Section 24G Application for the Unauthorised Construction of a Road and Clearance of Vegetation at Farms Portion 1, Platte Kloof 131 and Remainder Holle Kloof 91 within the George Local Municipality, Western Cape Province

Botanical Compliance Statement

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Prepared for Sharples Environmental Consultants

June 2022; October 2022

CONTENTS

1. Appointment and Declaration

As the appointed botanical specialist for the proposed Section 24 G application for the unauthorised clearing of vegetation on Portion 1 of Farm Platte Kloof 131, George, and on the Remainder of Farm Holle Kloof 91, George,

I hereby verify that:

(a) I conducted a site visit on 6 April 2022

(b) The clearing of vegetation that occurred on the above properties was investigated.

a. **Specialist:** Dr David J. McDonald, Bergwind Botanical Surveys & Tours CC, 14A Thomson Road, Claremont. Telephone: 021-671-4056; mobile – 082-876-4051.
SACNASP Reg. No. 400094/06 Ecological Science (Curriculum Vitae appended)

b. **Declaration of independence:**

I David Jury McDonald, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I, in terms of the general requirement to be independent, other than fair remuneration for work performed in terms of this application:

(i) have no business, financial, personal, or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity.

(ii) in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all the requirements.

(iii) have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and

(iv) am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Dr David J. McDonald Pr. Sci. Nat.
Botanical Specialist
Owner/ Director: Bergwind Botanical Surveys & Tours C

2. Background

Bergwind Botanical Surveys and Tours CC (Dr D.J. McDonald) ('Bergwind') was appointed by Sharples Environmental Consultants in March 2022 to conduct a botanical assessment for the Section 24G Application for the unauthorised clearing of vegetation on the properties, Portion 1 of Farm Platte Kloof, George and Remainder Farm Holle Kloof 131, George, in the George Municipality, Western Cape Province. The reason for the appointment was to determine the amount and sensitivity of the vegetation that was cleared for the footprint of a house and for the access road.

3. Locality

The farms where the unauthorised activities took place are part of the Waboomskraal Community on the north slopes of the Outeniqua Mountains, immediately below and north-west of Geelhoutboomberg and northwest of the Outeniqua Pass. The cleared platform for the proposed house is just upslope of the lower boundary of Portion 1 of Platte Kloof 131. The access road was aligned from the house footprint with the upper section of the road being on Portion 1 of Platte Kloof 131 and the lower section of the road on Remainder Farm Holle Kloof 91 (Figures 1 & 4).

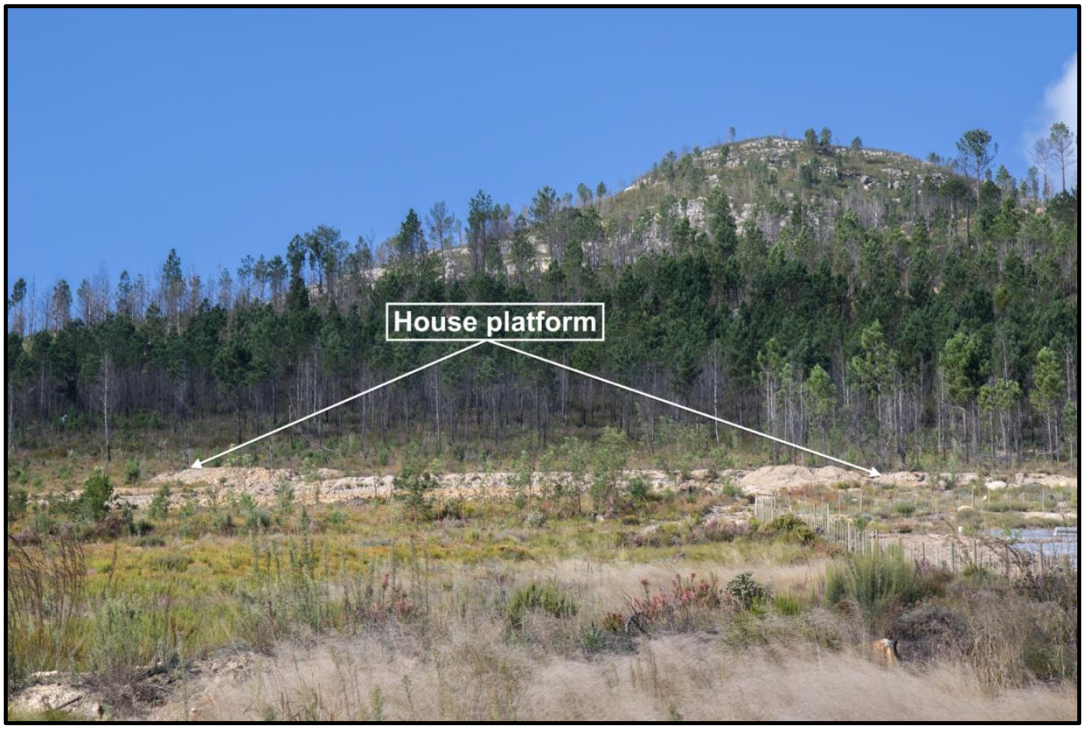


Figure 1. The cleared 'house platform' on the north-facing sandstone slopes of Geelhoutboomberg.

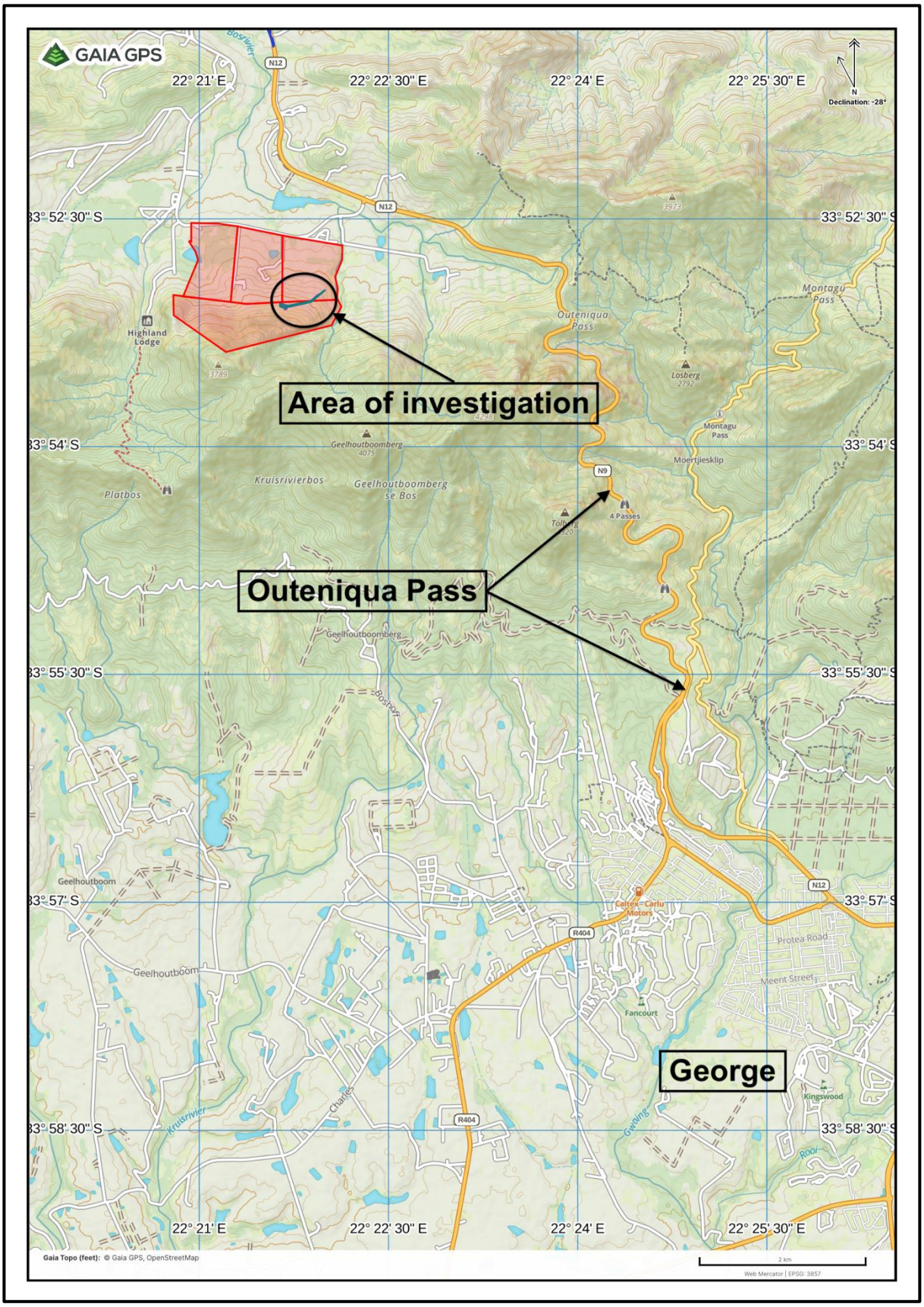


Figure 2. Topographic map showing the area of interest of 'study area' located northwest of the Outeniqua Pass.

