



Terrestrial Biodiversity and Plant Species Compliance Statement:

Erf 1510 Sea Vista, St Francis Bay, Kouga Municipality, Eastern Cape

Report v. 1.1

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1. Introduction

This Terrestrial Biodiversity and Plant Species Compliance Statement was commissioned to inform the Basic Assessment process being undertaken for a residential development on Erf 1510 Sea Vista, St Francis Bay, Kouga Municipality, Eastern Cape (Figure 1). Erf 1510 covers an area of approximately 800 m² and is located in a coastal dune landscape just over 60 m from the littoral zone. Most properties adjacent to the site have been developed for housing, but properties on the seaward side as well as that bordering Erf 1510 to the southeast remain undeveloped. The proposed residential development will entail the construction of a three-storey (lower ground, ground and first floor) house, associated decking and paving for vehicular access. Access to Erf 1510 is via Tom Brown Boulevard, which lies to the northeast of the property. According to the National Web-based Environmental Screening Tool (<https://screening.environment.gov.za>), Erf 1510 has a LOW sensitivity for the Terrestrial Biodiversity Theme and a sensitivity of MEDIUM for the Plant Species Theme.



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 preferred development site 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 on site;
 - 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: Erf 1510 Sea Vista, the preferred site of a residential development in St Francis Bay, Kougga Municipality, Eastern Cape. The site occurs west of a rocky shore, about 60 m from the littoral zone, is located approximately 770 m from the Cape St Francis Nature Reserve (PA). Note that the entire landscape around and including Erf 1510 is included in the Garden Route Biosphere Reserve, much of which has been identified as a Critical Biodiversity Area (CBA1). The path walked during the field survey is also indicated (yellow line).



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) and unpublished botanical reports (Low, 2011; Grobler, 2019; Vlok et al., 2008).

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 26 May 2022 during late autumn/early winter (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 autumn/winter sampling is considered appropriate as most plant species were identifiable. A total of 2 hours was spent surveying the 0.8 ha of land at the site. Areas of suspected intact habitat, previously identified using Google Earth, were the focus of the survey as these areas were most likely to harbour SCC. However, care was taken to survey representative portions of all suspected habitats on site. 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 1510 Sea Vista in St Francis Bay, Kouga Municipality, Eastern Cape.

Date:	26 May 2022
Duration:	2 hours
Season:	Autumn/winter
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 autumn/winter 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 (autumn/winter), but due to the muted seasonality in the region, it is not considered necessary to perform additional seasonal surveys.



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 1510 as a priority for regional conservation efforts (Figure 1). Furthermore, as much of the surrounding landscape has already been developed (particularly the landward margin adjacent to the site), the site does not play a major role in facilitating landscape connectivity. Note, however, that a Critical Biodiversity Area occurs within 50 m to the north of the site, and that Erf 1510 and its surrounds form part of the Garden Route Biodiversity Reserve.

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 vegetation on Erf 1510 was cleared and subsequently subjected to topsoil disturbance in 2016 and again in 2019 (Figure 2). During the three years since the last clearing, there appears to have been reestablishment of vegetation on the site. The field survey confirmed the above, with most of the site now supporting poorly developed, secondary dune thicket (Table 2) dominated by the resprouting shrub *Searsia glauca* and the post-disturbance reseeding shrub *Osteospermum moniliferum*. Other common species included *Anthospermum aethiopicum*, *Metalasia muricata* and *Searsia crenata*. Between the secondary dune thicket and Tom Brown Boulevard occurs a strip of regularly mowed lawn (Table 2), which is dominated by indigenous grasses (*Cynodon dactylon*, *Eragrostis curvula*, *Stenotaphrum secundatum*, *Sporobolus africanus*) typical of disturbed areas (Fish *et al.*, 2015). Some exotic weeds also occur here, for example *Medicago polymorpha*, *Oxalis pes-caprae* and *Vicia* sp.. No areas of dune fynbos, which supports most of the local and regional endemics (and threatened species) (Cowling *et al.*, 2019), were located on site.











Figure 2: Google Earth satellite imagery showing landcover of Sea Vista Erf 1510 (red outline) in (a) 2016 and (b) 2019. Note that the site was cleared of vegetation and subjected to topsoil disturbance during both these years.

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.

Table 2: Descriptions of plant species habitats on Erf 1510 in Sea Vista and their likelihood of supporting species of conservation concern (SCC).

