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**SECTION 5.3: SITE CHARACTERISTICS**

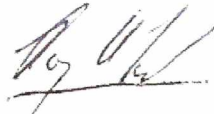
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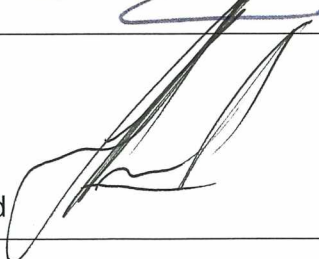
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<b>AMENDMENT RECORD</b>			
<b>Rev</b>	<b>Draft</b>	<b>Date</b>	<b>Description</b>
0		04 June 2015	New chapter, replacing old KSSR Rev 1
1		7 October 2021	Revision 1 of Section 5.3 of the Updated DSSR to reflect the latest information on planned activities on the site, to address NNR comments on the TSSR and to align with the latest template on structure and layout of Site Safety Reports.

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## EXECUTIVE SUMMARY


The site comprises marine, freshwater and terrestrial environments and habitats. The site is located towards the southern limit of the relatively uniform Namaqua marine biogeographic region, a region characterised by low marine species richness and very low endemism. This site is dominated by long sandy beaches, interspersed with short stretches of rocky shore and there are no marine sites of special conservation value in the immediate area. Species of interest include the alien mussel *Semimytilus algosus* and the limpet *Scutellastra granularis* in the intertidal zone, and jellyfish *Chrysaora fulgida* and *C. agulhensis* in the open water environment.

Three notable jellyfish ingress events have been recorded since KNPS commenced operation in the 1980s, viz. in February 1997, June 1999 and May 2005. The event in March 2020 was attributed to anchovy. Evidence supporting global increases in jellyfish in response to climate change remains inconclusive. Floating kelp can also potentially block water intakes and may be dislodged during storm events.

The south-western portion of the site, south of the KNPS, supports an extensive mosaic of seasonal wetlands fed primarily by groundwater, many of very high conservation importance.

Most of the site comprises dunes, and lies within the Cape Floristic Region (CFR), an exceptionally biodiverse region with very high levels of species endemism. Two main vegetation types are found on the site: Cape Flats Dune Strandveld and Cape Flats Sand Fynbos (or Atlantis Sand Fynbos, both previously known as Sand Plain Fynbos). In total, 380 plant species have been recorded from the site, with a rare species count of 34 (or 8.9 per cent). A small number of Red Listed animal species occur on the site.

It is recommended that the occurrence, distribution and density of jellyfish in and near the vicinity of the water intakes be monitored to more accurately ascertain the potential risk to nuclear installation safety posed by clogging of intakes. This may serve to provide an early warning system of possible jellyfish (and, perhaps, kelp) ingress. Existing monitoring programmes of sessile organisms (which may result in the fouling of cooling pipes) are considered adequate for observation purposes and no additional monitoring or action is therefore required as part of this Site Safety Report. To the extent that northward migrating dune systems represent a significant threat to nuclear installation(s) safety at the site, a competent geotechnical engineer should consider stabilising upwind unvegetated dunes with drift fences, brushwood and with pioneer indigenous dune vegetation in future. No additional monitoring of ecological aspects of the site is required from a safety perspective.


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## 5.3 ECOLOGY

### 5.3.1 Introduction

This section of this Site Safety Report (SSR) provides an overview of the ecological aspects of the site and site region as a basis for the identification and input into the evaluation of those safety related issues that need to be taken into consideration during the site confirmation, design, construction, operation and decommissioning of the proposed nuclear installation(s).


For the purpose of this section, 'ecology' is considered to be the interactions of living organisms with each other and with their environment. Many physical aspects of the environment (e.g. geology, geohydrology, surface water, meteorology, etc.) are addressed in other sections of this SSR, so this section focuses on the biotic aspects of the environment.

In addition to including an existing nuclear installation, the site has passed a number of screening phases in being identified as a candidate for investigation and development of this SSR. These phases are described in **Chapter 4** (Site Investigation Approach) of this SSR. In terms of ecology, the following preliminary work was carried out on or in the vicinity of the site:

- desktop review of existing literature, particularly site specific environmental reports, regional vegetation maps, aerial photographs and satellite imagery;
- preliminary data analysis, where required, e.g. the development of species richness and endemism indices from primary taxonomic data, where site specific information is absent (especially for terrestrial invertebrates) and the selection of target taxa for study;
- preliminary site reconnaissance.

This section also provides the interface with other relevant parts of this SSR, such as **Section 5.5** (Land and Water Use), **Section 5.6** (Adjacent Sea Use), **Section 5.9** (Oceanography and Coastal Engineering), **Chapter 6** (Evaluation of External Events) and **Chapter 7** (Potential Radiological Impact on the Public and the Environment, PRIPE).

In addition, relevant studies commissioned for the Environmental Impact Assessment (EIA) (GIBB (Pty) Ltd, 2016), and listed in **Subsection 5.3.5**, have been considered and incorporated in this assessment.

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### 5.3.2 Purpose and Scope

The purpose of this section of this SSR is to present an integrated baseline description of the ecology of the site in the context of the site region. Data used in the development of the ecological baseline include species diversity, density and distribution, physical characterisation and distribution of habitats, etc. The ecological baseline is focused on those aspects that are important to nuclear installation safety and this SSR, i.e.:


- any ecological characteristics of the site that have a bearing on nuclear installation safety are identified (e.g. where an area is known to support high densities of jellyfish or kelp that can potentially affect cooling water inlets)
- any ecological characteristics that may assist in the identification of potential exposure pathways to human receptors, although this is largely captured in other sections (notably **Sections 5.5, 5.6** and **Chapter 7**).

It must be noted that background radiological assessments are required in support of a nuclear installation license application and a background radiological survey has been undertaken at least two years before any nuclear material was brought onto site, followed by routine surveys. While these surveys do not form part of this SSR *per se*, the data collected during the ecological baseline description has informed the identification of suitable reference species for the assessment of the effects of ionising radiation on non-human species (plants and animals).

This section of this SSR presents an overview of the regulatory framework relevant to ecological aspects of the site. A general description of the baseline ecological characteristics of the site and the site region (including the marine and terrestrial environments) is given to enable an evaluation of the compliance of the site with the regulatory requirements. Relevant data and a summary of the methods used to obtain the data are presented, and conclusions are drawn with respect to the ecological characteristics of the site that are of relevance to nuclear installation safety. Based on these site characteristics, recommendations are made regarding future monitoring requirements.

### 5.3.3 Regulatory Framework

The only national regulations specifically relevant to the ecological aspects of this SSR are The Regulations on Licensing of Sites for New Nuclear Installations (Department of Energy, 2010). The regulation broadly applicable to ecology is:

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*Regulation 4: Factors to be considered when evaluating sites for nuclear installation: “Factors to be considered in the evaluating an application for a nuclear installation site licence will include, but not be limited to ... the characteristics specific to the site...”.*

The above regulation is not specific in terms of ecology and so the Technical Specification and safety guides listed in **Subsection 5.3.4** were used to best determine the approach to the site investigation.

#### 5.3.4 Standards and Guidelines

The following international standards and guidelines were considered in order to follow international best practice and Eskom policies:


- The National Nuclear Regulator (2016), RG-0011: Interim Guidance for The Siting of Nuclear Facilities (National Nuclear Regulator, 2016).
- Eskom’s Technical Specification for Site Safety Reports (Rev 1). **Section 5.3** (Ecology), (Eskom, 2010);
- International Atomic Energy Agency (IAEA) Safety Standards Series No. SSR-1, Site Evaluation for Nuclear Installations (International Atomic Energy Agency, 2019) Sections 2(4), 3 (5), 4(6a), 4(12-15), 5(32) and 7(1) assessment and monitoring of site characteristics and natural events that may affect the safety of the nuclear installation(s);
- IAEA Safety Guideline No. NS-G-3.5, Flood Hazard for Nuclear Power Plants on Coastal and River Sites: Section 13(9) consideration of biological fouling as a result of flood events and the potential effects on safety (International Atomic Energy Agency, 2003);
- Canadian Nuclear Safety Commission (CNSC) RD-346 Site Evaluation for New Nuclear Power Plants (Canadian Nuclear Safety Commission, 2007): Section 7(1) and 7(7) evaluation of biological hazards, including the influence of natural external events and potential climate change on these hazards.

#### 5.3.5 Approach to the Evaluation

This section of this SSR considers all aspects of the environment that are represented on the site and in the site region, in part determined by the specialists who conducted ecological studies for the EIA. On this basis, the scope of the study is summarised in **Table 5.3.1**.

#### Table 5.3.1



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## Scope of Site Evaluation


Discipline	Aspects	Study Area	Reference
Marine Ecology	Estuarine ecosystems Intertidal ecosystems Benthic ecosystems (nearshore)	<u>Duynefontyn site/coastline and immediate surrounds</u>	(Eskom, 2011)
Freshwater Ecology	Inland wetland ecosystems	<u>Duynefontyn site and immediate surrounds</u>	(Eskom, 2011a)
Terrestrial Ecology	Terrestrial Invertebrate fauna	<u>Duynefontyn site and immediate surrounds</u>	(Eskom, 2014)
	Terrestrial Vertebrate fauna	<u>Duynefontyn site and immediate surrounds</u>	(Eskom, 2011c)
	Botanical and Dunes	<u>Duynefontyn site and immediate surrounds</u>	(Eskom, 2011b)
	Dune geomorphology	<u>Duynefontyn site and immediate surrounds</u>	(Eskom, 2009e)
	Ecological processes		All of the above

The baseline description presented in this section of this SSR provides a general overview and interpretation of the notable ecological characteristics of the site and its regional context, with a focus on those specific aspects of the baseline that will assist in identifying any ecological aspects of the site that:

- may act as potential pathways to human receptors.
- have a bearing on nuclear installation safety;
- require monitoring during the lifetime of the nuclear installation(s) as a result of the above criteria.

The approach to the investigation followed the requirements set out in **Section 5.3** of the Technical Specification for SSRs (Eskom, 2010), viz.:

- desktop study – This phase included detailed review and collation of available information; site reconnaissance; formulation of an Integrated Management System, Method Statement, Quality Control Plan and client approval thereof.
- field work - Studies were carried out to provide information for the EIA. These EIA field studies included marine ecology, freshwater ecology and terrestrial ecology (comprising dune systems, terrestrial flora and fauna) and were also used to provide information for the SSR.
- evaluation – This phase entailed an assessment of ecological aspects that may have a bearing on nuclear installation safety.

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- reporting - This phase included updating/writing and internally reviewing this SSR; reviewing and approval of this SSR by Eskom Holdings (further referred to as Eskom), the external peer reviewer and the Technical Writer.


### 5.3.6 Baseline Description

RG-0011 requires descriptions of the flora and fauna in the vicinity of the site, their habitats and their distribution, and identification of important species that:

- are threatened or endangered. This information is presented in the sections below as appropriate, with comprehensive descriptions provided in the EIA (GIBB (Pty) Ltd, 2016).
- are commercially or recreationally valuable. This information is presented in the sections below as appropriate, with comprehensive descriptions provided in **Section 5.5** and **Section 5.6**
- affect the well-being of another species critical to the structure and function of the ecological system or a biological indicator of radionuclides or chemical pollutants in the environment (including pollutants such as thermal and chlorine). This information is presented in the sections below as appropriate, with comprehensive descriptions provided in **Section 5.6** and **Section 5.9**.

#### 5.3.6.1. Marine Ecology

The site is located towards the southern limit of the relatively uniform Namaqua marine biogeographic region, which extends north as far as southern Namibia. This region is dominated by the cold Benguela Current system, in which high biological productivity is supported by the upwelling of cool, nutrient-rich waters (Eskom, 2011). However, the region is characterised by low marine species richness and very low endemism (Eskom, 2011). A few south coast species' distributions extend into the region as far as the site, giving the site slightly elevated species richness and endemism rates when compared to more northern areas along this coast (Eskom, 2011). A tabulated list of species is provided in

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### APPENDIX 5.3.A.

This site is dominated by long sandy beaches, interspersed with short stretches of rocky shore (Eskom, 2011). There are no sites of special conservation value for marine species within the immediate area. There are no estuaries present on the site (Eskom, 2011).

The marine environment is divided into a number of zones, namely the intertidal zone, the benthic (assumed to include the subtidal zone) environment and open water environment. Each of these zones is discussed below.

#### **Intertidal Zone**


The intertidal zone in the vicinity of the site is dominated by sandy shores. To the north of Koeberg Nuclear Power Station (KNPS) is a 10 km-long sandy beach which is very wave exposed and, as a result, consists of coarse-grained quartz sand and comminuted shell (Eskom, 2011). To the south is a shorter beach, which is more sheltered due to the presence of the KNPS cooling water basin structure. This shore consists of finer sediment and has a wider intertidal zone (Eskom, 2011). Due to the dynamic nature of exposed sandy shores (as a result of the dominance of physical parameters such as water movement), these beaches demonstrate high tolerance to disturbance and are rated as low sensitivity habitat (Eskom, 2011).

Sandy beaches typically support a low number of species and all the beach species found at the site have extensive geographical distributions and are typical of the west coast (Eskom, 2011). During sampling at the site, only a single species endemic to South African shores was recorded, namely the amphipod *Talorchestia quadrispinosa*. However, this species has a range spanning from False Bay up the entire west coast (Eskom, 2011).

High-shore macrofaunal communities are dominated by crustaceans (isopods and amphipods), while lower down the shore, communities are dominated by polychaete worms **Table 5.3.A.1** (Eskom, 2011). Although not numerically dominant, the White sand mussel *Donax serra* also occurs in the low shore. This species is common on exposed sandy beaches along the west and south coast (Eskom, 2011).

Very little natural rocky shore is present in the area near the site and the two KNPS harbour breakwaters represent the largest section of hard substratum available in the intertidal zone (Eskom, 2011):

- On the seaward side, the intake structures are protected by concrete

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*dolosse* and loose rocks and the intertidal zone is very exposed. Biological communities are dominated by three alien species, namely the mussels *Semimytilus algosus* and *Mytilus galloprovincialis*, the and the barnacle *Balanus glandula*, and see **Table 5.3.A.1** A single South African endemic species, the whelk *Burnupena lagenaria*, was also recorded (Eskom, 2011).


- On the landward-side, the intake structures are built up with rocks of assorted sizes, sloped to form a gentle intertidal zone. Communities within this sheltered habitat are far more diverse, but still include the alien mussel and barnacle species recorded on the exposed side of the breakwater. Community biomass is dominated by the alien *Semimytilus algosus*, the limpet *Scutellastra granularis* and numerous algae (Eskom, 2011), (Pulfrich, 2017), and see **Table 5.3.A.1** All species recorded in the rocky intertidal zone are common on the west coast and none have ranges restricted to less than 100 km (Eskom, 2011).

Three main stressors affect entrained organisms in power plant cooling systems: thermal shock (heated seawater), biocide effects (chemical stress from biocidal effects of chlorination) and the physical stress (collective changes in hydrostatic pressure, shear forces, accelerative forces from changes in velocity and direction, and mechanical buffeting and collision against the hard surfaces of the pump mechanisms) (Lwandle Marine Environmental Services, 2020).

Although more sensitive than the sandy shores, the rocky shores at this site also represent a low sensitivity habitat (Eskom, 2011).

A number of marine birds **Table 5.3.A.6** are known to breed in the intertidal zone around the site (Eskom, 2011). These include, but are not limited to, Hartlaub's gull *Larus hartlaubii*, the Swift tern *Sterna bergii*, the Bank cormorant *Phalacrocorax neglectus* (Endangered), the Crowned cormorant *P. coronatus* (Near Threatened), Cape cormorant *P. capensis* and the African black oystercatcher *Haematopus moquini* (Near Threatened) (Eskom, 2011). Of these, two species are endemic to the South African West Coast (Hartlaub's gull and the Bank cormorant) and the African black oystercatcher is endemic to the South African west and south coast (Eskom, 2011).

Besides the marine birds **Table 5.3.A.6** occurring near the site, African penguin *Spheniscus demersus* and other seabird colonies are located at Robben Island, about 15 km to the southwest (Eskom, 2011).

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## Benthic Environment

Both rocky and sandy bottoms occur in the nearshore environment (assumed to include the subtidal zone) in the immediate vicinity of the KNPS (Eskom, 2011):


- Communities inhabiting rocky substrata are dominated by the sea urchin *Parechinus angulosa*, the mussel *Choromytilus meridionalis* and gastropods of the genus *Burnupena*, and see **Table 5.3.A.1**. All species are typical of the South African west coast and are widely distributed (Eskom, 2011). Both abalone *Haliotis midae* and West Coast rock lobster *Jasus lalandii* were recorded on nearby shallow reefs in the 1980s and are likely to still occur there, due to the protection offered by the two nautical mile restricted safety area surrounding the site (Eskom, 2011).
- Sandy bottom communities in this area support no species of special note and are characterised by large numbers of polychaete worms, burrowing anemones and small crustaceans. This environment is moderately sensitive to disturbance (Eskom, 2011).

## Open Water Environment

While the South African West Coast supports highly productive fisheries, these are focused offshore (see **Section 5.6**). Nearshore fish productivity remains high, but diversity is low (Eskom, 2011). A number of fish have been recorded in the harbour of KNPS, the most common of which are the Southern harder *Liza richardsoni* and the catshark *Poroderma africanum* (Eskom, 2011).

The high ecological productivity which characterises the West Coast region is driven primarily by high densities of phytoplankton and zooplankton. However, blooms are localised and transient and depend to a large degree on prevailing weather and oceanographic conditions (Eskom, 2011). Although a large number of species have been identified in the vicinity of the study area, taxonomy of these phytoplankton and zooplankton groups is notoriously difficult and a large number of smaller species remain undescribed (Eskom, 2011).

In the offshore environs of the continental shelf all of the commercially important fish species occur. The area is important for the recruitment of the epi-pelagic species (anchovy, pilchard and red eye) and is in the seasonal migration pathway of these fish to spawning grounds south of Cape Point and on the western Agulhas Bank and as being part of the core area for the

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epipelagic fishery( (Lwandle Marine Environmental Services, 2017).


Marine mammals **Table 5.3.A.7** are not common along this section of coast, although Dusky dolphin *Lagenorhynchus obscurus*, Long-beaked common dolphin *Delphinus capensis* and, less frequently, individual Southern right whales *Balaena glacialis* and Humpback whales *Megaptera novaeangliae* are seen in the vicinity of the site (Eskom, 2011). Only the South African fur seal *Arctocephalus pusillus pusillus* has been recorded spending extended periods in the immediate area of the site (Eskom, 2011).

This environment has a relatively high tolerance to disturbance and is thus rated as having a low sensitivity (Eskom, 2011).

The potential impacts of marine biota on the proposed nuclear installation(s) stem from entrainment of marine organisms and settlement of sessile organisms in the intake pipes, resulting in blockage and loss of cooling water supply:

- Medusae of the phylum Cnidaria (jellyfish) and planktonic forms of the phylum Ctenophora (comb-jellies) are known to cause blocking of power station cooling systems when they reach high densities (Eskom, 2011). Three notable jellyfish ingress events have been recorded since KNPS commenced operation in the 1980s, viz. in February 1997, June 1999 and May 2005. The event in March 2020 was attributed to anchovy. The species involved, *Chrysaora fulgida* and an undescribed species tentatively referred to as *C. agulhensis* are known to gather in substantial numbers<sup>1</sup>, forming large spawning aggregations during winter (Pisces Environmental Services (Pty) Ltd, 2020). In all three cases, massive ingress of jellyfish into the inlet basin significantly affected normal operations of the nuclear installation(s) (Eskom, 2011). However, it should be noted that although ingress of jellyfish poses a significant hazard to normal operation at KNPS, it is expected to have no effect on the safe shutdown of the reactors (Eskom, 2011).
- Considering the noticeable increase in jellyfish along the South African West Coast since the 1970s, the probability of entrainment of high densities of these organisms into the cooling water system of a proposed nuclear installation(s) in this area appears to be increasing (Eskom, 2011). However, evidence supporting global increases in jellyfish in response to climate change remains inconclusive (Pisces Environmental Services (Pty) Ltd, 2020).

<sup>1</sup> Other jellyfish species are known to occur, but do not swarm, so are not described.

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Experience at KNPS has demonstrated that during ingress of jellyfish into the inlet basin, a percentage of jellyfish is removed from both the rake and drum screens and diverted to the washwater waste sump, while the remainder of the jellyfish adhere to the screens (particularly the drum screen). In past events at KNPS, the drum screen became saturated with jellyfish which necessitated the use of high-pressure firehoses to clean the drum screen (Eskom, 2011).

At KNPS, a range of mitigation equipment is strategically stored on site, ready to be deployed in the event of jellyfish ingress. These include: oil booms, a skimmer pontoon, bubble curtains, high pressure hose, etc. The successful mitigation of jellyfish ingress into the intake basin is dependent on the integrity, availability, and reliability of equipment used during such an event. In order to ensure long-term availability and reliability of this jellyfish mitigation equipment, a proper maintenance and testing regime is essential.

Design and maintenance mechanisms for addressing this risk are considered in **Section 5.9** and are also discussed in **Section 5.6**. It is recommended that the cooling water intakes are designed to cope with the potential risk blockage of the cooling intake represented by species identified in **Section 5.9**.

- Floating kelp can also potentially block water intakes, and may be dislodged during storm events. There are nearshore kelp beds in the area (Eskom, 2011); however, based on experience at KNPS where screening structures are designed to deal with kelp (and jellyfish), it has been concluded that this potential risk can be managed through the appropriate siting and design of screening structures on the intakes (**Section 5.9**) (Eskom, 2011).
- Colonisation by sessile organisms, such as mussels and barnacles, may result in the fouling of cooling pipes (Eskom, 2011). Biofouling has been monitored at the adjacent KNPS by Eskom, where management through regular maintenance procedures, including chlorination produced through electrolysis, has been found to provide effective control (**Section 5.9**). Existing monitoring programmes are considered adequate for observation purposes and no additional monitoring or action is therefore required as part of this SSR.

The effect of radioactive material potentially released to the environment on Representative Animals and Plants (RAPs), specifically species named and/or discussed in **Section 5.3.6.1** and which may represent a pathway to human receptors, is addressed in **Chapter 7**.

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### 5.3.6.2. Wetland Ecosystems

No rivers flow through the site and the closest drainage line of significance is the Sout River and its largest tributary, the Donkergatspruit. The Sout River enters the sea at Melkbosstrand, about 5 km south of the site (Eskom, 2011a).

Wetland habitat is defined primarily by low-lying areas where groundwater is seasonally or perennially exposed (Eskom, 2011a). The south-western portion of the site, south of the KNPS, is the only part of the site where the terrain is sufficiently low-lying to support significant areas of wetland habitat. These wetland systems are separated from the coast by a line of low dunes, and comprise an extensive mosaic of seasonal wetlands that are fed primarily by groundwater. A few other seasonal wetlands occur in isolated areas to the north and east of the wetlands described above, but with the exception of one wetland (Sw7 - described below), no wetland habitats were found in the mobile dune areas (Eskom, 2011a).

