Terrestrial Biodiversity and Plant Species Compliance Statement:

Erf 1216 Sea Vista, St Francis Bay, Kouga Municipality, Eastern Cape

Report v. 1.0
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1. Introduction

This Terrestrial Biodiversity and Plant Species Compliance Statement was commissioned to inform the Section 24G rectification process for the clearing of indigenous vegetation on Erf 1216 Sea Vista, St Francis Bay, Kouga Municipality, Eastern Cape (Figure 1). Erf 1216 covers an area of approximately 730 m^2 and is located in a coastal dune landscape. Most properties in the area have been developed for residential dwellings, but some properties adjacent to Erf 1216 remain undeveloped and still host indigenous vegetation. All vegetation that occurred on site was cleared for the development of a residential dwelling without obtaining the relevant environmental authorisations. As such, a Section 24G rectification process is required for the unlawful commencement of listed activities in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) and the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).

According to the Department of Forestry, Fisheries and Environment (DFFE) National Web-based Environmental Screening Tool (https://screening.environment.gov.za), Erf 1216 has a LOW sensitivity for the Terrestrial Biodiversity Theme and a sensitivity of MEDIUM for the Plant Species Theme. This report will provide a reasoned assessment of the sensitivity of the site in terms of terrestrial biodiversity and plant species before clearing took place as informed by extant conditions at the site as well as those of indigenous vegetation that persists on adjacent land, which will serve as a reference system for Erf 1216.

2. Terms of Reference

The terms of reference for this study were as follows:

- A desktop study to identify:
    - The type and status of terrestrial ecosystems on site in terms of applicable local and regional mapping and conservation-planning frameworks;
    - Any plant species of conservation concern (SCC) that could occur on site.
- A field survey of the cleared site and reference vegetation on adjacent land to identify:
    - Terrestrial biodiversity features (vegetation types and fine-scale habitats) present;
    - Ecological condition of biodiversity features and sensitivity of the site;
    - Species of special concern (protected or SCC) present;
- A report providing the following information:
    - Baseline profile description of terrestrial ecosystems and plant SCC currently on site as well as those that likely occurred there before clearing took place;
    - Description of methodology used to verify the sensitivities of the terrestrial biodiversity features and plant species on the site;
    - Statement on the duration, date and season of the field survey and the relevance of the season to the outcome of the assessment;

- Description of the assumptions made and any uncertainties or gaps in knowledge or data;
- Proposed impact management outcomes or any monitoring requirements for inclusion in an environmental management programme.
- Any conditions to which this statement is subjected.