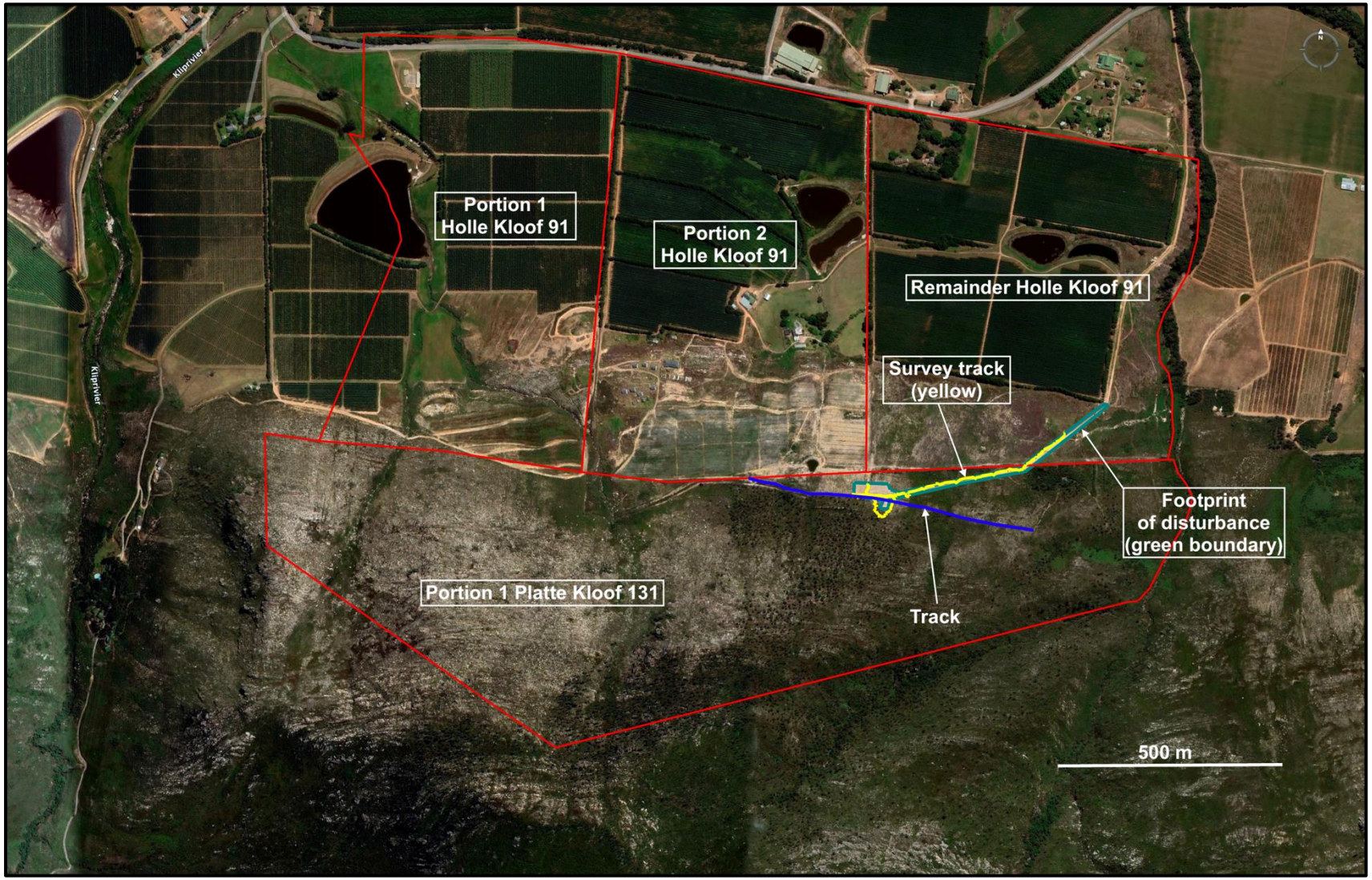


Figure 3. Satellite aerial image (Google Earth Pro ™) of the area of interest on the farms Portion 1 of Platte Kloof 131 and Remainder Holle Kloof 91.

Figure 4. The access road that extends north-eastwards from the 'house platform'.

4. Terrain

4.1 Topography and Aspect

The area of interest indicated by red arrows in Figure 5 is on uncultivated, moderately steep mid-slopes below Geelhoutboomberg. The aspect is northerly to north-easterly (Figure 6).

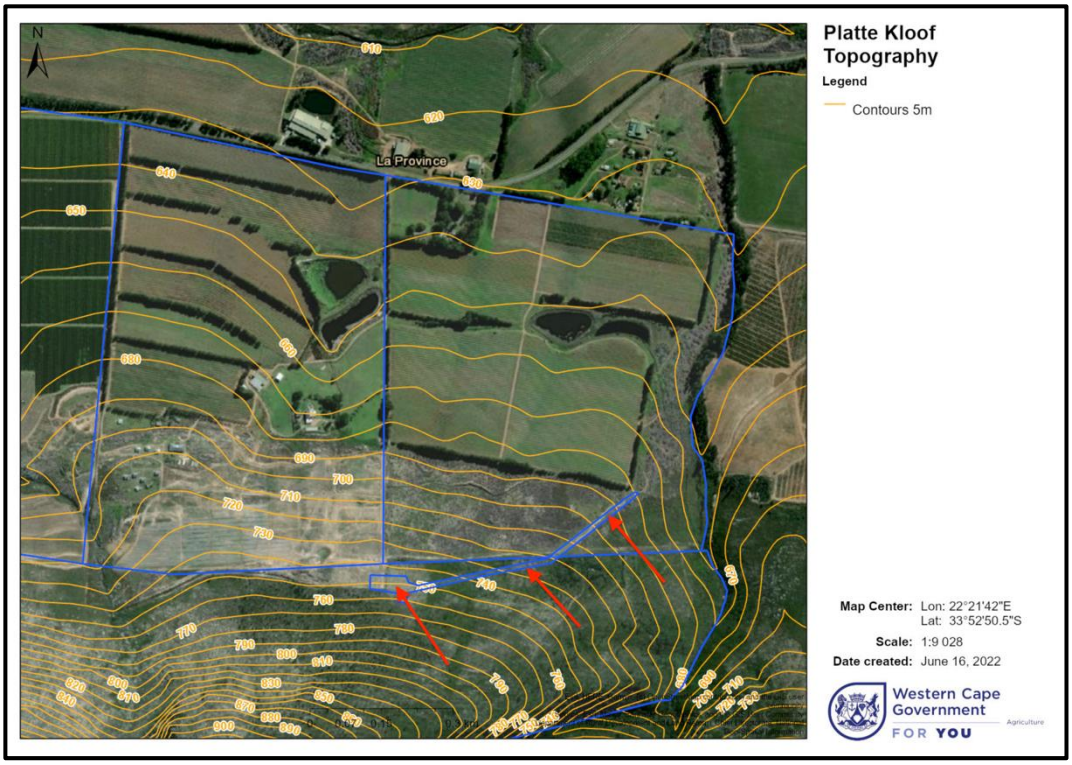


Figure 5. The topography of the area of interest indicated by the red arrows. Contour interval is 5 m.