Representative site	Habitat	Likelihood of SCC	Photos	
S1 -34.178478° 24.841996°	Regularly mowed lawn, dominated by <i>Eragrostis curvula</i> , <i>Cynodon dactylon</i>	Low		
S2 -34.178373° 24.842053°	Low, secondary dune thicket on dune crest, dominated by <i>Osteospermum moniliferum</i> and <i>Searsia glauca</i>	Low		
S3 -34.178322° 24.842153°	Low, secondary dune thicket on dune slope, dominated by <i>Osteospermum moniliferum</i> and <i>Searsia glauca</i>	Low		
S4 -34.178224° 24.842228°	Low, secondary dune thicket at dune base, dominated by <i>Osteospermum moniliferum</i> and <i>Searsia glauca</i>	Low		

4.2 Plant Species

4.2.1 Species of Conservation Concern

Even though some indigenous vegetation has re-established, the previous clearing of vegetation on site means that there is a low likelihood of plant SCC occurring on Erf 1510 (Table 3). No SCC was recorded during the field survey, and due to the high sampling effort of the field survey, it can be stated with high confidence that the site is unlikely to host SCC populations.

Table 3: Plant species of conservation concern (SCC) that are associated with St Francis Dune Thicket in landscapes surrounding Erf 1510 and their likelihood of occurrence on site. Note that no SCCs were recorded on site, and that all have a low likelihood of occurrence.

Species	Likelihood	Justification
<i>Agathosma stenopetala</i>	Low	High sampling effort without detection.
<i>Aspalathus recurvispina</i>	Low	High sampling effort without detection.
<i>Capeochloa cincta</i> subsp. <i>sericea</i>	Low	No suitable habitat; high sampling effort without detection.
<i>Centella tridentata</i> var. <i>hermanniifolia</i>	Low	High sampling effort without detection.
<i>Cotyledon adscendens</i>	Low	High sampling effort without detection.
<i>Erica chloroloma</i>	Low	No suitable habitat; high sampling effort without detection.
<i>Erica glandulosa</i> subsp. <i>fourcadei</i>	Low	No suitable habitat; high sampling effort without detection.
<i>Erica glumiflora</i>	Low	No suitable habitat; high sampling effort without detection.
<i>Hyobanche robusta</i>	Low	High sampling effort without detection.
<i>Lebeckia gracilis</i>	Low	No suitable habitat; high sampling effort without detection.
<i>Rapanea gilliana</i>	Low	High sampling effort without detection.
<i>Syncarpha sordescens</i>	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.

4.2.3 Declared Weeds and Invaders

Only one alien invasive plant species, listed in terms of the Conservation of Agricultural Resources Act (1983) and National Environmental Management: Biodiversity Act (2004), was recorded on site, namely *Acacia cyclops* (Table 5).

Table 4: Protected plant species, listed in terms of the Cape Environmental and Nature Conservation Ordinance (1974) (ENCO) and the National Forests Acts (1998) (NFA), that were recorded on the site.

Species	Common name	Category	Abundance
<i>Chasmanthe aethiopica</i>	Cobra lily	ENCO Schedule 4	Low
<i>Cynanchum obtusifolium</i>	Melktou	ENCO Schedule 4	Low
<i>Sideroxylon inerme</i>	Milkwood	NFA	Low



Figure 3: Protected plant species that were recorded on the site: (a) *Chasmanthe aethiopica*; (b) *Cynanchum obtusifolium*; (c) *Sideroxylon inerme*.

Table 5: 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
<i>Acacia cyclops</i>	Rooikrans	2	1b	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 previous clearing of vegetation and disturbance of top soil at the 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. aethiopica* and *C. obtusifolium* 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 NFA, a permit for the destruction of specimens of *S. inerme* must be procured from the national Department of Forestry, Fisheries and the Environment.
- In accordance with the National Environmental Management: Biodiversity Act (2004) (NEMBA), the Category 1b alien invasive plant *A. cyclops* must be eradicated from the site and a plan for their ongoing control should be included in the environmental management plan of the development.
- During the construction phase of the proposed development, disturbance to patches of dune thicket on adjacent properties must be avoided – laydown areas for construction materials must therefore be contained within the clearing footprint of the proposed development.



6. Conclusion

This compliance statement is applicable to the site as described in the Basic Assessment documentation and shown in Figures 1 and 2 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 proposed development will have NO impact on threatened terrestrial biodiversity or plant SCC. Furthermore, this compliance statement is not subjected to any conditions.



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