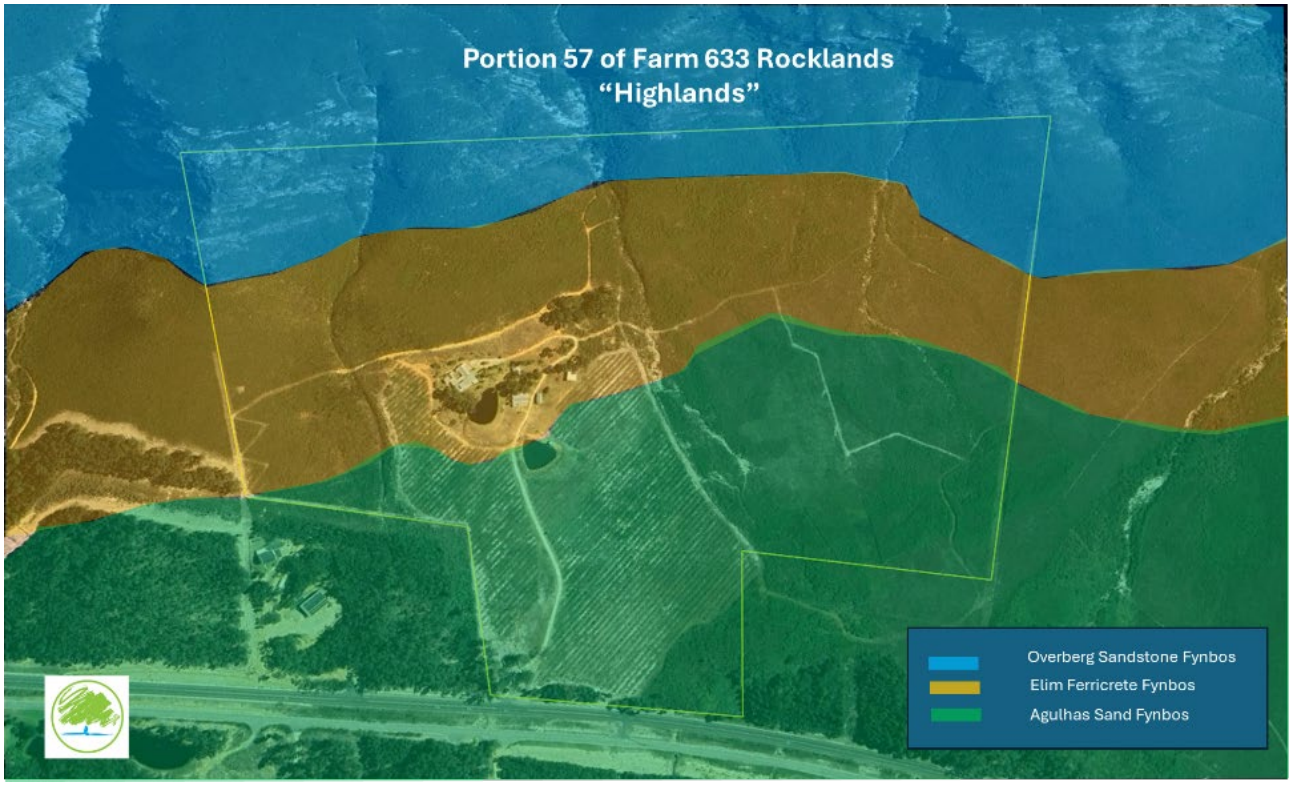
While the Vegetation Map of South Africa (SANBI 2018) [VEGMAP] characterises most of the vegetation on Portion 57 of Farm 633 (Rocklands) as ***Agulhas Limestone Fynbos*** & **Elim Ferricrete Fynbos,** my site survey determined that most of the natural vegetation on the southern sections of the property is ***Agulhas Sand Fynbos***, with a prominent seep wetland component in the south-eastern corner of the property. The northern portion of the property, above the firebreak being ***Elim Ferricrete Fynbos*** while the upper reaches of the mountain would be considered to be ***Overberg Sandstone Fynbos***.

- ***Agulhas Sand Fynbos*** has been classified as critically endangered B1 (iii) (*No. 47526 GOVERNMENT GAZETTE, 18 November 2022*) - narrowly distributed with evidence of ongoing biotic disruption from invasive species as well as agricultural conversion.

- ***Elim Ferricrete Fynbos*** has been classified as endangered B1 (i) (iii) (*No. 47526 GOVERNMENT GAZETTE, 18 November 2022*) - narrowly distributed with high rates of habitat loss in the past 28 years (19902018), and evidence of ongoing biotic disruption from invasive species.