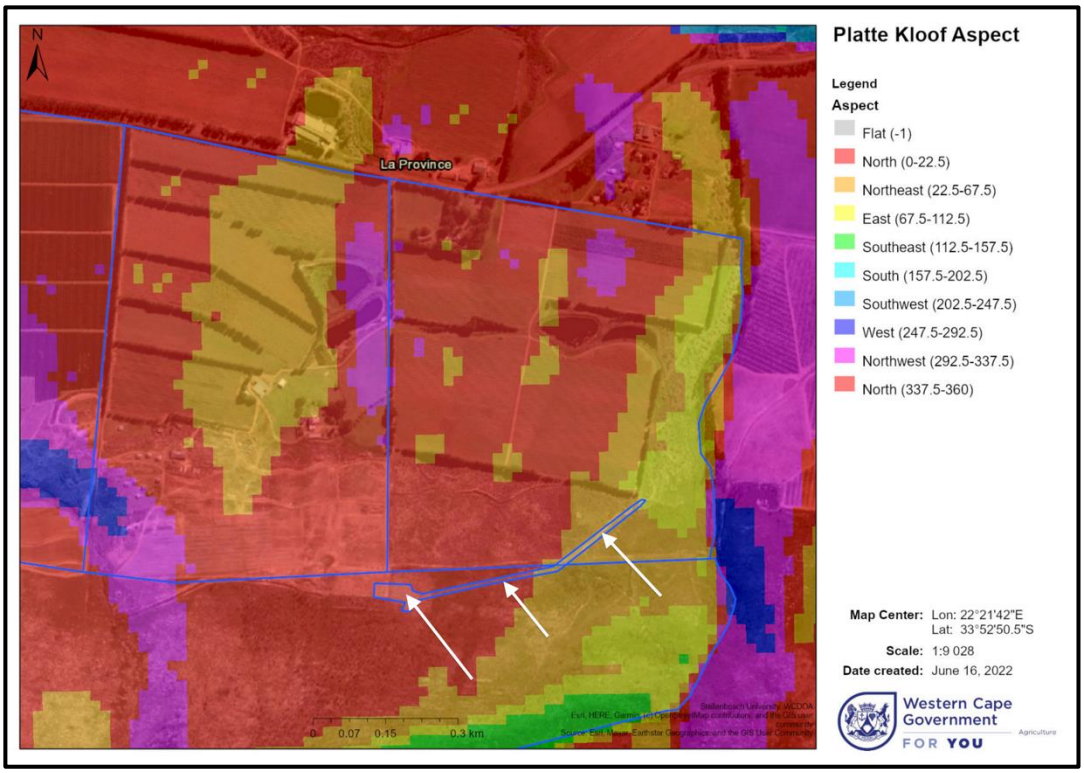


Figure 6. The aspect of the area of interest (white arrows) is northerly to north-easterly.

4.2 Geology and Soils

As for many of the mountain ranges of the Cape Fold Belt in the Western Cape Province, the Outeniqua Range is no exception, with the principal geology being of quartzitic sandstone laid down in the Ordovician Period of the Palaeozoic Era. Rock of the Table Mountain Group is made up of the Peninsula, Pakhuis and Cederberg Formations and the Nardouw Subgroup, comprising three formations, Goudini, Skurweberg and Rietvlei-Baviaanskloof. The underlying geology of the area of interest is of the Nardouw Subgroup whereas the upper, south point of Portion 1 of Platte Kloof 131 lies on Peninsula Formation sandstone. As a rule of thumb, Peninsula Formation rocks are white and weather to white to grey sandy soils. In contrast, rocks of the Nardouw Formation (as found at the area of interest – Figure 7) are yellow to reddish and result in yellowish sandy soils.

In general terms, the soils of the area of interest are rocky, well-drained, highly leached and nutrient-poor (oligotrophic) lithosols of the Mispah and Glenrosa soil forms (Figure 8).

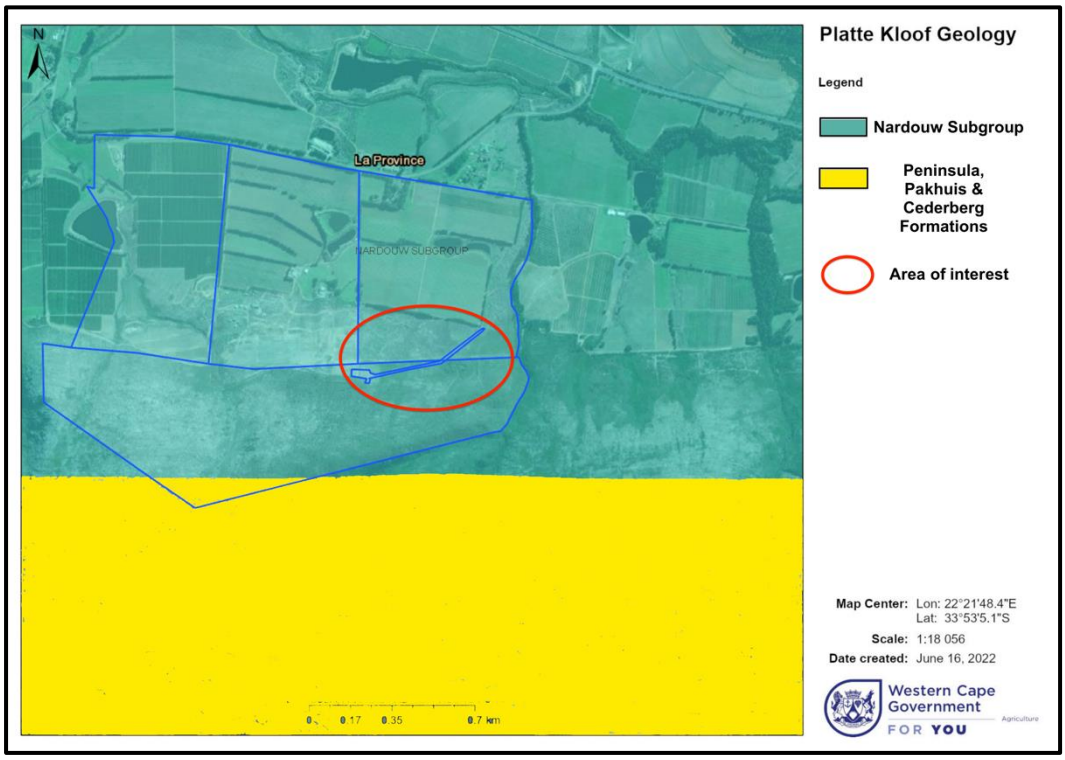


Figure 7. Geology of the area of interest. The underlying sandstone rock is of the Nardouw Subgroup

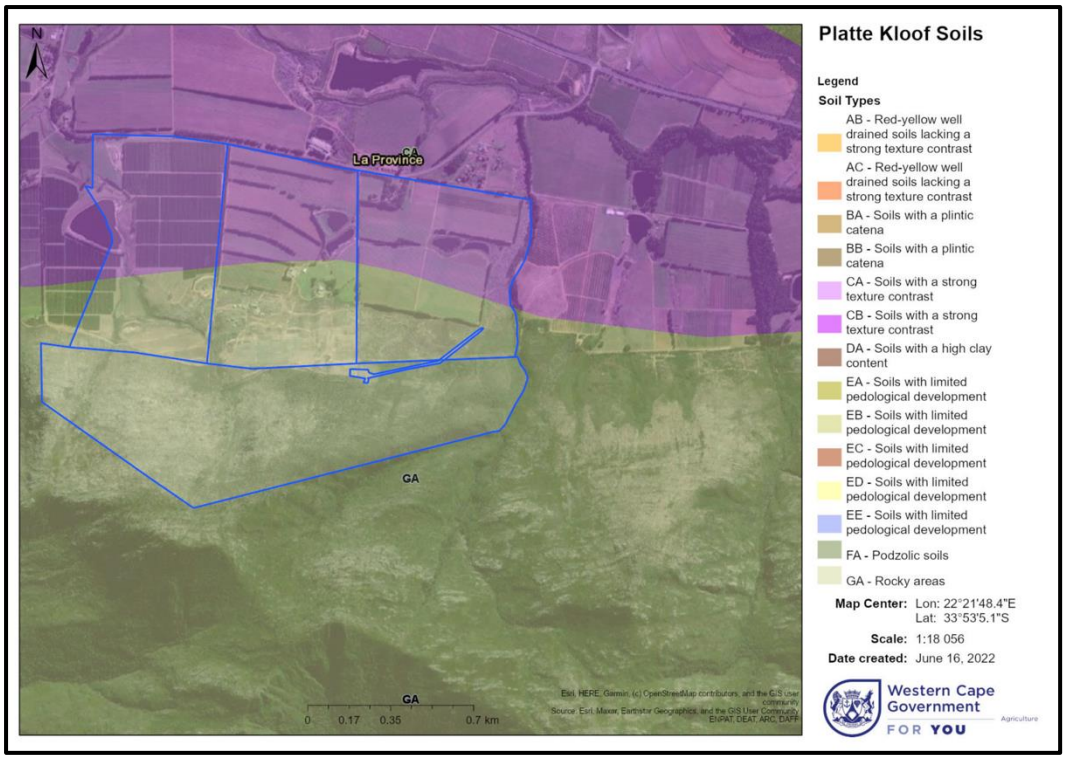


Figure 8. The soils of the area of interest are rocky (GA), well-drained, nutrient-poor lithosols