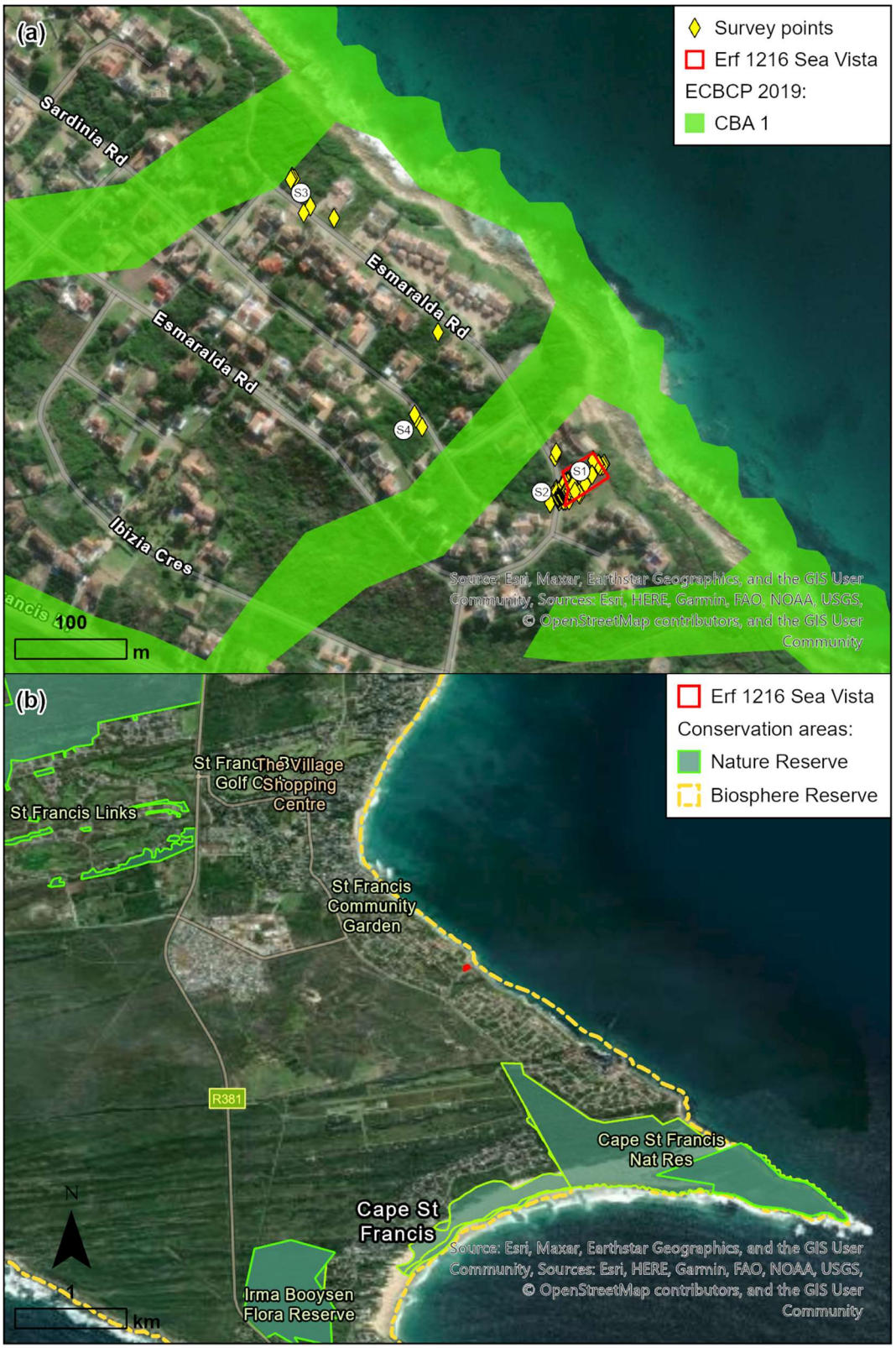

Figure 1: The location of Erf 1216 Sea Vista, representative survey plots (white circles) and survey points (yellow diamonds) in the context of important conservation areas. (a) Critical Biodiversity Areas (CBA 1) identified by the 2019 Eastern Cape Biodiversity Conservation Plan (ECBCP). (b) Nature reserves identified by the ECBCP and South Africa Protected Areas Database (SAPAD) and the Garden Route Biosphere Reserve identified by the South Africa Conservation Areas Database (SACAD).

3. Methodology

3.1 Desktop Study

An understanding of regional conservation priority areas was informed by the 2019 Eastern Cape Biodiversity Conservation Plan (ECBCP; Eastern Cape Department: Economic Development, Environmental Affairs and Tourism, 2020), the 2010 Garden Route Biodiversity Sector Plan (GRBSP; Holness et al., 2010; Vromans et al., 2010), the 2017 National Protected Areas Expansion Strategy (NPAES; Government of South Africa, 2016), the South Africa Conservation Areas Database (SACAD; Department of Forestry, Fisheries and the Environment, 2021a) and the South Africa Protected Areas Database (SAPAD; Department of Forestry, Fisheries and the Environment, 2021b).

To gain an understanding of broader vegetation patterns in the surrounding landscape, reference was made to the Vegetation Map of South Africa, Lesotho and Swaziland 2018 version (VEGMAP) (SANBI, 2006–2018, 2018a), which reflects important recent updates for the region under study (Dayaram et al., 2019). Conservation status and targets for vegetation types were identified from the National Biodiversity Assessment 2018 (SANBI, 2018b; Skowno et al., 2019). Further information about vegetation patterns and the local flora in the area was drawn from the scientific literature (Cowling, 1983, 1984; Cowling et al., 2019; Grobler and Cowling, 2021) and recent, unpublished botanical reports (Grobler, 2022a, 2022b).