All of the wetlands identified on the site are classified in terms of the National Wetland Classification System as 'wetland depressions', which occur within a largely flat landscape, indicative of a plain landscape setting. In the past, a large proportion of the seasonal wetlands on the site were heavily invaded by woody alien plants. Clearing of this vegetation approximately 10 years ago has resulted in the overall recovery of wetland habitats within these areas (Eskom, 2011a).


In addition to the natural wetlands that occur on the site, the site also includes a number of artificial wetland areas, which are the product of activities associated with the construction of the KNPS (Eskom, 2011a). The area between the mosaic of seasonal wetlands in the south of the site and the KNPS itself probably once also included portions of seasonally inundated wetland. However, the area was used as a lay down area during construction of the KNPS and today comprises a flattened, homogeneous, disturbed area, portions of which have been mapped as degraded *Ficinia nodosa* wetland (Eskom, 2011a).

The two categories of depressional wetlands are described below and mapped in **Drawing 5.3.1**.

#### Seasonal Wetlands (Sw)

These are mostly located in the south-western portion of the site, where they are separated from the coast by a line of low dunes, and collectively comprise an extensive mosaic of seasonally inundated duneslack wetland



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(Eskom, 2011a). Two bands of this mosaic wetland can be distinguished, along with a number of more isolated depressions (Eskom, 2011a), viz.:

- Sw1 - the wetland flats immediately adjacent to the coast, which have probably been flattened to some extent by an access road along their edge (Eskom, 2011a);
- Sw2 - a series of shallow, seasonally inundated depressions east of a low-lying dune ridge - Inundated portions of the depression are edged by reedbed or seasonally saturated wetland vegetation, with, in places, small terrestrial hillocks and shallow ridges separating the wetland units<sup>2</sup> (Eskom, 2011a).
- Sw3, Sw5, Sw6 and Sw7 - isolated seasonally saturated or inundated depressional wetlands to the north and east Sw1 and Sw2, as well as on the dunefields in the north of the site (Eskom, 2011a).


The seasonal wetland depressions are fed primarily by a seasonally fluctuating water table, which forms surface pools of shallow, fresh to brackish water during winter. The pools provide breeding habitat for frogs as well as numerous aquatic and semi-aquatic invertebrates. The pools dry out in summer as the water table recedes (Eskom, 2011a).

With respect to aquatic invertebrate fauna, the site wetlands form part of a clearly defined group of wetlands from the West Coast region of the Western Cape (Eskom, 2011a). The species composition of this grouping can be differentiated from other geographical areas in the region by the predominance of microcrustacean taxa– a group that characterises many seasonally inundated wetlands and, in the Western Cape, may include a number of regional or even local endemics (mainly from the Classes Cyclopoida, Ostracoda and Cladocera, as well as by chelicerate taxa of the Class Arachnida, which includes hydracaranid water mites, (**Table 5.3.A.3**) (Eskom, 2011a).

Sampling for aquatic invertebrate fauna at the site identified 80 taxa, 29 of which were microcrustaceans (Eskom, 2011a). Typical of many seasonal wetlands, the invertebrate community in all seasonally inundated wetlands was however dominated by insect taxa, with Coleopterans and Dipterans being the most species diverse groups present (Eskom, 2011a).

The seasonal wetlands were assessed to determine their Present Ecological

<sup>2</sup> Sw1 and Sw2 wetlands have not been mapped since they occur as multiple depressions and detailed mapping of individual units would be highly complex. The entire mosaic of these wetlands is regarded as wetland and a critical wetland support area

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Status (PES)<sup>3</sup>, leading to the assignment of PES categories to wetlands on the site. PES categories ranged from A/B (indicative of a largely unmodified wetland) to C - a wetland that has been moderately modified from its natural condition (Eskom, 2011a).

The wetlands were further assessed in terms of their Ecological Importance and Sensitivity (EIS). EIS scores for Sw1 and Sw2 indicate that they qualify as Class A wetlands, i.e. wetlands of very high conservation importance (Eskom, 2011a). The EIS of other seasonal wetlands on the site ranges from Class D (low or marginal importance) to Class B (high conservation importance) (Eskom, 2011a).

Together, the seasonally inundated depression wetlands identified on the site are viewed as examples of an important habitat type, and one which is locally rare (in the context of the site and the west coast as a whole), and regionally highly threatened – seasonally inundated wetland depressions have been significantly impacted by agricultural and urban development, and rough estimates of the impacts to such wetlands in the Cape Metropolitan Area alone suggest that less than three per cent of the natural extent of this wetland type may remain intact at present (Eskom, 2011a). The examples that occur on the site are considered to be less impacted than most other examples of this wetland type in the region (Eskom, 2011a).


### Artificial Wetlands

These wetlands are a product of past human activities on the site, and include one seasonally inundated depression (Sw4), created along the main KNPS access road, but mainly comprise permanently inundated to saturated wetlands (Eskom, 2011a). These occur in the vicinity of the existing KNPS, in places along internal roads, along the boundary fence line and in the northern portion of the site just north of the dune field (**Drawing 5.3.1**).

All of the permanently inundated wetlands on the site are believed to be artificial in origin (Eskom, 2011a), and include a combination of:

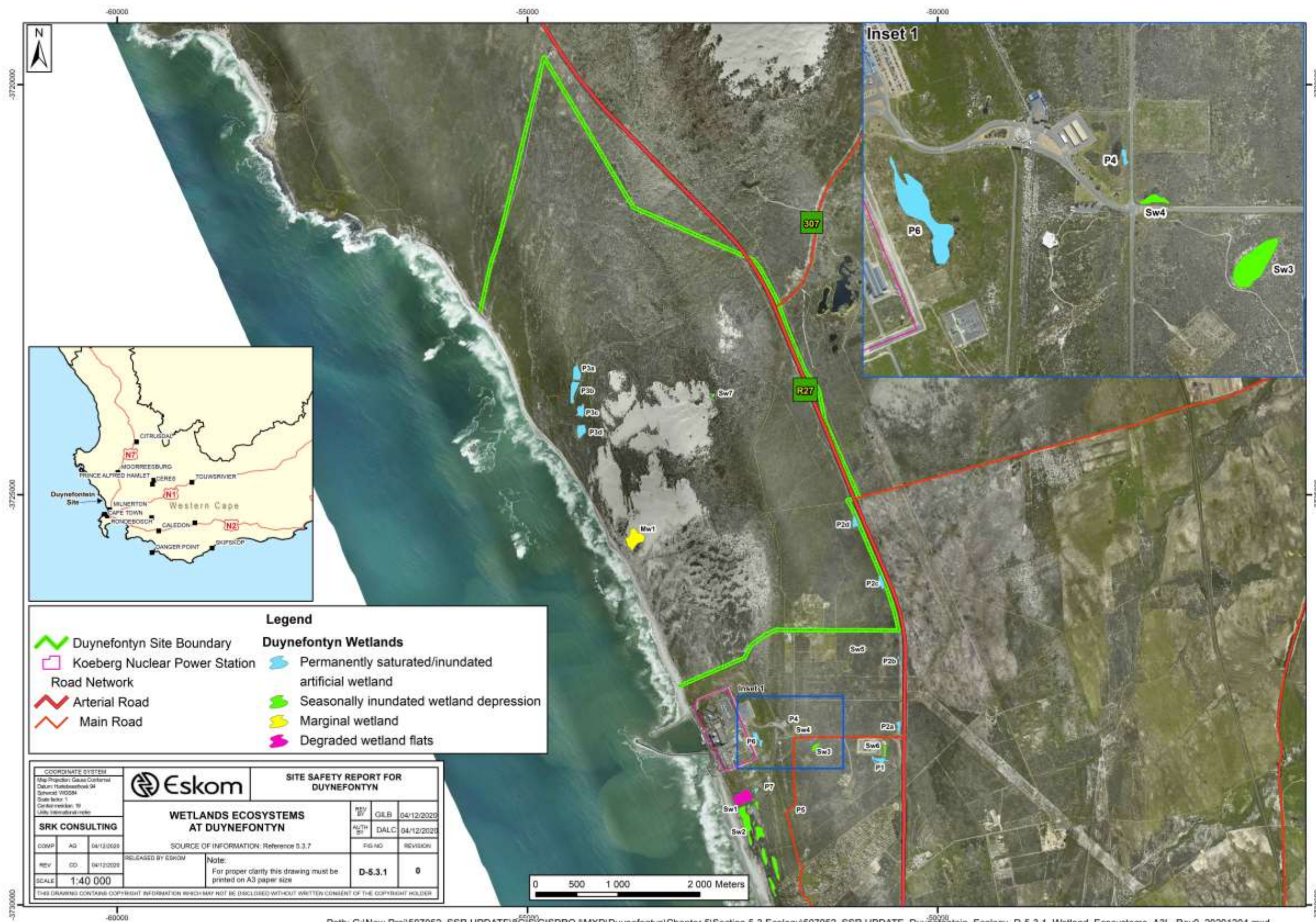
- borrow pits - Examples are P1 and P2a-d (**Drawing 5.3.1**). These

<sup>3</sup> Present Ecological Status (PES) is assessed using a scoring methodology prescribed by the Department of Water Affairs, which requires the scoring of attributes associated with particular criteria (namely: hydrologic, water quality, hydraulic and biotic criteria). The mean of all scores is then used to place the wetland in a conservation class, with PES A defined as 'Unmodified or approximates natural condition', PES B defined as 'Largely natural with few modifications: a slight change in ecosystem processes is discernible and a small loss of natural habitats and biota may have taken place'; Category C defined as 'Moderately modified: A moderate change in ecosystem processes and loss of natural habitats has taken place but the natural habitat remains predominantly intact', ranging to PES F, being defined as 'Critically modified. Losses of habitat and function are almost total, and the wetland has been modified completely' (**Reference 5.3.7**).


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wetlands generally comprise steep-sided depressions, densely vegetated with indigenous pondweed *Potamogeton* sp. and/or *Typha capensis* and *Phragmites australis* (Eskom, 2011a). Permanent wetlands are predominantly fed by groundwater, which tends to be brackish, with a high alkalinity. Aquatic invertebrate diversity in these wetlands is low, comprising relatively hardy taxa, dominated by air-breathing hemipterans (Eskom, 2011a).

- coastal infiltration ponds in the northern section of the site (P3a-d) (**Drawing 5.3.1**), excavated between the dunes – These ponds are fed by treated industrial effluent and untreated stormwater runoff, piped from the Atlantis industrial area (Eskom, 2011a). Most comprise deep, permanent open water bodies, vegetated by plant species that thrive under conditions of nutrient enrichment.



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The ponds are prone to occasional algal and cyanobacterial blooms (Eskom, 2011a). Overall, the ponds are unnatural water features that provide low quality, but locally rare, permanent freshwater habitat for some biota, artificially contributing to plant and animal diversity in the area. They provide a hydraulic barrier for the protection of the greater Atlantis Aquifer from seawater intrusion (Eskom, 2011a).

- *ad hoc* excavations into the water table – Most of these are reed-dominated systems, sometimes providing breeding habitat to birds such as Red Bishops and Cape Weavers (Eskom, 2011a).

The EIS methodology is not considered appropriate for assessing the importance of artificial wetlands, and importance was thus simply ascribed to these wetlands. They are generally of low-to-moderate or moderate conservation importance (Eskom, 2011a).


Wetland ecosystems do not present any threat to the proposed nuclear installation(s) and KPNS and will not result in any impact on the proposed nuclear installation(s) and KPNS. This is confirmed by the absence of any reported nuclear installation safety incidents relating to wetland ecology during the operating life of KNPS.

### **Conservation Value**

Recent research has identified the KNPS cooling water basin and surrounding Koeberg Nature Reserve as an area of significant conservation importance, which meets the criteria for classification as both a Ramsar site (i.e. a wetland of international importance) and an Important Bird Area (i.e. essential bird habitat) (Eskom, 2011). In particular, the protection offered by the Koeberg Nature Reserve has resulted in a notable increase in density of breeding pairs of the African black oystercatcher, which has recently been reclassified as Near Threatened after being rated as Endangered for a number of years (Eskom, 2011).

#### **5.3.6.3. Terrestrial Ecology**

The site is underlain by calcareous to acid Quaternary-age sands, which dominate the west coast north of Cape Town and have a strong influence on vegetation distribution (Eskom, 2011b). Most of the site comprises dunes, chiefly of the parabolic, transverse and undulating sheet types (now amended to deflated parabolics). Dune soils are sandy and calcareous (Eskom, 2011b).

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The site lies within the Cape Floristic Region (CFR) which is largely restricted to the Western Cape and Eastern Cape provinces. This is an exceptionally biodiverse region with very high levels of species endemism (Eskom, 2011c). Evidence of the site's potential sensitivity is that the CFR has been identified as a global Biodiversity Hotspot by Conservation International, and is the focus of a South African government-supported initiative, the Cape Action for People and the Environment, based at the South African National Biodiversity Institute (Eskom, 2011c).


#### 5.3.6.4. Terrestrial Invertebrate Fauna

The discussion on terrestrial invertebrates is based on the information contained in **Table 5.3.A.4** (Eskom, 2014).

The site is locally quite varied and comprises a mix of unvegetated or partially vegetated dune systems, as well as completely stabilised sand flats in the more inland parts (Eskom, 2014). A summary of the diversity of the various taxa sampled on (or near) the site is provided in **Table 5.3.2**

**Table 5.3.2**  
**Summary of Invertebrate Taxa Diversity at the Site**

Taxon	Description of findings
<b>Ants</b>	A total of 22 ant species were collected, with an estimated diversity of approximately 27 species. No Argentine Ant ( <i>Linepithema humile</i> ) specimens were found but these may occur on the site closer to the existing developments, where no surveys were carried out. Two ant species of special interest were collected at the site: these were <i>Tetramorium</i> sp. (a new species related to <i>T. flaviceps</i> ) and <i>Monomorium</i> sp. (a probable new species related to <i>M. damarense</i> ).
<b>Butterflies</b>	The summed probable total species count for this site is low at 23.1 with a very low Red List species probability of 0.01. Due to time limitations a partial search was conducted. This search did not reveal any Red-listed <i>Chrysoritis dicksoni</i> , which used to occur in similar habitat in the region. The most dominant species, which varied according to vegetation type, included <i>Chrysoritis pyroeis pyroeis</i> , <i>Chrysoritis thysbe thysbe f. osbecki</i> and <i>C. f. felthami</i> (36%).
<b>Velvet worms</b> (Onchyophora)	Due to time limitations a partial search was conducted. During this search no species were found.
<b>Mygalomorph spiders</b> (Arachnida: Araneae: Mygalomorphae)	One specimen of <i>Harpactira atra</i> , a protected baboon spider species common in the south-western Cape, was observed during the survey; another was also seen by the terrestrial vertebrate fauna investigation team.
<b>Scorpions</b>	Due to time limitations a partial search was conducted. During this search

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Taxon	Description of findings
(Arachnida: Scorpiones)	no scorpions were encountered, but conditions were poor and it would be premature to conclude that there are no scorpions on the site. Since the search was conducted it has become evident that at least three scorpion species (Cape thicktail – <i>Parabuthus capensis</i> ; Common lesser thicktail – <i>Uroplectes carinatus</i> ; and Cape burrower – <i>Opisthophthalmus capensis</i> ) occur on the site.
<b>Soldier flies</b> (Mydidae)	None found.
<b>Heelwalkers</b> (Mantophasmatodea)	None found.
<b>Monkey beetles</b> (Hopliini)	Several specimens of one species found; most were inactive and hiding under rocks.
<b>Millipedes</b> (Myriapoda)	Three species found.
<b>Jewel beetles</b> (Buprestidae)	None found.
<b>Spoonwing lacewings</b> (Nemopteridae)	None found.

Source: (Eskom, 2014).


The site has a moderate invertebrate diversity, with very few rare or relictual species observed or predicted (Eskom, 2014).

There is no record that large and aggressive swarms or colonies of insects are especially prevalent in this area, based on nearly 30 years of operation of the KNPS. Nevertheless the possibility of swarms or colonies invading and clogging, e.g. air inlets, cannot be ruled out. To the extent that this is a safety risk, it can be mitigated through regular maintenance and appropriate design of inlets. There are no other aspects of terrestrial invertebrate ecology that represent a threat to nuclear installation safety.

### 5.3.6.5. Terrestrial Vertebrate Fauna

#### **Amphibians Table 5.3.A.5**

There are nine possible species of amphibians that potentially occur at the site, eight of which are of probable or confirmed occurrence. One threatened species, the Cape Caco *Cacosternum capense* (Vulnerable), could possibly breed in seasonal wetlands. Rose's Rain Frog *Breviceps rosei* is a Western Cape endemic species confined to coastal dune habitats. Maintenance of a coastal corridor is important to prevent fragmentation of this species' distribution range (Eskom, 2011c).

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### **Reptiles Table 5.3.A.5**

There are 53 possible species occurring in the region, 40 of which are of probable or confirmed occurrence for the site (Eskom, 2011c). Two Red Listed species, Southern adder *Bitis armata* (Vulnerable), is of probable occurrence, and two, Gronovi's dwarf burrowing skink *Scelotes gronovii* (Least Concern) and Blouberg dwarf burrowing skink *Scelotes montispectus* (Near Threatened), are of confirmed occurrence. As with Rose's Rain Frog, these species are Western Cape endemics confined to coastal habitats. Maintenance of a coastal corridor is important to prevent fragmentation of their distribution ranges (Eskom, 2011c).

### **Birds Table 5.3.A.6**

There are 215 species of possible occurrence, 158 of which are probable or confirmed. Several threatened seabird species occur on the coast, e.g., Crowned cormorant *Phalacrocorax neglectus* (Near Threatened), Bank cormorant *Phalacrocorax coronatus* (Endangered), Caspian tern *Hydroprogne caspia* (Near Threatened) (Eskom, 2011c).


The relatively protected environment in and around the KNPS cooling water intake basin provides excellent habitat for seabirds and shorebirds to roost and even breed. Swift terns *Sterna bergii* and African black oystercatchers *Haematopus moquini* (Near Threatened), in particular, have been recorded breeding there in significant numbers and these represent regionally important breeding colonies (Eskom, 2011c).

Several threatened raptor species occur on site. The Black Harrier *Circus maurus* (Near Threatened) is known to breed at the site and the Marsh Harrier *C. ranivorus* (Vulnerable) may breed in the large coastal wetland area in the northern part of the site (Eskom, 2011c).

### **Mammals Table 5.3.A.7**

There are 56 possible species, 39 of which are of probable or confirmed occurrence (Eskom, 2011c). One Red Listed species may occur on the site, viz. the Whitetailed mouse *Mystromys albicaudatus* (Endangered), while the Honey badger *Mellivora capensis* (Near Threatened) is confirmed. Local research suggests that the mouse is more likely to occur on heavy soils than on sandy soils, so its occurrence at the site may be limited to relatively small patches of suitable habitat, and these are not likely to be situated near to the coast. The Honey badger has been recorded at Koeberg. Four species of bat that have the status of Near Threatened are likely to be only visitors to the site, with their roosting and breeding sites elsewhere. .



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There are no aspects of terrestrial vertebrate ecology that represent any threat to nuclear installation safety at the site. This is confirmed by the absence of any reported nuclear installation safety incidents relating to vertebrate fauna during the operating life of KNPS.

### 5.3.6.6. Terrestrial Vegetation

#### Flora

In total, 380 plant species have been recorded from the site (**APPENDIX 5.3.B**), with a rare species count of 34 (or 8.9 per cent) (Eskom, 2011b). Species rarity is extremely low for most of the site, except for the sand plain fynbos, where species rarity and localised endemism is highest. Species rarity is substantially lower on the transverse dunes and this is echoed in the low endemism there (Eskom, 2011b). A tabulated list of plant species is provided in **APPENDIX 5.3.B**.


#### Vegetation types

Two vegetation types are found on the site: Cape Flats Dune Strandveld and Cape Flats Sand Fynbos (or Atlantis Sand Fynbos, both previously known as Sand Plain Fynbos), the former falling within the Thicket Biome and the latter within the Fynbos Biome (Eskom, 2011b).

There is general correlation between soil characteristics and plant community, with the grouping into calcareous dunes and non-calcareous sand plain fynbos (Eskom, 2011b). Vegetation type rarity at the site is high, with both of these major vegetation types classified as Endangered (Eskom, 2011b). Sensitivity is locally high due to the presence of mobile and potentially mobile dune sand, with fire proneness being high in the fynbos communities (Eskom, 2011b).

Eleven associated plant communities were identified at the site, including one wetland community (Eskom, 2011b). The eleven plant communities (K1 to K11) that occur on the site are listed below:

- primary and foredunes (communities K1 and K2);
- mobile and semi-mobile transverse dunes (community K3);
- transition between transverse and parabolic dunes (community K4);
- stable parabolic dunes (communities K5, K6, K7 & K8);
- calcrete and limestone (community K9);


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- sand plain fynbos (community K10);
- dune slack wetland in south (community K11).

Additional detail on these eleven plant communities is provided in **Table 5.3.3** and these are mapped and illustrated in **Figure 5.3.1** and **Figure 5.3.2**.


Habitat rarity at the site is particularly high in the south-eastern flats which support sand plain fynbos, while the transverse dunes also rate high (Eskom, 2011b). Similarly, combined values for site sensitivity indicate that the transverse dunes and the sand plain fynbos in the south-east possess high sensitivity, with the wetland in the south accorded very high sensitivity (Eskom, 2011b).

All fynbos communities show high proneness to burning and this is exacerbated by the presence of alien woody plant species. The risk of naturally occurring fires is discussed and evaluated in **Chapter 6**.