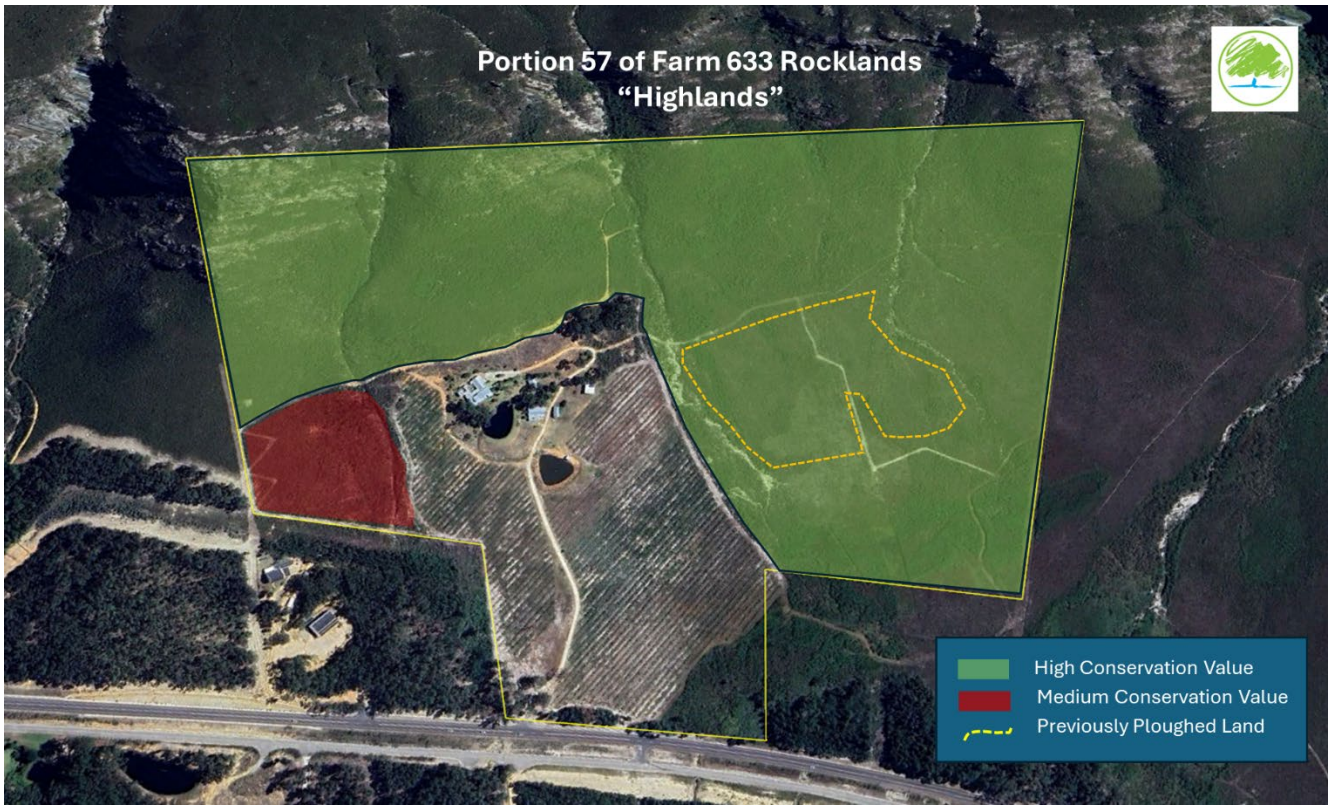
- ***Overberg Sandstone Fynbos*** has been classified as endangered B1 (iii) (No. 47526 GOVERNMENT GAZETTE, 18 November 2022) - narrowly distributed with evidence of ongoing biotic disruption from invasive species.

At least five species of conservation concern were recorded on the property with a high likelihood of more being present. The property includes a diversity of habitats, terrestrial and aquatic Critical Biodiversity Areas and has high local and regional conservation value.



The natural vegetation on site varies in condition from highly degraded with low conservation value to near pristine areas with high conservation value. Past impacts on the natural vegetation include sand

mining, conversion to grazing fields through past ploughing and regular mowing, invasion by alien invasive species, augmentation of natural fynbos with commercially valuable fynbos species and alteration of natural drainage.



A map of the property showing the current conservation value of the various areas of the farm has been drawn up as part of this report. This, together with the aquatic specialist's report for Portion 57 of Farm 633 (Rocklands) should form the basis for determining which areas should be maintained/restored as future conservation areas and which areas on the property are suitable for agricultural activities. It is important that once set aside, some form of formal conservation layer be put in place to ensure the long-term protection of the conservation areas on the property either as a Biodiversity offset through a Stewardship agreement either as Protected Environment, Biodiversity Agreement or Biodiversity Partnership Agreement.

From the various site visits over the last few years, historically there has been several farming activities and practices applied that has led to portions of the property being completely transformed. Overgrazing and the lack of runoff management also leading to serious topsoil erosion allowing for the extensive uncontrolled infestation of invasive alien flora species depositing a seedbank that will never be eradicated without persistent and dedicated alien vegetation eradication management plans.

The two veld fires and subsequent storms have all contributed to the disturbed areas being degraded further resulting in the alien vegetation infestation of the lower portions of the property. Adjacent properties on both the western boundary as well as the south-eastern boundary remain heavily infested indicating what the Portion 57 of farm 633 (Highlands) would have looked like prior to the alien vegetation removal by the current owners of the property. Further historical evidence also found

are the stone cairns packed in rows which indicates that the areas on the central and lower slopes for the property were extensively ploughed and cultivated historically.

