

PROPOSED KNYSNA LAKE CABINS DEVELOPMENT ON PORTION 192 OF FARM 216 UITZIGT, BRENTON ON LAKE, KNYSNA.

Terrestrial Biodiversity and Plant Species Compliance Statement



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Version: Final



DECLARATION OF SPECIALIST INDEPENDENCE

- I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);
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- All the particulars furnished by me in this document are true and correct.



Bianke Fouche (MSc Conservation Biology)

15 January 2026

BIANKE FOUCHE ABRIDGED CV

Qualifications

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- B.Sc. Honours in Botany (Nelson Mandela University),
- M.Sc. Conservation Biology (University of Cape Town)

SACNASP Registration No: 141757 (Professional in Botanical & Ecological Science)

Skills and Core Competencies

- My MSc research adds to our understanding of ecosystem niche construction and Alternative Stable State theory. The knowledge is used to advise landscape stewardship practices, especially regarding reforestation initiatives in the Overstrand.
- I have worked closely with the conservation team of the Grootbos Foundation, where I assisted with vegetation surveys, mounting voucher specimens in the Grootbos herbarium, and taken part in controlled fynbos fires in the Overberg.
- Postgraduate studies of mine included assessing the allelopathic effects of *Eucalyptus* leaves on garden peas and leeks and assessing the accuracy of the climate leaf analysis multivariate programme (CLAMP) in predicting the climate of fynbos vegetation.
- In Cape Town and here in George I take part in alien clearing activities, helping to identify relevant listed invasive plants.
- I am a member of SACNASP, the International Association for Impact Assessment (IAIA), Botanical Society of South Africa, the South African Association of Botanists (SAAB), and the custodians for rare and endangered wildflowers (CREW-Outramps).

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GLOSSARY

Term	Explanation
Desktop Review	Preliminary assessment based on existing data and information, conducted prior to on-site investigations
Ecosystem Type	A classification of areas based on dominant vegetation and ecological processes (e.g., Fynbos, Renosterveld).
Invasive Alien Plant Species	Non-native plants or animals that spread and negatively affect local ecosystems and biodiversity.
Sensitive Species	A category of plant or animal species whose precise location data is restricted or obscured by the South African National Biodiversity Institute (SANBI) to prevent exploitation, illegal collection, or harm. These species are typically rare, endemic, or highly threatened and are considered vulnerable to human activity or commercial trade.
Sensitivity	The degree to which a particular area or ecosystem is susceptible to disturbance or impact, crucial in determining potential environmental consequences.
Site Assessment	On-the-ground survey and evaluation of an area's ecological characteristics, species, and habitat conditions.
Species of Conservation Concern	Species listed under a threat category due to declining populations or habitat.
Terrestrial Biodiversity	Terrestrial Biodiversity in the context of this report refers to the variety and distribution of land-based vegetation types and plant species within a given study area, as identified through mapped ecosystems (e.g., South African National Vegetation Map). In the context of an Environmental Impact Assessment (EIA), terrestrial biodiversity is assessed to determine the ecological sensitivity and conservation value of an area, particularly in relation to the Red List status of vegetation types, Critical Biodiversity Areas (CBAs), and other spatial biodiversity priority areas.
Vegetation Mapping	The process of documenting and categorizing plant communities spatially using GIS and field data.

ABBREVIATIONS

BPA	Biodiversity Priority Area
BSP	Biodiversity Spatial Plan
CD:NGI	Chief Directorate: National Geo-spatial Information
GRI	Garden Route Initiative
LC	Least Concern (referring ecosystems)
NVM	National Vegetation Map
NEM:BA	National Environmental Management: Biodiversity Act
SACNASP	South African Council for Natural Science Professionals
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern

1. INTRODUCTION

1.1 Background

Confluent Environmental was appointed to undertake a Terrestrial Biodiversity and Plant Species site sensitivity verification (SSV) assessment of the potential developable area on Portion 192 of 216. The total area covered by the property is ca. 8.5 ha. and is adjacent to the Knysna Estuary. Portion 192/216 is located within a predominantly natural landscape, although some residential development occurs to the south of the site (Brenton-on-Lake in Fig. 1).

The property lies within the broader Garden Route Biosphere Reserve and also forms part of the Knysna National Lake Area, **which is designated as a protected environment (PE)** under the Garden Route National Park. Access to the site is currently possible from the south via a tarred road, as well as from the east along an existing dirt road. Historical evidence suggests that structures were once present on the property. This is reflected in the SANBI 2021 remnant natural vegetation layer, which excludes the majority of the portion. The surrounding remnant natural vegetation is classified as Knysna Sand Fynbos which is critically endangered (CR).

Within a 5 km radius, several additional PEs are situated, including Goukamma Nature Reserve, Skulite Nature Reserve, Featherbed Private Nature Reserve, Pledge Nature Reserve, and the Brenton Blue Nature Reserve.

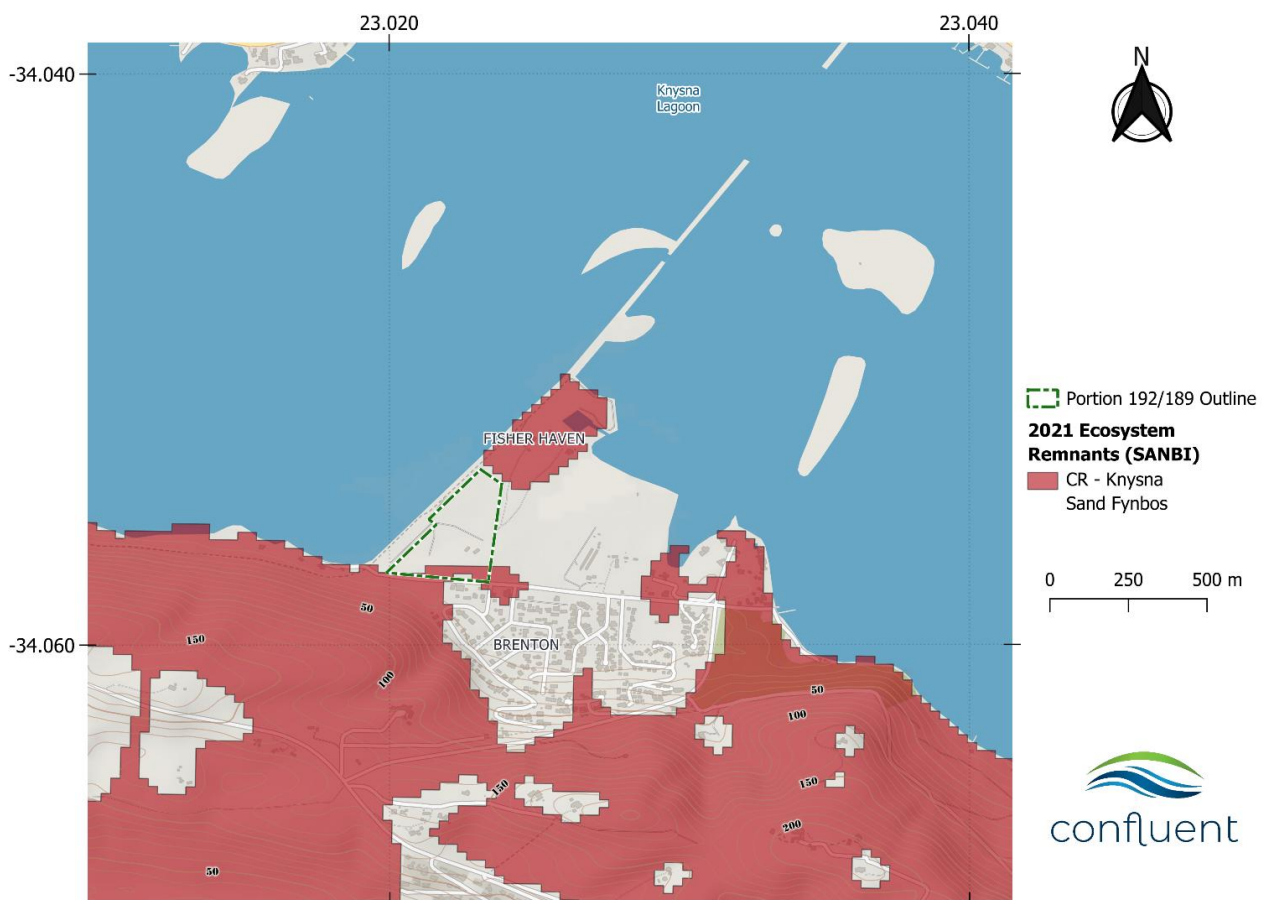


Figure 1: The location of Portion 192/216 in relation to modelled ecosystem remnants, as produced by SANBI in 2021.