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**Table 5.3.3**  
**Plant Communities and Summary of Species Data at the Site**

Map Ref.	Community	Description	Total Plant Species (# Red List spp)	Study Area ha (Area %)
<b>Calcareous Sands and Limestones</b>				
K1 K2	Primary and foredunes	Pioneer vegetation of the coastal dunes localised in a narrow strip along the coast. Plant cover is rarely more than 0.5 m tall and is sparse to mid-dense, with both dune fynbos and dune thicket elements. Key species include <i>Amphibolia laevis</i> kusduinevygie, <i>Arctotheca populifolia</i> sea pumpkin, <i>Cladoraphis cyperoides</i> steekriet, <i>Dasispermum suffruticosum</i> duineseldery, <i>Didelta carnos</i> a subsp. <i>tomentosa</i> seegousblom, <i>Ficinia lateralis</i> dune sedge, <i>Helichrysum niveum</i> , <i>Manulea tomentosa</i> duinevingertjies, <i>Metalasia muricata</i> blombos, <i>Morella cordifolia</i> dune waxberry, <i>Passerina ericoides</i> kusgonnabas, <i>Psoralea repens</i> duine-ertjie, <i>Pelargonium capitatum</i> rose-scented pelargonium, <i>Senecio elegans</i> wild cineraria, <i>Senecio maritimus</i> strandhongerblom and <i>Trachyandra divaricata</i> duinekool.	67 (3)	37.4 (1,3)
K3	Mobile and semi-mobile transverse dunes	Pioneering plant community found inland of the coast, displaying close linkages with the coastal primary dunes and foredunes. Vegetation is successional to dune thicket, but only if the sand stabilises. Plant height reaches 2 m with species such as <i>Seriphium plumosum</i> slangbos, but in general tends to be low (0.5 to 1 m). Key species include most of those mentioned in Communities K1 and K2, but with <i>Carpobrotus acinaciformis</i> suurvy, <i>Ehrharta villosa</i> pypgras, <i>Osteospermum incanagrysbietou</i> , <i>Cladoraphis cyperoides</i> steekriet, <i>Hellmuthia membranacea</i> knopbiesie, <i>Lessertia frutescens</i> kankerbos, <i>Otholobium bracteolatum</i> skaapbostee, <i>Searsia laevigata</i> duinetaaibos and <i>Ruschia macowanii</i> bosvygie becoming more prominent.	51 (4)	808.6 (28,9)
K4	Transition between transverse and parabolic dunes	Transition between transverse and parabolic dunes, comprises elements of both mobile/semi-mobile transverse dunes, and the more stable parabolics abutting the former. The EIA specialist study (Eskom, 2011b) did not sample K4, but <i>Ammophila arenaria</i> marram grass, an alien, non-invasive species, has (in the past) been used to stabilise dunes to the north of KNPS, though Eskom has since spent a number of years eradicating this species.	N/A	113.3 (4,1)


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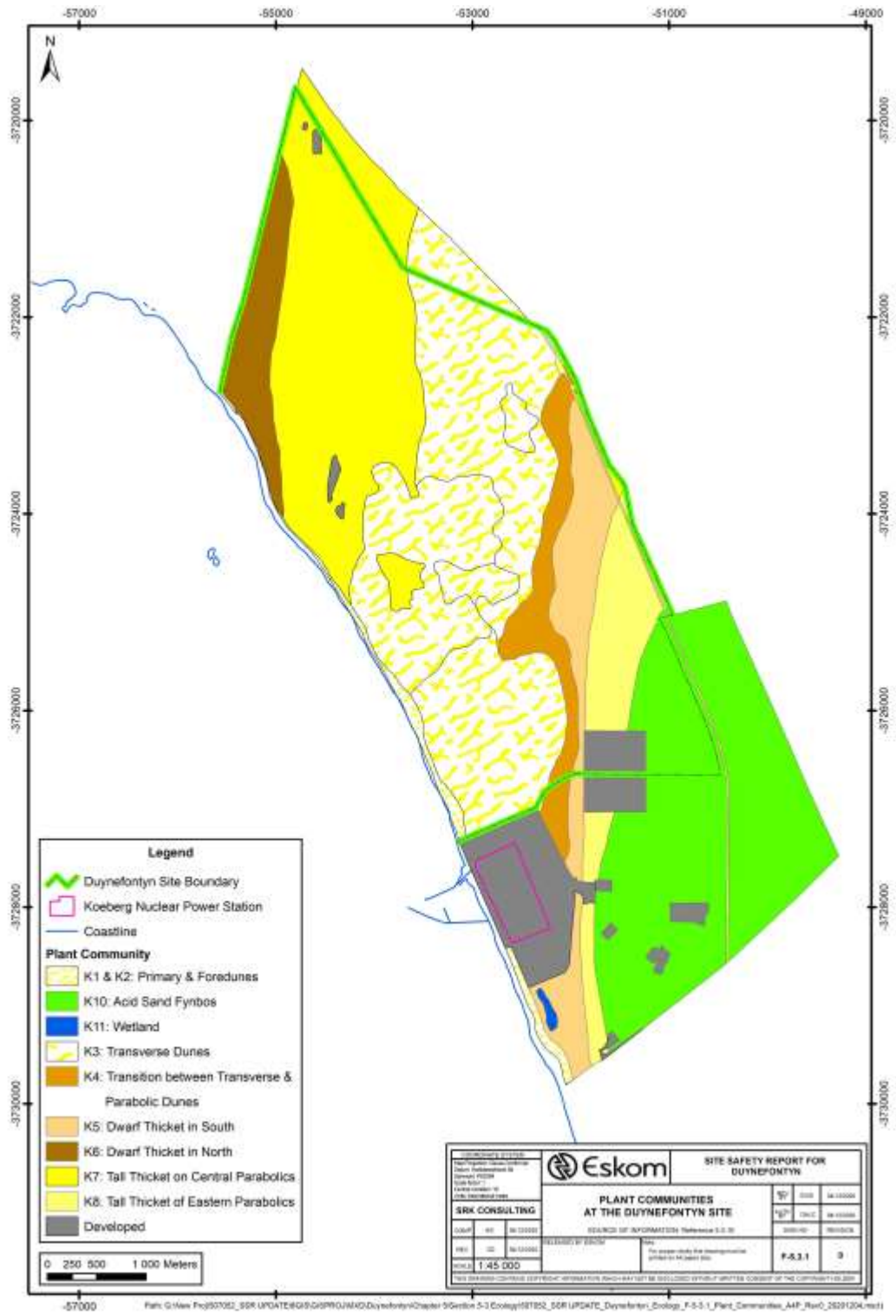
K5 K6 K7 K8	Stable parabolic dunes	<p>These communities represent the climax or mature stage of dune thicket on the West Coast. They can form dense thicket of 3 m and taller, with little to separate these communities except height. They are dominated by broad-leaved shrubs including <i>Euclea racemosa</i> seeghwarrie, the semi parasite <i>Osyris compressa</i> Cape sumach, <i>Olea exasperata</i> slanghout, <i>Pterocelastrus tricuspidatus</i> kershout, <i>Putterlickia pyracantha</i> basterpendoring, <i>Searsia crenata</i> duinekraibessie, <i>Searsia glauca</i> bloukoeniebos, <i>Searsia lucida</i> blinktaaibos and <i>Salvia africana-lutea</i> bruinsalie. <i>Helichrysum dasyanthum</i>, <i>Helichrysum revolutum</i> vaalsewejaartjie, <i>Pelargonium gibbosum</i> dikbeenmalva, <i>Solanum africanum melkellie</i> and <i>Tetragonia fruticosa</i> kinkelbossie, all sub-woody shrubs, are locally found. Climbers are invariably present and include <i>Cissampelos capense</i> fynblaarklimop, <i>Cynanchum africanum</i> bobbejaantou, <i>Kedrostis nana</i> ystervarkpatats, and <i>Asparagus aethiopicus</i> haakdoring. Succulence is also locally prominent with species including <i>Cotyledon orbiculata</i> varkoor, <i>Euphorbia burmannii</i> steenbokmelkbos and <i>Euphorbia mauritanica</i> geelmelkbos. The understory is often colonised by the perennial herb <i>Cineraria geifolia cineraria</i>, and shade-tolerant annuals such as <i>Didymodoxa capensis</i> and <i>Torilis arvensis</i>, as well as a number of grasses including <i>Ehrharta brevifolia</i> var. <i>brevifolia</i> and <i>Ehrharta calycina</i> rooigras.</p> <p>Openings and slacks (valleys) in the dunes lend themselves to supporting a fragmented dune fynbos community which is successional to thicket. A very different species assemblage is found here, with a lower cover and height. Typical species are <i>Afrolimon peregrinum</i> strandroos, <i>Anthospermum prostratum</i>, <i>Osteospermum monilifera</i> bietou, <i>Cineraria geifolia</i> cineraria, <i>Helichrysum niveum</i>, <i>Hermannia pinnata</i> kwasblaarkruippoproos, <i>Jordaaniella dubia</i> helderkruipvygie, <i>Nylandtia spinosa</i> skilpadbessie, <i>Othonna coronopifolia</i> sandbobbejaankool, <i>Ruschia macowanii</i> bosvygie, <i>Thesium spicatum</i> lidjes'tee and <i>Roepera flexuosa</i> spekbossie. It is in these open parts that the mass displays of spring annuals are to be found on the West Coast, and these include <i>Cotula turbinata</i> ganskos, <i>Crassula glomerata</i> brakvygie, <i>Dimorphotheca pluvialis</i> witbotterblom, <i>Dischisma ciliatum</i>, <i>Heliophila coronopifolia</i> blouflaks, <i>Hemimeris racemosa</i> geelgesiggie, <i>Nemesia affinis</i> weeskindertjie, <i>Senecio arenarius</i> hongerblom, <i>Senecio littoreus</i> geelhongerblom and <i>Zaluzianskya villosa</i> drumsticks.</p> <p>The graminoid (grass-like) component includes <i>Ficinia indica</i> knoppiesbiesie, <i>Ischyrolepis eleocharis</i> katsterriet, <i>Isolepis antarctica</i>, <i>Ehrharta calycina</i> rooigras, <i>Ehrharta villosa</i> pypgras and <i>Pentaschistis pallida</i>. Locally, the tall thatching reed, <i>Thamnochortus spicigerus</i> can become dominant. Geophytes (bulbs) tend to be found in more open terrain. Species include <i>Zantedeschia aethiopica</i> arum lily, <i>Albuca flaccida</i> geldbeursie, <i>Brunsvigia orientalis</i> koningskandelaar, <i>Gladiolus cunonius</i> rooipypie, <i>Haemanthus coccineus</i>, <i>Lachenalia rubida</i> sandviooltjie and <i>Trachyandra ciliata</i> wildeblomkool.</p>	333 (12)	997 (35,0)
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K9	Calcrete and limestone community	This community is fragmented and occupies such small areas that it is not possible to map at this scale. However, it possesses a distinct flora with key species including <i>Searsia</i> spp. Taaibos, <i>Asparagus</i> spp. haakdoring, <i>Euclea racemosa</i> seeghwarrie, <i>Ischyrolepis eleocharis</i> katsterriet, and <i>Roepera flexuosa</i> spekbossie. This substrate is rarely exposed on the site, invariably in the central parabolic dunes, but also along the coast. Here the predominant flora is pioneering species such as those outlined above under K1 and K2.	42 (0)	N/A
<b>Vegetation of neutral to acid sands</b>				
K10	Sand plain fynbos	This plant community is confined to the south-eastern flats of the site and is found on older deflated dunes. The vegetation is fynbos dominated by restios and ericoid-leaved species, with the occasional protea. Plant cover is moderate with heights rarely exceeding 1 - 2 m. Species prominent in this community include <i>Adenogramma glomerata</i> muggiegras, <i>Afrolimon purpuratum</i> , papierblom, <i>Dorotheanthus bellidiformis</i> subsp. <i>bellidiformis</i> bokbaai vygie, <i>Diosma hirsuta</i> , rooiboegoe, <i>Erica mammosa</i> , rooiklossieheide, <i>Ficinia indica</i> knoppiesbiesie, <i>Grielum grandiflorum</i> platdoring, <i>Leucadendron levisanus</i> Cape Flats cone bush, <i>Metalasia muricata</i> blombos, <i>Nemesia strumosa</i> balsamienie, <i>Passerina corymbosa</i> sandgonnabas, <i>Plecostachys serpyllifolia</i> vaaltee, <i>Polycarena capensis</i> geelopslag, <i>Searsia laevigata</i> duinetaibos, <i>Senecio halimifolius</i> tabakbos, <i>Senecio hastatus</i> groundsel, <i>Serruria decipiens</i> Weskusspinnekopbos, <i>Thamnochortus erectus</i> wyfieriet and <i>Thamnochortus obtusus</i> .	124 (1)	624,3 (3,8)
<b>Wetlands</b>				
K11	Dune slack wetland in south	Only one wetland in the south was sampled, displaying a relatively low species complement with typical taxa including <i>Ficinia nodosa</i> steekbiesie, <i>Nidorella foetida</i> vleikruid, <i>Plecostachys serpyllifolia</i> vaaltee, <i>Sarcocornia pillansii</i> brakbos and <i>Senecio halimifolius</i> tabakboss.	31 (2)	3,7 (0,1)
<b>Transformed Land</b>				
-	Developed areas, KNPS		N/A	209,7 (7,5)
<b>TOTAL</b>			<b>380 (34)</b>	<b>2 791,9 (100,0)</b>

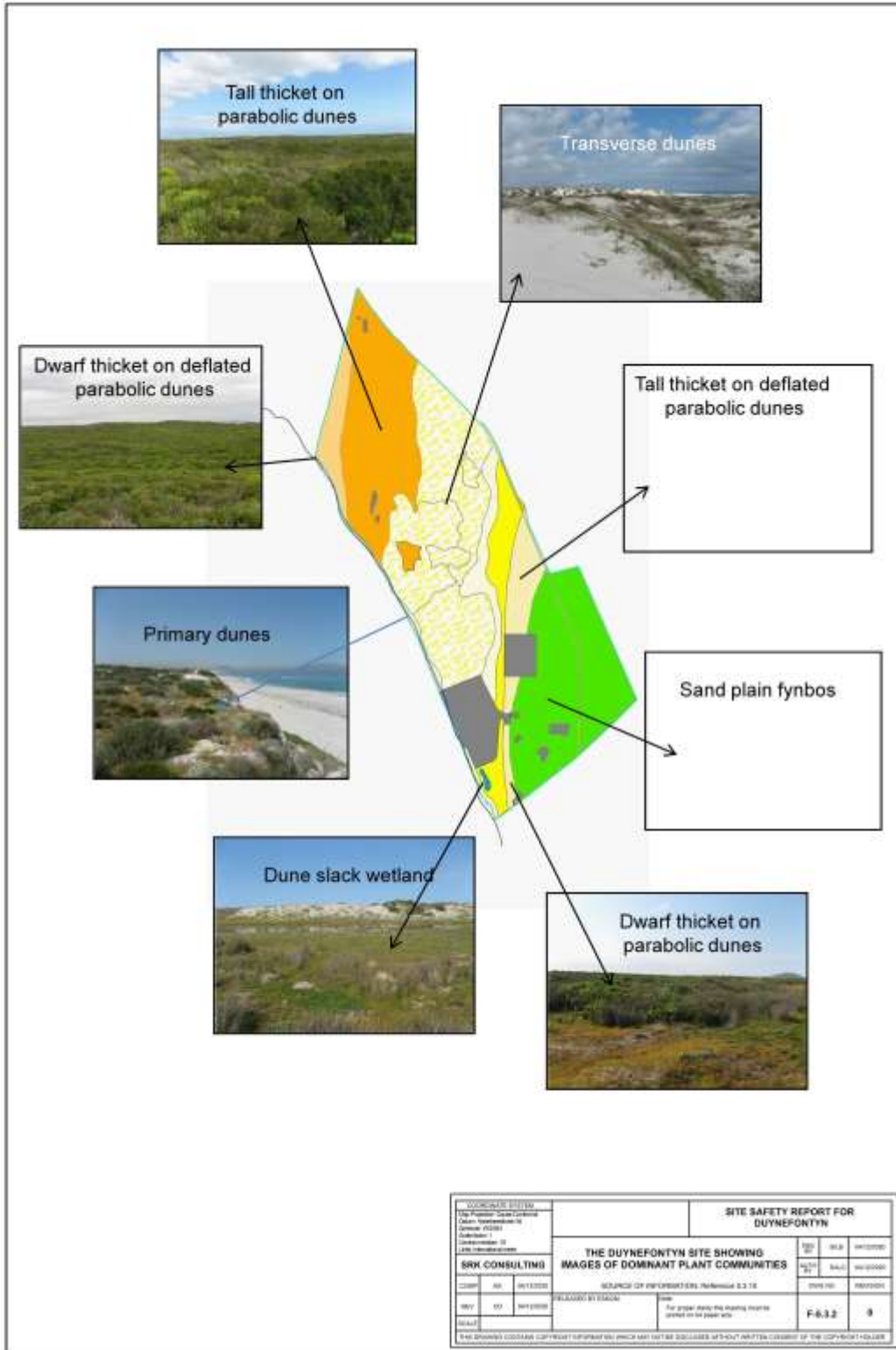
Source: (Eskom, 2011b)

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**Figure 5.3.1 Plant Communities Occurring at the Site**

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**Figure 5.3.2 Images of Dominant Plant Communities at the Site**

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Excessive leaf litter leading to, e.g. blocked drains and air inlets, is not a phenomenon normally associated with the vegetation types found on the site. Nevertheless the possibility of blockages cannot be ruled out. To the extent that this is a safety risk, it could be mitigated through regular maintenance. There are no other aspects of terrestrial vegetation that represent any threat to nuclear installation safety. This is confirmed by the absence of any reported nuclear installation safety incidents relating to terrestrial vegetation during the operating life of KNPS.

### 5.3.6.7. Dune Systems


The dunefield at the site forms part of the Atlantis corridor dunefield which formed during the Holocene (the last 6 500 years). Two major dune types are recognised in this dunefield, i.e. vegetated parabolic dunes and unvegetated mobile transverse dunes (Eskom, 2009e). Parabolic dunes have an average height of about 5 m. The currently active or mobile transverse dunes have an average height of about 8 m, with the highest dunes reaching 12 m. The transverse dune system at the site is endemic, with this system type poorly represented on the Cape West Coast (Eskom, 2011b). The dunefield at the site consists of four dune varieties (Eskom, 2009e):

- currently active (mobile) transverse dunes - These dunes are unvegetated, resilient dunes and are classified as having a low sensitivity.
- artificially stabilised transverse dunes - These dunes also have low sensitivity as soil is very poorly developed on these dunefields, with very few nutrient-rich fines.
- mid-Holocene parabolic dunes – These dunes are vegetated and have low sensitivity as soil is very poorly developed on Holocene dunefields, with few nutrient-rich fines.
- late Holocene parabolic dunes – These dunes are also vegetated and have low sensitivity as soil is very poorly developed on Holocene dunefields, with few nutrient-rich fines.

The transverse dunes move northward, driven by the dominant southerly wind. Movement rates have not been calculated in this area, but are estimated to be about 5 to 8 m/y. The average rate of sand movement is estimated to be about 20 m<sup>3</sup>/m width/year (Eskom, 2009e).

The pattern of alternating vegetated and unvegetated dunes is due to sand




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being supplied to the dunefield in pulses. Patches of mobile transverse dunes have been artificially vegetated (with marram grass) in places, mostly in the south. The site lies at the southern end of this dunefield (Eskom, 2009e).

There are no ecological aspects of dune systems that represent a significant threat to nuclear installation safety at the site. This is confirmed by the absence of any reported nuclear installation safety incidents relating to dune systems during the operating life of KNPS, noting that dune systems migrate northwards, away from the site. In the past marram grass was used to stabilise dunes, a practice which Eskom has suspended. Movement of windblown sand onto roads and against solid structures is considered to be a maintenance issue and must be addressed as such. Other potential threats such as sand storms and associated abrasive effects of windblown sand, the liquefaction potential of sand and its potential effects on founding conditions and stability of excavations are addressed in **Section 5.15** (Geotechnical Characterisation) and **Chapter 6**. To the extent that dune systems represent a significant threat to nuclear installation safety at the site, a competent geotechnical engineer should consider stabilising upwind unvegetated dunes with drift fences, brushwood and with pioneer indigenous dune vegetation.

#### **5.3.6.8. Important Species**

RG-0011 (National Nuclear Regulator, 2016) requires that important species in the vicinity of the site should be identified. Important species are defined as being threatened or endangered, commercially or recreationally valuable and can affect the-well-being of another species critical to the structure and function of the ecological system or function as a biological indicator of radionuclides or chemical pollutants in the environment. A list of important species potentially inhabiting the site and/or in the vicinity of the site is presented in **Table 5.3.4**

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**Table 5.3.4  
Important Species at or near the Site**

Latin Name	Common Name	Status
<i>Phalacrocorax neglectus</i>	Bank cormorant	Endangered
<i>Turnix nanus</i>	Black-rumped Buttonquail	Endangered
<i>Haliotis midae</i>	Abalone	Commercial
<i>Jasus lalandii</i>	West Coast rock lobster	Commercial
<i>Ecklonia maxima</i>	Kelp (sea bamboo)	Commercial
<i>Laminaria pallida</i>	Split fan kelp	Commercial
<i>Mystromys albicaudatus</i>	White-tailed Mouse	Endangered
<i>Lampranthus explanatus</i>	Plant Mesem: Lowland fynos Lampranthus	Endangered
<i>Ruschia indecora</i>	Plant Mesem: White Ruschia	Endangered
<i>Disa draconis</i>	Plant, orchid: Dragon Disa	Endangered

Note: a list of indicator species and reference animals and plants (RAPs) for estimating bioaccumulation in, and exposures (through human consumption), to Flora and Fauna (Non-Human Biota) as per RG-0011 Section 8.7 (National Nuclear Regulator, 2016), is provided in **Section 5.5** and **Chapter 7**.


Also a count and description of agricultural and domestic fauna, in particular cattle, sheep and other meat animals that may (indirectly) expose humans to radionuclides, is included in **Section 5.5**.

#### **5.3.6.9. Ecological Processes**

Neither species nor habitats can survive and thrive in the absence of the ecological processes which sustain them. Some key ecological processes operating at the site are described below:

##### **Habitat Connectivity**

Continuity between inland habitats and the coast is generally good at the site, but is locally disrupted by the KNPS and its associated buildings and security fences. Natural, dynamic dune systems create a complex of ecotonal habitats and habitat edges that are attractive to a variety of vertebrate fauna. To the west of the R27, natural habitats are being maintained with as little disturbance as possible, which is regarded as a positive management practice (Eskom, 2011c).

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Habitat connectivity does not represent a significant threat to nuclear installation safety.

### Hydrological Cycle

The ecosystem at the site has few large, permanent wetlands, and relatively many small, seasonal wetlands. Seasonal wetlands play an important ecological role as breeding habitats for semi-aquatic fauna, such as frogs, and a variety of birds, such as weavers, bishops and reed warblers. They supply shelter for a variety of fauna, as well as seasonal food resources and fresh drinking water, at least for the winter months. For these reasons, seasonal wetlands should be regarded as important and sensitive habitats that are essential to the maintenance of a healthy ecosystem and a full complement of biodiversity (Eskom, 2011c).


While there is no record of flooding of the wetland system affecting nuclear installation safety during the nearly 30 years of operation of the KNPS, the potential for wetland flooding must be considered in the design of the nuclear installation(s). This is addressed in detail in **Section 5.10** (Hydrology and Hydraulics) and **Chapter 6**.