SPECIES & CONSERVATION CONCERN

ENVIRONMENTAL THEMES & SENSITIVITIES

The following sections address the sensitivity of each theme separately, confirming or disputing the site sensitivity and indicating whether an assessment, a compliance statement or no further assessment will be undertaken for the project. The following themes and their sensitivity ratings are identified in the Screening Tool Report:

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sesitivity
Agricultural Theme				
Animal Species Theme				
Aquatic Biodiversity Theme				
Archeological & Cultural Heritage Theme				
Civil Aviation Theme				
Defence Theme				
Paleontology Theme				
Plant Species Theme				
Terrestrial Biodiversity Theme				

In terms of the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Section 24 (5) (a) and (h) and 44 of the National Environmental Management Act, 1998 (GN 320 of 2020), the following themes are dealt with separately with specific reference to collected data, observations and recoded species list as obtained for the Flora & Fauna themes in a bid to establish the existing biodiversity status for the property as a whole and whether the developed area of 9.49 ha. Has had any diverse effect on the biodiversity, species viability and or destruction of specific habitat.

The Screening Tool Report notes that the site does not intersect with any Environmental Management Framework or development zones.

Agriculture Theme

According to the Web-Based Environmental Screening Tool the agricultural sensitivity of the site is **Medium Sensitivity**. A portion of the site also considered Medium Sensitivity with a Land Capability between Low-Moderate to Moderate. However, the site is largely of low sensitivity with the Land Capability between Low-Very Low to Low.

The comprehensive methodology for ***Environmental Impact Assessment*** (EIA) under the National Environmental Management Act (NEMA) EIA Regulations was applied to determine the significance of environmental impact of the Macadamia plantation development on the property.

Fuana Theme

The Animal Species theme is considered to be of **High Sensitivity** due to the possible presence of *Aves-Circus maurus* (Black harrier Hawk), *Aves-Neotis denhami* (Denham's bustard) and *Aves-Circus ranivorus* (African marsh harrier). The survey conducted however indicates that the latter 2 species have not been observed or officially recorded on the property nor in the area for many years now. However, the observation in respect of the *Falco peregrinus* (Peregrine falcon) has been recorded.

It is with the assistance of suitable, competent specialist and enthusiasts the lists of observations in respect of both the Fauna & Flora species was completed.

Avian species List

Sensitivity	Feature(s)
High	Black Harrier (R)
High	Peregrin Falcon (R)
High	Victorin's Warbler (R)
Medium	Hadea Ibis
Medium	Yellow billed Kite
Medium	Black Shouldered Kite
Medium	Black Eagle
Medium	Steppe Buzzard
Medium	Jackal Buzzard
Medium	African Goshawk
Medium	Lanner Falcon
Medium	Rock Kestrel
Medium	Cape Francolin
Medium	Helmeted Guinea fowl
Medium	Striped Flufftail
Medium	Rock Pigeon
Medium	Redeye Dove
Medium	Cape Turtle Dove
Medium	Red chested Cuckoo
Medium	Klaas's Cuckoo
Medium	Spotted Eagle Owl
Medium	Fiery necked Nightjar
Medium	Black Swift
Medium	White-rumped Swift

Sensitivity	Feature(s)
Medium	Horus Swift
Medium	Little Swift
Medium	Alpine Swift
Medium	Speckled Mousebird
Medium	White backed Mousebird
Medium	Red-faced Mousebird
Medium	Brown hooded Kingfisher
Medium	African Hoopoe
Medium	Greater Honeyguide
Medium	Ground Woodpecker
Medium	Cardinal Woodpecker
Medium	Olive Woodpecker
Medium	European Swallow
Medium	White throated Swallow
Medium	Greater Striped Swallow
Medium	Rock Martin
Medium	House Martin
Medium	Black Saw wing Swallow
Medium	Black Cuckoo Shrike
Medium	Fork tailed Drongo
Medium	Pied Crow
Medium	White necked Raven
Medium	Cape Bulbul
Medium	Sombre Bulbul

Sensitivity	Feature(s)
Medium	Olive Thrush
Medium	Cape Rock Thrush
Medium	Familiar Chat
Medium	Stone Chat
Medium	Cape Robin
Medium	Cape Rockjumper
Medium	Barthroated Apalis
Medium	Greybacked Cisticola
Medium	Neddicky
Medium	Karoo (Spotted) Prinia
Medium	Spotted Flycatcher
Medium	Dusky Flycatcher
Medium	Fiscal
Medium	Cape Batis
Medium	Bluemantled Flycatcher
Medium	Paradise Flycatcher
Medium	Cape Wagtail
Medium	Grassveld Pipit
Medium	Fiscal Shrike
Medium	Southern Boubou
Medium	Southern Tchagra
Medium	Bokmakierie
Medium	Eurasian Starling