1.2 Site Development Plan

At the time of writing this report, the original site development plan (SDP Alternative 1) was available (Alternative 1 in Fig. 2). Specialist reports were then used to inform the first revision of the SDP during September of 2025 (Alternative 2 in Fig. 2). At present, the SDP Alternative 3 includes a proposal for 5 tourist accommodation buildings (Alternative 2 included 7), which is less than the proposal in Alternative 1, each covering ca 108 sqm (Figure 2).

The main difference between Alternative 1 versus 2 and 3 is the altered location of the units. Alternative 2 and 3 both represent a more clustered layout (i.e., all the buildings are clustered together to avoid a spread-out footprint). In Alternative 2 and 3, a parking lot covering ca. 265 sqm is also proposed, as well as a boardwalk between dwellings of ca. 174 sqm in Alternative 2 which was reduced to 132 sqm in Alternative 3. Note that this replaces the precious internal road proposed in Alternative 1.

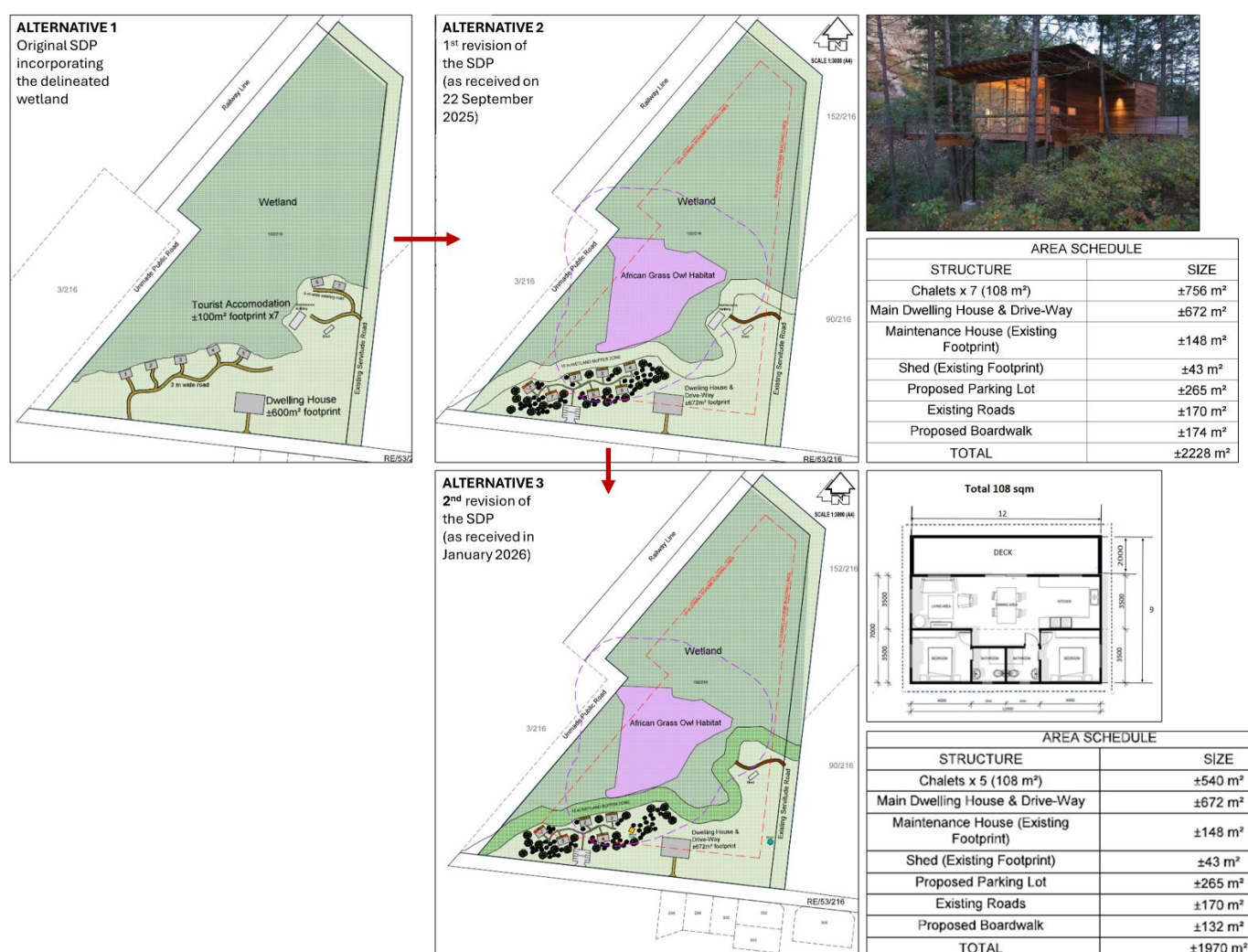


Figure 2. The top left Alternative 1 is the original Site Development Plan (SDP) for Portion 192/216.

The top right SDP is Alternative 2 which was distributed to the biodiversity specialists on 22 September 2025, and indicates sensitive habitat identified by the faunal and aquatic specialists. Alternative 3 was proposed and distributed in January 2026 and is shown at the bottom of the figure.

In addition to the tourist accommodation, a main dwelling house covering ca. 672 sqm is proposed in both Alternatives 2 and 3, and one small shed and a maintenance building is also proposed (191 sqm in total). These structures are apart from the accommodation chalets as there are existing building ruins in the area where they are planned. The transformed area of the SDP proposed will amount to ca. 2228 sqm under Alternative 2, and 1970 under Alternative 3. The total size of Portion 192/216 is 8.5 hectares (ha).

Although there are some layout changes between Alternatives 3, 2 assessed in this report (top SDP) and the original Alternative 1, these changes do not represent a significant enough change to alter the findings of this report.

2. TERMS OF REFERENCE

This screening tool sensitivity verification report provides information on Terrestrial and Botanical diversity and sensitivity of the proposed development. The results presented are based on a desktop and field assessment, which includes a consideration of historical photographic records of the site. The assessment presented in this report follows the Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity, and Terrestrial Plant Species themes. This site sensitivity assessment follows the requirements of:

- The Environmental Impact Assessment Regulations, as promulgated in terms of Section 24 (5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998), which includes:
 - The protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial plant species (28 July 2023).
 - The protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial biodiversity (20 March 2020). Additional guidelines for the terrestrial biodiversity theme:
 - Ecosystem Guidelines for Environmental Assessment in the Western Cape (de Villiers et al., 2016).
 - The Western Cape Biodiversity Spatial Plan Handbook and summary booklet (CapeNature, 2017; Pool-Sandvliet et al., 2017).
 - The Subtropical Thicket Ecosystem Programme Handbook: Integrating the natural environment into land-use decisions at the municipal level: towards sustainable development (Pierce & Mader, 2006).
- Additional guidelines for the terrestrial plant species theme:
 - Species Environmental Assessment Guideline: Guidelines for the implementation of the Terrestrial Flora (3c) & Terrestrial Fauna (3d) Species Protocols for environmental impact assessments in South Africa (Verburgt et al., 2020).

The assessment was undertaken by a specialist registered with the South African Council for Natural Scientific Professionals (SACNASP) with relevant expertise in the field of Botanical and Ecological science.

2.1 Online Screening Tool

The Department of Forestry, Fisheries, and the Environment (DFFE) screening tool report for the development footprint has identified the **Terrestrial Plant Species theme as having a Medium sensitivity**, and the **Terrestrial Biodiversity theme as having a Very High sensitivity** (Fig. 3). For plant species, a Medium sensitivity indicates that models predict the occurrence of some plant species of conservation concern (SCC), although there are no confirmed populations.

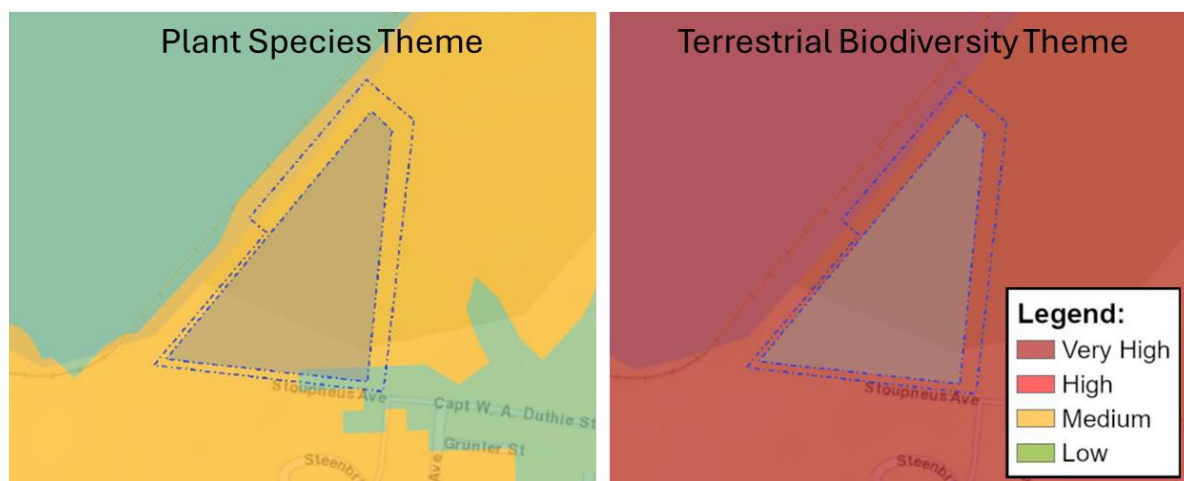


Figure 3: The Screening Tool results for Portion 192/216. The two themes of this report are illustrated.