4.3 Climate

Being on the north side or equatorial side of the Outeniqua Range, the slope on which the area of interest is situated is warmer than the south-facing slopes on the other side of the mountain. Rain occurs throughout the year since the area of interest or 'study area' falls within the all-year-round rainfall zone of the Garden Route. Mean Annual Precipitation (MAP) given in Figure 9 is 783 mm, 83 mm more than the 700 mm MAP for Garden Route Shale Fynbos at George on the south side of the Outeniqua Mountains. The difference is attributed to orographic effects. Mean Annual Potential Evaporation (MAPE) is slightly higher on the north versus the south slopes of the Outeniqua Range even though there is only a 1.0 °C difference in Mean Annual Temperature (MAT). All these factors together indicate that the north slopes are somewhat drier and under slightly greater water stress than the south slopes, which has a direct bearing on the vegetation.

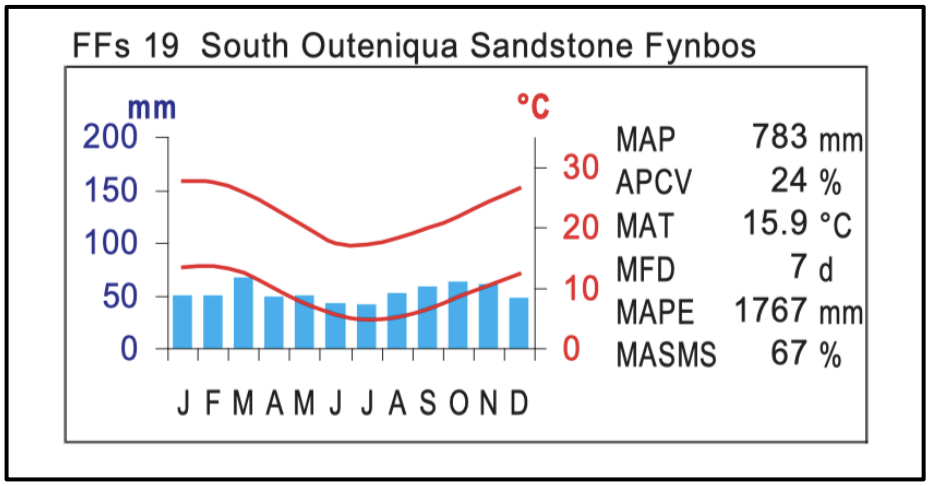


Figure 9. Climate diagram of South Outeniqua Sandstone Fynbos. MAP: Mean Annual Precipitation; APCV: Annual Precipitation Coefficient of Variation; MAT: Mean Annual Temperature; MFD: Mean Frost Days; MAPE: Mean Annual Potential Evaporation; MASMS: Mean Annual Soil Moisture Stress (Rebelo et al. 2006, In Mucina & Rutherford, 2006)

5. Methods

5.1 Site Visit

The fieldwork for the assessment of the condition and vegetation of the area of interest was undertaken on 6 April 2022 in fine weather.

Photographic waypoints were recorded at the house platform and along the access road using the GAIA GPS app on an iPhone XR. Photographs were also taken using a DSLR

camera to support the recorded observations and to aid identification of the plants that were not immediately identified in the field. The survey track is shown in Figure 3.

5.2 Desk-top analysis and reporting

The photographs obtained in the field as well as available literature, Google Earth Pro ™ and Cape Farm Mapper were used for description of the vegetation presented in this report. The National Vegetation Map (Mucina *et al.* 2005; SANBI, 2012; 2018) (referred to as VEGMAP) was used as the 'base-map' to determine the principal original vegetation type.

In addition, the National Web-based Environmental Screening Tool was applied to determine the Relative Plant Species Theme Sensitivity as is required of botanical specialists.

6. Limitations and Assumptions

No limitations were experienced, or assumptions made.

7. Disturbance regime

It is important to consider both the disturbance caused by abiotic factors such as fire, and floods as well as the anthropogenic disturbance.

The area of interest experienced an intense wildfire in October 2018. The fynbos on the north-facing slopes was completely burnt. Some of the invasive pine trees (*Pinus radiata*) on the slope above the 'house platform' were completely burnt whereas others were scorched but survived. Fire is necessary in fynbos ecosystems and has a rejuvenating effect. The fynbos vegetation in the area of interest is approaching four years of age and is in a vigorous post-burn phase of growth.

Prior to Mr & Mrs Spammer acquiring Portion 1 of Platte Kloof 131, when the property still belonged to Mr de Villiers, the proprietors of the neighbouring farm (Portion 2 of Holle Kloof 91) transgressed the boundary and cleared the natural vegetation on the site of the 'house platform' as well as an area to the west of the 'house platform' on Portion 1, Platte kloof 131 (Figures 10—13). Consequently, the new owners were not responsible for the initial clearing of vegetation for the site of the 'house platform'.