Sensitivity	Feature(s)
Medium	Cape Sugarbird
Medium	Malachite Sunbird
Medium	Orangebreasted Sunbird
Medium	Lesser D- collar Sunbird
Medium	Greater D-C Sunbird
Medium	Cape White-eye
Medium	Cape Sparrow
Medium	Cape Weaver
Medium	Yellowrumped Widow
Medium	Common Waxbill
Medium	Pintailed Wydah
Medium	Cape Canary
Medium	Cape Siskin
Medium	Cape Bunting

Mammals

Sensitivity	Feature(s)
Medium	Tatera afra
Medium	Panthera pardus
Medium	Felis caracal
Medium	Aonyx capensis
Medium	Genetta tiorina
Medium	Atilax paludinosis
Medium	Galerella pulverulenta
Medium	Herpestes ichneumon
Medium	Procavia capensis
Medium	Silvicapra grimmia
Medium	Oreotragus oreotragus
Medium	Raphiceros melanotis
Medium	Pelea capreolus
Medium	Papio ursinus

Sensitivity	Feature(s)
Medium	Crocidura flavescens
Medium	Myosorex varius
Medium	Chrysochloris asiatica
Medium	Eptesicus capensis
Medium	Lepus saxatilis
Medium	Pronolagus rupestris
Medium	Cryptomys hottentotus
Medium	Georychus capensis
Medium	Hystrix africaeaustralis
Medium	Acomys subspinosus
Medium	Rhabdomys pumilio
Medium	Mus minutoides
Medium	Praomys verreaxii

Reptiles

Sensitivity	Feature(s)
High	Psammobates geometricus (R)
Medium	Lamprophis aurora
Medium	Bitis atropos
Medium	Dispholidus typus
Medium	Lamprophis fuliginousus
Medium	Naja nivea
Medium	Lycodonomorphus ruflus
Medium	Dasypeltis scabra
Medium	Duberria lutrix
Medium	Psammophis crucifer
Medium	Philithamus hoplogaster
Medium	Pseudaspis cana
Medium	Causus rhombeatus
Medium	Lamprophis inornatus
Medium	Bitis arietans
Medium	Crotaphopeltis hotamboeia
Medium	Hemachatus haemachatus
Medium	Homoroselaps lacteus
Medium	Psammophylax rhombeatus
Medium	Prosymna sundevalli
Medium	Pseudocordylus microlepidotus
Medium	Bradypodion pumilum
Medium	Chamaesaura anguina
Medium	Cordylus cordylus
Medium	Acontias meleagris..m.

Sensitivity	Feature(s)
Medium	Mabuya capensis
Medium	Afrogecko paryhyreus
Medium	Patchydactylus geitje
Medium	Mabuya homalocephala
Medium	Tetradactylus seps
Medium	Agama atra.a.
Medium	Chersina angulata

Amphibians

Sensitivity	Feature(s)
Medium	Capensibufo sp.
Medium	Bufo rangeri
Medium	Bufo gariepensis
Medium	Breviceps montanus
Medium	Xenopus laevis
Medium	Heleophryne purcelli
Medium	Semnodactylus wealii
Medium	Arthroleptella drewesii

Invertebrate

Sensitivity	Feature(s)
Medium	Zosteraeschna minuscula
Medium	Anax imperator
Medium	Anax speratus
Medium	Syncordulia venator
Medium	Orthetrum caffrum
Medium	Orthetrum chrysostigma
Medium	Crocothemis erythraea
Medium	Crocothemis sanguinolenta
Medium	Trithemis arteriosa
Medium	Trithemis furva
Medium	Trithemis kirbyi
Medium	Trithemis stictica
Medium	Chlorolestes umbrata
Medium	Chlorolestes conspicua
Medium	Ceriagrion glabrum
Medium	Pseudagrion massaicum
Medium	Ischnura senegalensis

Scorpions

Sensitivity	Feature(s)
Low	Uroplectes lineatus
Low	Opistophathalmus macer

Crabs

Sensitivity	Feature(s)
	Potamonantes perlatus

Lepidoptera

Sensitivity	Feature(s)
Low	Danaus chrysippus
Low	Pseudonympha magus
Low	Pseudonympha trimenii
Low	Cassionympha detecta
Low	Charaxes pelias
Low	Vanessa cardui
Low	Aloeides thyra
Low	Aloeides almeida
Low	Aloeides aranda

Sensitivity	Feature(s)
Low	Capys alphaeus
Low	Lampides boeticus
Low	Lepidochrysops methymna
Low	Lepidochrysops robertsoni
Low	Tarucus thespis
Low	Colias electo electo
Low	Pontia helice
Low	Papilio demodocus

Arachnids

Sensitivity	Feature(s)
Low	Araneus apricus
Low	Argiope australis
Low	Caerostris sexcuspidata
Low	Euprosthenopsis pulchella
Low	Cyrtophora citricola
Low	Gasteracantha sanguinolenta
Low	Gnaphosidae sp.
Low	Latrodectus geometricus
Low	Palystes kreutzmanni
Low	Menemerus bivittatus
Low	Steatoda capensis
Low	Smeringopus sp.
Low	Thomisus citrinellus

FLORA

PLANT SPECIES THEME

The Screening Tool Report notes that the Plant Species is of Medium Sensitivity as a result of the identified plant species in table below.