A Very High sensitivity rating for Terrestrial Biodiversity according to the screening tool is triggered for all Biodiversity Priority Areas (BPAs; Table 1) and other sensitive features (Stewart et al., 2021). BPAs include the various management layers of the Western Cape Biodiversity Spatial Plan (WC BSP), as well as the other sensitive features. The BPAs that were triggered for this site are discussed and listed in Table 1.

Table 1: Sources of BPA data for the Terrestrial Biodiversity Theme sensitivity (Stewart et al., 2021).

Sensitivity layer	Data included and source
Red Listed Ecosystems	Any ecosystem that is listed as Vulnerable, Endangered, or Critically Endangered according to the “Revised National List of Ecosystems that are Threatened and in Need of Protection (NEM:BA Act no.10 of 2004, as amended in November 2022)”. In this case the trigger was critically endangered (CR) Knysna Sand Fynbos
FEPA sub-catchment	Freshwater ecosystem catchments, determined through the National Freshwater Ecosystem Priority Area (NFEPA) process.
SWSA (sw)	Surface strategic water source areas, delineated by Mervyn Lotter in October 2020 with substantial input from the SWSA spatial task team as part of the SWSA spatial task team. Note that the protocol only applies to the terrestrial parts of the SWSAs.
Knysna National Lake Area	National Lake Areas area also part of the trigger for terrestrial site sensitivity
National Protected Area Expansion Strategy (NPAES)	The latest priority expansion areas for each province, as well as the expansion footprint for national parks as per the approved management plan for national parks.

3. METHODOLOGY

3.1 Desktop Assessment

The desktop assessment was performed using Cape Farm Mapper and QGIS version 3.36.0-called “Maidenhead”. Plant species data was sourced from the following sources:

- The DFFE screening tool listed SCC.
- Information on plant occurrence prior to the site visit was sourced from SANBI's Botanical Research and Herbarium Management System (BRAHMS) for the Plants of Southern Africa (POSA) database.
- iNaturalist observations of the property and surrounding areas.

Ecosystem/ vegetation type data was sourced from:

- The 2018 updated South African National Vegetation Map from SANBI's Biodiversity GIS (BGIS) database, and the National Biodiversity Assessment report of 2018 (Skowno et al., 2018).
- Shapefiles for the Western Cape Biodiversity Spatial Plan (WC-BSP) i.e., information on PAs, CBAs, ESAs, and ONAs were downloaded from BGIS database (CapeNature, 2017; Pool-Sandvliet et al., 2017).
- Cape Farm Mapper for additional spatial information required for the site.
- Chief Directorate: National Geo-spatial Information (CD: NGI) Geospatial Portal and Google Earth for the acquisition of historical aerial imagery of the site.
- The conservation status of ecosystems was found in the Revised National List of Ecosystems that are Threatened and in need of protection, published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004, as revised in Nov. 2022), and also using the Vegetation of South Africa, Lesotho, and Swaziland (Mucina & Rutherford, 2006).

3.2 Field Assessment

Field work was undertaken on the 24th of June 2025. The method for identifying species was similar to a BioBlitz, also described as a “timed meander”, where the specialist records plant species observed on the site, and actively searches for rarer and threatened species. Some Red Listed Plant species are found more easily during a site survey than other species. This survey method is an attempt to account for the short and single survey period, where detection probability of some rare and threatened species (e.g., some geophytes, small succulents, small perennials etc.) are low (Garrard et al., 2008; Wintle et al., 2012). Observations of individual species and environmental characteristics of the site were photographed.

3.3 Assumptions & Limitations

This assessment is subject to a few assumptions, uncertainties, and limitations, as listed below:

- Only one survey took place during Winter. Seasonal and time constraints always somewhat limit the findings of any ecological report.
- The species list and SCC reported are not exhaustive, and more species will be added to the list should more sampling effort occur (Perret et al., 2023).

- Environmental factors such as the prevailing fire regime, successional stage of the vegetation present, previous cultivation of the land, and the level of alien infestation at the site affects the species visible at the time of assessment (Cowling et al., 2010; Privett et al., 2001).
- Observer bias is also a factor that may affect any biodiversity specialist report.

4. RESULTS: DESKTOP ASSESSMENT

4.1 Terrestrial Biodiversity

4.1.1 Climate

Temperature varies between the different seasons, with the coldest month, July, usually reaching around 17 °C during the daytime (Fig. 4). The average is about 21 °C for days in February, the hottest month. May is usually the driest month; however, precipitation follows a less clear pattern when compared to the annual temperature patterns. Two seasonal peaks are usually associated with rainfall, around April and then again around October. Annual rainfall here is usually between 550 to 950mm.

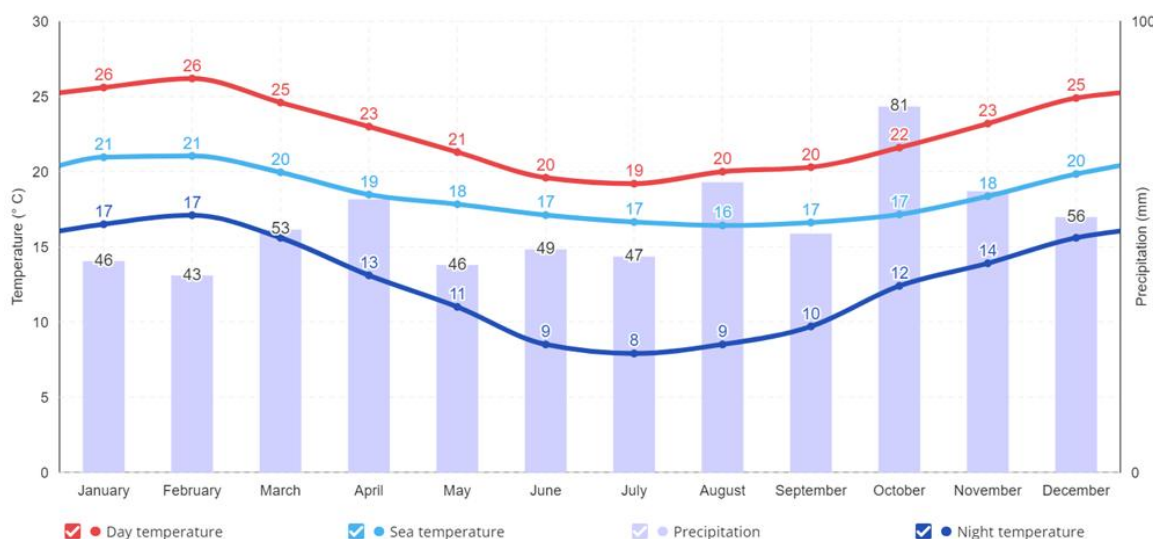


Figure 4: Modelled climate for Knysna. This graph is sourced from [Sunheron](#).

4.1.2 Vegetation Type(s)

According to the latest National Vegetation Map (NVM) from 2024, the entire area of Portion 192/216 can be classified as Estuarine vegetation (Fig. 5). The Portion used to be mapped as CR Knysna Sand Fynbos in the previous 2018 version of the NVM (Fig. 5 middle map). The new change to estuarine vegetation must still be formally adopted into the NVM, but it does seem to be a more accurate description of the area. The change is more consistent with the history of the site and the mapped wetland feature that covers the majority of the area excluding the southern section.

There is also another map for the area, made as part of the Garden Route Initiative (GRI) which describes vegetation communities in more detail (Vlok et al., 2008). Of all the vegetation maps, the GRI map seems to be the most accurate to the observed vegetation on the site (Map on the right in Fig. 5). The northern section of the site is mapped as “Knysna saltmarsh” while the southern section (where the development is proposed) is mapped as “Groenvlei

Coastal Forest”, which is also more consistent with the woody forest-like cover observed (as opposed to fynbos).

The differences in the mapped vegetation according to the NVM versions and GRI reflect an evolution in understanding as well as differences in mapping scales, resolution and purpose. The NVM is mapped at a coarser scale compared to the GRI; however, it is the NVM that is associated with threat status. The NVM update recognizes that much of the portion is more accurately estuarine/wetland-associated rather than terrestrial fynbos. The shift likely reflects improved mapping data, imagery, and ecological understanding rather than an actual change in vegetation.