#### 5.3.7 Monitoring

It is recommended that the occurrence, distribution and density of jellyfish in and near the vicinity of the water intakes be monitored to more accurately ascertain the potential risk to nuclear installation safety posed by clogging of intakes. This may serve to provide an early warning system of possible jellyfish (and kelp) ingress. Different scientific approaches have been investigated including habitat modelling, hydrodynamic modelling, and the development of automated recognition systems using machine-learning algorithms. These have been applied using a range of different technologies including satellites, drones, spectral analysis, hydrodynamic modelling, seafloor-mounted multi beam acoustic sonar and the design of automated cleaning equipment. However, none of the current approaches may yield a practical solution (Pisces Environmental Services (Pty) Ltd, 2020) and a definitive monitoring programme is to be developed.

Existing monitoring programmes of sessile organisms (which may result in the fouling of cooling pipes) are considered adequate for observation purposes and no additional monitoring or action is therefore required as part of this SSR.

No additional monitoring of ecological aspects of the site is required from a safety perspective.

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A list of RAPs for estimating bioaccumulation in, and exposures, to Flora and Fauna (Non-Human Biota) as per RG -0011 Section 8.7 (National Nuclear Regulator, 2016), is provided in **Chapter 7**.

### 5.3.8 Management of Uncertainties


A number of uncertainties regarding the baseline studies are listed in these reports: ( Eskom, 2011), (Eskom, 2011a), (Eskom, 2014), (Eskom, 2011c) and (Eskom, 2011b)). These uncertainties pertain mainly to the adequacy of sampling that was undertaken to inform these studies for the purposes of the EIA.

Climate change shall be considered as an area of uncertainty that can affect the ecology of a nuclear installation site, for example through extreme flood events and changes in sea temperature that may affect population densities of marine organisms and therefore increase the risk of the blockage of cooling uptakes.

While there have been no studies to date specifically looking at climate change driven range shifts within South African kelp beds, the distribution of the dominant kelp *Ecklonia maxima* has extended east of Cape Agulhas over the past 3–4 decades and its density in parts of False Bay has increased. Reasons for the expansion and densification of kelp forests have been linked to climate change, i.e. cooling inshore waters and increased nutrients related to an increase in coastal upwelling (Pisces Environmental Services (Pty) Ltd, 2020).

Changes in the upwelling-favourable winds on the West and South Coasts have resulted in increased nutrient availability and may also favour jellyfish outbreaks and their rise, although evidence supporting global increases in jellyfish in response to climate change remains inconclusive (Pisces Environmental Services (Pty) Ltd, 2020).

Red-tides are ubiquitous features of the Benguela system. The most common species associated with red tides (dinoflagellate and/or ciliate blooms) are *Gonyaulax tamarensis* and the ciliate *Mesodinium rubrum*, both of which have been linked with toxic red tides. Most of these red-tide events occur quite close inshore although there have been recorded red-tides 30 km offshore (Pisces Environmental Services (Pty) Ltd, 2020). Dinoflagellates are more common in blooms that occur during quiescent periods, since they can grow rapidly at low nutrient concentrations. Blooms, therefore, are not linked to upwelling events (which may increase due to climate change) (Pisces Environmental Services (Pty) Ltd, 2020).

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Monitoring of relevant populations will be undertaken as part of the EIA's Environmental Management and Monitoring Plan, and the implications of any changes in population density must be considered in future revisions of this SSR.

### 5.3.9 Management System

All activities associated with the compilation of this section of this SSR have been conducted in accordance with the overall management system for the production and update of this SSR (see **Chapter 10**, Management System). The ecological study undertaken for this SSR entailed the following:

- desktop study and site reconnaissance to gain a high-level understanding of the site;
- reporting and peer review.


A quality assurance programme was established to control the effectiveness of the evaluation and the formulation of conclusions on the site acceptability. This conforms to the overall management system for this SSR (**Chapter 10**), licensing regulations and international guidelines (**Subsection 5.3.3**) and relevant Eskom classification procedures.

Specialist reports compiled for the EIA were reviewed by the EIA consultants in terms of their quality assurance requirements. In addition specialist reports were critically scrutinised by the SSR team prior to use, adding another layer of quality assurance. Finally, the SSR was subject to peer review. This was carried out by a suitably qualified, independent and experienced professional (listed in **Chapter 10** of this SSR), whose review was based on his knowledge of the area and ecological processes.

Prior to the start of the ecological study described herein, the following documents were compiled by the contractor and approved by Eskom to assist in quality assurance:

- Project Quality Plan (later incorporated into the overall Integrated Management System, as further described in **Chapter 10**);
- Method Statement;
- Quality Control Plan.

No Risk Assessment or Health, Safety and Environmental Management Plan was compiled for this section as no fieldwork was undertaken directly as part of this study (although fieldwork and studies undertaken for the EIA

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provided information used in this SSR).

A quality data pack in the appendix to the consolidated DSSR includes a peer review report. A summary of activities, links within this SSR and quality requirements is given in **Table 5.3.5**. The relevant safety classifications for the various monitoring disciplines are also listed.

**Table 5.3.5  
Summary of Activities, Links and Quality Requirements**

Programme	Links		Safety Classification	Quality Requirements
	Inputs	Outputs		
Desktop studies	Baseline ecological studies, including marine wetland ecosystems, vegetation and terrestrial invertebrate and vertebrate fauna.	<p><b><u>Sections 5.5 and 5.6</u></b></p> <p>Potential pathways to human receptors via the food chain.</p> <p><b><u>Sections 5.6 and 5.9.</u></b></p> <p>Identification of species that may foul intake and outfall pipes.</p> <p><b><u>Chapter 6</u></b></p>	D D  D C  B	Quality assurance statement and process for baseline studies.  Peer Review
Monitoring	Baseline studies	<b><u>Section 5.2</u></b> (Monitoring)		Monitoring protocol

Ecology at the site has been classified as a level D activity according to Eskom's safety classification methodology (Eskom, 2009f). A level D classification means that an Eskom approved quality management system must be followed for execution of this work and this requirement was

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implemented (as opposed to more stringent requirements as described in **Chapter 10**). A regulatory compliance table is given in **Table 5.3.6** to indicate where the relevant issues have been dealt with in the section.

**Table 5.3.6  
Regulatory Compliance Matrix**

Act/Regulation	Section	Issue	Section where covered
Licensing Regulations (Department of Energy, 2010))	4	Characterisation of site	5.3.5: Baseline Description

The information contained in this SSR is mainly extracted from the baseline studies that were conducted for the EIA. Detailed records of the work carried out were kept by the EIA consultant. Peer review reports on the various EIA studies were used as assurance that quality standards had been adhered to and that the data used in this SSR were of a high standard.


The evaluation of a site's ecological characteristics does not lend itself to direct verification by inspections or tests that can be precisely defined and controlled and therefore a peer review process is the appropriate verification mechanism. This was carried out by a suitably qualified, independent and experienced professional, whose review was based on his knowledge of the area and ecological processes.

Electronic records have been stored in a secure central repository with regular off-site back-up procedures and subject to Eskom's approval. The overall quality management system complied with the requirements set out in **Chapter 10**. All references cited are saved on the central repository.

### 5.3.10 Conclusions

The main conclusions regarding ecology at the site are the following:


- Some ecological aspects of the marine environment pose hazards that could result in an external event challenging the nuclear installation safety. Jellyfish may foul the cooling system and result in a deterioration of safety functions related to the ultimate heat sink. Three notable jellyfish ingress events have been recorded since KNPS commenced operation in the 1980s, with the most prominent events being in February 1997, June 1999 and May 2005. The event in March 2020 was attributed to anchovy. The species involved, *C. fulgida* and *C.*

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*agulhensis* are known to gather in substantial numbers, forming large spawning aggregations during winter (Pisces Environmental Services (Pty) Ltd, 2020). A study investigating the hazard posed by the ingress of jellyfish at KNPS concluded that, while they pose a significant threat to normal operation at KNPS, jellyfish ingress is expected to have no effect on the safe shutdown of the reactors. Considering the observed increase in jellyfish along the South African West Coast since the 1970s, the probability of high densities of these organisms entering the cooling water system of a proposed nuclear installation(s) in this area appears to be increasing. However, evidence supporting global increases in jellyfish in response to climate change remains inconclusive (Pisces Environmental Services (Pty) Ltd, 2020). Ingress can be managed through appropriate design of the cooling water system and provision of appropriate mitigation equipment on site including oil booms, a skimmer pontoon, bubble curtains and a high pressure hose. The integrity, availability, and reliability of equipment used during such an event are essential to ensuring the efficacy of the jellyfish ingress mitigation procedures.

- Floating kelp can also potentially block water intakes, and may be dislodged during storm events. There are nearshore kelp beds in the area but potential blockages can be managed through the appropriate siting and design of screening structures on the intakes, and design and maintenance of the cooling water system as discussed in the point above. Another hazard that requires consideration is colonisation by sessile organisms, such as mussels and barnacles that may result in the blockage of the cooling system. This must (continue to) be controlled through ongoing nuclear installation management.
- Wetland ecosystems do not present any hazard to the proposed nuclear installation(s) and will not result in any impact on the proposed nuclear installation(s).
- Terrestrial ecology presents hazards, such as clogging of drains and ventilation inlets by insects and leaves. These can be readily mitigated through design and routine surveillance and maintenance.
- Dune systems may present a minor hazard, although dune systems migrate northwards, away from the site. To the extent that dune systems represent a significant threat to nuclear installation(s) safety at the site, a competent geotechnical engineer should consider stabilising upwind unvegetated dunes with drift fences, brushwood and with pioneer indigenous dune vegetation as a stability measure in future.




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- A section of the site should be allocated for the cultivation of the plants. These plants can then be used to stabilise areas where blowouts in the vegetation and migrating sands are likely to arise.


Based on the information presented above and the experience gained during operation of the KNPS, it is concluded that the ecology hazards of the site can be managed through appropriate design and environmental management measures poses no demonstrable threats to the safety of the nuclear installation(s). The site is considered suitable for a nuclear installation(s). Ongoing monitoring is recommended to collect additional information on marine ecology, especially jellyfish populations and any changes to these in the vicinity of the site. The uncertainties listed do not materially affect this assessment.

### 5.3.11 References

1. Canadian Nuclear Safety Commission, 2007. *RD-346 Site Evaluation for Nuclear Power Plants, (Draft)*, Ottawa: s.n.
2. Department of Energy, 2010. *R.927 The Regulations on Licensing of Sites for New Nuclear Installations*, Pretoria: Government Gazette 34735.
3. Eskom, 2009e. *Environmental Impact Assessment for the Proposed Nuclear Power Station ('Nuclear-1') and Associated Infrastructure: Dune Specialist Report*, Johannesburg: s.n.
4. Eskom, 2009f. *Safety Classification of SSR Related Activities and Processes . NSIP0432 Rev A0 Draft 1*, Johannesburg: s.n.
5. Eskom, 2010. *Technical Specification for Site Safety Reports. NSP 01388. Rev 0*, Johannesburg: Eskom.
6. Eskom, 2011a. *Environmental Impact Assessment for the Proposed Nuclear Power Station ('Nuclear-1') and Associated Infrastructure: Wetland Ecosystems Specialist Study: Impact Assessment Phase* , Johannesburg: s.n.
7. Eskom, 2011b. *Environmental Impact Assessment for the Proposed Nuclear Power Station ('Nuclear-1') and Associated Infrastructure: Botany and Dune Ecology Impact Assessment*, Johannesburg: s.n.
8. Eskom, 2011c. *Environmental Impact Assessment for the Proposed Nuclear Power Station ('Nuclear-1') and Associated Infrastructure: Terrestrial Vertebrate Fauna Impact Study*, Johannesburg: s.n.

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9. Eskom, 2011. *Environmental Impact Assessment for the Proposed Nuclear Power Station ('Nuclear -1') and Associated Infrastructure: Marine Ecology Impact Assessment*, Johannesburg: s.n.
10. Eskom, 2011. *Interim Safety Re-assessment: Jellyfish Hazard Ingress Report. Report EERT-11-023*, Johannesburg: s.n.
11. Eskom, 2014. *Environmental Impact Assessment for the Proposed Nuclear Power Station ('Nuclear-1') and Associated Infrastructure: Terrestrial Invertebrate Assessment*, Johannesburg: s.n.
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## APPENDIX 5.3.A

### Selective Non-Plant Species List

With the exception of jellyfish, the species lists are wholly based on species identified, but incompletely taxonomically categorised, in specialist studies undertaken for the EIA. Some common names were not available (n/a).

**Table 5.3.A.1  
Marine Invertebrates**

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
Marine Ecology Assessment and Updated Baseline Status of Kelp and Jellyfish along the South Western Cape Coast	Crustacean	<i>Balanus glandula</i>	Acorn barnacles	Balanidae	Sessilia
		<i>Eurydice longicornis</i>	Right angle beach louse	Cirolanidae	Isopoda
		<i>Gastrosaccus psammodytes</i>		Mysidae	Mysida
		<i>Talorchestia quadrispinosa</i>		Talitridae	Amphipoda
	Mollusca: Mussel	<i>Donax serra</i>	White sand mussel	Donacidae	Mytilida
	Mollusca: Mussel	<i>Mytilus galloprovincialis</i>	Mediterranean mussel	Mytilidae	Mytilida
	Mollusca: Mussel	<i>Semimycilus algosus</i>	Dwarf mussel	Mytilidae	
	Anthozoa: Sea anemone	<i>Actinia equina</i>	Beadlet anemone	Actiniidae	Actiniaria
	Anthozoa: Sea anemone	<i>Aulactinia reynaund</i>	Sandy anemone	Actiniidae	Actiniaria
	Mollusca: Sea snail	<i>Bullia digitalis</i>	Finger plough shell or plough snail	Nassariidae	Neogastropoda
		<i>Burnupena lagenaria</i>	Large ridged burnupena	Buccinidae	Neogastropoda
		<i>Helcion pectunculus</i>	Prickly limpet	Patellidae	Patellogastropoda
		<i>Afrolittorina africana</i>	African limpet	Littorinidae	Littorinimorpha
		<i>Nucella dubi</i>	Dogwhelk	Liparidae	Neogastropoda
		<i>Scutellastra granularis</i>	Granular limpet	Patellidae	Patellogastropoda
<i>Cymbula granatina</i>		Granite limpet	Patellidae	Patellogastropoda	
<i>Oxysteles tigrina</i>		Tiger top shell	Trochidae	Trochida	

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EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
	<b>Mollusca: Sea star</b>	<i>Patiriella exigua</i>	Dwarf cushion star	Asterinidae	Forcipulatida
	<b>Cnidaria Jellyfish</b>	<i>Chrysaora fulgida</i> = <i>hysoscella</i>	Benguela compass jelly	Scyphozoa	Semaeostomeae
	<b>Cnidaria Jellyfish</b>	<i>Chrysaora africana</i>	Purple compass jelly	Scyphozoa	Semaeostomeae
		<i>Chrysaora (agulhensis)</i>	Cape compass jelly	Scyphozoa	Semaeostomeae
		<i>Pelagia noctiluca</i>	Night-light jelly	Scyphozoa	Semaeostomeae
		<i>Aurelia aurita</i>	Moon jellyfish	Scyphozoa	Semaeostomeae
		<i>Aequorea forskalea</i>	Crystal jellyfish	Hydrozoa	Semaeostomeae
		<i>Carybdea branchi</i>	Box jellyfish	Cubozoa	Semaeostomeae

**Table 5.3.A.2  
Marine Algae (Seaweeds)**

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
Marine Ecology Assessment and Updated Baseline Status of Kelp and Jellyfish along the South Western Cape Coast	<b>Algae</b>	<i>Sarcothalia stiriata</i>	(Turner) Leister	Gigartinaceae	Gigartinales
		<i>Ulva</i>	Sea lettuce	Ulvaceae	Ulvales
		<i>Porphyra</i>	Purple Seaweed	Bangiaceae	Bangiiales
		<i>Ralfsia verrucosa</i>	Crustose brown seaweed	Ralfsiaceae	Ralfsiales
		<i>Gigartina polycarpa</i>	Red seaweed	Gigartinaceae	Gigartinales
		<i>Caulacanthus ustulatus</i>	Stern thorn algae	Caulacanthaceae	Gigartinales
		<i>Aeodes</i>		Halymeniaceae	Halymeniales

**Table 5.3.A.3  
Freshwater Invertebrates**

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
Wetland Ecosystems Specialist Study	<b>Planktonic crustacean</b>	<i>Hydracarina spp.</i>	Water flea / mites	Unknown	Acarina
		<i>Streptocephalus purcelli</i>	Fairy shrimps	Streptocephalidae	Anostracoda

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Daphnia barbata</i>	Water fleas	Daphniidae	Cladocera
		<i>Daphnia dolichocephala</i>	Water fleas	Daphniidae	Cladocera
		<i>Daphnia pulex/obtusa</i>	Water fleas	Daphniidae	Cladocera
		<i>Simocephalus spp</i>	Water fleas	Daphniidae	Cladocera
	<b>Crustacean</b>	<i>Echinisca sp.</i>	Water fleas	Macrothericidae	Cladocera
	<b>Crustacean</b>	<i>Macrothrix propinqua</i>	Water fleas	Macrothericidae	Cladocera
	<b>Crustacean</b>	<i>Moina brachiata</i>	Water fleas	Moinidae	Cladocera
	<b>Crustacean</b>	<i>Moina micura</i>	Water fleas	Moinidae	Cladocera
		<i>Moina sp.</i>	Water fleas	Moinidae	Cladocera
		<i>Leptestheriella rubidgei</i>	Clam shrimps	Leptestheriidae	Conchostraca
		<i>Lovenula simplex</i>	Paradiaptomus simplex	Diaptomidae	Copepoda: Calanoida
		<i>Metadiaptomus capensis</i>	n/a	Diaptomidae	Copepoda: Calanoida
		<i>Paradiaptomus lamellatus</i>	n/a	Diaptomidae	Copepoda: Calanoida
		<i>Cyclopodia sp.</i>	n/a	Cyclopodia	Copepoda: Cyclopoida
		<i>Microcyclops crassipes</i>	n/a	Cyclopodia	Copepoda: Cyclopoida
	<b>Insecta</b>	<i>Curculionidae sp. adult</i>	Weevils	Curculionidae	Coleoptera
		<i>Bidessini sp. larva</i>	Tiger beetles	Dytiscidae	Coleoptera
		<i>Canthyporus spp. adult</i>	Tiger beetles	Dytiscidae	Coleoptera
		<i>Canthyporus hottentottus adult</i>	Tiger beetles	Dytiscidae	Coleoptera
		<i>Darwinhydrus solidus adult</i>	Tiger beetles	Dytiscidae	Coleoptera
		<i>Derovatellus sp. adult</i>	Tiger beetles	Dytiscidae	Coleoptera
		<i>Hydropeplus sp. adult</i>	Tiger beetles	Dytiscidae	Coleoptera
		<i>Hydroporus sp. adult</i>	Tiger beetles	Dytiscidae	Coleoptera
<i>Hydroporus sp. larva</i>		Tiger beetles	Dytiscidae	Coleoptera	

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Hydroporus sp. larva</i>	Tiger beetles	Dytiscidae	Coleoptera
		<i>Laccophilus cyclopis</i>	Tiger beetles	Dytiscidae	Coleoptera
		<i>c.f. Neoporus sp. larva</i>	Tiger beetles	Dytiscidae	Coleoptera
		<i>Rhantus sp. larva</i>	Tiger beetles	Dytiscidae	Coleoptera
		<i>Aulonogyrus capensis</i>	Whirlygig beetles	Gyrinidae	Coleoptera
		<i>Berosus sp. larva</i>	Water scavenger beetles	Hydrophilidae	Coleoptera
		<i>c.f. Sperchopsis sp</i>	Water scavenger beetles	Hydrophilidae	Coleoptera
		<i>Polypedilum sp. larva</i>	Non-biting midges	Chironomidae : Chironominae	Diptera
	Insecta	<i>Tanytarsus sp. larva</i>	Non-biting midges	Chironomidae : Chironominae	Diptera
		<i>Tanytarsus sp. pupa</i>	Non-biting midges	Chironomidae : Chironominae	Diptera
		<i>Corynoneura sp. larva</i>	Non-biting midges	Chironomidae : Orthoclaadiinae	Diptera
		<i>Cricotopus sp. larva</i>	Non-biting midges	Chironomidae : Orthoclaadiinae	Diptera
		<i>Rheocricotopus sp. larva</i>	Non-biting midges	Chironomidae : Orthoclaadiinae	Diptera
		<i>Orthoclaadiinae spp. larva</i>	Non-biting midges	Chironomidae : Orthoclaadiinae	Diptera
		<i>Ablabesmyia sp. larva</i>	Non-biting midges	Chironomidae : Tanypodinae	Diptera
		<i>Paramerina sp. pupa</i>	Non-biting midges	Chironomidae : Tanypodinae	Diptera
		<i>Tanypodinae spp. larva</i>	Non-biting midges	Chironomidae : Tanypodinae	Diptera
		<i>Aedes sp. larva</i>	Mosquitoes	Culicidae: Culicinae	Diptera

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Culicidae spp. pupa</i>	Mosquitoes	Culicidae: Culicinae	Diptera
		<i>Culex spp. larva</i>	Mosquitoes	Culicidae: Culicinae	Diptera
		<i>Culiseta sp. larva</i>	Mosquitoes	Culicidae: Culicinae	Diptera
		<i>Dixa sp. larva</i>	Meniscus flies	Dixidae	Diptera
		<i>Odontomyia sp. larva</i>	Soldier flies	Stratiomyidae	Diptera
		<i>Stratiomyidae sp. larva</i>	Ssoldier flies	Stratiomyidae	Diptera
		<i>Cloeon sp</i>	Minnow mayflies	Baetidae	Ephemeroptera
		<i>Sigara sp</i>	Waterboatman	Corixidae	Hemiptera
		<i>Sigara meridionalis</i>	Waterboatman	Corixidae	Hemiptera
		<i>Sigara pectoralis</i>	Waterboatman	Corixidae	Hemiptera
		<i>Anisops sp.</i>	Backswimmers	Notonectidae	Hemiptera
	Insecta	<i>Anisops sardea</i>	Backswimmers	Notonectidae	Hemiptera
		<i>Notonecta lactitans</i>	Backswimmers	Notonectidae	Hemiptera
		<i>Plea piccanina</i>	Pygmy backswimmers	Pleidae	Hemiptera
		<i>Plea pullula</i>	Pygmy backswimmers	Pleidae	Hemiptera
		<i>Plea sp.</i>	Pygmy backswimmers	Pleidae	Hemiptera
		<i>Coenagrionidae sp.</i>	Damselflies	Coenagrionidae	Anisoptera
	Mollusca Gastropoda	<i>Physia acuta</i>	Snails	Physidae	Mesogastropoda
		<i>Bulinus tropicus</i>	Snails	Planorbidae	Mesogastropoda
		<i>Tomichia sp</i>	Snails	Pomatiopsidae	Mesogastropoda
		<i>Tomichia ventricosa</i>	Snails	Pomatiopsidae	Mesogastropoda
Crustacea Ostracoda	<i>Chrissia sp. A</i>	Seed shrimps	Cyprididae	Ostracoda	
	<i>Cypricercus episphaena</i>	Seed shrimps	Cyprididae	Ostracoda	
	<i>Heterocypris sp. A</i>	Seed shrimps	Cyprididae	Ostracoda	