Table 1: Plant species identified in the Screening Tool Report

Sensitivity	Feature(s)
Medium	Acrodon parvifolius
Medium	Acrodon subulatus
Medium	Delosperma guthriei
Medium	Amphithalea virgata
Medium	Xiphotheca guthriei
Medium	Liparia calycina
Medium	Aspalathus chenopoda subsp. gracilis
Medium	Aspalathus excelsa
Medium	Aspalathus globulosa
Medium	Aspalathus millefolia
Medium	Aspalathus oblongifolia
Medium	Aspalathus psoraleoides
Medium	Aspalathus rosea

The site survey refuted the presence of ***Agulhas Limestone Fynbos*** across most of the site. Instead, the vegetation is more characteristic of ***Agulhas Sand Fynbos***. There are also areas of a seep wetland vegetation on the south-eastern corner of the property.

The composition of the natural vegetation does vary across the site because of differing drainage and soil moisture conditions - but all the vegetation, with exception of the seep wetland vegetation can be broadly defined as Agulhas Sand Fynbos. Diagnostic species in terms of defining these moisture gradients are *Leucadendron xanthoconus* and *Erica laeta* in the better drained areas and *Erica perspicua latifolia* and *Berzelia lanuginosa* in wetter areas.

The most abundant species recorded on site in the ***Agulhas Sand Fynbos*** were:

Shrubs & Herbs

Sensitivity	Feature(s)
High	Leucospermum prostratum
High	Protea longifolia
High	Protea scabra
High	Lachnaea densiflora
Medium	Anthospermum aethiopicum
Medium	Aspalathus microphylla
Medium	Athanasia trifurcate
Medium	Erica barbigeroides
Medium	Erica discolor
Medium	Erica quadrangularis
Medium	Erica villosa
Medium	Erica muscosa
Medium	Erica laeta
Medium	Erica nudiflora
Medium	Erica imbricata
Medium	Erica plukenetii plukenetii
Medium	Erica rhopalantha
Medium	Oxalis polyphylla
Medium	Aulax umbellata
Medium	Leucadendron salignum
Medium	Serruria fasciflora
Medium	Gnidia pinifolia
Medium	Erepsia anceps
Medium	Oedera pungens
Medium	Diosma hirsute
Medium	Orbea variegata
Medium	Muraltia heisteria
Medium	Arctotis scabra
Medium	Lobelia erinus
Medium	Phylica plumosa
Medium	Pelargonium capitatum
Medium	Stoebe plumosa
Medium	Stoebe capitata
Medium	Plecostachys serpylifolia,
Medium	Cliffortia ruscifolia
Medium	Protea nitida
Medium	Myrsine africana.

Sensitivity	Feature(s)
Medium	Nemesia versicolor
Medium	Orphium frutescens
Medium	Dimorphotheca nudicaulis
Medium	Orbea variegata
Medium	Plecostachys serpyllifolia
Medium	Aspalathus angustifolia angustifolia
Medium	Senecio subcanescens
Medium	Senecio halimifolius
Medium	Senecio triqueter
Medium	Pelargonium candicans
Medium	Seriphium plumosum
Medium	Centella macrocarpa
Medium	Lobelia pinifolia
Medium	Prismatocarpus brevilobus
Medium	Senecio elegans
Medium	Carpobrotus edulis
Medium	Searsia laevigata
Medium	Passerina vulgaris
Medium	Pteridium aquilinum
Medium	Pelargonium cucullatum
Medium	Cliffortia sp.
Medium	Osteospermum moniliferum
Medium	Metalasia muricata
Medium	Artopus echinata
Medium	Chrysocoma ciliata,
Medium	Crassula sp.
Medium	Plecostachys serpyllifolia
Medium	Penaea mucronate
Medium	Gnidia oppositifolia
Medium	Muraltia filiformis
Medium	Complex Oxalis multicaulis-reticulis
Medium	Complex Oxalis eckloniana -nidulans
Medium	Oxalis truncatula
Medium	Polygala garcinia
Medium	Asparagus asparagoides
Medium	Asparagus rubicundus

Geophytes

Sensitivity	Feature(s)
Medium	Gladiolus carneus
Medium	Haemanthus sanguineus
Medium	Eriospermum nanum
Medium	Strumaria spiralis
Medium	Euphorbia ecklonii
Medium	Watsonia sp.
Medium	Wachendorfia paniculata
Medium	Aristea glauca.

Graminoids

Sensitivity	Feature(s)
Medium	Pteridium aquilinum
Medium	Zantedeschia aethiopica
Medium	Rapanea melanophloes
Medium	Nidorella sp.
Medium	Searsia laevigata
Medium	Prionium serratum.

AQUATIC BIODIVERSITY THEME

The Web-Based Environmental Screening Tool indicates a Very High Aquatic sensitivity within the orchard area.