The differences between the maps reveal that the site is essentially an ecological transition zone, with estuarine saltmarsh vegetation dominating the northern section and coastal forest or woody thicket occurring in the slightly elevated southern section, while fynbos is absent. The variation also highlights the effect of mapping scale, where national datasets tend to generalize vegetation into broad types, while finer-scale maps like the GRI capture the local mosaic more accurately. In addition, past land use, disturbance, and infilling may also have resulted in a shift in the vegetation here, leading confusion and misclassification.

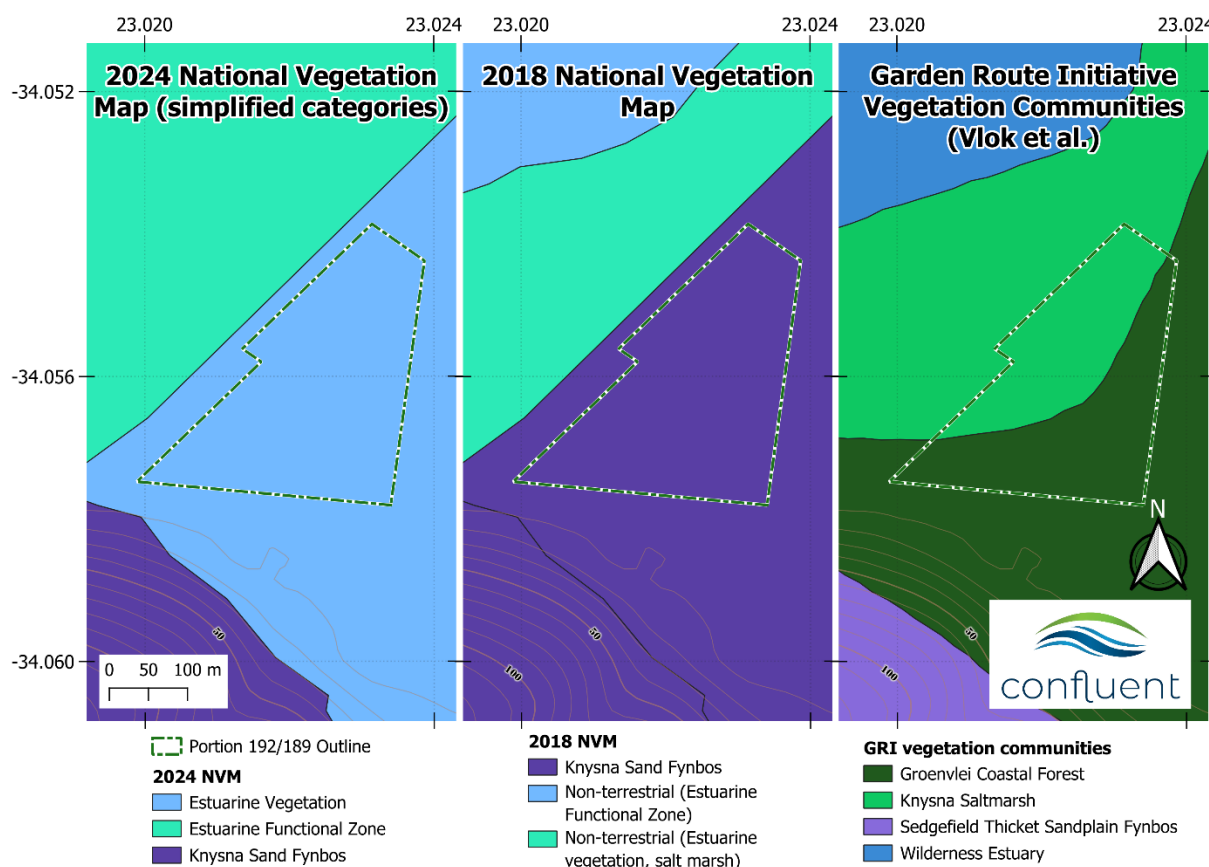


Figure 5: Vegetation maps for Portion 192/216, namely the National Vegetation Map (NVM; left two maps), and the Garden Route Initiative (GRI) map on the right.

4.1.3 Western Cape Biodiversity Spatial Plan

The Western Cape Biodiversity Spatial Plan (WC BSP) was recently updated, with the most current version published in 2023, superseding the 2017 version. Both the 2017 and 2023 versions of the WC BSP are illustrated in Fig. 6, allowing for a comparative understanding of changes in biodiversity priority mapping. Although the 2023 version of the WC BSP represents

an update, there are significant differences between the old WC BSP and the new version of the BSP. Despite the changes, only minor alterations to the plan is visible for Portion 192/216. In the past, the southern section of the site used to be mapped as an Estuarine CBA 1 area, where the current plan includes the entire site and surrounding suburbs in the mapped Protected Area (PA):

Definition: Areas that are proclaimed as protected areas under national (National Environment Management: Protected Areas Act, Act 57 of 2003) or provincial (Mountain Catchment Areas Act, Act no 63 of 1970) legislation.

Objective: Keep in a natural state, with a management plan focused on maintaining or improving biodiversity. A benchmark for biodiversity conservation.

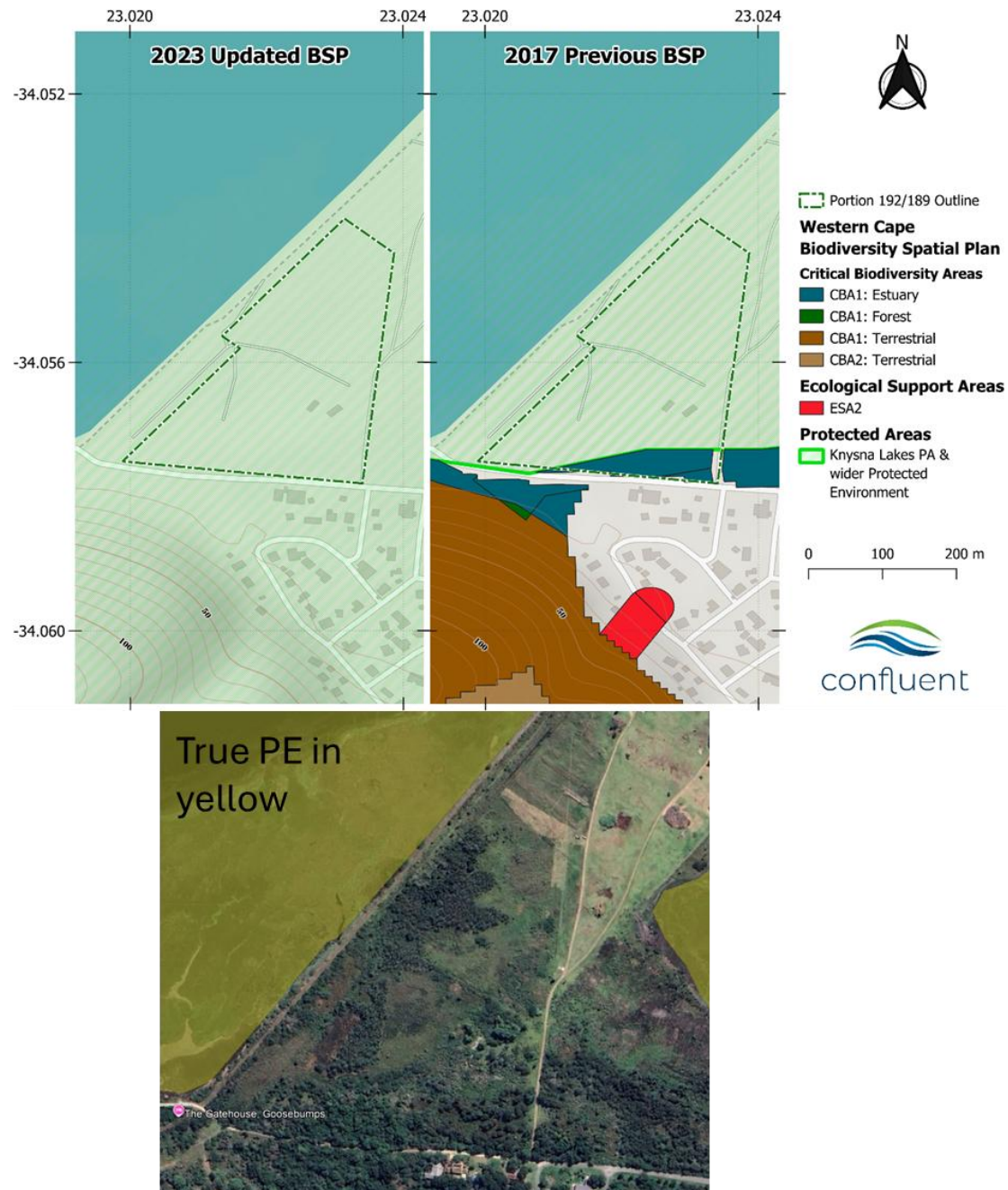


Figure 6: The mapped Western Cape Biodiversity Spatial Plan (WC BSP) for Portion 192/216. Note that the latest BSP incorrectly indicates the boundary of the Knysna Lakes PE; the correct boundary is indicated below the BSP map.