A list of plant species of conservation concern (SCC) that could potentially occur at the site were identified from the following sources:

- The National Web-based Environmental Screening Tool (https://screening.environment.gov.za);
- The online Red List of South African Plants v. 2020 (SANBI, 2012–2020) (http://redlist.sanbi.org).
- The online Botanical Database of Southern Africa (SANBI, 2016) (http://newposa.sanbi.org/).
- The Custodians of Rare and Endangered Wildflowers (CREW) Eastern Cape database (V. Zikishe, pers. comm.);
- Observations submitted to the iNaturalist online biodiversity database (https://www.inaturalist.org).

Plant SCC are those species whose populations are naturally small or geographically confined, and those whose populations are declining due to human impacts (i.e., currently threatened with extinction or likely to become threatened). Plant SCC thus include any species with a conservation status of Rare, Critically Rare, Near Threatened, Vulnerable, Endangered, Critically Endangered or Critically Endangered Possibly Extinct (Raimondo *et al.*, 2009).

Plant species that are protected under provincial or national legislation were identified from lists published in terms of the Cape Nature and Environmental Ordinance (Ordinance 19 of 1974), the National Environmental Management: Biodiversity Act (Act 10 of 2004) and the National Forest Act (Act 84 of 1998). Declared weeds and alien invasive plant species were identified from lists published

in terms of the Conservation of Agricultural Resources Act (1983) and National Environmental Management: Biodiversity Act (2004).

3.2 Field Survey

Fieldwork for this study was conducted on 15 December 2022 during early summer (Table 1). As the site falls in the coastal, temperate climate, year-round rainfall zone, seasonality is muted and thus the phenology of plants and vegetation is also muted in comparison with more seasonal regions (i.e., strongly winter- or summer-rainfall areas). The summer sampling is considered appropriate as most plant species were identifiable. A total of 2 hours was spent surveying the 0.73 ha of land at the site, as well as areas of intact indigenous vegetation in the surrounding area that served as a pre-disturbance reference. During the survey, vegetation units and other habitat types were assessed for their ecological condition. Vegetation units were further surveyed for their dominant and typical component species.

Table 1: Site inspection details for Erf 1216 Sea Vista in St Francis Bay, Kouga Municipality, Eastern Cape.

Date:	15 December 2022
Duration:	2 hours
Season:	Summer
Season Relevance:	As the site falls in the coastal, temperate climate, year-round rainfall zone, seasonality is muted and thus the phenology of plants and vegetation is also muted in comparison with more seasonal regions. The summer sampling is considered appropriate as most plant species were identifiable.

3.3 Assumptions and Limitations

The following assumptions and limitations of the study must be considered in the interpretation of results presented in this report:

- It is assumed that all third-party information used (e.g., GIS data and satellite imagery) is correct at the time of generating this report.
- The field survey was restricted to a single season (summer), but due to the muted seasonality in the region, it is not considered necessary to perform additional seasonal surveys.
- It is assumed that extant indigenous vegetation in the surrounding area provides a reasonable reference for the composition and state of vegetation that occurred on Erf 1216 before clearing took place.

4. Results

4.1 Terrestrial Biodiversity

4.1.1 Regional Conservation Planning

While areas of conservation importance occur in the landscape surrounding the site, none of the planning frameworks identify Erf 1216 as a priority for regional conservation efforts (Figure 1). Furthermore, as much of the surrounding landscape has already been developed, the site does not play a major role in facilitating landscape connectivity. Note, however, that a Critical Biodiversity Area occurs within 35 m to the northeast of the site, and that Erf 1216 and its surrounds form part of the Garden Route Biodiversity Reserve. While there are several protected areas (nature reserves) in the surrounding area, none of these are in close proximity to the site with the nearest reserve occurring 880 m to the southeast.

4.1.2 Regional-Scale Vegetation Patterns

VEGMAP (SANBI, 2006–2018, 2018) identifies a single vegetation type occurring at the site, namely AT 57 St Francis Dune Thicket. This vegetation type is restricted to the Eastern Cape Province where it occurs on coastal dunes from near the Tsitsikamma River Mouth (west of Oyster Bay) eastward to the Sundays River Mouth (Grobler *et al.*, 2018). St Francis Dune Thicket comprises a mosaic of dune thicket – dominated by broad-leaved trees and shrubs – occurring in a matrix of asteraceous dune fynbos, dominated by fine-leaved, low-growing shrubs. The thicket clumps are best developed in fire-protected dune slacks, while the fynbos occurs on upper dune slopes and crests. This vegetation type, especially the fynbos component, is rich in regional and local endemic species (Cowling, 1983, 1984; Cowling *et al.*, 2019; Grobler, 2019; Low, 2011), most of which are restricted to coastal dunes of the Cape Floristic Region (Grobler and Cowling, 2021). St Francis Dune Thicket is threatened by sand mining, invasion by alien plants and urban sprawl (coastal development). While this vegetation type is poorly protected (Grobler *et al.*, 2018), it is currently listed as Least Concern in terms of conservation status (SANBI, 2018b; Skowno *et al.*, 2019).