According to CapeFarmMapper and Rivers (NGI), the following is noted:

- The affected site on the property is bounded by non-perennial drainage lines to the east and west.
- The wetland to the south-east of the impacted area is designated by NWM5 as a "Seep wetland". It's worth noting that from the site assessment, it appears that the extent of the wetland area is underrepresented, indicating a potential need for further study and more accurate delineation. It is understood that the ***Freshwater Risk and Impact Assessment Report*** has been commissioned and will be dealing with this in more detail. However, a flora survey of the seep wetland was done and the species recorded noted in this addendum document as reference.
- None of the non-perennial watercourses cross into or over the affected/impacted area.
- The non-perennial watercourses are categorised as Aquatic Ecological Support Areas 1 (ESAs).
- These two non-perennial watercourses flow south with the eastern non-perennial watercourse flowing into a larger non-perennial watercourse (situated on Portion23 of Farm 633) which flows in a southerly direction into the Kleinrivier Lagoon/Estuary. The non-perennial

watercourse west of the Macadamia plantation flows south into the R43 Provincial Road reserve drainage system and ultimately into the Kleinrivier Lagoon/Estuary.

An Aquatic Specialist has been appointed to conduct an Impact Assessment

Seep Wetland Flora

Sensitivity	Feature(s)
High	Erica perspicua latifolia
Medium	Berzelia lanuginosa
Medium	Cliffortia ferruginea
Medium	Restio paniculatus
Medium	Psoralea arborea
Medium	Psoralea usitata
Medium	Typha capensis
Medium	Fuirena hirsute
Medium	Laurembergia repens
Medium	Osmitopsis asteriscoides
Medium	Urticularia bisquamata
Medium	Psoralea aphylla
Medium	Hibiscus sp.
Medium	Erica mammosa
Medium	Carpha glomerata
Medium	Commelina Africana

Sensitivity	Feature(s)
Medium	Hypodiscus willdenowia
Medium	Thamnochortus fruticosus
Medium	Staberoha distachyos
Medium	Cynodon dactylon
Medium	Stenotaphrum secundatum
Medium	Andropogon eucomus
Medium	Restio capensis
Medium	Themeda triandra
Medium	Stenotaphrum secundatum
Medium	Tetraria bromoides
Medium	Restio paniculatus.

ARCHAEOLOGICAL AND CULTURAL HERITAGE AND PALEONTOLOGY THEME

According to the Web-Based Environmental Screening Tool, the Archaeological and Cultural Heritage is considered of ***Low sensitivity***, and the Palaeontology sensitivity is considered ***High Sensitivity***.

In terms of the National Heritage Resources Act (Act 25 of 1999),

As required in Part A of the Government Gazette 43110, GN 320, a site sensitivity verification was undertaken in order to confirm the current land use and environmental sensitivity of the Macadamia project area. The details of the site sensitivity verification are noted below:

Method of the Site Sensitivity Verification - the site sensitivity verification was undertaken using the following means:

- desktop analysis, using satellite imagery and spatial datasets.
- preliminary on-site inspection (fieldwork).

The study area was initially examined on aerial photography to determine whether any obvious heritage resources (such as buildings) could be seen.

No such locations were noted.. No desktop study was carried out at this point, a field survey was carried out over a period. The survey never set out to study the area comprehensively, since that would take many weeks to accomplish. The aims were

- to locate and record obvious heritage sites and
- walk as many transects as possible through the study area to verify any possible heritage resources.

Outcome

The DEFF Screening Tool sensitivity map was found to be incorrect and more generalised based on the possibility that there may have been sites of Heritage/Palaeontological interest in the area particularly the upper reaches of the Kleinrivier Mountains. Caves have been recorded on sites east and west of the property were signs of rock art and habitation have been recorded. It is unknown how the sensitivity rating in the screening tool was devised – the medium sensitivity rating appears not to relate to either high ground, low ground or rivers. The site survey revealed that, as expected, land adjacent to rivers is by far the most sensitive. Even so, no individual heritage sites were found on the property and therefore would not require consideration in the planning of the Macadamia Project on the property.

It is not envisaged that a Heritage Specialist be appointed to compile a Notice of for the Macadamia project development for submission to Heritage Western Cape to confirm that the site is not deemed sensitive and that no further studies are required.

CIVIL AVIATION

The Web-Based Environmental Screening Tool identifies the development site as being of **Low Sensitivity** therefore, no further study is required into this theme.

DEFENCE

The Defence theme sensitivity is noted as Low in the National Web-based Environmental Screening Tool Report. The Screening Tool Report does not indicate or reference any metadata used to classify the proposed development under the Defence Theme. According to the protocols, no further assessment or compliance statement is required for the Defence Theme.

The official Screening Tool Report hereto attached as annexure “A”.

IMPACT ASSESSMENT RATING

The impact assessment methodology as guided by the requirements of the NEMA EIA Regulations determined the broad approach of the ***Significance Rating Methodology*** used to determine the ***Environmental Risk*** (ER) of the Highlands (Portion 57 of Farm 633 Rocklands) project by considering the following:

Consequence (C): with the following impact components:

- **Nature**: The type of impact (positive or negative).
- **Extent**: The spatial area affected.
- **Duration**: The time frame over which the impact occurs.
- **Magnitude**: The severity of the impact.
- **Reversibility**: The ability to reverse the impact.