However, in the 2023 BSP, the entire Knysna region has now been broadly mapped as part of a protected environment (PE), but in reality only small sections within that area are true protected areas (PAs), and this is confusing to anyone trying to make use of the 2023 BSP (see Fig 6). While the definition and objective remain valid in principle, strict adherence across the whole landscape is not feasible. This is especially the case on privately owned land where development, existing structures, and human activities are present. For example, residential properties, forestry operations, and small-scale agriculture, and other mapped PAs, all occur within the BSP mapped “PE”, demonstrating that the designation does not automatically translate into unmodified, fully natural landscapes.

The PE designation of the 2023 BSP signals very broad areas of conservation importance, but terrestrial biodiversity sensitivity must still be assessed based on actual site conditions rather than solely on mapped status. Therefore, the broad PE mapped in Knysna should be treated as a guidance tool rather than a definitive indicator of Very High sensitivity, especially where land use and ecological condition indicate disturbance or transformation.

4.1.4 SWSA-sw & FEPA

The Screening Tool identified a Very High sensitivity under the Terrestrial Biodiversity Theme, in part due to the area forming part of a Strategic Water Source Area (SWSA) for surface water as well as a Freshwater Ecosystem Priority Area (FEPA). The developers of this property should keep in mind that the objective and philosophy of a SWSA is:

“Water is life. Clean water and sanitation underpin healthy lives and communities. Water drives job creation and economic growth. We need partnerships for living landscapes to achieve more clean water from our land. Partnerships that unlock benefits for people, water, and ecosystems and that recognise the connections between healthy ecosystems, healthy lives, economic growth, and job creation, between catchments and cities, between catchment management and maintenance of built infrastructure, and between our land and water. Healthy ecosystems in SWSAs including rivers, wetlands and land, help assure the quantity and quality of water flowing into our dams. Investing in maintaining and restoring SWSAs is a low risk and high return strategy for climate change adaptation. It is a form of ecosystem-based adaptation to climate change.” ~ the South African Department of Forestry, Fisheries, and the Environment (DFFE) Biodiversity Sector Investment Portal

FEPA designations are fundamentally aquatic conservation priorities. The Screening Tool includes FEPA-related sensitivities within the terrestrial biodiversity theme due to the ecological interdependence between freshwater and terrestrial systems. However, in the context of the proposed development, the avoidance of freshwater and estuarine features; (J.M. Dabrowski, 2025) must be considered when assessing the appropriateness of assigning a Very High sensitivity rating for terrestrial biodiversity based on this factor.

Given this context, while the FEPA trigger is acknowledged as technically valid, its contribution to the Very High terrestrial biodiversity sensitivity rating for this specific site appears to be misleading when considered in ecological and practical terms. Within the proposed SDP, if the plan remains outside of all aquatic sensitivities identified, these features do not, in the author’s opinion, warrant a Very High terrestrial biodiversity sensitivity.

4.1.5 Historical Aerial Imagery

Portion 192/216 has undergone significant changes in vegetation and land cover over the past 89 years (Fig. 7). Historical imagery from 1936 indicates that the broader area was largely used for crop farming. On the property during that time, the southern section of the property was covered in dense vegetation, likely a mix of alien species and native woody plants. In contrast, the remaining area is visibly covered in less woody vegetation and seems to be more natural, however this is hard to confirm with only the monochrome images.

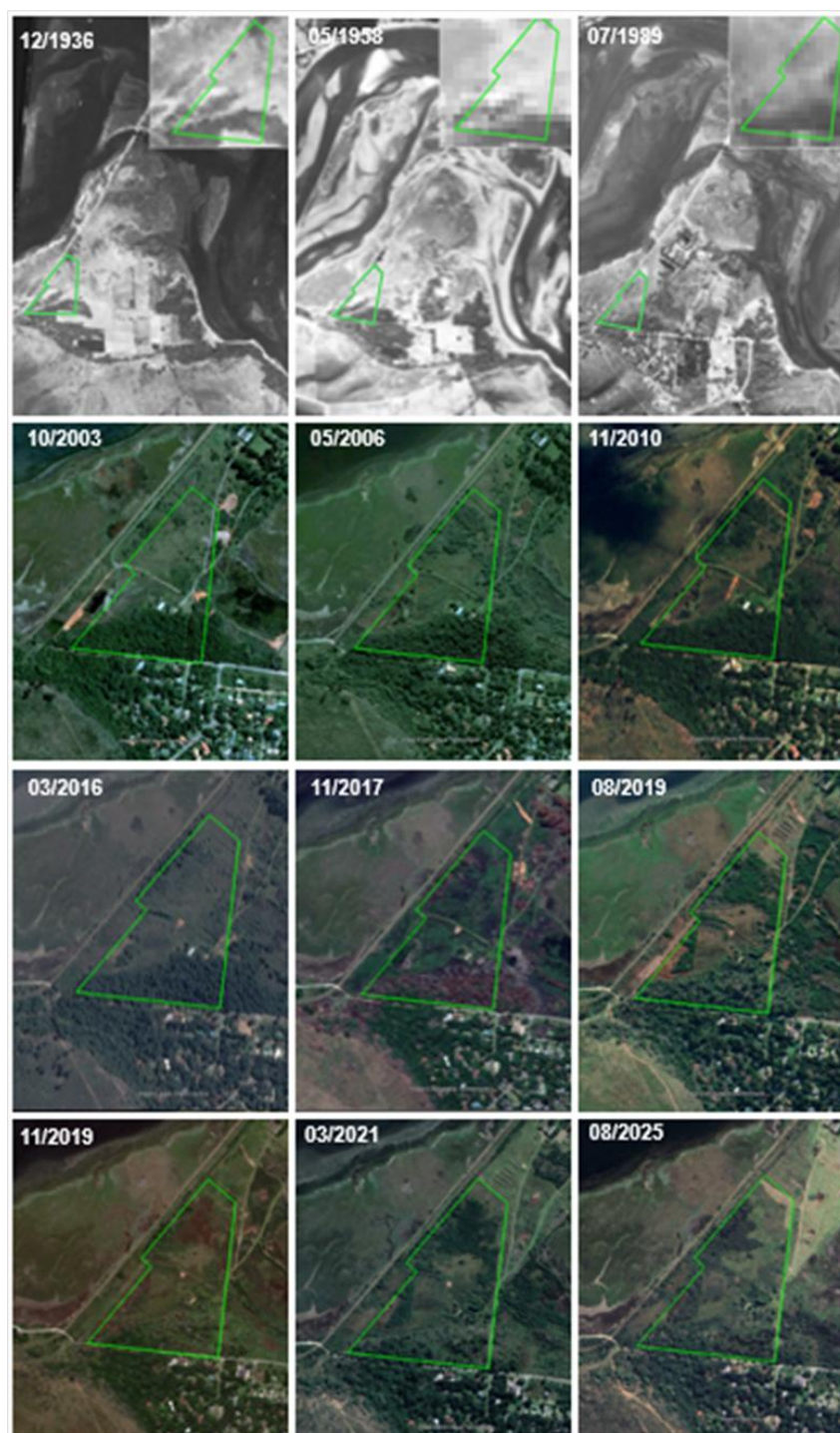


Figure 7. Historical imagery of Portion 192 of Uitzi 216 sourced from the CD: NGI geospatial portal and Google Earth. The property boundary is indicated by the green polygon.

By 1958, agricultural activity in the region had declined, and some encroachment / spread of the woody vegetation from the south is visible. The majority of the property is classified as wetland. It is known that in the 1970s, old fill and building materials were deposited across the site to raise the ground, partially replacing the original salt marsh vegetation. This artificial filling encouraged the invasion of wattle species and disrupted natural hydrological processes. While the site retains wetland characteristics, much of the vegetation is influenced by past anthropogenic modifications rather than purely natural conditions.

Residential development began to appear both north and south of the property, and by 1989 farming had largely ceased in the area. An increase in the number of roads in the area is also visible. By 2003, several dirt roads and four buildings had been constructed on the property, surrounded by mown areas. By 2006, the buildings remained, though the dirt roads were largely disused, with only footpaths in use. The area surrounding the structures was maintained, and woody vegetation increased in the northern portion of the site. This woody vegetation represents a mixture of invasive *Acacia* species.