4.1.3 Local-Scale Vegetation Patterns

Google Earth satellite imagery showed that the site was subjected to limited clearing and disturbance around 2006 and 2009, followed by re-establishment of vegetation and finally complete clearing around 2021/2022 (Figure 2). There is also evidence of previous disturbance from the instalment of bulk services on site (Appendix 1). Based on the survey of the site and reference vegetation in the surrounding area (Table 2), as well as other recent surveys in the area (Grobler, 2022a, 2022b) Erf 1216 likely supported areas of low, moderately disturbed dune thicket dominated by *Searsia glauca* and *Osteospermum moniliferum*. Other common species likely included *Metalasia muricata*, *Passerina rigida* and *Searsia crenata*. The naturalized extra-limital shrub *Brachylaena discolor* was likely present, and several remnant stumps of *Acacia cyclops* (Appendix 1) suggests that this invasive species was moderately abundant on site prior to clearing. No areas of dune fynbos, which supports most of the

local and regional endemics (and threatened species) (Cowling *et al*., 2019; Grobler and Cowling, 2021), were located at any of the reference sites.

4.1.4 Site Sensitivity

The findings of the desktop study and field survey are in accordance with the site sensitivity of **LOW** for the Terrestrial Biodiversity Theme identified by the National Web-based Environmental Screening Tool.

Figure 2: Google Earth satellite imagery showing landcover change on Erf 1216 Sea Vista (red outline) in (a) 2006, (b) 2009, (c) 2021 and (d) 2022. Note that, prior to vegetation clearance in 2021/2022, limited disturbance had taken place on site around 2006 and 2009, after which vegetation became re-established.

Table 2: Descriptions of current habitats on Erf 1216 (S1) and reference vegetation in the surrounding area of Sea Vista (S2–S4).

Representative site	Habitat	Likelihood of SCC	Photos
S1 -34.176528° 24.840655°	Recently cleared dune thicket with scattered resprouting shrubs (*Searsia crenata*, *Searsia glauca*), weedy reseeding shrubs (*Osteospermum moniliferum*), and grass (*Panicum maximum*).	Low	
S2 -34.176657° 24.840293°	Low dune thicket dominated by *Osteospermum moniliferum* and *Searsia glauca*. Some *Acacia cyclops* present.	Low	
S3 -34.174065° 24.837791°	Low dune thicket dominated by *Osteospermum moniliferum* and *Searsia glauca*, scattered dune fynbos shrubs (*Metalasia muricata*, *Passerina rigida*) present.	Low	
S4 -34.176063° 24.838923°	Low dune thicket dominated by *Osteospermum moniliferum* and *Searsia glauca*, *Acacia cyclops* locally abundant.	Low	

4.2 Plant Species

4.2.1 Species of Conservation Concern

Even though some indigenous vegetation has re-established on Erf 1216 following clearing, no SCC was recorded during there during the field survey, and no SCC was recorded in any of the reference vegetation (Table 2). Recent botanical surveys in similar habitat of the surrounding area (Grobler, 2022a, 2022b) also showed that plant SCC are unlikely to occur there. Due to the high sampling effort of the field survey, it can be stated with high confidence that the site is unlikely to have hosted SCC populations before clearing took place (Table 3).

Table 3: Plant species of conservation concern (SCC) that are associated with St Francis Dune Thicket in landscapes surrounding Erf 1216 and their likelihood of occurrence on site. Note that no SCCs were recorded on site or in nearby reference vegetation, and that all have a low likelihood of occurrence.