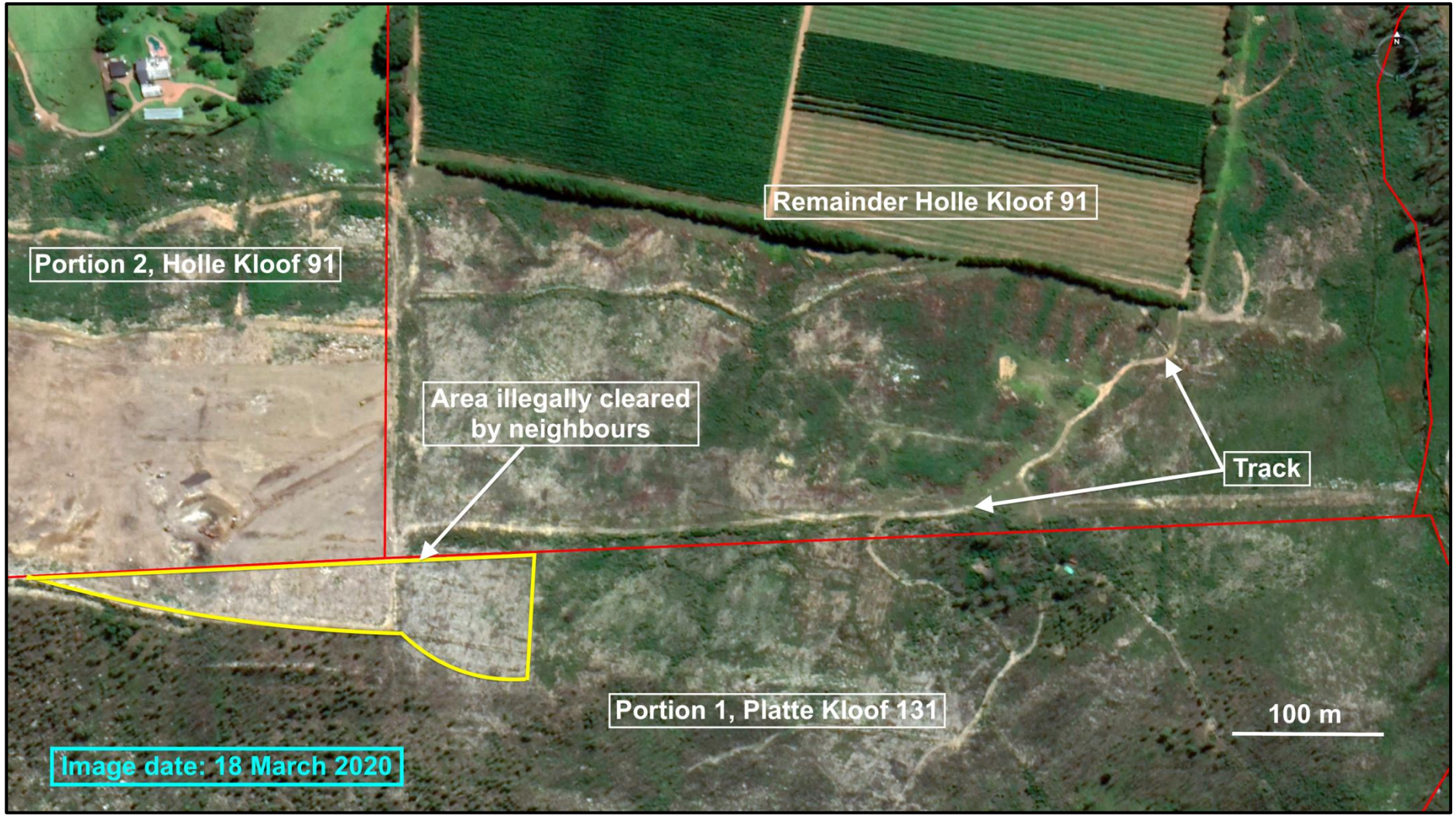


Figure 10. The disturbance regime in the area of interest, showing that Portion 1, Platte Kloof 131 was transgressed and cleared by the neighbours prior to March 2020.

Figure 11. Unlawful clearing at Portion 1 Platte Kloof 131 prior to 2020

Figure 12. Unlawful clearing at Portion 1 Platte Kloof 131 prior to 2020

Figure 13. Vegetation regrowing on the cleared site prior to the earthworks to establish a house platform.

Farm Platte Kloof 131/1 was acquired by Octo Trading 377 in January 2021. The property had not been well managed in the preceding five years resulting in significant invasion by alien invasive pine and wattle trees. The tracks (roads) had also fallen into disrepair.

The new owners of the farm, Mr & Mrs Spammer, wish to establish a 'lifestyle farm', so they commissioned a 'house platform' on the already cleared area, the construction of a small platform (Figure 16) on an undisturbed area above the house platform, and the construction of a formal access road on the seldom used track. These activities commenced on 9 July 2021, but prior to all the works being completed, a stop works order was issued on 11 November 2021. The contractor was required to remove all equipment from the site within 24 hours.

An unfortunate sequence of events followed since on 22 November 2021 an extreme rainfall event over the Garden Route of the Western Cape Province resulted in significant flooding in George and surrounding districts. The area of interest at Portion 1, Platte Kloof 131 was also strongly negatively impacted by the heavy rain, resulting in erosion of the 'house platform' (Figures 14 & 15) and severe erosion of the access road (Figures 17—22).

Figure 14. The cleared area where the house platform was established.

Figure 15. The cleared area was also severely eroded in November 2021.

Figure 16. The small platform above the house platform.

Figure 17. View northeast down the access road showing the sever erosion.

Figure 18. Dongas were formed across the access road by the stormwater runoff.

Figure 19. A deep donga down to bedrock formed on the upper side of the access road.

Figure 20. View northeast down the donga formed alongside the access road.

Figure 21. Sections of the access road were almost completely washed away.

Figure 22. The point at which the donga broke through to the east and disgorge water into the catchment of the Kleinbos River.

8. The Vegetation

8.1 The vegetation in context

Despite being on the north-facing slopes of the Outeniqua Mountains, the vegetation of the area of interest is all classified as South Outeniqua Sandstone Fynbos (Mucina, Rutherford & Powrie 2005; Rebelo *et al.* 2006; SANBI, 2018) (Figure 23).

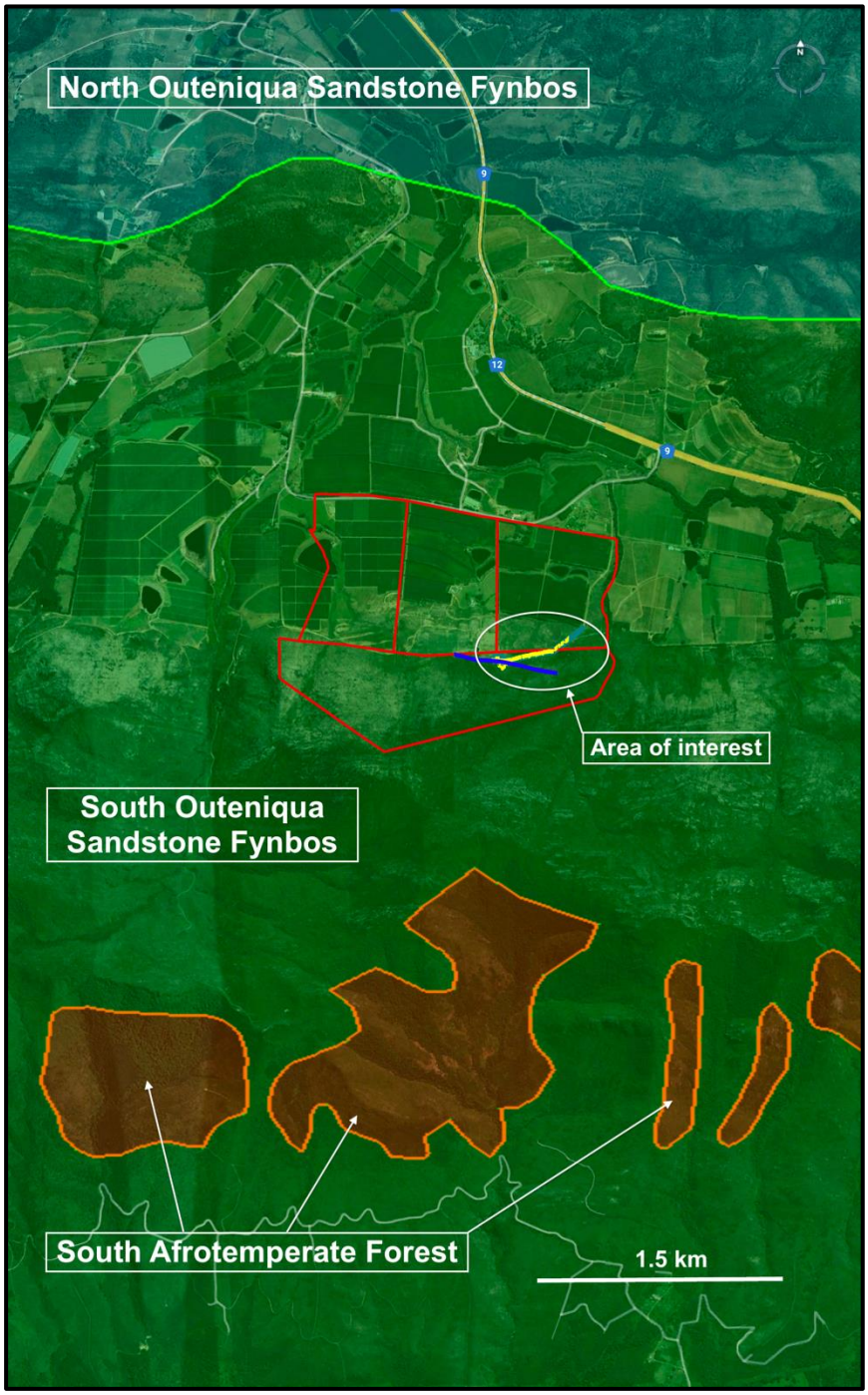


Figure 23. Portion of the VEGMAP (SANBI, 2018) overlaid on a Google Earth Pro ™ image indicating that the area of interest lies in South Outeniqua Sandstone Fynbos.