Between 2010 and 2016, two of the four structures were removed. Vegetation in the southern portion of the property developed into a taller, forest-like structure, while the northern areas (within the mapped wetland) became increasingly invaded by *Acacias*. The trend of increased woody growth continued until 2016. The 2017 Knysna fires also affected this property and surrounding landscape, resulting in the loss of vegetation cover and all remaining built structures. By August 2019, vegetation had started recovery but was not yet as dense as it had been before.

By November 2019, additional clearing of bushy vegetation had occurred in the north, though regrowth returned by 2021. By 2025, this northern vegetation was gradually replaced by wetland and graminoid species, reflecting a shift toward more hydrologically influenced communities. Despite this, there is also evidence of woody growth, signalling the return and gradual densification of invasive *Acacia* species.

4.2 Terrestrial Plant Species

The Terrestrial Plant Species Theme of the Screening Tool has identified several plant Species of Conservation Concern (SCC) as potentially occurring within the proposed project footprint:

- *Lampranthus pauciflorus*
- *Lampranthus fergusoniae*
- *Lampranthus pauciflorus*
- *Ruschia duthiae*
- *Lebeckia gracilis*
- *Wahlenbergia polyantha*
- *Selago burchellii*
- *Erica glandulosa* subsp. *fourcadei*
- Sensitive species 1024
- Sensitive species 1032
- *Muraltia knysnaensis*
- *Nanobubon hypogaeum*
- Sensitive species 800
- *Erica glumiflora*
- Sensitive species 500
- Sensitive species 53
- *Pterygodium cleistogamum*

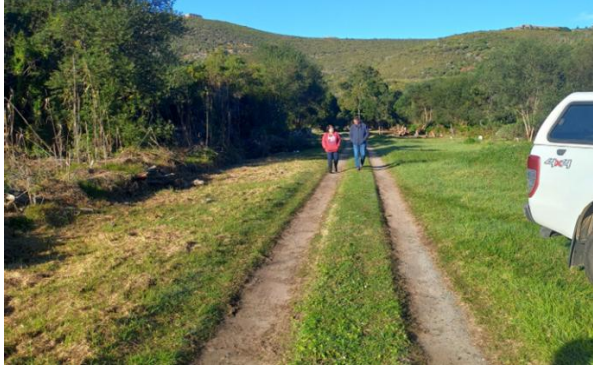
The Red List status of these species is discussed later in this report. Note too that the Screening Tool tends to focus solely on threat status, without adequately considering the ecological importance of species listed as Least Concern (LC). Many LC species can serve as keystone or habitat-forming species, significantly influencing community structure and providing critical microhabitats that enhance the persistence or recruitment of SCC in the landscape.

5. RESULTS: FIELD ASSESSMENT

5.1 Terrestrial Biodiversity

The majority of the area of the property can be classified as a wetland. Old fill and building material (red clay soil and concrete) was transported by rail and then dumped across the site in order to raise fill in the area in the past (1970s), leaving the natural vegetation of the site somewhat disturbed and artificial. The site used to be salt marshes, and since the filling in occurred, the majority of the vegetation was replaced by wattle invasions. Since the filling in of the site in the 1970s, there has been no reported flooding in the area, as there is also an artificially constructed berm which prevents flooding from occurring. The past disturbance of the site is evident in the vegetation, with many garden escapees and exotic stands present. While many indigenous taxa remain, it is easy to see that this site is highly disturbed and has been anthropogenically altered. Table 2 illustrates some photos that were taken of the site and its features.

Table 2: A table with photos of observations on the site, and discussion for each photo shown.

Photos of Erf 7026	Information
	A view of the servitude access road along the western boundary of the Portion, looking south. Refer to the aquatic specialist report for recommendations on the extent of use of this road (J.M. Dabrowski, 2025).
	A section along the western boundary of the site adjacent to the servitude road where a large stand of exotic Palm trees (<i>Phoenix sp.</i>) is visible. These palm trees were common on the site and were certainly planted for aesthetic reasons in the past.

Photos of Erf 7026

Information



Large sections of the wetland area of the Portion is covered in wattles. Visible here is an established stand of *Acacia saligna*.



Where invasive acacias were less dominant, the vegetation was “grassy” (dominated by graminoid species) and contained large areas where the dominant species is *Phragmites australis*, which is an aquatic plant, often found in wetlands and rivers. This vegetation is not representative of fynbos or strictly terrestrial vegetation. Fynbos can be seen on the hill beyond the property boundary to the south (background of the photo)



During the site assessment overgrown remnants of old dwellings were found, as well as garden escapee species that were likely planted while the area was occupied in the early 2000s



Along the southern section of the property, the dominant species before transitioning into a thicket/ forest along the road was bracken ferns. Large, chopped tree trunks and slash was hidden everywhere beneath the bracken, indicating a high degree of modification of this area in the past. This helped explain why bracken had become a monoculture here. Large yellowwood (*Afrocarpus falcatus*) trees were also present in this area.

5.2 Plant Species

The species accumulation curve (Fig. 8) indicates that additional sampling would likely yield more species, but the current survey effort was sufficient to verify that the vegetation does not align with Knysna Sand Fynbos (CR). Instead, the results are consistent with other specialist findings, particularly the aquatic/estuarine report (J.M. Dabrowski, 2025), which confirm that the majority of the site is associated with wetland or estuarine vegetation types.

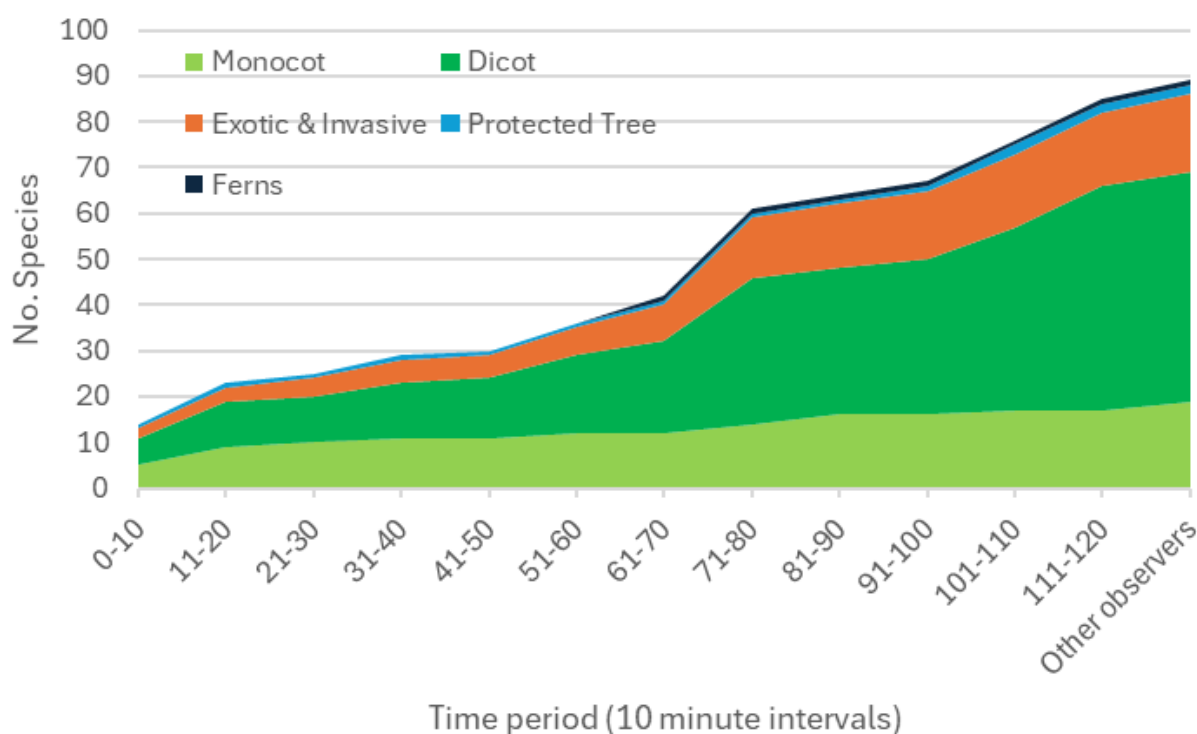


Figure 8: A plant species accumulation curve for the site assessment, including additional observations by other iNaturalist users prior to the site assessment. The protected tree indicates *Outeniqua* yellowwood trees (*Afrocarpus falcatus*).

A total of just over 80 plant species were recorded during the site assessment (species accumulation curve in Figure 8; full species list in Table 3). No Species of Conservation Concern (SCC) were observed on the site. The assessment did, however, document a notable presence of exotic taxa, garden escapees, and species likely derived from past cultivation of gardens. Approximately 22 of the recorded species (which translates to at least 25% of the total diversity) fall into this category, which is significant, and suggests a significant influence of past disturbance and anthropogenic introductions on the vegetation composition present on the site today.