Relating these to the **Probability (P)** of the impact occurring, determined the **Environmental Risk (ER)** for the Highlands (Portion 57 of Farm 633 Rocklands) project.

In addition, other factors, including cumulative impacts, public concern, and potential for irreplaceable loss of natural habitat/resources, were used to determine a **Prioritisation Factor** (PF) which was applied to the ER to determine the overall **Significance** (S).

This structured approach ensured that all aspects of potential environmental impacts were considered and prioritised, allowing for effective management and mitigation strategies to be considered for the Highlands (Portion 57 of Farm 633 Rocklands) project going forward.

Applying the prioritisation factor (PF) to the environmental risk (ER) was used to determine the significance (S) of the impact of the Highlands (Portion 57 of Farm 633 Rocklands) project.

For the purpose of the Highlands (Portion 57 of Farm 633 Rocklands) project, the consequence of the impact was calculated by the following formula:

$$C = \frac{(E+D+M+R) \times N}{4}$$

Each individual aspect in the determination of the consequence is represented by a rating scale as defined in Table 1.

Aspect	Score	Definition
Nature	-1	Likely to result in a negative/detrimental Impact
	+1	Likely to result in a positive/ beneficial impact
Extent	1	Activity (i.e. limited to the area applicable to the specific activity)
	2	Site (i.e. within the development property boundary),
	3	Local (i.e. the area within 5 km of the site),
	4	Regional (i.e. extends between 5 and 50 km from the site
	5	Provincial / National (i.e. extends beyond 50 km from the site)
Duration	1	Immediate (<1 year)
	2	Short term (1-5 years),
	3	Medium term (6-15 years),
	4	Long term (the impact will cease after the operational life span of the project),
	5	Permanent (no mitigation measure of natural process will reduce the impact after construction).
Magnitude & Intensity	1	Minor (where the impact affects the environment in such a way that natural, cultural and social functions and processes are not affected),
	2	Low (where the impact affects the environment in such a way that natural, cultural and social functions and processes are slightly affected),
	3	Moderate (where the affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way),
	4	High (where natural, cultural or social functions or processes are altered to the extent that it will temporarily cease), or
	5	Very high / don't know (where natural, cultural or social functions or processes are altered to the extent that it will permanently cease).
Reversibility	1	Impact is reversible without any time and cost.
	2	Impact is reversible without incurring significant time and cost.
	3	Impact is reversible only by incurring significant time and cost
	4	Impact is reversible only by incurring prohibitively high time and cost.
	5	Irreversible Impact

Table 1: Criteria for determination of impact consequence

Using the above table and applicable formula the consequence (**C**) factor, was determined as being: ***-3.5.***

The ER was determined in accordance with the standard risk assessment relationship by multiplying the **C** factor by the **P** factor. The result is a qualitative representation of relative ER associated with the Highlands (Portion 57 of Farm 633 Rocklands) project impact. ER is therefore calculated as follows:

$$ER = C \times P$$

P was determined using the rating scale as defined in Table 2.

Aspect	Score	Definition
Probability	1	Improbable (the possibility of the impact materialising is very low as a result of design, historic experience, or implementation of adequate corrective actions; <25%),
	2	Low probability (there is a possibility that the impact will occur; >25% and <50%),
	3	Medium probability (the impact may occur; >50% and <75%),
	4	High probability (it is most likely that the impact will occur- > 75% probability), or
	5	Definite (the impact will occur),

Table 2: Probability scoring

Using the above table and applicable formula the environmental risk (**ER**) factor, was determined as being: ***10.5.*** Therefore, applying the outcome of the ER measured against the significant classes as scheduled in Table 3 it is determined that the Environmental Risk Score (ERS) for the Highlands (Portion 57 of Farm 633 Rocklands) project is **Medium**.

Environmental Risk Score		
	Value	Description
	< 9	Low probability (there is a possibility that the impact will occur; >25% and <50%),
	≥9 ; < 17	Medium probability (the impact may occur; >50% and <75%),
	≥ 17	High probability (it is most likely that the impact will occur- > 75% probability), or

Table 3: Significance classes.

The impact ER was determined without considering any relevant management and mitigation measures (pre-mitigation), as well as post-implementation of relevant management and mitigation measures (post-mitigation). This allows for the degree to which the impact can be managed/ mitigated going forward once a full determination has been made after consultation with owners, the EAP, any specialist practitioner/competent specialist and the relevant authorities.

With the project having already been effected and implemented the recommendation would however be, at this stage, to look at all Offset Management possibilities that would be designed to compensate for any potential biodiversity losses caused by the development project. These plans would/must entail the creating, restoring, or enhancing habitats and preserving these areas on the property currently not developed to offset the impact of habitat destruction/loss.

By implementing offset strategies, the farm owner could ensure that there is no net loss of biodiversity, thereby contributing to long-term conservation goals and biodiversity development and biodiversity improvement on the farm in line with the CBA as determined.