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Ostracoda sp. 1</i>	Seed shrimps	Cyprididae	Ostracoda
		<i>Ostracoda sp. 1</i>	Seed shrimps	Cyprididae	Ostracoda
		<i>Ostracoda sp. 1</i>	Seed shrimps	Cyprididae	Ostracoda
		<i>Ostracoda sp. 1</i>	Seed shrimps	Cyprididae	Ostracoda
		<i>Ostracoda sp. 1</i>	Seed shrimps	Cyprididae	Ostracoda
		<i>Paracyprretta sp. A</i>	Seed shrimps	Cyprididae	Ostracoda
		<i>Potamocypris ? sp. 1</i>	Seed shrimps	Cyprididae	Ostracoda
		<i>Pseudocypris acuta</i>	Seed shrimps	Cyprididae	Ostracoda
		<i>Sarsypridopsis sp. A</i>	Seed shrimps	Cyprididae	Ostracoda
		<i>Zonocypris cordata</i>	Seed shrimps	Cyprididae	Ostracoda
	<b>Annelida: Clitellata</b>	<i>Tubificidae sp.</i>	Segmented Worm	Tubificidae	Haplotaxida: Tubificina
	<b>Platyhelminthes</b>	<i>Mesostoma? sp</i>	Flat worm	Typhloplanidae	Rhabdocoela

**Table 5.3.A.4  
Terrestrial Invertebrates**

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
Terrestrial Invertebrate Assessment	Insecta	<i>Chrysoritis thysbe osbecki</i>	Opal copper	Lycaenidae	Lepidoptera
		<i>cf. Microdon testaceus</i>	Myrblomflugor	Syrphidae	Diptera
		<i>Eurychora species 2</i>	Darkling beetle	Tenebrionidae	Coleoptera
		<i>Hoplolopha species</i>		Pamphagidae	Orthoptera
		<i>Mutillidae 2</i>	Wasps	Mutillidae	Hymenoptera
		<i>Odontoloma species</i>	n/a	Scarabaeidae	Coleoptera
		<i>cf. Platychila pallida</i>	n/a	Carabidae	Coleoptera
		<i>Macroderes greeni</i>	n/a	Scarabaeidae	Coleoptera



EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Apidae</i> 12	Bee	Apidae	Hymenoptera ns
		<i>Apidae</i> 2	Bee	Apidae	Hymenoptera ns
		<i>Buprestidae</i> 3	Beetles	Scarabaeinae	Coleoptera
		<i>Cicadidae</i> 1	Bugs	Cicadidae	Hemiptera
		<i>Curculionidae</i> 23	Weevil	Curculionidae	Coleoptera
		<i>Formicidae</i> 9	Ants	Formicidae	Hymenoptera ns
		<i>Hopliini</i> 8	Beetle (Monkey)	Scarabaeinae	Coleoptera
		<i>Lycidae</i> 1	Beetle	Scarabaeinae	Coleoptera
		<i>Lygaeidae</i> 3	Milkweed / seed bugs	Lygaeidae	Hemiptera
		<i>Mantidae</i> 1	Praying mantise	Mantidae	Mantodea
		<i>Muscidae</i> 3	House flies	Calliphoridae	Diptera
		<i>Myrmeleontidae</i> 4	Doodlebugs	Myrmeleontidae	-Neuroptera
		<i>Reduviidae</i> 4	Bugs	Reduviidae	Hemiptera
		<i>Reduviidae</i> 5	Bugs	Reduviidae	Hemiptera
		<i>Sphecidae</i> 1	Wasp	Vespidae	Hymenoptera
		<i>Sphecidae</i> 2	Wasp	Vespidae	Hymenoptera
		<i>Sphecidae</i> 3	Wasp	Vespidae	Hymenoptera
		<i>Sphecidae</i> 4	Wasp	Vespidae	Hymenoptera
		<i>Tenebrionidae</i> 13	Darkling beetle	Scarabaeinae	Coleoptera
	Insecta	<i>Tenebrionidae</i> 18	Darkling beetle	Scarabaeinae	Coleoptera
		<i>Tenebrionidae</i> 19	Darkling beetle	Scarabaeinae	Coleoptera
		<i>Tettigoniidae</i> 1	Katydids / bush crickets	Gryllidae	Orthoptera
		<i>Orthetrum trinacria</i>	Dragonfly	Libellulidae	Odonata
		<i>Anthene definita definita</i>	Butterfly	Papilionoidea	Lepidoptera
		<i>Chrysoritis chrysaor</i>	Butterfly	Papilionoidea	Lepidoptera
		<i>Utetheisa pulchella</i>	Crimson-speckled moth	Tineidae	Lepidoptera
		<i>Acrididae</i> 31	Grasshoppers	Acrididae	Orthoptera
		<i>Hopliini</i> 9	Monkey / scarab beetles	Scarabaeidae	Coleoptera

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Allodapula species 2</i>	Bees	Apidae	Hymenoptera
		<i>Lygaeidae 1</i>	Bugs	Lygaeidae	Hemiptera
		<i>Melolonthinae 4</i>	Scarab beetles	Scarabaeidae	Coleoptera
		<i>Aphodius species 7</i>	Beetle	Scarabaeinae	Coleoptera
		<i>Formicidae 7</i>	Ant	Formicidae	Hymenoptera ns
		<i>Acrididae 30</i>	Grasshoppers	Acrididae	Orthoptera
		<i>Apidae 1</i>	Bees	Apidae	Hymenoptera
		<i>Xylocopa caffra</i>	Carpenter bee	Apidae	Hymenoptera
		<i>Curculionidae 15</i>	Weevils	Curculionidae	Coleoptera
		<i>Curculionidae 18</i>	Weevils	Curculionidae	Coleoptera
		<i>Noctuidae 2</i>	Owlet moths / cutworms / armyworms	Noctuidae	Lepidoptera
		<i>Noctuidae 3</i>	Owlet moths / cutworms / armyworms	Noctuidae	Lepidoptera
		<i>Noctuidae 4</i>	Owlet moths / cutworms / armyworms	Noctuidae	Lepidoptera
		<i>Aphodius species 6</i>	Beetles	Scarabaeinae	Coleoptera
		<i>Formicidae 4</i>	Ants	Formicidae	Hymenoptera ns
		<i>Apidae 3</i>	Bees	Apidae	Hymenoptera
	Insecta	<i>Bembix species</i>	Sand wasp	Vespidae	Hymenoptera
		<i>Braconidae 1</i>	Parasitoid wasps	Vespidae	Hymenoptera
		<i>Buprestidae 4</i>	Jewel beetles / metallic wood-boring beetles	Scarabaeinae	Coleoptera
		<i>Chrysomelidae 16</i>	Leaf beetles	Scarabaeinae	Coleoptera
		<i>Gonia species</i>	Fly	Calliphoridae	Diptera
		<i>Sphecidae 16</i>	Wasp	Vespidae	Hymenoptera
		<i>Tenebrionidae 20</i>	Darkling beetle	Scarabaeinae	Coleoptera
		<i>Anax imperator</i>	Emperor dragonfly	Aeshnidae	Odonata

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order	
		<i>Hopliini 10</i>	Monkey / scarab beetles	Scarabaeidae	Coleoptera	
		<i>Tenebrionidae 15</i>	Darkling beetle	Scarabaeinae	Coleoptera	
		<i>Chrysomelidae 19</i>	Leaf beetles	Scarabaeinae	Coleoptera	
		<i>Sphecidae 15</i>	Wasp	Vespidae	Hymenoptera	
		<i>Tenebrionidae 21</i>	Darkling beetle	Scarabaeinae	Coleoptera	
		<i>Cerambycidae 5</i>	Longhorn beetles	Scarabaeinae	Coleoptera	
		<i>Chrysomelidae 30</i>	Leaf beetles	Scarabaeinae	Coleoptera	
		<i>Curculionidae 14</i>	Weevils	Curculionidae	Coleoptera	
		<i>Elateridae 3</i>	Click / snapping / spring / skipjack beetles	Scarabaeinae	Coleoptera	
		<i>Chrysomelidae 15</i>	Leaf beetles	Scarabaeinae	Coleoptera	
		<i>Hippodamia variegata</i>	Ladybird	Coccinellidae	Coleoptera	
		<i>Tenebrionidae 17</i>	Darkling beetle	Scarabaeinae	Coleoptera	
		<i>Epirinus species</i>	Dung beetles	Scarabaeinae	Coleoptera	
		<i>Pentatomidae 3</i>	Shield / stink bugs	Pentatomidae	Hemiptera	
		<i>Acanthosomatidae 1</i>	Shield bugs	Acanthosomatidae	Hemiptera	
		<i>Acrididae 26</i>	Grasshoppers	Acrididae	Diptera	
		<i>Carabidae 5</i>	Ground beetles	Scarabaeinae	Coleoptera	
		Insecta	<i>Muscidae 5</i>	House / stable flies	Calliphoridae	Diptera
			<i>Sphecidae 18</i>	Wasp	Vespidae	Hymenoptera
	<i>Hopliini 12</i>		Monkey / scarab beetles	Scarabaeidae	Coleoptera	
	<i>cf. Chrysomya chloropyga</i>		Blowflies	Calliphoridae	Diptera	
	<i>Gryllidae 1</i>		Crickets	Gryllidae	Orthoptera	
	<i>Aphodius species 9</i>		Beetle	Scarabaeinae	Coleoptera	
	<i>Scarabaeus rugosus</i>		Dung beetle	Scarabaeinae	Coleoptera	

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Psammodes species 2</i>	Tok-tok beetles	Scarabaeinae	Coleoptera
		<i>Anthicidae 2</i>	Ant-like flower beetles / ant-like beetles	Scarabaeinae	Coleoptera
		<i>Apidae 10</i>	Bee	Apidae	Hymenoptera
		<i>Apidae 4</i>	Bee	Apidae	Hymenoptera
		<i>Cerambycidae 8</i>	Longhorn beetles	Scarabaeinae	Coleoptera
		<i>Curculionidae 21</i>	Weevils / snout beetles	Curculionidae	Coleoptera
		<i>Curculionidae 22</i>	Weevils / snout beetles	Curculionidae	Coleoptera
		<i>Dictyopharidae 1</i>	Bugs	Dictyopharidae	Hemiptera
		<i>Epilachna species</i>	Mexican Bean Beetle	Scarabaeinae	Coleoptera
		<i>Histeridae 5</i>	Clown / Hister beetles	Scarabaeinae	Coleoptera
		<i>Mantidae</i>	Praying mantises	Mantidae	Mantodea
		<i>Tenebrionidae 12</i>	Darkling beetle	Scarabaeinae	Coleoptera
		<i>Tenebrionidae 2</i>	Darkling beetle	Scarabaeinae	Coleoptera
		<i>Aphodius species 10</i>	Beetle	Scarabaeinae	Coleoptera
		<i>Cerambycidae 1</i>	Longhorn beetles	Scarabaeinae	Coleoptera
		<i>Chrysomelidae 17</i>	Leaf beetles	Scarabaeinae	Coleoptera
		<i>Curculionidae 20</i>	Weevils / snout beetles	Curculionidae	Coleoptera
		<i>Lepismatidae 1</i>	Silverfish	Lepismatidae	Zygentoma
		<i>Nitidulidae 1</i>	Sap beetles	Scarabaeinae	Coleoptera
		<i>Tenebrionidae 23</i>	Darkling beetle	Scarabaeinae	Coleoptera
	<b>Insecta</b>	<i>Acrididae 15</i>	Grasshoppers	Acrididae	Diptera
		<i>Elateridae 2</i>	Click beetles	Scarabaeinae	Coleoptera
		<i>Pentatomidae 4</i>	Shield / stink bugs	Pentatomidae	Hemiptera
		<i>Blatellidae 6</i>	Cockroaches	Blattidae	Blattodea
		<i>Curculionidae 19</i>	Weevils / snout beetles	Curculionidae	Coleoptera
		<i>Curculionidae 2</i>	Weevils / snout beetles	Curculionidae	Coleoptera
		<i>Myrmeleontidae 5</i>	Antlions	Myrmeleontidae	Neuroptera

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Vespidae</i> 4	Eusocial wasps	Vespidae	Hymenoptera
	Arachnida	<i>Acrididae</i> 21	Spider	Hypochoilidae	Araneae
		<i>Araneae</i> 17	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 18	Spiders	Hypochoilidae	Araneae
		<i>Harpactira atra</i>	Spider (Baboon)	Hypochoilidae	Araneae
		<i>Araneae</i> 27	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 28	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 16	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 34	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 35	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 36	Spiders	Hypochoilidae	Araneae
		<i>Rhipicephalus species 1</i>	Brown dog tick	Ixodidae	Ixodida
		<i>Araneae</i> 25	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 19	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 20	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 21	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 22	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 23	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 24	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 26	Spiders	Hypochoilidae	Araneae
		<i>Araneae</i> 15	Spiders	Hypochoilidae	Araneae
	<i>Araneae</i> 33	Spiders	Hypochoilidae	Araneae	
	<i>Araneae</i> 29	Spiders	Hypochoilidae	Araneae	
	<i>Araneae</i> 30	Spiders	Hypochoilidae	Araneae	
	<i>Araneae</i> 31	Spiders	Hypochoilidae	Araneae	
	<i>Araneae</i> 32	Spiders	Hypochoilidae	Araneae	
	Myriapoda: Diplopoda	<i>Spirostreptida</i> e 2	Millipedes	Spirostreptida e	Polyxenida

**Table 5.3.A.5  
Amphibians and Reptiles**

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
Terrestrial Fauna Impact Study	Amphibia	<i>Vandijkophrynus angusticeps</i>	Cape Sand Toad	Bufoinae	Anura
		<i>Breviceps namaquensis</i>	Namaqua Rain Frog	Microhylidae	Anura
		<i>Breviceps rosei</i>	Rose's Rain Frog	Microhylidae	Anura
		<i>Xenopus laevis</i>	Common Platanna	Pipidae	Anura
		<i>Amietia fuscigula</i>	Cape River Frog	Pyxicephalidae	Anura

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order			
		<i>Cacosternum capense</i>	Cape Caco	Pyxicephalidae	Anura			
		<i>Cacosternum platys</i>	Flat Caco	Pyxicephalidae	Anura			
		<i>Strongylopus grayii</i>	Clicking Stream Frog	Pyxicephalidae	Anura			
		<i>Tomopterna delalandii</i>	Cape Sand Frog	Pyxicephalidae	Anura			
	Reptilia		<i>Chersina angulata</i>	Angulate Tortoise	Testudinidae	Testudines		
			<i>Homopus areolatus</i>	Parrot-beaked Padloper	Testudinidae	Testudines		
			<i>Psammobates geometricus</i>	Geometric Tortoise	Testudinidae	Testudines		
			<i>Pelomedusa subrufa</i>	Marsh Terrapin	Pelomedusidae	Testudines		
			<i>Rhinotyphlops lalandei</i>	Delalande's Beaked Blind Snake	Typhlopidae	Squamata		
			<i>Leptotyphlops nigricans</i>	Black Thread Snake	Leptotyphlopidae	Squamata		
			<i>Homoroselaps lacteus</i>	Spotted Harlequin Snake	Atractaspidae	Squamata		
			<i>Amplorhinus multimaculatus</i>	Many-spotted Snake	Colubridae	Squamata		
			<i>Crotaphopeltis hotamboeia</i>	Herald Snake	Colubridae	Squamata		
			<i>Dasypeltis scabra</i>	Rhombic Egg-eater	Colubridae	Squamata		
			<i>Dispholidus typus</i>	Boomslang	Colubridae	Squamata		
			<i>Duberria lutrix</i>	Common Slug-eater	Colubridae	Squamata		
			<i>Lamprophis aurora</i>	Aurora House Snake	Colubridae	Squamata		
			<i>Lamprophis capensis</i>	Brown House Snake	Colubridae	Squamata		
			<i>Lamprophis fuscus</i>	Yellow-bellied House Snake	Colubridae	Squamata		
			Reptilia		<i>Lamprophis guttatus</i>	Spotted House Snake	Colubridae	Squamata
					<i>Lamprophis inornatus</i>	Olive House Snake	Colubridae	Squamata
					<i>Lycodonomorphus rufulus</i>	Common Brown Water Snake	Colubridae	Squamata

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Prosymna sundevallii</i>	Sundevall's Shovel-snout	Colubridae	Squamata
		<i>Psammophis crucifer</i>	Crossed Whip Snake	Colubridae	Squamata
		<i>Psammophis leightoni</i>	Cape Whip Snake	Colubridae	Squamata
		<i>Psammophis notostictus</i>	Karoo Whip Snake	Colubridae	Squamata
		<i>Psammophyla x r. rhombeatus</i>	Rhombic Skaapsteker	Colubridae	Squamata
		<i>Pseudaspis cana</i>	Mole Snake	Colubridae	Squamata
		<i>Aspidelaps lubricus lubricus</i>	Coral Shield Cobra	Elapidae	Squamata
		<i>Hemachatus haemachatus</i>	Rinkhals	Elapidae	Squamata
		<i>Naja nivea</i>	Cape Cobra	Elapidae	Squamata
		<i>Bitis arietans arietans</i>	Puff Adder	Viperidae	Squamata
		<i>Bitis armata</i>	Southern Adder	Viperidae	Squamata
		<i>Bitis cornuta</i>	Many-horned Adder	Viperidae	Squamata
		<i>Acontias meleagris meleagris</i>	Cape Legless Skink	Scincidae	Squamata
		<i>Scelotes bipes</i>	Silvery Dwarf Burrowing Skink	Scincidae	Squamata
		<i>Scelotes gronovii</i>	Gronovi's Dwarf Burrowing Skink	Scincidae	Squamata
		<i>Scelotes montispectus</i>	Blouberg Dwarf Burrowing skink	Scincidae	Squamata
		<i>Trachylepis capensis</i>	Cape Skink	Scincidae	Squamata
		<i>Trachylepis homalocephala</i>	Red-sided Skink	Scincidae	Squamata
		<i>Trachylepis variegata variegata</i>	Variegated Skink	Scincidae	Squamata
		Reptilia	<i>Typhlosaurus caecus</i>	Cuvier's Blind Legless Skink	Scincidae

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Meroles knoxii</i>	Knox's Desert Lizard	Lacertidae	Squamata
		<i>Tetradactylus seps</i>	Short-legged Seps	Gerrhosauridae	Squamata
		<i>Chamaesaura anguina</i>	Cape Grass Lizard	Cordylidae	Squamata
		<i>Cordylus cordylus</i>	Cape Girdled Lizard	Cordylidae	Squamata
		<i>Cordylus macropholis</i>	Large-scaled Girdled Lizard	Cordylidae	Squamata
		<i>Cordylus niger</i>	Black Girdled Lizard	Cordylidae	Squamata
		<i>Cordylus polyzonus</i>	Karoo Girdled Lizard	Cordylidae	Squamata
		<i>Agama atra</i>	Southern Rock Agama	Agamidae	Squamata
		<i>Agama hispida</i>	Southern Spiny Agama	Agamidae	Squamata
		<i>Bradypodion pumilum</i>	Cape Dwarf Chameleon	Chamaeleonidae	Squamata
		<i>Bradypodion occidentale</i>	Western Dwarf Chameleon	Chamaeleonidae	Squamata
		<i>Afrogecko porphyreus</i>	Marbled Leaf-toed Gecko	Gekkonidae	Squamata
		<i>Goggia lineate</i>	Striped Dwarf Leaf-toed Gecko	Gekkonidae	Squamata
		<i>Pachydactylus austeni</i>	Austen's Thick-toed Gecko	Gekkonidae	Squamata
		<i>Pachydactylus geitje</i>	Ocellated Thick-toed Gecko	Gekkonidae	Squamata

**Table 5.3.A.6  
Birds**

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
Terrestrial Fauna Impact Study	Aves	<i>Struthio camelus</i>	1 Common Ostrich	Struthionidae	Struthioniformes
		<i>Spheniscus demersus</i>	3 African Penguin	Spheniscidae	Sphenisciformes
		<i>Podiceps cristatus</i>	6 Great Crested Grebe	Podicipedidae	Podicipediformes
		<i>Podiceps cristatus</i>	7 Black-necked Grebe	Podicipedidae	Podicipediformes



EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Podiceps cristatus</i>	8 Little Grebe	Podicipedidae	Podicipediformes
		<i>Pelecanus onocrotalus</i>	49 Great White Pelican	Pelecanidae	Pelecaniformes
		<i>Phalacrocorax lucidus</i>	55 White-breasted Cormorant	Phalacrocoracidae	Gannets
		<i>Phalacrocorax capensis</i>	56 Cape Cormorant	Phalacrocoracidae	Gannets
		<i>Phalacrocorax neglectus</i>	57 Bank Cormorant	Phalacrocoracidae	Gannets
		<i>Microcarbo africanus</i>	58 Reed Cormorant	Phalacrocoracidae	Gannets
		<i>Microcarbo coronatus</i>	59 Crowned Cormorant	Phalacrocoracidae	Gannets
		<i>Anhinga rufa</i>	60 African Darter	Anhingidae	Suliformes
		<i>Ardea Cinerea</i>	62 Grey Heron	Ardeidae	Pelecaniformes
		<i>Ardea melanocephala</i>	63 Black-headed Heron	Ardeidae	Pelecaniformes
		<i>Ardea goliath</i>	64 Goliath Heron	Ardeidae	Pelecaniformes
		<i>Ardea purpurea</i>	65 Purple Heron	Ardeidae	Pelecaniformes
		<i>Ardea alba</i>	66 Great White Egret	Ardeidae	Pelecaniformes
		<i>Egretta garzetta</i>	67 Little Egret	Ardeidae	Pelecaniformes
		<i>Ardea intermedia</i>	68 Yellow-billed Egret	Ardeidae	Pelecaniformes
		<i>Bubulcus ibis</i>	71 Cattle Egret	Ardeidae	Pelecaniformes
		<i>Ardea melanocephala</i>	76 Black-crowned Night-Heron	Ardeidae	Pelecaniformes
		<i>Ixobrychus minutus</i>	78 Little Bittern	Ardeidae	Pelecaniformes
		<i>Scopus umbretta</i>	81 Hamerkop	Scopidae	Pelecaniformes
		<i>Ciconia nigra</i>	84 Black Stork	Ciconiidae	Ciconiiformes
		<i>Mycteria ibis</i>	90 Yellowbilled Stork	Ciconiidae	Ciconiiformes
		<i>Threskiornis aethiopicus</i>	91 African Sacred Ibis	Threskiornithidae	Pelecaniformes