Species	Likelihood	Justification
Agathosma stenopetala	Low	High sampling effort without detection.
Aspalathus recurvispina	Low	High sampling effort without detection.
Capeochloca cincta subsp. *sericea*	Low	No suitable habitat; high sampling effort without detection.
Centella tridentata var. *hermanniifolia*	Low	High sampling effort without detection.
Cotyledon adscendens	Low	High sampling effort without detection.
Erica chloroloma	Low	No suitable habitat; high sampling effort without detection.
Erica glandulosa subsp. *fourcadei*	Low	No suitable habitat; high sampling effort without detection.
Erica glumiflora	Low	No suitable habitat; high sampling effort without detection.
Hyobanche robusta	Low	High sampling effort without detection.
Lebeckia gracilis	Low	No suitable habitat; high sampling effort without detection.
Rapanea gilliana	Low	High sampling effort without detection.
Syncarpha sordescens	Low	High sampling effort without detection.
Sensitive species 78	Low	High sampling effort without detection.
Sensitive species 308	Low	No suitable habitat; high sampling effort without detection.
Sensitive species 448	Low	No suitable habitat; high sampling effort without detection.
Sensitive species 588	Low	High sampling effort without detection.
Sensitive species 657	Low	No suitable habitat; high sampling effort without detection.
Sensitive species 1032	Low	High sampling effort without detection.
Sensitive species 1192	Low	No suitable habitat; high sampling effort without detection.

4.2.2 Protected Species

While no plant SCC were recorded, three species protected under the Cape Environmental and Nature Conservation Ordinance (1974) and the National Forests Act (1998) occur on site: the geophyte *Chasmanthe aethiopica*, the climber *Cynanchum obtusifolium* and the shrub *Sideroxylon inerme* (Table 4; Figure 3). All protected species occurred at low abundances, with only one or two individuals of each species recorded on site.

Table 4: Alien invasive plant species, listed in terms of the Conservation of Agricultural Resources Act (1983) and National Environmental Management: Biodiversity Act (2004), that were recorded on the site.

Species	Common name	CARA category	NEMBA category	Abundance
Acacia cyclops	Rooikrans	2	1b	Low
Cestrum laevigatum	Inkberry	1	1b	Low
Ricinus communis	Castor-oil plant	2	2	Low

4.2.3 Declared Weeds and Invaders

Three alien invasive plant species, listed in terms of the Conservation of Agricultural Resources Act (1983) and National Environmental Management: Biodiversity Act (2004), were recorded on site, namely *Acacia cyclops*, *Cestrum laevigatum* and *Ricinus communis* (Table 5).

Table 5: Protected plant species, listed in terms of the Cape Environmental and Nature Conservation Ordinance (1974) (ENCO), that were recorded on the site.

Species	Common name	Category	Abundance
Cynanchum obtusifolium	Melktou	ENCO Schedule 4	Low
Mesembryanthemum aitonis	Brakslaai	ENCO Schedule 4	Low

4.2.4 Site Sensitivity

The findings of the desktop study and field survey contradict the site sensitivity of MEDIUM for the Plant Species Theme identified by the National Web-based Environmental Screening Tool. The likely absence of dune fynbos on site together with the absence of plant SCC (high confidence) translates to a **LOW** site sensitivity.

5. Proposed Impact Management Actions

The following management actions are proposed to limit and mitigate ecological impacts of the development:

- In accordance with the ENCO, a permit for the destruction of specimens of *C. obtusifolium* and *M. aitonis* must be procured from the Province of the Eastern Cape: Department of Economic Development, Environmental Affairs and Tourism before construction commences.
- In accordance with the National Environmental Management: Biodiversity Act (2004) (NEMBA), the Category 1b alien invasive plants *A. cyclops* and *C. laevigatum* must be eradicated from the site and a plan for their ongoing control should be included in the environmental management plan of the development. Similar action is recommended for the Category 2 invader *R. communis*.

6. Conclusion

This compliance statement is applicable to the site as described in the Basic Assessment documentation and shown in Figure 1 of this report. Due to the historical clearance of vegetation and associated disturbance to topsoils and the low likelihood of plant SCC occurring here, the site is of **LOW** sensitivity for terrestrial biodiversity and **LOW** sensitivity for plant species, and the clearing of vegetation likely had **NO** impact on threatened terrestrial biodiversity or plant SCC. Furthermore, this compliance statement is not subjected to any conditions.

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Appendices

Appendix 1: Prior to vegetation clearing, Erf 1216 Sea Vista was subjected to disturbance through the installation of bulk services and subsequent invasion of disturbed areas by *Acacia cyclops*.