8.2 The vegetation and condition of the area of interest

8.2.1 The original vegetation present

The South Outeniqua Sandstone Fynbos that would have originally occurred on the 'house platform', upper platform and the access road, would have been a low to mid-high restioid—ericoid shrubland. The Proteaceae were represented by *Leucadendron uliginosum* subsp. *uliginosum* and *Mimetes cucullatus*. Rebelo *et al.* (2006) list a large number of species for this vegetation type, some of which are endemic. However, since this investigation is about the vegetation that was lost, only a small proportion of the possible plant species that could occur were noted in the area of undisturbed fynbos immediately upslope from the house platform. Species recorded include, *Acacia mearnsii**, *Brunia nudiflora*, *Elegia* cf. *fistulosa*, *Erica densifolia*, *Erica uberiflora*, *Hakea sericea**, *Hypodiscus albo-aristatus*, *Lanaria lanata*, *Leucadendron uliginosum* subsp. *uliginosum*, *Linum* sp., *Metalasia* cf. *trivialis*, *Metalasia densa*, *Mimetes cucullatus*, *Penaea cneorum* subsp. *cneorum*, *Pinus radiata**, *Psoralea pinnata*, *Pteridium aquilinum*, *Seriphium plumosum*, *Stoebe alopecuroides*, *Struthiola* cf. *eckloniana*, *Struthiola ciliata*, *Syncarpha paniculata*, *Tetraria ustulata* and *Thesium* sp. (*This list is not a complete inventory of species!*).

Figure 24. South Outeniqua Sandstone Fynbos on the slope above the house platform, strongly invaded by exotic pine trees and hakea shrubs.

*= invasive alien plant species

Figure 25. *Erica densifolia, Erica uberiflora, Leucadendron uliginosum* subsp. *uliginosum* growing amongst fallen pine branches.

Figure 26. Low to mid-high ericoid—restioid fynbos representing South Outeniqua Sandstone Fynbos on a north-facing slope, invaded by alien pine trees and hakea shrubs.

Figure 27. View northwest with low fynbos in the foreground and the small platform to the left.

Figure 28. *Erica densifolia*

Figure 29. *Erica uberiflora*

8.2.2 Alien invasive species

The two main alien invasive species occurring in the vegetation around the house platform and along the sides of the access road are *Pinus radiata* (Monterey Pine) (Figures 30—32) and *Acacia mearnsii* (Black Wattle) (Figure 32). A third species, *Hakea sericea* (Silky Hakea), is also present but with lower abundance (Figure 31). These species have a serious negative impact on indigenous vegetation and must be cleared. The pine trees have been present for some time, judging by their size, and apart from being scorched by the fire four years ago, most of them have survived. The fire also stimulated the germination and growth of the silky hakea, black wattle and pine (Figure 32).

Apart from the remediation that is the central issue of this investigation, every effort must be made to control the growth and spread of the above alien invasive plant species. In fact, it is a legal requirement for landowners to keep their property free of these aggressive invaders.

Figure 30. Uninvaded low fynbos in the foreground with tall *Pinus radiata* trees that survived the last fire in the background.

Figure 31. Unless cleared the *Pinus radiata* and *Hakea sericea* (red arrows) will suppress the growth of the indigenous fynbos.

Figure 32. A strong stand of black wattle (*Acacia mearnsii*) stimulated to grow by the last fire. These saplings should be urgently cleared to curb their spread.

9. Conservation status

9.1 Species of Conservation Concern (SCC)

No Red List species (i.e. species of conservation concern [SCC]) (*sensu* Raimondo *et al.* 2009) were found on the site or in the surrounding vegetation

9.2 Conservation Status of Vegetation Type

According to the National List of Threatened Terrestrial Ecosystems (Government Gazette, 2011), South Outeniqua Sandstone Fynbos was classified with a conservation status of Least Concern (since it was not listed). That has not changed in the most recent appraisal in 2021 (Figure 33) of what is now called Red List Ecosystems (RLE) (SANBI, 2021). The area of interest is in a habitat type with a low risk of loss and negative impacts due to anthropogenic activities, since it is well conserved in the mountain catchments of the Outeniqua Mountain Range.

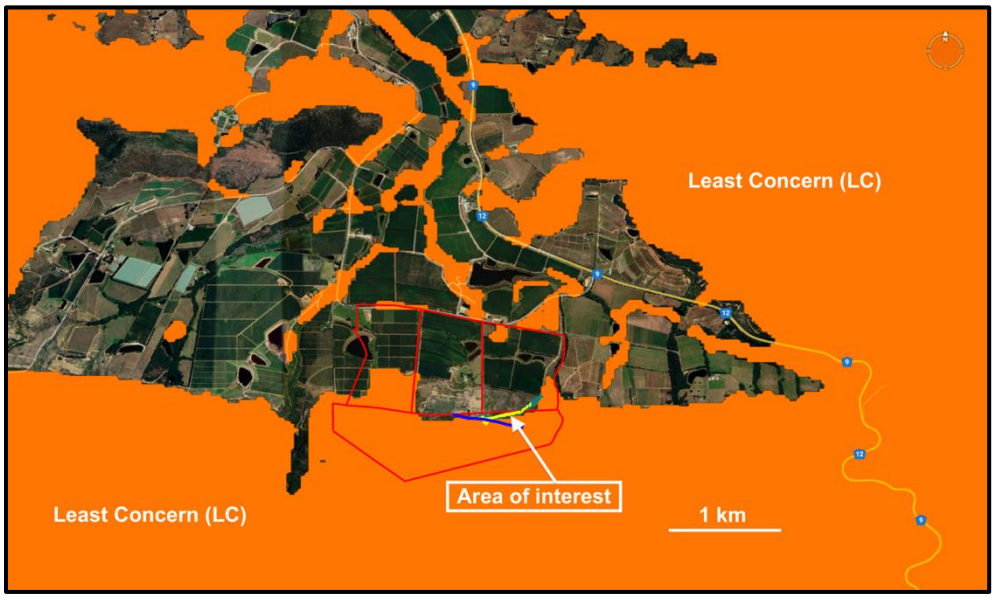


Figure 33. The RLE map superimposed on Google Earth Pro ™ showing that the area of interest is in an ecosystem of Least Concern (LC).

9.3 Western Cape Biodiversity Spatial Plan (Critical Biodiversity Areas)

An overlay on Google Earth ™ imagery of the map of Critical Biodiversity Areas from the Western Cape Biodiversity Plan [WCBSP] (Pence, 2017; Pool-Stanvliet *et. al.* 2017) is presented in Figure 34. The 'disturbance footprint' falls in an Ecological Support Area 1. The definition of Ecological Support Areas is given below (see text box) as defined by Pool-Stanvliet *et al.* (2017). Note that the ESA2 definition below is not strictly correct since the ESA2 areas in Figure 34 are watercourses with their azonal habitat characteristics.

Ecological Support Areas (ESAs): Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of Protected Area (PAs) and Critical Biodiversity Areas (CBAs), and are often vital for delivering ecosystem services. They support landscape connectivity, encompass the ecological infrastructure from which ecosystem goods and services flow, and strengthen resilience to climate change. They include features such as regional climate adaptation corridors, water source and recharge areas, riparian habitat surrounding rivers or wetlands, and Endangered vegetation.

ESAs need to be maintained in at least a functional and often natural state, in order to support the purpose for which they were identified, but some limited habitat may be acceptable. A greater range of land uses over wider areas is appropriate, subject to an authorisation process that ensures the underlying biodiversity objectives and ecological functioning are not compromised. Cumulative impacts should also be explicitly considered.

In the maps, a distinction is made between ESAs that are still likely to be functional (i.e. in a natural, near-natural or moderately degraded condition, ESA1; and ESAs that are severely degraded or have no natural cover remaining and therefore require restoration (ESA2)