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Plegadis falcinellus</i>	93 Glossy Ibis	Threskiornithidae	Pelecaniformes
		<i>Bostrychia hagedash</i>	94 Hadedda Ibis	Threskiornithidae	Pelecaniformes
	Aves	<i>Platalea alba</i>	95 African Spoonbill	Threskiornithidae	Pelecaniformes
		<i>Phoenicopterus roseus</i>	96 Greater Flamingo	Phoenicopteridae	Phoenicopteriformes
		<i>Thalassornis leuconotus</i>	101 White-backed Duck	Anatidae	Anseriformes
		<i>Alopochen aegyptiaca</i>	102 Egyptian Goose	Anatidae	Anseriformes
		<i>Tadorna cana</i>	103 South African Shelduck	Anatidae	Waterfowl
		<i>Anas undulata</i>	104 Yellow-billed Duck	Anatidae	Anseriformes
		<i>Anas sparsa</i>	105 African Black Duck	Anatidae	Anseriformes
		<i>Anas capensis</i>	106 Cape Teal	Anatidae	Waterfowl
		<i>Spatula cyanoptera</i>	108 Red-billed Teal	Anatidae	Waterfowl
		<i>Spatula smithii</i>	112 Cape Shoveler	Anatidae	Waterfowl
		<i>Netta erythrophthalma</i>	113 Southern Pochard	Anatidae	Waterfowl
		<i>Plectropterus gambensis</i>	116 Spur-winged Goose	Anatidae	Anseriformes
		<i>Oxyura maccoa</i>	117 Maccoa Duck	Anatidae	Waterfowl
		<i>Sagittarius serpentarius</i>	118 Secretarybird	Sagittariidae	Accipitriformes
		<i>Milvus migrans</i>	127 Black-shouldered Kite	Accipitridae	Accipitriformes
		<i>Milvus aegyptius</i>	888 Yellow-billed Kite	Accipitridae	Accipitriformes
		<i>Aquila verreauxii</i>	131 Verreaux's (Black) Eagle	Accipitridae	Accipitriformes
		<i>Polemaetus bellicosus</i>	140 Martial Eagle	Accipitridae	Accipitriformes
		<i>Haliaeetus vocifer</i>	148 African Fish-Eagle	Accipitridae	Accipitriformes
<i>Buteo vulpinus</i>	149 Steppe Buzzard	Accipitridae	Accipitriformes		

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Buteo rufofuscus</i>	152 Jackal Buzzard	Accipitridae	Accipitriformes
		<i>Dasymys incomtus</i>	165 African Marsh -Harrier	Muridae	Rodentia
		<i>Circus pygargus</i>	166 Montagu's Harrier	Accipitridae	Accipitriformes
		<i>Circus maurus</i>	168 Black Harrier	Accipitridae	Accipitriformes
	Aves	<i>Polyboroides typus</i>	169 African Harrier -Hawk (Gymnogone)	Accipitridae	Accipitriformes
		<i>Falco peregrinus</i>	171 Peregrine Falcon	Falconidae	Falconiformes
		<i>Falco biarmicus</i>	172 Lanner Falcon	Falconidae	Falconiformes
		<i>Falco subbuteo</i>	173 Northern Hobby Falcon	Falconidae	Falconiformes
		<i>Falco rupicolus</i>	181 Rock Kestrel	Falconidae	Falconiformes
		<i>Falco naumanni</i>	183 Lesser Kestrel	Falconidae	Falconiformes
		<i>Francolinus pondicerianus</i>	190 Grey - winged Francolin	Phasianidae	Galliformes
		<i>Pternistis capensis</i>	195 Cape Spurfowl	Phasianidae	Galliformes
		<i>Coturnix coturnix</i>	200 Common Quail	Phasianidae	Galliformes
		<i>Numida meleagris</i>	203 Helmeted Guineafowl	Numididae	Galliformes
		<i>Turnix nanus</i>	206 Black - rumped Buttonquail (pre -split)	Turnicidae	Charadriiformes
		<i>Grus paradisea</i>	208 Blue Crane	Gruidae	Galliformes
		<i>Rallus caerulescens</i>	210 African Rail	Rallidae	Galliformes
		<i>Amaurornis flavirostra</i>	213 Black Crane	Rallidae	Galliformes
		<i>Porphyrio madagascariensis</i>	223 African Purple Swamphen (Gallinule)	Rallidae	Galliformes
		<i>Gallinula chloropus</i>	226 Common Moorhen	Rallidae	Galliformes
<i>Fulica armillata</i>	228 Red - knobbed Coot	Rallidae	Galliformes		

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Afrotis afrooides</i>	239 Black Korhaan	Otididae	
		<i>Haematopus moquini</i>	244 African Black Oystercatcher	Haematopodidae	Shorebirds
		<i>Charadrius hiaticula</i>	245 Common Ringed Plover	Charadriidae	Shorebirds
		<i>Charadrius marginatus</i>	246 White - fronted Plover	Charadriidae	Charadriiformes
		<i>Charadrius pecuarius</i>	248 Kittlitz's Plover	Charadriidae	Charadriiformes
		<i>Charadrius hiaticula</i>	249 Three - banded Plover	Charadriidae	Shorebirds
	Aves	<i>Vanellus armatus</i>	254 Grey (Black - bellied) Plover	Charadriidae	Shorebirds
		<i>Vanellus coronatus</i>	255 Crowned Lapwing (Plover)	Charadriidae	Charadriiformes / Shorebirds
		<i>Vanellus armatus</i>	258 Blacksmith Lapwing (Plover)	Charadriidae	Shorebirds
		<i>Arenaria interpres</i>	262 Ruddy Turnstone	Scolopacidae	Shorebirds
		<i>Actitis hypoleucos</i>	264 Common Sandpiper	Scolopacidae	Charadriiformes
		<i>Tringa glareola</i>	266 Wood Sandpiper	Scolopacidae	Shorebirds
		<i>Tringa stagnatilis</i>	269 Marsh Sandpiper	Scolopacidae	Shorebirds
		<i>Tringa nebularia</i>	270 Common Greenshank	Scolopacidae	Shorebirds
		<i>Calidris canutus</i>	271 Red Knot	Scolopacidae	Shorebirds
		<i>Calidris ferruginea</i>	272 Curlew Sandpiper	Scolopacidae	Shorebirds
		<i>Calidris minuta</i>	274 Little Stint	Scolopacidae	Shorebirds
		<i>Calidris alba</i>	281 Sanderling	Scolopacidae	Shorebirds
		<i>Calidris pugnax</i>	284 Ruff	Scolopacidae	Shorebirds
		<i>Gallinago nigripennis</i>	286 African (Ethiopian) Snipe	Scolopacidae	Shorebirds
<i>Limosa lapponica</i>	288 Bar - tailed Godwit	Scolopacidae	Charadriiformes		

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Recurvirostra avosetta</i>	294 Pied (Avocet) Avocet	Recurvirostridae	Shorebirds
		<i>Himantopus himantopus</i>	295 Black - winged Stilt	Recurvirostridae	Charadriiformes
		<i>Burhinus capensis</i>	297 Spotted Thick -knee (Dikkop)	Burhinidae	Shorebirds
		<i>Burhinus capensis</i>	298 Water Thick -knee (Dikkop)	Burhinidae	Shorebirds
		<i>Larus dominicanus</i>	312 Kelp Gull	Laridae	Shorebirds
		<i>Larus modestus</i>	315 Grey - headed Gull	Laridae	Shorebirds
		<i>Chroicocephalus hartlaubii</i>	316 Hartlaub's Gull	Laridae	Shorebirds
	Aves	<i>Thalasseus bergii</i>	324 Swift (Great Crested) Tern	Laridae	Shorebirds
		<i>Thalasseus sandvicensis</i>	326 Sandwich Tern	Laridae	Shorebirds
		<i>Sterna hirundo</i>	327 Common Tern	Laridae	Shorebirds
		<i>Sterna paradisaea</i>	328 Arctic Tern	Laridae	Shorebirds
		<i>Sterna vittata</i>	329 Antarctic Tern	Laridae	Shorebirds
		<i>Chlidonias hybrida</i>	338 Whiskered Tern	Laridae	Shorebirds
		<i>Gygis alba</i>	339 White - winged Tern	Laridae	Shorebirds
		<i>Pterocles namaqua</i>	344 Namaqua Sandgrouse	Pteroclididae	Sandgrouse
		<i>Columba livia domestica</i>	348 Rock (Feral) Dove (Pigeon)	Columbidae	Columbiformes
		<i>Columba guinea</i>	349 Speckled (Rock) Pigeon	Columbidae	Columbiformes
		<i>Streptopelia tranquebarica</i>	352 Red - eyed Dove	Columbidae	Columbiformes
		<i>Spilopelia senegalensis</i>	355 Laughing (Palm) Dove	Columbidae	Columbiformes
		<i>Oena capensis</i>	356 Namaqua Dove	Columbidae	Columbiformes
		<i>Cuculus solitarius</i>	377 Red - chested Cuckoo	Cuculidae	Columbiformes

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Chrysococcyx klaas</i>	385 Klaas's Cuckoo	Cuculidae	Cuculiformes
		<i>Chrysococcyx caprius</i>	386 Diederik Cuckoo	Cuculidae	Cuculiformes
		<i>Centropus burchellii</i>	391 Burchell's Coucal	Cuculidae	Cuculiformes
		<i>Tyto alba</i>	392 Barn Owl	Tytonidae	Strigiformes
		<i>Tyto capensis</i>	393 Grass Owl	Tytonidae	Strigiformes
		<i>Bubo capensis</i>	400 Cape Eagle Owl	Strigidae	Strigiformes
		<i>Clanga clanga</i>	401 Spotted Eagle -Owl	Accipitridae	Strigiformes
		<i>Caprimulgus</i>	405 Fiery - necked Nightjar	Caprimulgidae	Caprimulgiformes
		<i>Apus apus</i>	411 Common (European) Swift	Apodidae	Apodiformes
		<i>Apus barbatus</i>	412 African Black Swift	Apodidae	Accipitriformes
	Aves	<i>Aeronautes saxatalis</i>	415 White - rumped Swift	Apodidae	Apodiformes
		<i>Apus horus</i>	416 Horus Swift	Apodidae	Apodiformes
		<i>Apus affinis</i>	417 Little Swift	Apodidae	Apodiformes
		<i>Tachymarptis melba</i>	418 Alpine Swift	Apodidae	Apodiformes
		<i>Colius striatus</i>	424 Speckled Mousebird	Coliidae	Coliiformes
		<i>Colius colius</i>	425 White - backed Mousebird	Coliidae	Coliiformes
		<i>Colius castanotus</i>	426 Red - faced Mousebird	Coliidae	Coliiformes
		<i>Ceryle rudis</i>	428 Pied Kingfisher	Alcedinidae	Coraciiformes
		<i>Megaceryle maxima</i>	429 Giant Kingfisher	Alcedinidae	Coraciiformes
		<i>Corythornis cristatus</i>	431 Malachite Kingfisher	Alcedinidae	Coraciiformes
		<i>Merops apiaster</i>	438 European Bee -eater	Meropidae	Coraciiformes
		<i>Upupa africana</i>	451 African Hoopoe	Upupidae	Bucerotiformes
		<i>Tricholaema leucomelas</i>	465 Acacia Pied Barbet	Lybiidae	Piciformes


EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Indicator minor</i>	476 Lesser Honeyguide	Indicatoridae	Piciformes
		<i>Dendropicos fuscescens</i>	486 Cardinal Woodpecker	Picidae	Piciformes
		<i>Mirafra apiata</i>	495 Cape Clapper Lark	Alaudidae	Passerine
		<i>Heteromirafra ruddi</i>	500 Long - billed Lark	Alaudidae	Passeriformes
		<i>Heteromirafra ruddi</i>	502 Heteromirafra ruddi	Alaudidae	Passerine
		<i>Calendulauda burra</i>	507 Red - capped Lark	Alaudidae	Passeriformes
		<i>Galerida magnirostris</i>	512 Large - billed Lark	Alaudidae	Passeriformes
		<i>Eremopterix nigriceps</i>	516 Grey - backed Sparrowlark (Finchlark)	Alaudidae	Passeriformes
		<i>Hirundo rustica</i>	518 Barn (European) Swallow	Hirundinidae	Passeriformes
		<i>Hirundo albigularis</i>	520 White - throated Swallow	Hirundinidae	Passeriformes
	Aves	<i>Hirundo dimidiata</i>	523 Pearl - breasted Swallow	Hirundinidae	Passeriformes
		<i>Cecropis cucullata</i>	526 Greater Striped - Swallow	Hirundinidae	Passeriformes
		<i>Ptyonoprogne fuligula</i>	529 Rock Martin	Hirundinidae	Passerine
		<i>Riparia riparia</i>	532 Sand Martin (Bank Swallow)	Hirundinidae	Passerine
		<i>Riparia paludicola</i>	533 Brown - throated (Plain) Martin	Hirundinidae	Passeriformes
		<i>Riparia cincta</i>	534 Banded Martin	Hirundinidae	Passerine
		<i>Psaldoprocne pristoptera</i>	536 Black Sawwing Swallow	Hirundinidae	Passerine
		<i>Oriolus oriolus</i>	543 Eurasian Golden Oriole	Oriolidae	Passeriformes
		<i>Corvus capensis</i>	547 Cape (Black) Crow	Corvidae	Passerine

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Corvus albus</i>	548 Pied Crow	Corvidae	Passerine
		<i>Melaniparus afer / Parus afer</i>	551 (Southern) Grey Tit	Paridae	Passerine
		<i>Anthoscopus minutus</i>	557 Cape (Southern) Penduline -Tit	Remizidae	Passeriformes
		<i>Pycnonotus capensis</i>	566 Cape Bulbul	Pycnonotidae	Passerine
		<i>Andropadus importunus</i>	572 Sombre Greenbul (Bulbul)	Pycnonotidae	Passerine
		<i>Turdus olivaceus</i>	577 Olive Thrush	Turdidae	Passeriformes
		<i>Myrmecocichla monticola</i>	586 Mountain Chat (Wheatear)	Muscicapidae	Passerine
		<i>Oenanthe pileata</i>	587 Capped Wheatear	Muscicapidae	Passerine
		<i>Oenanthe familiaris</i>	589 Familiar Chat	Muscicapidae	Passerine
		<i>Myrmecocichla formicivora</i>	595 Southern Anteating Chat	Muscicapidae	Passerine
		<i>Saxicola torquatus</i>	596 African (Common) Stonechat	Muscicapidae	Passeriformes
		<i>Cossypha caffra</i>	601 Cape Robin -Chat	Muscicapidae	Passeriformes
	Aves	<i>Erythropygia coryphaeus</i>	614 Karoo Scrub -Robin	Muscicapidae	Passerine
		<i>Sittiparus castaneiventris</i>	621 Chestnut -vented Tit -Babbler	Paridae	Passeriformes
		<i>Curruca layardi</i>	622 Layard's Tit -Babbler	Sylviidae	Passeriformes
		<i>Acrocephalus baeticatus</i>	631 African Reed -Warbler	Acrocephalidae	Passeriformes
		<i>Acrocephalus gracilirostris</i>	635 Lesser Swamp - (Cape Reed) Warbler	Acrocephalidae	Passerine
		<i>Bradypterus baboecala</i>	638 Little Rush - (African Sedge) Warbler	Locustellidae	Passeriformes



EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Apalis thoracica</i>	645 Bar - throated Apalis	Cisticolidae	Passeriformes
		<i>Sylvietta rufescens</i>	651 Long - billed (Cape) Crombec	Macrosphenid ae	Passeriformes
		<i>Sphenoeacus afer</i>	661 Cape Grassbird	Macrosphenid ae	Passeriformes
		<i>Cisticola exilis</i>	664 Zitting (Fan -tailed) Cisticola	Cisticolidae	Passerine
		<i>Cisticola textrix</i>	666 Cloud (Tink -tink) Cisticola	Cisticolidae	Passeriformes
		<i>Cisticola fulvicapilla</i>	669 Grey - backed (Red - headed) Cisticola	Cisticolidae	Passeriformes
		<i>Cisticola rufilatus</i>	677 Le Vaillant's (Tinkling) Cisticola	Cisticolidae	Passerine
		<i>Prinia maculosa</i>	686 Spotted Prinia	Cisticolidae	Passerine
		<i>Muscicapa striata</i>	689 Spotted Flycatcher	Muscicapidae	Passeriformes
		<i>Muscicapa adusta</i>	690 African Dusky Flycatcher	Muscicapidae	Passerine
		<i>Sigelus silens</i>	698 Fiscal Flycatcher	Muscicapidae	Passerine
		<i>Batis capensis</i>	700 Cape Batis	Platysteiridae	Passeriformes
	Aves	<i>Stenostira scita</i>	706 Fairy Flycatcher (Warbler)	Stenostiridae	Passeriformes
		<i>Motacilla capensis</i>	713 Cape Wagtail	Motacillidae	Passerine
		<i>Anthus cinnamomeus</i>	716 African (Grassveld) Pipit	Motacillidae	Passerine
		<i>Macronyx capensis</i>	727 Orange - throated Longclaw	Motacillidae	Passerine
		<i>Lanius collaris</i>	732 Common Fiscal (Shrike)	Laniidae	Passeriformes
		<i>Laniarius ferrugineus</i>	736 Southern Boubou	Malaconotida e	Passeriformes

EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Telophorus zeylonus</i>	746 Bokmakierie	Malaconotidae	Passeriformes
		<i>Sturnus vulgaris</i>	757 European Starling	Sturnidae	Passeriformes
		<i>Lamprotornis bicolor</i>	759 (African) Pied Starling	Sturnidae	Passeriformes
		<i>Creatophora cinerea</i>	760 Wattled Starling	Sturnidae	Passeriformes
		<i>Phylloscopus trochilus</i>	643 Willow Warbler	Phylloscopidae	Passerine
		<i>Lamprotornis nitens</i>	769 Red - winged Starling	Sturnidae	Passeriformes
		<i>Promerops cafer</i>	773 Cape Sugarbird	Promeropidae	Passerine
		<i>Nectarinia famosa</i>	775 Malachite Sunbird	Nectariniidae	Passerine
		<i>Cinnyris chalybeus</i>	783 Sn Double - collared Sunbird	Nectariniidae	Passeriformes
		<i>Cinnyris fuscus</i>	788 Dusky Sunbird	Nectariniidae	Passerine
		<i>Zosterops virens</i>	796 Cape White -eye	Zosteropidae	Passeriformes
		<i>Passer domesticus</i>	801 House Sparrow	Passeridae	Passerine
		<i>Passer melanurus</i>	803 Cape Sparrow	Passeridae	Passerine
		<i>Ploceus capensis</i>	813 Cape Weaver	Ploceidae	Passerine
		<i>Ploceus velatus</i>	814 Sn Masked-Weaver	Ploceidae	Passerine
		<i>Euplectes orix</i>	824 Sn Red (Red) Bishop	Ploceidae	Passerine
		<i>Euplectes capensis</i>	827 Yellow (Yellow-rumped) Widow	Ploceidae	Passerine
	Aves	<i>Estrilda astrild</i>	846 Common Waxbill	Estrildidae	Passerine
		<i>Vidua macroura</i>	860 Pin-tailed Whydah	Viduidae	Passeriformes
		<i>Serinus canicollis</i>	872 Cape Canary	Fringillidae	Passerine
<i>Serinus alario</i>		876 Blackheaded Canary	Fringillidae	Passerine	

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EIA Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Crithagra sulphuratus</i>	877 Brimstone (Bully) Canary	Fringillidae	Passerine
		<i>Crithagra flaviventris</i>	878 Yellow Canary	Fringillidae	Passerine
		<i>Serinus albogularis</i>	879 White-throated Canary	Fringillidae	Passerine
		<i>Crithagra gularis</i>	881 Streaky-headed Seedeater	Fringillidae	Passerine
		<i>Emberiza capensis</i>	885 Cape Bunting	Emberizidae	Passerine
		<i>Emberiza impetuani</i>	887 Larklike Bunting	Emberizidae	Passerine

**Table 5.3.A.7  
Mammals**

EIA Study: Faunal Study	Animal	Latin Name	Common Name	Family	Group / Order
Terrestrial Fauna Impact Study	Mammalia	<i>Chrysochloris asiatica</i>	Cape Golden Mole	Chrysochloridae	Afrosoricida
		<i>Lepus capensis</i>	Cape Hare	Leporidae	Lagomorpha
		<i>Lepus saxatilis</i>	Scrub Hare	Leporidae	Lagomorpha
		<i>Bathyergus suillus</i>	Cape Dune Mole-Rat	Bathyergidae	Rodentia
		<i>Cryptomys hottentotus</i>	African Mole-Rat	Bathyergidae	Rodentia
		<i>Georchus capensis</i>	Cape Mole-Rat	Bathyergidae	Rodentia
		<i>Hystrix africaeaus-tralis</i>	Cape Porcupine	Hystriidae	Rodentia
		<i>Acomys subspinosus</i>	Cape Spiny Mouse	Muridae	Rodentia
		<i>Dendromus melanotis</i>	Grey Climbing Mouse	Muridae	Rodentia
		<i>Dendromus mesomelas</i>	Brant's Climbing Mouse	Muridae	Rodentia
	Mammalia	<i>Desmodillus auricularis</i>	Cape Short-Tailed Gerbil	Muridae	Rodentia
		<i>Gerbillurus paeba</i>	Hairy-Footed Gerbil	Muridae	Rodentia
		<i>Malacothrix typical</i>	Gerbil Mouse	Muridae	Rodentia

EIA Study: Faunal Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Mus minutooides</i>	Pygmy Mouse	Muridae	Rodentia
		<i>Myomyscus verreauxi</i>	Verreaux's Mouse	Muridae	Rodentia
		<i>Mystromys albicaudatus</i>	White-Tailed Mouse	Muridae	Rodentia
		<i>Otomys irroratus</i>	Vlei Rat	Muridae	Rodentia
		<i>Otomys unisulcatus</i>	Bush Vlei Rat	Muridae	Rodentia
		<i>Rhabdomys pumilio</i>	Four-Striped Grass Mouse	Muridae	Rodentia
		<i>Steatomys krebsii</i>	Kreb's Fat Mouse	Muridae	Rodentia
		<i>Tatera afra</i>	Cape Gerbil	Muridae	Rodentia
		<i>Crocidura cyanea</i>	Reddish-Grey Musk Shrew	Soricidae	Soricomorpha
		<i>Crocidura flavescens</i>	Greater Red Musk Shrew	Soricidae	Soricomorpha
		<i>Suncus varilla</i>	Lesser Dwarf Shrew	Soricidae	Soricomorpha
		<i>Tadarida aegyptiaca</i>	Egyptian Free-Tailed Bat	Molossidae	Chiroptera
		<i>Eptesicus hottentotus</i>	Long-Tailed Serotine Bat	Vespertilionid ae	Chiroptera
		<i>Miniopterus schreibersii</i>	Schreiber's Long-Fingered Bat	Vespertilionid ae	Chiroptera
		<i>Myotis tricolour</i>	Temminck's Hairy Bat	Vespertilionid ae	Chiroptera
		<i>Neoromicia capensis</i>	Cape Serotine Bat	Vespertilionid ae	Chiroptera
		<i>Nycteris thebaica</i>	Egyptian Slit-Faced Bat	Nycteridae	Chiroptera
		<i>Rhinolophus capensis</i>	Cape Horseshoe Bat	Rhinolophidae	Chiroptera
		<i>Rhinolophus clivosus</i>	Geoffroy's Horseshoe Bat	Rhinolophidae	Chiroptera
		<i>Caracal caracal</i>	Caracal	Felidae	Chiroptera
		<i>Felis silvestris</i>	African Wild Cat	Felidae	Chiroptera
	<b>M a m m a l i a</b>	<i>Genetta genetta</i>	Small-Spotted Genet	Viverridae	Carnivora