The field survey also confirmed the presence of protected *Outeniqua* yellowwood trees (*Afrocarpus falcatus*, Protected Tree No. 16) and one or two Milkwood trees along the southern section of the site (*Sideroxylon inerme inerme*, Protected Tree No. 579). This is the only species on the site for which a permit from the Department of Forestry, Fisheries and the Environment (DFFE) is legally required for cutting, trimming, removal, or disturbance.

In the area mapped as wetland edge by the aquatic specialist (J.M. Dabrowski, 2025), bracken ferns (*Pteridium aquilinum*) was found to be dominant. Its proliferation appears to have been exacerbated by past felling of trees in this area, with slash material and large woody trunks

left behind creating conditions that facilitated bracken spread and dominance over other species. This disturbance-driven dynamic is consistent with the ecological history of the site.

*Table 3: The species list for Portion 192/216. Red entries indicate listed invasive plant taxa, while orange entries are exotic plants. Purple entries represent plants that were visibly cultivated / garden escapees, and protected trees (*Afrocarpus falcatus*) are indicated in blue.*

Family	Species	Common name	Information
Liliopsida (Monocots)			
1 AMARYLLIDACEAE	<i>Clivia miniata</i>	Natal Lily	Cultivated
2 ARECACEAE	<i>Phoenix sp.</i>	date palms	Cultivated. Exotic
3 ASPARAGACEAE	<i>Agave sisalana</i>	sisal	Cultivated. Invasive (NEMBA 2; CARA 2)
4 ASPARAGACEAE	<i>Asparagus asparagoides</i>	Cape Smilax	
5 ASPARAGACEAE	<i>Asparagus rubicundus</i>	Redstem Asparagus	
6 ASPARAGACEAE	<i>Yucca gigantea</i>	Spineless Yucca	Cultivated. Exotic
7 ASPHODELACEAE	<i>Aloe arborescens</i>	Candelabra Aloe	
8 ASPHODELACEAE	<i>Trachyandra divaricata</i>	Branch Capespinach	
9 CANNACEAE	<i>Canna sp.</i>	Canna Lilies	Cultivated. Invasive (NEMBA 1b; CARA 1)
10 CYPERACEAE	<i>Carex aethiopica</i>		
11 CYPERACEAE	<i>Cyperus polystachyos</i>	Bunchy flat-sedge	
12 CYPERACEAE	<i>Cyperus sphaerospermus</i>		
13 CYPERACEAE	<i>Cyperus textilis</i>	Mat Sedge	
14 CYPERACEAE	<i>Cyperus thunbergii</i>	Giant Sedge	
15 CYPERACEAE	<i>Eleocharis limosa</i>	Finger Rush	
16 CYPERACEAE	<i>Fuirena hirsuta</i>	Hairy Hippo-Sedge	
17 IRIDACEAE	<i>Aristea ecklonii</i>	Blue corn-lily	
18 JUNCACEAE	<i>Juncus kraussii</i>	Sea Rush	
19 POACEAE	<i>Arundo donax</i>	giant reed	Cultivated. Invasive (NEMBA 1b; CARA 1)
20 POACEAE	<i>Cortaderia selloana</i>	Pampas Grass	Invasive (NEMBA 1b; CARA 1)
21 POACEAE	<i>Cynodon dactylon</i>	Bermuda grass	
22 POACEAE	<i>Eragrostis curvula</i>	African love grass	
23 POACEAE	<i>Megathyrsus maximus</i>	guinea grass	
24 POACEAE	<i>Phragmites australis</i>	common reed	
25 POACEAE	<i>Stenotaphrum secundatum</i>	Saint Augustine grass	
26 STRELITZIACEAE	<i>Strelitzia nicolai</i>	giant bird-of-paradise flower	Cultivated
27 TYPHACEAE	<i>Typha capensis</i>	Cape Bulrush	
Magnoliopsida (Dicots)			
28 ACANTHACEAE	<i>Hypoestes aristata</i>		
29 ACANTHACEAE	<i>Justicia leptantha</i>		
30 AIZOACEAE	<i>Carpobrotus deliciosus</i>	Delicious Sourfig	

	Family	Species	Common name	Information
31	AIZOACEAE	<i>Carpobrotus edulis edulis</i>	Delicious Sourfig	
32	AIZOACEAE	<i>Tetragonia fruticosa</i>	Sprawling Seacoral	
33	AMARANTHACEAE	<i>Salicornia tegetaria</i>	Carpet Glasswort	
34	ANACARDIACEAE	<i>Schinus terebinthifolia</i>	Brazilian pepper	Invasive (NEMBA 3; CARA 3)
35	ANACARDIACEAE	<i>Searsia glauca</i>	Blue Kunibush	
36	ANACARDIACEAE	<i>Searsia rehmanniana</i>	Bluntleaf Curranthrus	
37	APIACEAE	<i>Notobubon laevigatum</i>	Common Blisterbush	
38	APOCYNACEAE	<i>Carissa bispinosa</i>	num-num	
39	APOCYNACEAE	<i>Cynanchum ellipticum</i>	Monkeyrope Buckhorn	
40	APOCYNACEAE	<i>Gomphocarpus physocarpus</i>	balloonplant	
41	APOCYNACEAE	<i>Secamone alpini</i>	Monkey Rope	
42	ASTERACEAE	<i>Cirsium vulgare</i>	Bull Thistle	Invasive (NEMBA 1b; CARA 1)
43	ASTERACEAE	<i>Delairea odorata</i>	Cape-ivy	
44	ASTERACEAE	<i>Euryops virgineus</i>	Virgin True-Eye	
45	ASTERACEAE	<i>Helichrysum cymosum</i>	Fume Everlasting	
46	ASTERACEAE	<i>Helichrysum foetidum</i>	Stinking Everlasting	
47	ASTERACEAE	<i>Helichrysum petiolare</i>	Licorice plant	
48	ASTERACEAE	<i>Nidorella ivifolia</i>	Ivy Vleiweed	
49	ASTERACEAE	<i>Osteospermum moniliferum</i>	Bietou	
50	ASTERACEAE	<i>Senecio angulatus</i>	creeping groundsel	
51	ASTERACEAE	<i>Senecio burchellii</i>	Kill Ragwort	
52	ASTERACEAE	<i>Senecio deltoideus</i>	Climbing Ragwort	
53	ASTERACEAE	<i>Senecio ilicifolius</i>	Kowanna Ragwort	
54	CAMPANULACEAE	<i>Lobelia anceps</i>	angled lobelia	
55	CANNABACEAE	<i>Celtis africana</i>	White Stinkwood	
56	CELASTRACEAE	<i>Gymnosporia buxifolia</i>	White Forest Spikethorn	
57	CELASTRACEAE	<i>Gymnosporia nemorosa</i>	White Forest Spikethorn	
58	CONVOLVULACEAE	<i>Falkia repens</i>	Pink Ear	
59	CRASSULACEAE	<i>Crassula multicava</i>	Fairy Stonecrop	
60	CRASSULACEAE	<i>Kalanchoe thyrsiflora</i>	paddle plant	Cultivated. Exotic
61	EBENACEAE	<i>Diospyros dichrophylla</i>	Poison Starapple	
62	FABACEAE	<i>Acacia cyclops</i>	western coastal wattle	Invasive (NEMBA 1b; CARA 2)
63	FABACEAE	<i>Acacia longifolia</i>	Longleaf Wattle	Invasive (NEMBA 1b; CARA 1)
64	FABACEAE	<i>Acacia melanoxylon</i>	blackwood	Invasive (NEMBA 2; CARA 2)
65	FABACEAE	<i>Acacia saligna</i>	golden wreath wattle	Invasive (NEMBA 1b; CARA 2)
66	FABACEAE	<i>Dipogon lignosus</i>	Okie bean	
67	FABACEAE	<i>Erythrina afra</i>	South African Coral Tree	
68	FABACEAE	<i>Rhynchosia caribaea</i>	Caribbean snoutbean	