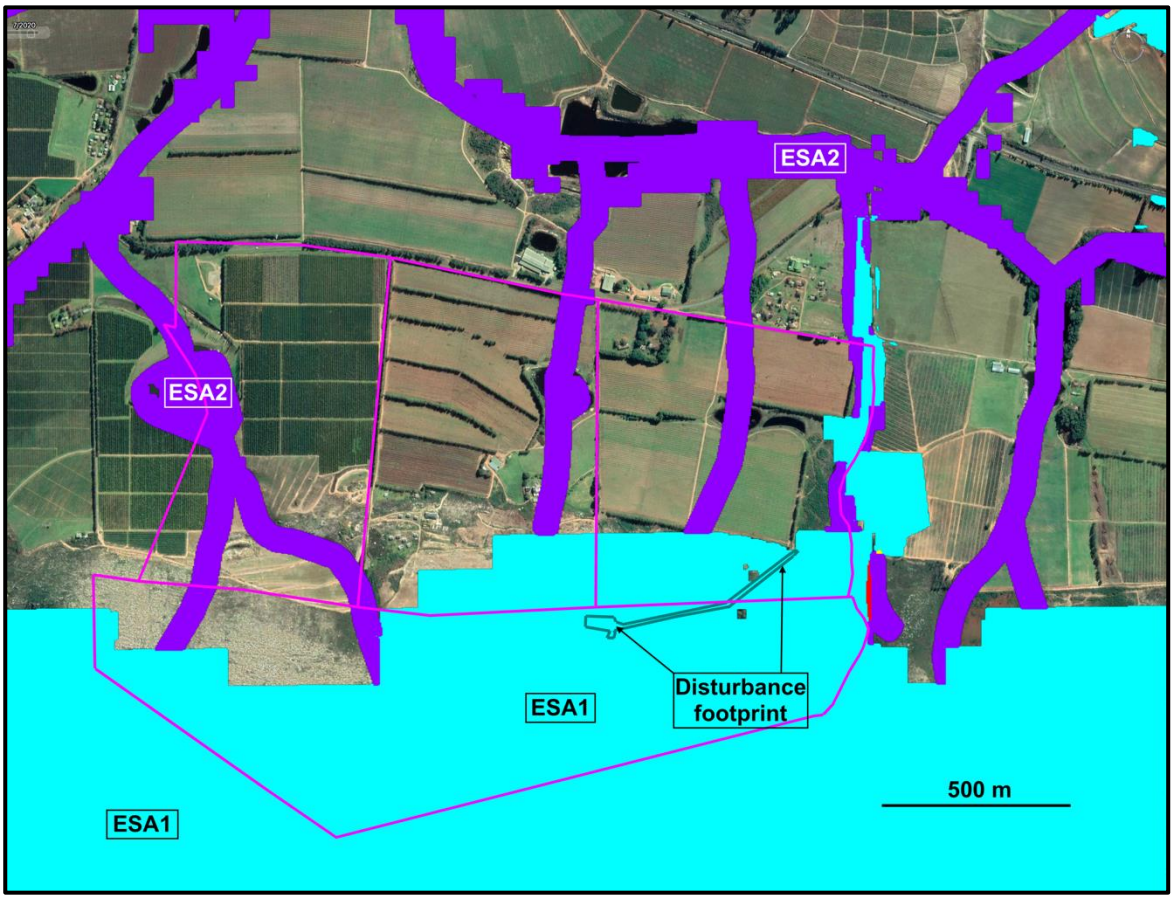
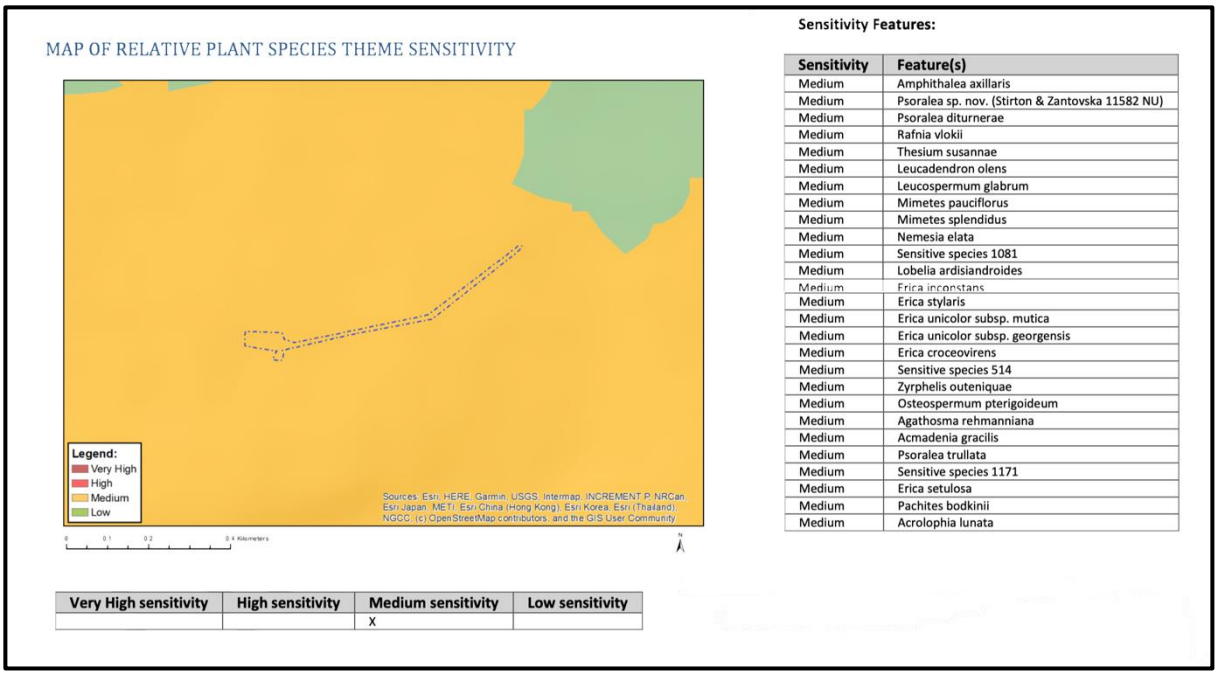


Figure 34. The WCBSP map for the area of interest showing that the 'disturbance footprint' is in a ESA1.

10. Site sensitivity

10.1 Site sensitivity as determined using the National Web-based Environmental Screening Tool.

A mandatory requirement of specialists is to apply the National Web-based Environmental Screening Tool to any area that is assessed. The screening too was thus applied to the 'footprint' of the disturbed 'house platform' and access road at Portion 1 of Platte Kloof 131. The outcome of the screening tool for the Relative Plant Species Theme Sensitivity is **Medium** (Figure 35). In addition, none of the 'sensitive species' listed in Figure 35 were recorded.



Sensitivity Features:

Sensitivity	Feature(s)
Medium	Amphithalea axillaris
Medium	Psoralea sp. nov. (Stirton & Zantovska 11582 NU)
Medium	Psoralea diturnerae
Medium	Rafnia vlokii
Medium	Thesium susannae
Medium	Leucadendron olens
Medium	Leucospermum glabrum
Medium	Mimetes pauciflorus
Medium	Mimetes splendidus
Medium	Nemesia elata
Medium	Sensitive species 1081
Medium	Lobelia ardisiandroides
Medium	Erica inconstans
Medium	Erica stylaris
Medium	Erica unicolor subsp. mutica
Medium	Erica unicolor subsp. georgensis
Medium	Erica croceovirens
Medium	Sensitive species 514
Medium	Zyrphelis outeniquae
Medium	Osteospermum pterigoideum
Medium	Agathosma rehmanniana
Medium	Acmadenia gracilis
Medium	Psoralea trullata
Medium	Sensitive species 1171
Medium	Erica setulosa
Medium	Pachites bodkinii
Medium	Acrolophia lunata

Figure 35. The output map from the National Web-based Screening Tool for Plant Sensitivity, with a list of sensitive plant species.

10.2 Site sensitivity as determined in the field

Owing to the disturbance as described above, the sensitivity of the footprint of the 'house platform' and access road is actually **Very Low**. However, there is general agreement with the outcome of the Screening Tool since the habitat surrounding the disturbance footprint has a **Medium** sensitivity. It is thus the **Medium** sensitivity that should be applied in the present situation when judging what may have been lost.

11. Comment on potential impacts

From the above sensitivity analysis, it can be confidently stated that at the most, the site of the 'house platform' and access road was not more than **Medium** sensitivity, even before the neighbours illegally cleared in the area. It is true that authorisation should have been obtained to proceed with the establishment of the house platform and access road. In the case of the house platform, there is a mitigating circumstance in that there was already significant disturbance in place prior to the earthworks that were carried out. In this case, any penalties should be limited to the minimum. However, for the access road, there was only a two-spoor track prior to the formalization of the road. The significant earthworks that took place were, however, also in a **Medium** sensitivity environment. No important plant communities or rare or threatened plant species were affected by the construction of the access road. This is the important aspect from a botanical perspective and a narrow view

must be maintained when assessing whether or not there was any serious loss of natural habitat due to the unauthorized activities.

The greatest and unintended consequence of the unauthorized activities was that the road (and to a more limited extent the house platform) was not finished and thus not properly drained prior to the heavy rain of 22 November 2021, resulting in the high degree of erosion and formation of dongas as depicted in Figures 17—22.