In accordance with the requirements of Regulation 31 (2)(l) of the EIA Regulations (GNR 543), and further to the assessment criteria presented it is necessary to assess each potentially significant impact in terms of:

- Cumulative impacts; and
- The degree to which the impact may cause irreplaceable loss of habitat. If any.

In addition, it is important that the public opinion and sentiment regarding the Highlands (Portion 57 of Farm 633 Rocklands) project potential impacts is considered in the mitigation decision making process.

In an effort to ensure that these factors are considered, an impact prioritisation factor (PF) was applied to each impact ER (post-mitigation). This prioritisation factor does not aim to detract from the risk ratings but rather to focus the attention of the decision-making authority on the higher priority / significance issues and impacts. The PF was applied to the ER score based on the assumption that relevant suggested management/ mitigation impacts are considered for the Highlands (Portion 57 of Farm 633 Rocklands) project.

Aspect	Score	Definition
Public Response (PR)	Low (1)	Not raised as a concern by the I&AP's
	Medium (2)	Issue/ impact raised by the I&AP's
	High (3)	Significant and meaningful response from the I&AP's
Cumulative Impact (CI)	Low (1)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is unlikely that the impact will result in spatial and temporal cumulative change.
	Medium (2)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is probable that the impact will result in spatial and temporal cumulative change.
	High (3)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is highly probable/definite that the impact will result in spatial and temporal cumulative change.
Irreplaceable loss of Habitat (LR)	Low (1)	Where the impact is unlikely to result in irreplaceable loss of resources.
	Medium (2)	Where the impact may result in the irreplaceable loss (cannot be replaced or substituted) of resources but the value (services and/or functions) of these resources is limited.
	High (3)	Where the impact may result in the irreplaceable loss of resources of high value (services and/or functions).

Table 4: Criteria for the determination of prioritisation.

The value for the final impact priority must be represented as a single consolidated priority, determined as the sum of each individual criteria represented in Table 4, above. The impact priority will therefore be determined as follows:

$$\text{Priority} = PR + CI + LR$$

The result is a priority score will range between 3 to 9 and a consequent PF ranging from 1 to 2 (refer to Table 5).

Priority	Ranking	Prioritisation Factor
= 3	Low	1
3 - 8	Medium	1.5
= 9	High	2

Table 5: Determination of prioritisation factor.

To determine the final **impact significance (IS)**, the PF must be multiplied by the ER of the post-mitigation scoring. The ultimate aim of the PF is to be able to increase the post-mitigation environmental risk rating by a full ranking class, if all the priority attributes are high (i.e. if the impact comes out with a medium environmental risk after the conventional impact rating, but there is significant cumulative impact potential, significant public response, and significant potential for irreplaceable loss of resources, then the net result would be to upscale the impact to a high significance).

Environmental Significance Rating		
	Value	Description
	< 15	Low (i.e. where this impact ***would no*** t have a direct influence on the area
	≥ 15; 30	Medium (i.e. where the impact ***could*** have an influence on the area),
	≥ 30	High (i.e. where the impact ***does have*** an influence on the area).

The significance ratings and additional considerations applied to each impact should be used to provide a quantitative comparative assessment of the alternatives being considered. In addition, further comment and input must be provided by the respective specialists and the environmental consultants which must be applied to provide a qualitative comparison of the alternatives under consideration. This process will identify the best mitigation proposals for the Highlands (Portion 57 of Farm 633 Rocklands) project. I am not sure if there was any public response to the PP process and it is therefore impossible to calculate and complete the IR based on this factor.

MITIGATION MEASURES

With the project having already been effected and implemented the recommendation would however be, at this stage, to look at all **Offset Management** possibilities that would be are designed to compensate for any potential biodiversity losses caused by the development project. These plans would entail the creating, restoring, or enhancing habitats and preserving these areas on the property currently not developed to offset the impact of potential habitat destruction/loss. By implementing offset strategies, the property owner would ensure that there is no net loss of biodiversity, thereby contributing to long-term conservation goals and biodiversity development and biodiversity improvement on the farm which are in line with the CBA as determined.

POSTSCRIPT

Always difficult to provide additional, supplementary and opinions on Terrestrial Plant Species Assessments done by other specialists. The thought process and the anticipated outcome provided by the initial specialist was not clear despite the scope of the work described. The purpose of this document is to give an unbiased comment on the questions raised by the authorities in lieu of the 24G process which is being followed.

It is also my view that there are some additional `elements that may influence the process toward mitigating the impact of the Macadamia plantation, specifically the work done in preparation of the plantations. It is also my opinion that despite the extensive work done in preparation for the plantation that the impact was minimal in respect of the biodiversity of the area. It is true that an area has been lost and would require substantive inputs and management actions to avoid further habitat loss. What remains encouraging though is that the rest of the property has been vastly improved in respect of the biodiversity. Since the mechanical removal and consistent vegetation management the alien plant infestation has been kept in check and the natural veld condition has shown remarkable improvement and recovery. Maintaining this momentum is of critical importance with the implementation of adopted management plans and mitigation interventions.

After the intensive species research and recordings, it is clear that the biodiversity of property is unique in many respects.

Derek S Crabtree
1 February 2025