EIA Study: Faunal Study	Animal	Latin Name	Common Name	Family	Group / Order
		<i>Genetta tigrina</i>	South African Large-Spotted Genet	Viverridae	Carnivora
		<i>Atilax paludinosus</i>	Marsh Mongoose	Herpestidae	Carnivora
		<i>Cynictis penicillata</i>	Yellow Mongoose	Herpestidae	Carnivora
		<i>Galerella pulverulenta</i>	Cape Grey Mongoose	Herpestidae	Carnivora
		<i>Herpestes ichneumon</i>	Large Grey Mongoose	Herpestidae	Carnivora
		<i>Canis mesomelas</i>	Black-Backed Jackal	Canidae	Carnivora
		<i>Otocyon megalotis</i>	Bat-eared Fox	Canidae	Carnivora
		<i>Vulpes chama</i>	Cape Fox	Canidae	Carnivora
		<i>Mellivora capensis</i>	Honey Badger	Mustelidae	Carnivora
		<i>Aonyx capensis</i>	African Clawless Otter	Mustelidae	Carnivora
		<i>Ictonyx striatus</i>	Striped Polecat	Mustelidae	Carnivora
		<i>Equus quagga</i>	Plains Zebra	Equidae	Perissodactyla
		<i>Alcelaphus buselaphus</i>	Red Hartebeest	Bovidae	Artiodactyla
		<i>Antidorcas marsupialis</i>	Springbok	Bovidae	Artiodactyla
		<i>Connochaetes taurinus</i>	Blue Wildebeest	Bovidae	Artiodactyla
		<i>Damaliscus p. pygargus</i>	Bontebok	Bovidae	Artiodactyla
		<i>Oryx gazelle</i>	Gemsbok	Bovidae	Artiodactyla
		<i>Raphicerus campestris</i>	Steenbok	Bovidae	Artiodactyla
		<i>Raphicerus melanotis</i>	Cape Grysbok	Bovidae	Artiodactyla
		<i>Sylvicapra grimmia</i>	Common Duiker	Bovidae	Artiodactyla
		<i>Tragelaphus oryx</i>	Eland	Bovidae	Artiodactyla

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## APPENDIX 5.3.B

### Endemic Species List

The species list is wholly based on species identified in a list appended to the Botany and Dune Ecology Impact Assessment specialist study for the EIA (Eskom, 2011b). Yellow shading indicates data not provided or applicable

**Table 5.3.B.1  
Plants**

Latin Name	Common Name	Family
<i>Aizoon paniculatum</i> L.	Pienkspekvygie	Aizoaceae
<i>Galenia africana</i> L.	Geelbos, Geelbrakbos, Kraalbos, Muisbos, Waterpensbos	Aizoaceae
<i>Tetragonia decumbens</i> Mill.	Kinkelbossie	Aizoaceae
<i>Tetragonia fruticosa</i> L.	Kinkelbossie, Kinkelklappers, Kleinsaadklaapiesbrak, Klimopkinkelbossie, Porslein, Slaaibos	Aizoaceae
<i>Tetragonia spicata</i> L.f.	n/a	Aizoaceae
<i>Bassia diffusa</i> (Thunb.) Kuntze	Soutbossie	Amaranthaceae
<i>Exomis microphylla</i> (Thunb.) Aellen var. <i>axyrioides</i>	Brakbossie, Hondebossie	Amaranthaceae
<i>Manochlamys albicans</i> (Aiton) Aellen	Hondebossie, Spanspekbos	Amaranthaceae
<i>Sarcocornia natalensis</i> (Bunge ex Ung.- Sternb.) A.J.Scott	Seekoraal	Amaranthaceae
<i>Sarcocornia pillansii</i> (Moss) A.J.Scott	Brakbos, Kleinlidjiesbos	Amaranthaceae
<i>Rhus crenata</i> Thunb.	(dune) Crow-berry, Duinekraaibessie, Rosyntjiesbos	Anacardiaceae
<i>Rhus glauca</i> Thunb.	Bloukoeniebos, Blue kuni- bush, Taaiblaar	Anacardiaceae
<i>Rhus laevigata</i> L.f.	Duinetaaibos, Dune taaibos, Koerentebos, Ranktaaibos, Taaibos, Umhlakothi	Anacardiaceae
<i>Rhus lucida</i> L.	Besembos, Blinktaaibos, Wild currant	Anacardiaceae
<i>Capnophyllum africanum</i> (L.) Gaertn.	n/a	Apiaceae
<i>Chamarea capensis</i> (Thunb.) Eckl. & Zeyh.	Cape caraway, Finkelwortel	Apiaceae
<i>Dasispermum suffruticosum</i> (P.J.Bergius) B.L.Burt	Duineseldery	Apiaceae


Latin Name	Common Name	Family
<i>Peucedanum typicum</i> (Eckl. & Zeyh.) B.L.Burt	Hondewortel	Apiaceae
<i>Sonderina caruifolia</i> (Sond.) H.Wolff	n/a	Apiaceae
<i>Torilis arvensis</i> (Huds.) Link	Hedge parsley, Wildewortel	Apiaceae
<i>Cynanchum africanum</i> (L.) Hoffmanns.	Bobbejaantou, Bokhoring, Klimop, Monkey rope	Apocynaceae
<i>Cynanchum obtusifolium</i> L.f.	Melktou, Monkey rope	Apocynaceae
<i>Microloma sagittatum</i> (L.) R.Br.	Bokhoring, Bokmaellie, Heuningblommetjie	Apocynaceae
<i>Amellus tenuifolius</i> Burm.	Grysastertjie	Asteraceae
<i>Arctotheca calendula</i> (L.) Levyns	Cape weed, Gousblom	Asteraceae
<i>Arctotheca populifolia</i> (P.J.Bergius) Norl.	Sea pumpkin, Seepampoen	Asteraceae
<i>Arctotis hirsuta</i> (Harv.) Beauv.	Gousblom	Asteraceae
<i>Arctotis leptorhiza</i> DC.	n/a	Asteraceae
<i>Arctotis stoechadifolia</i> P.J.Bergius	Kusgousblom, Witgousblom	Asteraceae
<i>Chrysanthemoides incana</i> (Burm.f.) Norl.	Bietou, Grysbietou, Sandbietou	Asteraceae
<i>Chrysanthemoides monilifera</i> (L.) Norl. subsp. <i>pisifera</i> (L.) Norl.	Bietou, Boetabessie, Bosluisbessie, Brother berry	Asteraceae
<i>Cineraria geifolia</i> (L.) L.	n/a	Asteraceae
<i>Conyza scabrida</i> DC.	Bakbesembossie, Oondbos, Ovenbush	Asteraceae
<i>Cotula coronopifolia</i> L.	Eendekos, Eendjiesgras, Eendjieskweek, Gansgras, Gansogies	Asteraceae
<i>Cotula duckittiae</i> (L.Bolus) Bremer & Humphries	Buttons, Ganskos	Asteraceae
<i>Cotula filifolia</i> Thunb.	n/a	Asteraceae
<i>Cotula turbinata</i> L.	Batchelor buttons, Ganskos	Asteraceae
<i>Dicerotheramnus rhinocerotis</i> (DC.) Koekemoer	Renosterbos	Asteraceae
<i>Didelta carnososa</i> (L.f.) Aiton var. <i>tomentosa</i>	Kusslaaibos, Perdeblom, Seegousblom	Asteraceae
<i>Dimorphotheca pluvialis</i> (L.) Moench	Cape (rain) daisy, Ox-eye daisy, Reënblommetjie, Witbotterblom	Asteraceae

Latin Name	Common Name	Family
<i>Disparago anomala</i> Schltr. ex Levyns	n/a	Asteraceae
<i>Disparago ericoides</i> (P.J.Bergius) Gaertn.	n/a	Asteraceae
<i>Eriocephalus africanus</i> L.	Rapokbossie, Roosmaryn, Wild rosemary, Wilderoosmaryn	Asteraceae
<i>Eriocephalus racemosus</i> L.	Kapkoppie, Kapokbos, Roosmaryn, Wilderoosmaryn	Asteraceae
<i>Felicia heterophylla</i> (Cass.) Grau	Bloublomastertjie	Asteraceae
<i>Gazania maritima</i> Levyns	n/a	Asteraceae
<i>Gazania pectinata</i> (Thunb.) Hartweg	Kaapseroigousblo m	Asteraceae
<i>Gymnodiscus capillaris</i> (L.f.) DC.	Geelkruid	Asteraceae
<i>Helichrysum cochleariforme</i> DC.	Duineteebossie, Gold-and-silver	Asteraceae
<i>Helichrysum crispum</i> (L.) D.Don.	Hottentotskooigoe d, Kooigoed	Asteraceae
<i>Helichrysum dasyanthum</i> (Willd.) Sweet	Kooigoed	Asteraceae
<i>Helichrysum micropoides</i> DC.	n/a	Asteraceae
<i>Helichrysum niveum</i> (L.) Less.	n/a	Asteraceae
<i>Helichrysum patulum</i> (L.) D.Don.	Hottentot's bedding, Hottentotskooigoe d, kooigoed	Asteraceae
<i>Helichrysum revolutum</i> (Thunb.) Less.	kooigoed, strandsewejaartjie, vaalsewejaartjie	Asteraceae
<i>Lachnospermum imbricatum</i> (P.J.Bergius) Hilliard	n/a	Asteraceae
<i>Metalasia densa</i> (Lam.) Karis	Blombos	Asteraceae
<i>Metalasia muricata</i> (L.) D.Don.	Blombos, Steekbos, Witsteekbossie	
<i>Nidorella foetida</i> (L.) DC.	Vleikruid	
<i>Oncosiphon suffruticosum</i> (L.f.) Kallersjö	Stinkkruid, Stinkkruidbossie, Wurmbossie	Asteraceae
<i>Othonna coronopifolia</i> L.	Sandbobbejaankool	Asteraceae
<i>Othonna filicaulis</i> Jacq.	Bobbejaankoolklim op	Asteraceae
<i>Plecostachys serpyllifolia</i> (P.J.Bergius) Hilliard & B.L.Burt	Vaaltee	Asteraceae



Latin Name	Common Name	Family
<i>Pseudognaphalium undulatum</i> (L.) Hilliard & B.L.Burt	n/a	Asteraceae
<i>Senecio arenarius</i> Thunb.	Hongerblom	Asteraceae
<i>Senecio burchellii</i> DC.	Geelgifbos, Molteno disease plant	Asteraceae
<i>Senecio elegans</i> L.	Strandblommetjie, Veld cineraria, Wild cineraria	Asteraceae
<i>Senecio glutinosus</i> Thunb.	Taaigeelhongerblo m	Asteraceae
<i>Senecio halimifolius</i> L.	Tabakbos	Asteraceae
<i>Senecio hastatus</i> L.	Groundsel	Asteraceae
<i>Senecio littoreus</i> Thunb.	Geelhongerblom, Hongerblom	Asteraceae
<i>Senecio maritimus</i> L.	Strandhongerblom	Asteraceae
<i>Senecio scapiflorus</i> (L'Her.) C.A.Sm.	Perskoppie	Asteraceae
<i>Seriphium cinereum</i> L.	Vaalhartebeskaroo, Vaalrenosterbos	Asteraceae
<i>Seriphium plumosum</i> L.	"Khoi"-kooigoed, Slangbos	Asteraceae
<i>Steirodiscus tagetes</i> (L.) Schltr.	Cabaroe	Asteraceae
<i>Trichogyne repens</i> (L.) Anderb.	Witnaaldebossie	Asteraceae
<i>Tripteris dentata</i> (Burm.f.) O.Hoffm.	Jakkalsgousblom	Asteraceae
<i>Ursinia anthemoides</i> (L.) Poir. subsp. <i>anthemoides</i>	Bergmargriet, Margriet, Marigold	Asteraceae
<i>Amsinckia retrorsa</i> Suksd.	Ystergras	Boraginaceae
<i>Lobostemon glaucophyllus</i> (Jacq.) H.Buek	Blosblaarluibos	Boraginaceae
<i>Heliophila africana</i> (L.) Marais	Bloubekkie, Sandflaks	Brassicaceae
<i>Heliophila coronopifolia</i> L.	Blouflaks, Wild flax	Brassicaceae
<i>Heliophila linearis</i> (Thunb.) DC. var. <i>linearifolia</i>	n/a	Brassicaceae
<i>Heliophila refracta</i> Sond.	Draadblaarflaks	Brassicaceae
<i>Lepidium africanum</i> (Burm.f.) DC.	Bird-seed, Peperbossie, Pepper weed	Brassicaceae
<i>Cyphia crenata</i> (Thunb.) C.Presl	Kleinbokkies	Campanilaceae

Latin Name	Common Name	Family
<i>Lobelia erinus</i> L.	Wild lobelia	Campanilaceae
<i>Wahlenbergia adpressa</i> (Thunb.) Sond.	n/a	Campanilaceae
<i>Wahlenbergia tenella</i> (L.f.) Lammers	n/a	Campanilaceae
<i>Cerastium capense</i> Sond.	Horingblom	Caryophyllaceae
<i>Silene undulata</i> Aiton	Wild tobacco, Wildetabak	Caryophyllaceae
<i>Gymnosporia buxifolia</i> (L.) Szyszyl.	Gewonependoring, Mnquqoba, Stinkpendoring	Celastraceae
<i>Pterocelastrus tricuspidatus</i> (Lam.) Sond.	Cherrywood, Kershout, Utwina	Celastraceae
<i>Putterlickia pyracantha</i> (L.) Szyszyl.	Basterpendoring, Pendoring, Wildegranaat	Celastraceae
<i>Cotyledon orbiculata</i> L.	Honde-oor, Kouerie, Pig's ear, Plakkie(s), Varkoor	Crassulaceae
<i>Crassula cymosa</i> P.J.Bergius	n/a	Celastraceae
<i>Crassula dichotoma</i> L.	Geel crassula	Celastraceae
<i>Crassula glomerata</i> P.J.Bergius	Brakvygie	Celastraceae
<i>Crassula muscosa</i> L.	Akkedisstert, Lizard's tail, Skilpadbos, Skoenveterbossie, Veterbos	Crassulaceae
<i>Crassula natans</i> Thunb. var. <i>natans</i>	Watergras	Celastraceae
<i>Crassula subulata</i> L.	n/a	Celastraceae
<i>Crassula thunbergiana</i> Schult. subsp. <i>thunbergiana</i>	n/a	Celastraceae
<i>Crassula tomentosa</i> Thunb.	n/a	Crassulaceae
<i>Tylecodon grandiflorus</i> (Burm.f.) Toelken	Rooisuikerblom	Celastraceae
<i>Tylecodon paniculatus</i> (L.f.) Toelken	Botterboom	Celastraceae
<i>Kedrostis nana</i> (Lam.) Cogn.	Bryony, Ystervarkpatat(s)	Cucurbitaceae
<i>Euclea racemosa</i> Murray	Bosghwarrie, Bush guarri, Kersbos, Sea guarri, Seeghwarrie	Ebenaceae
<i>Erica mammosa</i> L.	Ninepin heath, Rooiklossieheide, Spinnekopvoete	Ericaceae
<i>Erica plumosa</i> Thunb.	Silwerbasterheide, Wolheide	Ericaceae

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Latin Name	Common Name	Family
<i>Clutia daphnoides</i> Lam.	Vaalblaar, Vaalbliksembos, Vaalbossie	Euphorbiaceae
<i>Euphorbia burmannii</i> E.Mey. ex Boiss.	Lidjiesmelkbos, Sandveld-se-soetmelkbos, Soetmelkbos, Steenbokbos, Steenbokmelkbos	Euphorbiaceae
<i>Euphorbia caput-medusae</i> L. subsp. <i>marlothiana</i> N.E.Br.	Medusa's head, Noordpol, Vingerpol	Euphorbiaceae
<i>Euphorbia mauritanica</i> L.	Beesmelkbos, Geelmelkbos	Euphorbiaceae
<i>Amphithalea ericifolia</i> (L.) Eckl. & Zeyh.	Persblom, persbossie	Fabaceae
<i>Argyrolobium lunare</i> (L.) Druce	n/a	Fabaceae
<i>Aspalathus albens</i> L.	Duine-ertjiebos	Fabaceae
<i>Aspalathus divaricata</i> Thunb.	n/a	Fabaceae
<i>Aspalathus hispida</i> Thunb.	Witertjiebos	Fabaceae
<i>Aspalathus spinescens</i> Thunb subsp. <i>spinescens</i>	Wolfdoring	Fabaceae
<i>Aspalathus ternata</i> (Thunb.) Druce	Bolblomertjiebos	Fabaceae
<i>Indigofera heterophylla</i> Thunb.	n/a	Fabaceae
<i>Indigofera meyeriana</i> Eckl. & Zeyh.	Silwerlewerertjie	Fabaceae
<i>Indigofera procumbens</i> L. <i>Lebeckia spinescens</i> Harv.	Sandganna	Fabaceae
<i>Lessertia excisa</i> DC.	n/a	Fabaceae
<i>Lessertia frutescens</i> (L.) Goldblatt & J.C.Manning	Cancer bush, Kankerbos	Fabaceae
<i>Otholobium bracteolatum</i> (Eckl. & Zeyh.) C.H.Stirt.	Skaapbostee	Fabaceae
<i>Psoralea repens</i> L.	n/a	Fabaceae
<i>Cysticapnos vesicaria</i> (L.) Fedde	Klappertjie	Fumariaceae
<i>Chironia baccifera</i> L.	Bitterbessiebos, Perdebossie	Gentianaceae
<i>Orphium frutescens</i> D.Delaroche	Teeringbos	Gentianaceae
<i>Sebaea albens</i> (L.f.) Sm.	Kleinwitnaeltjiesblo m	Gentianaceae
<i>Sebaea aurea</i> (L.f.) Sm.	Kleingeelnaeltjiesbl om	Gentianaceae

Latin Name	Common Name	Family
<i>Pelargonium capitatum</i> (L.) L'Hér.	Kusmalva, rose- scented pelargonium	Geraniaceae
<i>Pelargonium gibbosum</i> (L.) L'Hér.	Dikbeenmalva	Geraniaceae
<i>Pelargonium myrrhifolium</i> (L.) L'Hér.	Fynblaarmalva, Wildemalva	Geraniaceae
<i>Pelargonium senecioides</i> L'Hér.	Teermalva	Geraniaceae
<i>Pelargonium triste</i> (L.) L'Hér.	Basbossie, Kaneelbol, Kaneeltjie, Landwortel, Naelblom, Nagblom, Rasmusbas, Rooiwortel	Geraniaceae
<i>Leonotis leonurus</i> (L.) R.Br.	Duiwelstabak, Klipdagga, Rivierdagga, Rooidagga, Wildedagga	Lamiaceae
<i>Salvia africana- caerulea</i> L.	Bloublomsalie	Lamiaceae
<i>Salvia africana-lutea</i> L.	Bruinsalie, Sandsalie, Strandsalie, Wild sage	Lamiaceae
<i>Salvia lanceolata</i> Lam.	Rooisalie	Lamiaceae
<i>Stachys aethiopica</i> L.	Katbossie, Kleinkattekruid	Lamiaceae
<i>Hermannia multiflora</i> Jacq.	n/a	Malvaceae
<i>Hermannia pinnata</i> L.	Kwasblaarkruippopros	Malvaceae
<i>Hermannia procumbens</i> Cav. subsp. <i>procumbens</i>	Popros	Malvaceae
<i>Cissampelos capensis</i> L.f.	Davidjies, Fynblaarklimop	Menispermaceae
<i>Amphibolia laevis</i> (Aiton) H.E.K.Hartmann	Kusduinevygie	Mesembryanthemaceae
<i>Carpobrotus acinaciformis</i> (L.) L. Bolus	Elandsvy, Hottentot fig, Sour fig, Suurvy	Mesembryanthemaceae
<i>Carpobrotus edulis</i> (L.) L.Bolus	"Khoi"-vy, Gaukum, Hotnotsvy, Hottentot fig, Hottentotsvy, Klipbokvy, Perdevy, Sour fig, Suurvy	Mesembryanthemaceae
<i>Conicosia pugioniformis</i> (L.) N.E.Br. subsp. <i>pugioniformis</i>	Gansies, Grootvetkousie, Snotwortel, Varkslai, Volstruisvygie	Mesembryanthemaceae
<i>Dorotheanthus apetalus</i> (L.f.) N.E.Br.	n/a	Mesembryanthemaceae
<i>Dorotheanthus bellidiformis</i> (Burm.f.) N.E.Br. subsp. <i>bellidiformis</i>	Bokbaaivygie, Livinstone daisy, Sandvygie, Ysplant	Mesembryanthemaceae
<i>Jordaaniella dubia</i> (Haw.) H.E.K.Hartmann	Helderkruipevygie	Mesembryanthemaceae


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<i>Lampranthus explanatus</i> (L.Bolus) N.E.Br.	Geelsandvygie	Mesembryanthemaceae
<i>Lampranthus multiradiatus</i> (Jacq.) N.E.Br.	Heldersandvygie	Mesembryanthemaceae
<i>Mesembryanthemum canaliculatum</i> Haw.	Kruipvygie	Mesembryanthemaceae
<i>Mesembryanthemum crystallinum</i> L.	Brakslaai, Ice plant, Lizard plant, Slaaibos	Mesembryanthemaceae
<i>Ruschia caroli</i> (L.Bolus) Schwantes	Beesvygie	Mesembryanthemaceae
<i>Ruschia indecora</i> (L.Bolus) Schwantes	n/a	Mesembryanthemaceae
<i>Ruschia macowanii</i> (L.Bolus) Schwantes	Bosvygie	Mesembryanthemaceae
<i>Ruschia misera</i> (L.Bolus) L.Bolus	n/a	Mesembryanthemaceae
<i>Adenogramma glomerata</i> (L.f.) Druce	Muggiegras	Molluginaceae
<i>Pharnaceum incanum</i> L.	Regopsneeuwvygie	Molluginaceae
<i>Pharnaceum lanatum</i> Bartl.	Wolhaarsneeuwvygie	Molluginaceae
<i>Pharnaceum microphyllum</i> L.f.	n/a	Molluginaceae
<i>Morella cordifolia</i> (L.) Killick	Candle berry, Dune waxberry, Glashout, Wasbessie, Waxberry	Myricaceae
<i>Morella quercifolia</i> (L.) Killick	Maagpynbossie	Myricaceae
<i>Grielum grandiflorum</i> (L.) Druce	Duikerwortel, Platdoring	Neuradaceae
<i>Olea exasperata</i> Jacq.	Slanghout	Oleaceae
<i>Epilobium hirsutum</i> L.	n/a	Onagraceae
<i>Harveya squamosa</i> (Thunb.) Steud.	Jakkaslbos	Orobanchaceae
<i>Hyobanche sanguinea</i> L.	Katnaels, Wolwekos	Orobanchaceae
<i>Oxalis hirta</i> L.	Stamsuring	Oxalidaceae
<i>Oxalis luteola</i> Jacq.	Geelsuring	Oxalidaceae
<i>Oxalis obtusa</i> Jacq.	Geeloogsuring	Oxalidaceae
<i>Oxalis pes-caprae</i> L.	Sorrel, Suring	Oxalidaceae
<i>Oxalis polyphylla</i> Jacq.	Fynblaarsuring	Oxalidaceae