Aside for the negative effect of the heavy rain, the impact of the construction of the house platform and the access road is considered to be **Medium Negative**.

12. General Assessment and Recommendations

- According to the National List of Threatened Ecosystems (Government Gazette, 2011) the originally occurring vegetation on the disturbed house platform and road footprint was South Outeniqua Sandstone Fynbos, a Least Threatened vegetation type.
- No rare or threatened plant species were found during the site visit. The level of probability of such species occurring is moderate (medium) in the vegetation type on the subject property, but on the actual disturbance footprint, the probability is **Low** to **Very Low**.
- As much as it was necessary to stop the house platform and road construction in 2021, it is now imperative that the rehabilitation of the damage caused by the heavy rain should be permitted as soon as possible. The road must be carefully drained with pipes and humps (water bars) to divert the water from running directly down the road. Gabions may also be necessary in the dongas to slow the water velocity. At the point where the water cut through to disgorge into the catchment of the Kleinbos River, gabions must be installed to divert and prevent runoff water from running into the stream.

13. Conclusions

From the data collected during the site visit, and the desktop analysis, the conclusion is reached that although at a local scale the negative impact of the unauthorized activities is high, in the greater scheme of the ecosystem as a whole, the impact is no more than **Medium Negative** and the cumulative impact is **Low Negative**.

It is strongly recommended that rehabilitation works should be permitted as soon as possible to prevent further environmental damage and degradation that would become extremely costly to repair and have a high hidden cost to the ecosystem as well, if unchecked.

Mention has been made above of the alien invasive pines and black wattle. Although not central to the matter dealt with in this report, it is strongly advised that these alien invasive species be tackled soon, especially the young pine and wattle saplings, to prevent their further spread in the mountain catchment.

14. References

Government Gazette No. 34809. 2011. Threatened Terrestrial Ecosystems in South Africa.

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Report submitted: 21 June 2022

Appendix 1: Curriculum Vitae

Dr David Jury McDonald Pr.Sci.Nat.

Name of Company: Bergwind Botanical Surveys & Tours CC. (Independent consultant)

Work and Home Address: 14 A Thomson Road, Claremont, 7708

Tel: (021) 671-4056 **Mobile:** 082-8764051 **Fax:** 086-517-3806

E-mail: dave@bergwind.co.za

Website: www.bergwind.co.za

Profession: Botanist / Vegetation Ecologist / Consultant / Tour Guide

Date of Birth: 7 August 1956

Employment history:

- 19 years with National Botanical Institute (now SA National Biodiversity Institute) as researcher in vegetation ecology.
- Five years as Deputy Director / Director Botanical & Communication Programmes of the Botanical Society of South Africa
- Sixteen years as private independent Botanical Specialist consultant (Bergwind Botanical Surveys & Tours CC)

Nationality: South African (ID No. 560807 5018 080)
Languages: English (home language) – speak, read and write
Afrikaans – speak, read and write

Membership of Professional Societies:

- International Association for Impact Assessment (SA)
- South African Council for Natural Scientific Professions (**Ecological Science, Registration No. 400094/06**)
- Field Guides Association of Southern Africa

Key Qualifications :

- Qualified with a M. Sc. (1983) in Botany and a PhD in Botany (Vegetation Ecology) (1995) at the University of Cape Town.
- Research in Cape fynbos ecosystems and more specifically mountain ecosystems.
- From 1995 to 2000 managed the Vegetation Map of South Africa Project (National Botanical Institute)
- Conducted botanical survey work for AfriDev Consultants for the Mohale and Katse Dam projects in Lesotho from 1995 to 2002. A large component of this work was the analysis of data collected by teams of botanists.

- **Director: Botanical & Communication Programmes** of the Botanical Society of South Africa (2000—2005), responsible for communications and publications; involved with conservation advocacy particularly with respect to impacts of development on centres of plant endemism.

- Further tasks involved the day-to-day management of a large non-profit environmental organisation.

- **Independent botanical consultant** (2005 – to present) over 600 projects have been completed related to environmental impact assessments in the Western, Southern and Northern Cape, Karoo and Lesotho. A list of reports (or selected reports for scrutiny) is available on request.

Higher Education

Degrees obtained
and major subjects passed:

B.Sc. (1977), University of Natal, Pietermaritzburg
Botany III
Entomology II (Third year course)

B.Sc. Hons. (1978) University of Natal, Pietermaritzburg
Botany (Ecology /Physiology)

M.Sc. - (Botany), University of Cape Town, 1983.
Thesis title: 'The vegetation of Swartboschkloof, Jonkershoek, Cape Province'.

PhD (Botany), University of Cape Town, 1995.
Thesis title: 'Phytogeography endemism and diversity of the fynbos of the southern Langeberg'.

Certificate of Tourism: Guiding (Culture: Local)
Level: 4 Code: TGC7 (Registered Tour Guide: WC 2969).

Employment Record:

January 2006 – present: Independent specialist botanical consultant and tour guide in own company: **Bergwind Botanical Surveys & Tours CC**
August 2000 - 2005 : Deputy Director, later Director Botanical & Communication Programmes, Botanical Society of South Africa
January 1981 – July 2000 : Research Scientist (Vegetation Ecology) at National Botanical Institute
January 1979—Dec 1980 : National Military Service

Further information is available on my company website: www.bergwind.co.za

ADDENDUM

A1. Fieldwork and Observations: Access Road

A second visit was undertaken to Waboomskraal on 23 September 2022, and more specifically to Remainder Holle Kloof 91, George, to investigate the condition of the section of road (Figure A1) that I had not included in my first appraisal.

Figure A1. Aerial image (Google Earth ™) with annotations indicting the section of the access road that was surveyed in September 2022.

The section of the access road to Portion 1 Platte Kloof 131, George that was not surveyed in April 2022 is the lower section adjacent to the hops orchards on the neighbouring farm, Remainder Holle Kloof 91. The road was surveyed by walking from the upper Point A to the lower Point B in Figure A1, taking note of the vegetation and general habitat condition.

It is safe to say that there is no intact indigenous plant community anywhere adjacent to the section of road investigated. The environment is extremely disturbed and generally invaded by alien black wattle (*Acacia mearnsii*) and Kikuyu grass (*Pennisetum clandestinum*). A pine plantation was formerly present on the east side of the road, but it was burnt in the last severe fires in the area and the burnt trees have been felled. Opportunistic *Seriphium plumosum* (slangbos), grasses and other ruderal species have established in the burnt area (Figure A2).

Figure A2. The area of the burnt pine plantation, now invaded by opportunistic 'weedy' plant species.

The following series of images show the road, proceeding downhill from Point A to Point B, with the sides having significant invasion by alien invasive trees (saplings) and grass.

		The side drain alongside the upgraded track. This drain was partly washed out during the floods.

		The side drain on the west side with invasive wattle saplings, with similar growth of wattle saplings on the east side of the upgraded track.
		A view northwards showing the track where it has not been upgraded, with invasive wattles and Kikuyu grass on both sides. The trees on the west side (left side of image) are birch trees used as a windbreak for the hop orchard.
		The track has been blocked at this point and runoff from the track is channelled into an area where less erosion would be caused.
		Pipes intended for laying in the track / road side-drain to limit erosion.

		Near the lower end of the road, the side drain is becoming blocked by wattle saplings and grass. (View northwards).
		View southwards, up the track, with the side drain on the right side having been severely washed out by the heavy water flow.
		Owing to current non-use of the track it is becoming overgrown by Kikuyu grass and other invasive plant species.

A2. Conclusions

The access road to Portion 1 Platte Kloof 131, George, was merely an upgrade of an existing farm track / road on the farm Remainder Holle Kloof 91. No indigenous vegetation was disturbed in the process and there was also no obvious widening of the track, except to accommodate the side drainage channel. It is thus my opinion that the upgrade of the

access road along the lower section as described above has had a **Very Low Negative** impact because not natural (indigenous) vegetation was disturbed in the process.

It is strongly recommended that the alien invasive black wattle saplings should be cleared as soon as possible before they become large, and the exercise becomes unwieldy and costly.

Dr D.J. McDonald Pr. Sci Nat.
Botanical Specialist

26 October 2022