	Family	Species	Common name	Information
69	FABACEAE	<i>Virgilia divaricata</i>	Gardenroute Keurboom	
70	GENTIANACEAE	<i>Chironia baccifera</i>	Christmas Berry	
71	LAMIACEAE	<i>Lavandula dentata</i>	French lavender	Cultivated. Exotic
72	LAMIACEAE	<i>Leonotis leonurus</i>	Common Lionspaw	
73	LAMIACEAE	<i>Stachys aethiopica</i>	African Stachys	
74	MALVACEAE	<i>Hibiscus tiliaceus</i>	sea hibiscus	
75	MALVACEAE	<i>Lagunaria patersonia</i>	Norfolk Island hibiscus	Cultivated. Exotic
76	MORACEAE	<i>Ficus sur</i>	Cape Fig	
77	OCHNACEAE	<i>Ochna arborea arborea</i>	African-Boxwood	
78	OLEACEAE	<i>Noronhia foveolata</i>	Bastard Ironwood	
79	OXALIDACEAE	<i>Oxalis caprina</i>	Goat's-foot	
80	POLYGALACEAE	<i>Polygala myrtifolia</i>	Sweet Pea Shrub	
81	PRIMULACEAE	<i>Samolus porosus</i>	Water Pimpernel	
82	PROTEACEAE	<i>Grevillea robusta</i>	silk oak	Cultivated. Invasive (NEMBA 3; CARA 3)
83	ROSACEAE	<i>Rubus pinnatus</i>	South African Raspberry	Can become invasive. This specific species is not a listed invasive.
84	RUBIACEAE	<i>Canthium inerme</i>	Turkeyberry	
85	RUTACEAE	<i>Vepris lanceolata</i>	white-ironwood	
86	RUTACEAE	<i>Zanthoxylum capense</i>	Small knobwood	
87	RUTACEAE	<i>Zanthoxylum davyi</i>	Forest Knobwood	
88	SANTALACEAE	<i>Sideroxylon inerme</i>	Milkwood Trees	Protected Tree no. 579
89	SCROPHULARIACEAE	<i>Buddleja saligna</i>	False Olive	
90	SCROPHULARIACEAE	<i>Buddleja salviifolia</i>	Sagewood	
91	SCROPHULARIACEAE	<i>Chaenostoma cordatum</i>	Bacopa	
92	SCROPHULARIACEAE	<i>Myoporum insulare</i>	common boobialla	Invasive (NEMBA 3)
93	SCROPHULARIACEAE	<i>Selago sp.</i>	Bitterbushes	
94	SOLANACEAE	<i>Physalis peruviana</i>	Cape gooseberry	Exotic
95	STILBACEAE	<i>Halleria lucida</i>	African honeysuckle	
96	VITACEAE	<i>Rhoicissus tomentosa</i>	Common Forest Grape	
Pinopsida (Pines)				
97	PODOCARPACEAE	<i>Afrocarpus falcatus</i>	Outeniqua Yellowwood	Cultivated. Protected Tree no. 16
Polypodiopsida (Ferns)				
98	DENNSTAEDTIACEAE	<i>Pteridium aquilinum capense</i>	Southern Bracken	
99	NEPHROLEPIDACEAE	<i>Nephrolepis cf. cordifolia</i>	Fishbone Fern	Invasive (NEMBA 1b)

5.3 Important Taxa and SCC Likelihood of Occurrence

The assessment of plant species of conservation concern (SCC), as well as other important taxa, such as nationally protected tree species (only *Afrocarpus falcatus* is confirmed on the Portion), is based on a combination of habitat suitability, the observed ecosystem and substrate, and the specialist's experience/understanding of the area. A table showing the likelihood of occurrence of each SCC is not illustrated in this report as none of the flagged SCC from the Screening Tool or nearby on iNaturalist are likely to occur on Portion 192/216. Should more detail be requested by the competent authority as a discussion around both the likelihood of occurrence and likelihood of detection of SCC, this can be provided.

6. SITE SENSITIVITY VERIFICATION

6.1 Terrestrial Biodiversity Theme

According to the Screening Tool report, the site was classified as having Very High sensitivity. This finding is not confirmed on the site, as discussed according to the original Biodiversity Priority Areas (BPAs) triggered in the Screening Tool in Table 4 below. The confirmed sensitivity for the Terrestrial Biodiversity Theme here is Low.

Table 4: A final discussion of the BPAs listed in the Screening Tool.

Sensitivity layer	Data included and source
Red Listed Ecosystems	No (CR) Knysna Sand Fynbos was confirmed on Portion 192/216.
FEPA sub-catchment	Refer to the aquatic specialist report (J.M. Dabrowski, 2025), however from a Terrestrial Biodiversity point of view, there was no standing water and critical aquatic habitat within the proposed development area, meaning this trigger doesn't elevate the sensitivity of the site to "Very High".
SWSA (sw)	Also refer to the aquatic specialist report. From a Terrestrial Biodiversity point of view, the proposed development is highly unlikely to be contrary to the objectives of the mapped SWSA. the proposed development avoids any mapped rivers or wetlands, and no direct impacts to surface water resources are anticipated. Therefore, this trigger alone does not justify elevating the terrestrial biodiversity sensitivity to "Very High."
Knysna National Lake Area	National Lake Areas area also part of the trigger for terrestrial biodiversity sensitivity, and the proposed development will remain outside of the wetland area mapped on Portion 192/216 (J.M. Dabrowski, 2025). Because the wetland itself will not be directly affected and no irreversible impacts are anticipated, this trigger is insufficient to justify elevating the site's terrestrial biodiversity sensitivity to "Very High."
National Protected Area Expansion Strategy (NPAES)	Although the NPAES is an important sensitivity trigger, it is a forward-planning tool rather than a direct measure of current ecological condition. In this case, the proposed development will not compromise future incorporation of the wetland into conservation areas. On its own, the NPAES does not provide sufficient grounds to elevate terrestrial biodiversity sensitivity to "Very High."

6.2 Plant Species Theme

The Screening Tool classifies the majority of the Portion as having Medium sensitivity under the Plant Species Theme (with a low sensitivity mapped in the south-eastern corner of the site). The SSV confirms a Low sensitivity rating due to no SCC found during the site assessment, and no SCC assessed as being likely to occur on Portion 192/216. Several protected Outeniqua Yellowwood trees (*Afrocarpus falcatus*) are on the site, and a few Milkwood trees (*Sideroxylon inerme*) were observed near the southern boundary. These can easily be avoided by the proposed development, and if they need to be trimmed a forestry license can be obtained from the Department of Forestry, Fisheries, and the Environment (DFFE).

7. CONCLUSION / COMPLIANCE STATEMENT

This site sensitivity verification (SSV) confirms that the terrestrial biodiversity and plant species themes for Portion 192/216 have been over-estimated by the DFFE Screening Tool. Although the tool flagged a Very High sensitivity for terrestrial biodiversity and a Medium sensitivity for plant species, the field survey results and supporting specialist evidence demonstrate that these ratings do not reflect the actual ecological conditions on the site. No SCC were detected during the field assessment (see Track walked in Figure 9), nor are any likely to occur.



Figure 9: A map of the track walked during the site assessment and the boundary of the Portion.

The disturbed and highly modified condition of the habitats were found unsuitable for the SCC listed by the Screening Tool. The protected species present is the Outeniqua Yellowwood (*Afrocarpus falcatus*, protected tree no. 16), and a few Milkwood trees (*Sideroxylon inerme*, protected tree no. 579) which can be avoided in the proposed layout. Should trimming or removal be required, the necessary permits can be obtained from DFFE. Apart from these individuals, the overall plant community is heavily influenced by past disturbance, including the introduction of exotic and invasive species as well as garden escapees, which together account for at least 25% of the site's observed species richness (and an even higher degree of the overall biomass). This is significant and highlights the altered state of the vegetation.

The majority of the vegetation aligns with wetland and estuarine ecosystems, as confirmed by the aquatic specialist report, and not with CR Knysna Sand Fynbos. The dominance of bracken ferns along the wetland edge, driven by past tree felling and slash accumulation, is an indication of the effect of disturbance-driven dynamics that have shaped the current state of the site. While the species accumulation curve illustrated in this report shows that further sampling could yield additional species that could be added to the overall species list, the survey effort was sufficient to verify that the site does not support SCC or intact fynbos vegetation.

From a broader landscape perspective, the site forms part of the Knysna National Lake Area / Knysna Protected Environment, and the Garden Route Biosphere Reserve, both of which have conservation importance. However, much of the site is already disturbed or transformed, and the proposed development footprint is relatively small in the context of the property (also actively avoiding sensitive wetland features). Considering cumulative impacts, the avoidance of the mapped wetland and protection of remaining Outeniqua Yellowwood and Milkwood trees would ensure that the development will not undermine the ecological integrity of the wider protected landscape from a terrestrial perspective. These trees can be marked and mapped with a land surveyor (with a botanist if the surveyor is uncertain what the trees look like) when the SDP is updated following the specialist assessments that have been completed.

In terms of compliance with national biodiversity legislation and guidelines, the confirmed sensitivity for both the Terrestrial Biodiversity Theme and Plant Species Theme is Low. With appropriate avoidance of Outeniqua Yellowwood trees and active management of invasive alien plants (such as *Acacia spp.*, *Phoenix* palms, *Arundo donax*, *Cortaderia selloana*, and others flagged in Table 3), the ecological condition of the site can be improved over time. Alien plant clearing, bracken control, and the encouragement of indigenous regrowth should form part of the environmental management plan (species that can be planted can be included in the management plan), ensuring that biodiversity values are safeguarded alongside the proposed land use. The proposed development is not expected to result in significant residual impacts on terrestrial biodiversity, provided that the above management measures, especially alien clearing (according to an approved plan), are implemented.

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