Latin Name	Common Name	Family
<i>Oxalis purpurea</i> L.	Grootsuring	Oxalidaceae
<i>Oxalis versicolor</i> L.	Candystick suring	Oxalidaceae
<i>Plantago crassifolia</i> Forssk.	Fleshy plantain	Plantaginaceae
<i>Afrolimon perigrinum</i> (P.J.Bergius) Lincz.	Strandroos	Plumbaginaceae
<i>Afrolimon purpuratum</i> (L.) Lincz.	Papierblom	Plumbaginaceae
<i>Limonium billardieri</i> (Girard) Kuntze	n/a	Plumbaginaceae
<i>Limonium equisetinum</i> (Boiss.) R.A.Dyer	Seelaventel	Plumbaginaceae
<i>Limonium scabrum</i> (Thunb.) Kuntze	Brakblommetjie, Sea lavender	Plumbaginaceae
<i>Nylandtia spinosa</i> (L.) Dumort.	Bokbessie, Skilpadbessie	Polygonaceae
<i>Polygala garcinii</i> DC.	n/a	Polygonaceae
<i>Emex australis</i> Steinh.	Devil's thorn, Dubbeltjie, Duiweltjie	Polygonaceae
<i>Rumex cordatus</i> Poir.	n/a	Polygonaceae
<i>Rumex lativalvis</i> Meisn.	Veldsuring	Polygonaceae
<i>Rumex sagittatus</i> Thunb.	n/a	Polygonaceae
<i>Leucadendron levisanus</i> (L.) P.J.Bergius	Cape Flats conebrush	Proteaceae
<i>Leucadendron salignum</i> P.J.Bergius	Common sunshine conebrush, Geelbos, Geeltolbos, Knobos, Knoppiesbos, Rooibos, Stompieknobos, Sunshine bush	Proteaceae
<i>Leucospermum hypophyllocarpodendron</i> (L.) Druce subsp. <i>canaliculatum</i> (H.Buek.) ex Meisn.) Rourke	Kruipuisiebos, Slangbossie	Proteaceae
<i>Protea repens</i> (L.) L.	Bierbos, Common sugarbush, Mebos, Perdebos, Soetstroopbos, Stroopbos, Sugarbush, Suikerbos, Suikerkan	Proteaceae
<i>Serruria decipiens</i> R.Br.	Sandveld spiderhead, Weskusspinnekopbos	Proteaceae
<i>Serruria fasciflora</i> Salisb. ex Knight	Fynspinnepkopbos, Spinnepkopbos, Spinnepkopbossie	Proteaceae

Latin Name	Common Name	Family
<i>Phylica cephalantha</i> Sond.	Tolhardeblaar	Rhamnaceae
<i>Phylica ericoides</i> L.	n/a	Rhamnaceae
<i>Phylica harveyi</i> (Arn.) Pillans	n/a	Rhamnaceae
<i>Phylica plumosa</i> L.	Veerkoppe	Rhamnaceae
<i>Trichocephalus stipularis</i> (L.) Brongn.	Hondegesiggie	Rhamnaceae
<i>Cliffortia falcata</i> L.f.	n/a	Rosaceae
<i>Cliffortia juniperina</i> L.f.	n/a	Rosaceae
<i>Cliffortia polygonifolia</i> L. var. <i>polygonifolia</i>	n/a	Rosaceae
<i>Anthospermum aethiopicum</i> L.	n/a	Rubiaceae
<i>Anthospermum prostratum</i> Sond.	n/a	Rubiaceae
<i>Anthospermum spathulatum</i> Spreng. subsp. <i>spathulatum</i>	Skaapbos	Rubiaceae
<i>Galium tomentosum</i> Thunb.	Kleefgras	Rubiaceae
<i>Agathosma imbricata</i> (L.) Willd.	Sand buchu, Sandboegoe	Rutaceae
<i>Agathosma serpyllacea</i> Licht. ex Roem. & Schult.	n/a	Rutaceae
<i>Diosma aspalathoides</i> Lam.	Haasboegoe	Rutaceae
<i>Diosma dichotoma</i> P.J.Bergius	n/a	Rutaceae
<i>Diosma hirsuta</i> L.	Rooiboegoe	Rutaceae
<i>Diosma oppositifolia</i> L.	Bitterboegoe	Rutaceae
<i>Osyris compressa</i> (P.J.Bergius) A.DC.	Pruimbos	Santalaceae
<i>Thesidium fragile</i> (Thunb.) Sond.	Breekgroenbasbossie	Santalaceae
<i>Thesium aggregatum</i> A.W.Hill	n/a	Santalaceae
<i>Thesium frisea</i> L.	n/a	Santalaceae
<i>Thesium pubescens</i> DC.	n/a	Santalaceae
<i>Thesium scabrum</i> L.	n/a	Santalaceae

Latin Name	Common Name	Family
<i>Thesium spicatum</i> L.	Lidjes'tee	Santalaceae
<i>Thesium strictum</i> P.J. Bergius	n/a	Santalaceae
<i>Thesium virgatum</i> Lam.	n/a	Santalaceae
<i>Diascia diffusa</i> Benth.	Eenooghorinkie	Scrophulariaceae
<i>Dischisma ciliatum</i> (P.J.Bergius) <i>Choisy</i> subsp. <i>ciliatum</i>	n/a	Scrophulariaceae
<i>Hebenstretia dentata</i> L.	Slakblom	Scrophulariaceae
<i>Hebenstretia repens</i> Jaroscz	Witslakblom	Scrophulariaceae
<i>Hebenstretia robusta</i> E.Mey.	Bosslakblom	Scrophulariaceae
<i>Hemimeris racemosa</i> (Houtt.) Merr.	Geelgesiggie	Scrophulariaceae
<i>Hemimeris sabulosa</i> L.f.	Sandgeelgesiggie	Scrophulariaceae
<i>Lyperia lychnidea</i> (L.) Druce	Soetraanblommetjie	Scrophulariaceae
<i>Lyperia tristis</i> (L.f.) Benth.	Traanblommetjie	Scrophulariaceae
<i>Manulea rubra</i> L.f.	Rooivingertjies	Scrophulariaceae
<i>Manulea thyrsoflora</i> L.f.	n/a	Scrophulariaceae
<i>Manulea tomentosa</i> (L.) L.	Duinevingertjies	Scrophulariaceae
<i>Nemesia affinis</i> Benth.	Bontleeubekkie, Leeubekkie, Weeskindertjie(s)	Scrophulariaceae
<i>Nemesia bicornis</i> (L.) Pers.	Witleeubekkie	Scrophulariaceae
<i>Nemesia strumosa</i> (Herb. Banks ex Benth.) Benth.	Balsamienie, Nemesia	Scrophulariaceae
<i>Oftia africana</i> (L.) Bocq.	Sukkelbossie	Scrophulariaceae
<i>Phyllopodium cephalophorum</i> (Thunb.) Hilliard	Perskopopslag	Scrophulariaceae
<i>Phyllopodium heterophyllum</i> (L.f.) Benth.	n/a	Scrophulariaceae
<i>Phyllopodium phyllopodoides</i> (Schltr.) Hilliard	Persopslag	Scrophulariaceae
<i>Polycarena capensis</i> (L.) Benth.	Geelopslag	Scrophulariaceae
<i>Zaluzianskya villosa</i> F.W.Schmidt	Drumsticks	Scrophulariaceae



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<i>Lycium afrum</i> L.	Bokdoring, Kraal honey thorn, Kraalkriekdoring	Solanaceae
<i>Lycium ferocissimum</i> Miers	Karriedoring, Slangbessie	Solanaceae
<i>Solanum africanum</i> Mill.	Dronkbessie, Dronktou, Melkellie	Solanaceae
<i>Solanum guineense</i> L.	Melkellie	Solanaceae
<i>Solanum nigrum</i> L.	n/a	Solanaceae
<i>Lachnaea grandiflora</i> (L.f.) Baill.	Grootletjiesbos	Thymelaeceae
<i>Lachnaea uniflora</i> (L.) Beyers	Letjiesbos	Thymelaeceae
<i>Passerina corymbosa</i> Eckl. ex C.H.Wright	Sandgannabos	Thymelaeceae
<i>Passerina ericoides</i> L.	n/a	Thymelaeceae
<i>Passerina paleacea</i> Wikstr.	n/a	Thymelaeceae
<i>Passerina rigida</i> Wikstr.	Gonnabas	Thymelaeceae
<i>Struthiola leptantha</i> Bolus	Roemenaggie, veertjite	Thymelaeceae
<i>Didymodoxa capensis</i> (L.f.) Friis & Wilmot- Deare	n/a	Urticaceae
<i>Viscum capense</i> L.f.	Cape mistletoe, Mistletoe, Voëlent	Viscaceae
<i>Roepera flexuosum</i> Eckl. & Zeyh.	Spekbossie	Zygophyllaceae
<i>Roepera fulva</i> L.	Spekbossie	Zygophyllaceae
<i>Roepera morgsana</i> L.	Skilpadbos, Slaaibos	Zygophyllaceae
<i>Brunsvigia orientalis</i> (L.) Aiton ex Eckl.	Candelabra flower, Kandelaar, Koningskandelaar(b lom)	Amaryllidaceae
<i>Crossyne guttata</i> (L.) D. & U.Mull.-Doblies	Haarblom, Sambreelblom, Seeroogblom	Amaryllidaceae
<i>Gethyllis ciliaris</i> (Thunb.) Thunb.	Kukumakranka	Amaryllidaceae
<i>Haemanthus coccineus</i> L.	April fool, Poeierkwas, Rooikwas, Velskoenblaar	Amaryllidaceae
<i>Haemanthus pubescens</i> L.f. subsp. <i>pubescens</i>	Poeierkwas	Amaryllidaceae
<i>Chlorophytum triflorum</i> (Aiton) Kunth	Gifkool	Anthericaceae
<i>Aponogeton angustifolius</i> Aiton	Wateruintjie	Aponogetonaceae

Latin Name	Common Name	Family
<i>Zantedeschia aethiopica</i> (L.) Spreng.	Arum, Arum lily, Calla lily, Pig lily, Varkblom	Araceae
<i>Asparagus aethiopicus</i> L.	n/a	Asparagaceae
<i>Asparagus asparagoides</i> (L.) Druce	Breëblaarklimop, Breëblaarkransie, Krulkransie	Asparagaceae
<i>Asparagus capensis</i> L.	Katbos, Katdoring, Wag-'n-bietjie, Wag- 'n-bietjebos	Asparagaceae
<i>Asparagus declinatus</i> L.	n/a	Asparagaceae
<i>Asparagus lignosus</i> Burm.f.	Withaakdoring	Asparagaceae
<i>Asparagus rubicundus</i> P.J.Bergius	Swarthaakdoring	Asparagaceae
<i>Bulbine annua</i> (L.) Willd.	Geelkwassie, Kopieva	Asphodelaceae
<i>Trachyandra ciliata</i> (L.f.) Kunth	Hotnotskool, Wildeblomkool	Asphodelaceae
<i>Trachyandra divaricata</i> (Jacq.) Kunth	Duinekool, Hottentotskool	Asphodelaceae
<i>Trachyandra falcata</i> (L.f.) Kunth	Bokkool, Hotnotskool, Namakwakool, Veldkool	Asphodelaceae
<i>Trachyandra muricata</i> (L.f.) Kunth	Beesblom, Rolboskool	Asphodelaceae
<i>Trachyandra revoluta</i> (L.) Kunth	n/a	Asphodelaceae
<i>Trachyandra sabulosa</i> (Adamson) Oberm.	n/a	Asphodelaceae
<i>Ornithoglossum viride</i> (L.f.) Aiton	Eendjies, Groenspinnekoppie, Slangkop	Colchicaceae
<i>Bolboschoenus maritimus</i> (L.) Palla	Sedge, Snygras, Snyruigte	Cyperaceae
<i>Cyperus textilis</i> Thunb.	Mat sedge, Matjiesgoed, Umbrella sedge	Cyperaceae
<i>Ficinia argyropa</i> Nees	n/a	Cyperaceae
<i>Ficinia bulbosa</i> (L.) Nees	n/a	Cyperaceae
<i>Ficinia capitella</i> (Thunb.) Nees	n/a	Cyperaceae
<i>Ficinia dunensis</i> Levyns	n/a	Cyperaceae
<i>Ficinia indica</i> (Lam.) Pfeiffer	Knoppiesbiesie	Cyperaceae
<i>Ficinia lateralis</i> (Vahl) Kunth	n/a	Cyperaceae
<i>Ficinia nodosa</i> (Rottb.) Goetgh.	Steekbiesie, Vleibiesie	Cyperaceae

Latin Name	Common Name	Family
<i>Ficinia oligantha</i> (Steud.) J.Raynal	n/a	Cyperaceae
<i>Ficinia pygmaea</i> Boeck.	n/a	Cyperaceae
<i>Ficinia secunda</i> (Vahl) Kunth	n/a	Cyperaceae
<i>Hellmuthia membranacea</i> (Thunb.) R.Haynes & K.Lye	Biesie, Knopbiesie	Cyperaceae
<i>Isolepis antarctica</i> (L.) Roem. & Schult.	n/a	Cyperaceae
<i>Isolepis cernua</i> (Vahl) Roem. & Schult.	n/a	Cyperaceae
<i>Isolepis marginata</i> (Thunb.) A.Dietr.	n/a	Cyperaceae
<i>Isolepis rubicunda</i> Kunth	n/a	Cyperaceae
<i>Isolepis venustula</i> Kunth	n/a	Cyperaceae
<i>Scirpoides thunbergii</i> (Schrad.) Soják	Steekbiesie	Cyperaceae
<i>Wachendorfia multiflora</i> (Klatt) J.C. Manning and Goldblatt	Kleinrooikanol	Haemodoraceae
<i>Wachendorfia paniculata</i> Burm.	Koffiepit, Rooikanol, Spinnekopblom	Haemodoraceae
<i>Caesia contorta</i> (L.f.) T.Durand & Schinz	Sokkiesblom	Hemerocallidaceae
<i>Albuca flaccida</i> Jacq.	Geldbeursie, Sandpypie, Slangtamarak, Soldier-in-the-box	Hyacinthaceae
<i>Albuca maxima</i> Burm.f.	Bloustok, Geldbeursie, Kamiemie, Slymstok, Soldier-in-the-box, Wittamarak	Hyacinthaceae
<i>Drimia fragrans</i> (Jacq.) J.C.Manning & Goldblatt	n/a	Hyacinthaceae
<i>Lachenalia bulbifera</i> (Cyrillo) Engl.	Rooinaeltjie	Hyacinthaceae
<i>Lachenalia rubida</i> Jacq.	Bergnaeltjie, Rooiviooltjie, Sandkalossie, Sandviooltjie	Hyacinthaceae
<i>Lachenalia variegata</i> W.F.Barker	n/a	Hyacinthaceae
<i>Aristea africana</i> (L.) Hoffmanns.	Blousuurkanol, Koringblommetjie, Maagbossie	Iridaceae
<i>Aristea dichotoma</i> (Thunb.) Ker-Gawl.	Vensterbrug	Iridaceae
<i>Babiana ringens</i> (L.) Ker Gawl.	Antholyza, Hanekam, Rooibobbejaanuintjie, Rotstert	Iridaceae
<i>Babiana tubulosa</i> (Burm.f.) Ker Gawl. var. <i>tubulosa</i>	Witbobbejaantjie	Iridaceae

Latin Name	Common Name	Family
<i>Ferraria crista</i> Burm. subsp. <i>crispa</i>	Krulletjie, Spinnepokblom, Uiltjie	Iridaceae
<i>Gladiolus carinatus</i> Aiton	Blou-afrikaner, Blue afrikaner, Mauve afrikaner, Sandpypie	Iridaceae
<i>Gladiolus cunonius</i> (L.) Gaerth.	Lepelblom, Lippypie, Rooipypie, Suikerkanetjie	Iridaceae
<i>Lapeirousia anceps</i> (L.f.) Ker Gawl.	Pienkkoringblom	Iridaceae
<i>Melasmaerula ramosa</i> (L.) N.E.Br.	Baardmanneljie, Bokbaardjie, Feëklokkie	Iridaceae
<i>Moraea fugax</i> (D.Delaroche) Jacq.	Hottentotsbrood, Hottentotsuintjie, Hottentotuintjie, Soetuintjie, Uintjie	Iridaceae
<i>Moraea tripetala</i> (L.f.) Ker Gawl.	Blou-uintjie, Dwergtulp, Kleinuintjie, Perde-uintjie, Tulp	Iridaceae
<i>Romulea obscura</i> Klatt	Kolfroetang	Iridaceae
<i>Romulea rosea</i> (L.) Eckl.	Froetang, Frutang, Knikker, Knikkertjie, Rooiknikkertjie	Iridaceae
<i>Romulea tabularis</i> Eckl. ex Beg.	Bloufroetang	Iridaceae
<i>Watsonia meriana</i> (L.) Mill.	Lakpypie, Rooikanol, Suurkanolpypie, Wasypypie	Iridaceae
<i>Juncus kraussii</i> Hochst. subsp. <i>kraussii</i>	Biesie, Rush	Juncaceae
<i>Triglochin bulbosa</i> L.	Bolletjieblom	Juncaginaceae
<i>Corycium crispum</i> (Thunb.) Sw.	Bastertrewwa, Geelbastertrewwa	Orchidaceae
<i>Corycium orobanchoides</i> (L.f.) Sw.	Bastertrewwa	Orchidaceae
<i>Disa draconis</i> (L.f.) Sw.	Lilac disa, White disa, Witdisa	Orchidaceae
<i>Disperis villosa</i> (L.f.) Sw.	Babakappie, Moederkappie, Oumakappie	Orchidaceae
<i>Satyrium carneum</i> (Dryand.) Sims	Rooikoppie, Rooitrewwa	Orchidaceae
<i>Aristida junciformis</i> Trin. & Rupr.	Wire grass	Poaceae
<i>Cladoraphis cyperoides</i> (Thunb.) S.M.Phillips	Biesie-eragrotis, Seebiesie, Steekriet	Poaceae
<i>Cynodon dactylon</i> (L.) Pers.	Bermuda grass, Couch, Fine quick grass, Fynkweek, Gewone kweekgras	Poaceae
<i>Ehrharta brevifolia</i> Schrad. var. <i>brevifolia</i>	n/a	Poaceae
<i>Ehrharta calycina</i> Sm.	Common ehrharta, Polgras, Rooigras, Rooisaadgras	Poaceae

Latin Name	Common Name	Family
<i>Ehrharta delicatula</i> (Nees) Stapf	n/a	Poaceae
<i>Ehrharta erecta</i> Lam.	n/a	Poaceae
<i>Ehrharta longiflora</i> J.E.Sm.	n/a	Poaceae
<i>Ehrharta villosa</i> Schult.f. var. <i>villosa</i>	Pypgras	Poaceae
<i>Imperata cylindrica</i> (L.) Raeuschel	Beddinggras, Cotton-wool grass, Donsgras, Silwergaargras, Sygras	Poaceae
<i>Pentaschistis barbata</i> (Nees) H.P.Linder subsp. <i>barbata</i>	n/a	Poaceae
<i>Pentaschistis pallida</i> (Thunb.) H.P.Linder	Duinegras, Haasgras	Poaceae
<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	Common reed, Fluitjiesriet	Poaceae
<i>Sporobolus virginicus</i> (L.) Kunth	Brakgras, Brakkweek, Sea rush grass	Poaceae
<i>Stipagrostis zeyheri</i> (Nees) De Winter	Cape Bushman grass, Steekgras	Poaceae
<i>Tribolium hispidum</i> (Thunb.) Desv.	Haasgras	Poaceae
<i>Tribolium uniolae</i> (L.f.) Renvoize	Koringgras	Poaceae
<i>Calopsis fruticosa</i> (Mast.) H.P.Linder	n/a	Restionaceae
<i>Calopsis viminea</i> (Rottb.) H.P.Linder	n/a	Restionaceae
<i>Elegia coleura</i> Nees ex Mast.	n/a	Restionaceae
<i>Elegia microcarpa</i> (Kunth) Pillans	n/a	Restionaceae
<i>Elegia nuda</i> (Rottb.) Kunth	n/a	Restionaceae
<i>Elegia recta</i> (Mast.) Moline & H P Linder	n/a	Restionaceae
<i>Elegia tectorum</i> (L.f.) Raf.	Besemriet, Dakriet, Dekriet, Olifanriet	Restionaceae
<i>Ischyrolepis capensis</i> (L.) H.P.Linder	n/a	Restionaceae
<i>Ischyrolepis Eleocharis</i> (Nees ex Mast.) H.P.Linder	Katstert, Katsterriet	Restionaceae
<i>Thamnochortus erectus</i> (Thunb.) Mast.	Dekriet, Jakkalsstert, Jakkalssterriet, Wyfieriet	Restionaceae
<i>Thamnochortus obtusus</i> Pillans	n/a	Restionaceae
<i>Thamnochortus punctatus</i> Pillans	Steenboksriet	Restionaceae

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Latin Name	Common Name	Family
<i>Thamnochortus spicigerus</i> (Thunb.) Spreng.	Dekriet, Duineriet, Olifantsriet, Swarriet	Restionaceae
<i>Willdenowia arescens</i> Kunth	n/a	Restionaceae
<i>Willdenowia incurvata</i> (Thunb.) H.P.Linder	Sonkwasriet	Restionaceae
<i>Willdenowia sulcata</i> Mast.	n/a	Restionaceae
<i>Willdenowia teres</i> Thunb.	n/a	Restionaceae
<i>Cyanella hyacinthoides</i> L.	Blourraaptol, Lady's hand, Raaptoluintjie	Tecophilaeaceae
<i>Typha capensis</i> (Rohrb.) N.E.Br.	Bulrush, Matjiesgoed, Papkuil	Typhaceae