

Proposed Residential Development on Erf 23731, Aalwyndal, Western Cape

Terrestrial Animal Species Specialist Assessment:
Site Sensitivity Verification Report and Compliance Statement



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DECLARATION OF SPECIALIST INDEPENDENCE

- I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);
- At the time of conducting the study and compiling this report I did not have any interest, hidden or otherwise, in the proposed development that this study has reference to, except for financial compensation for work done in a professional capacity;
- Work performed for this study was done in an objective manner. Even if this study results in views and findings that are not favourable to the client/applicant, I will not be affected in any manner by the outcome of any environmental process of which this report may form a part, other than being members of the general public;
- I declare that there are no circumstances that may compromise my objectivity in performing this specialist investigation. I do not necessarily object to or endorse any proposed developments, but aim to present facts, findings and recommendations based on relevant professional experience and scientific data;
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- All the particulars furnished by me in this document are true and correct.



Kim Daniels (MSc)

August 2025

SUMMARY OF EXPERIENCE AND ABRIDGED CV

- KIM DANIELS

Core skills

Three years of work experience (research assistance and education) for projects aimed at investigating invertebrate diversity, plant diversity, insect ecology, disease ecology, invasive species, plant systematics, herpetology, and climate change impacts on a variety of taxa.

Ecological and field work experience before, during, and after postgraduate degrees across a range of environments (mesic savanna, arid savanna, fynbos, succulent karoo, and Nama karoo) and taxa (plants, invertebrates, avifauna, amphibians, and small mammals).

My postgraduate studies have been focused on vegetation change in the fynbos and parasitic plants as thermal refugia for savanna birds.

Work experience

Teaching assistant at the Organization of Tropical Studies and Roots & Shoots

Visiting academic for the Organization of Tropical Studies' African Ecology and Conservation course

Internships in Entomology, Horticulture, and Plant Conservation

Research assistant at the Centre for Invasion Biology

Field assistant at Valuing Orchard and Integrated Crop Ecosystem Services Project

Qualifications

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BSc. Hons. Biodiversity and Conservation Biology (2021, University of the Western Cape)

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ABBREVIATIONS AND ACRONYMS

CBA	Critical Biodiversity Area
CD:NGI	Chief Directorate: National Geo-spatial Information
DFFE	Department of Forestry, Fisheries, and the Environment
ESA	Ecological Support Area
EWT	Endangered Wildlife Trust
NEMA	National Environmental Management Act
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
SDP	Site Development Plan
SSVR	Site Sensitivity Verification Report
WCBS	Western Cape Biodiversity Spatial Plan

1. INTRODUCTION

Confluent Environmental Pty (Ltd) was appointed to provide Terrestrial Animal Specialist inputs for the proposed residential development on Erf 23731, Aalwyndal, Mossel Bay, Western Cape.

1.1 General Site Location

Erf 23731, Aalwyndal is ca. 10.42 hectares in extent and located west of the N2. The property is currently made up predominantly of pasture lands (Figure 1). The site is currently accessible via an existing driveway off Aalwyn Way (running along the northern edge of the property). The property falls within the larger Gouritz Cluster Biosphere Reserve. A channelled valley-bottom wetland is mapped along the southern edge of the site on both the National Wetland Map (NWM) and National Freshwater Ecosystem Priority Areas (NFEPA). This grades into a non-perennial watercourse mapped to the south-east of the property. No inland or coastal protected areas are present within 5km of the site (Figure. 1): The project aims to develop in low sensitivity areas identified in the Aalwyndal Biodiversity Offset Framework Plan (Confluent Environmental, Report 1, 2025). The development proposal is for the residential development including wastewater management using on-site conservancy tanks until bulk municipal sewerage infrastructure is provided.

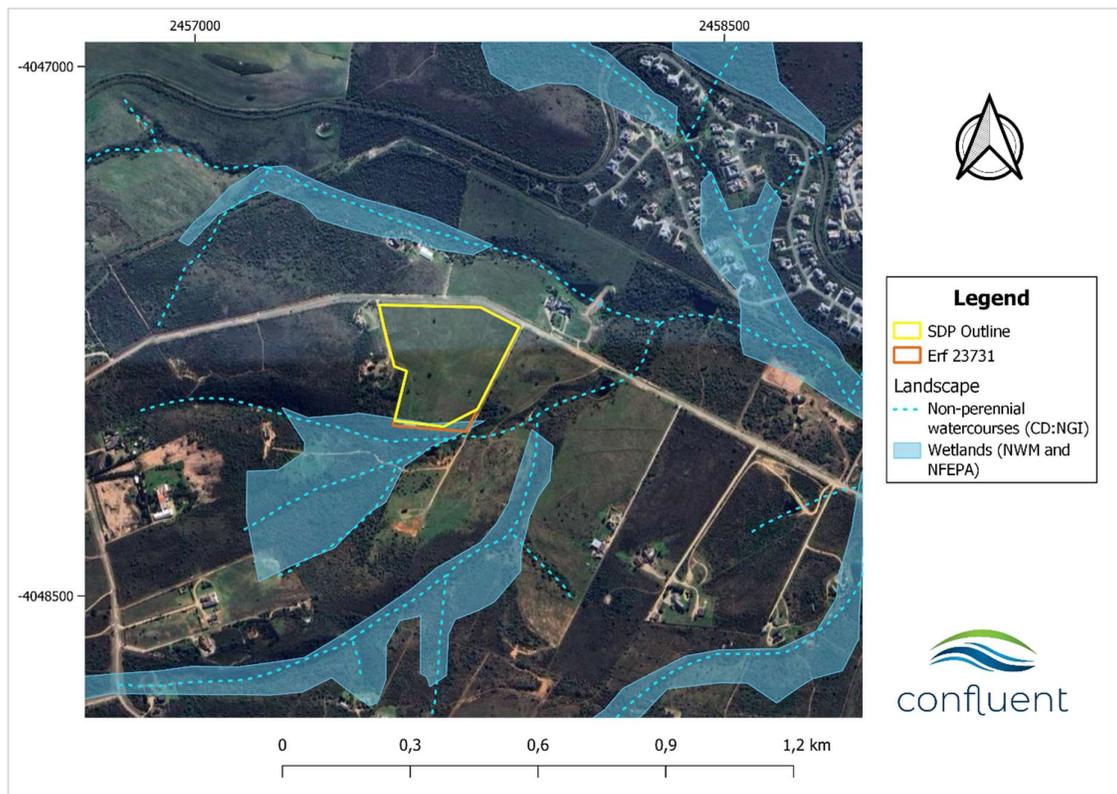


Figure 1. Erf 23731, Aalwyndal, Western Cape and its general landscape including watercourses and wetlands.

1.2 Development Layout

The most recent Site Development Plan (SDP) is provided in Figure 2. This layout, along with the sub-division, were planned to avoid environmental sensitivities on the erf as far as possible (See Figure 4).

The existing entrance to the operational guesthouse will remain as it is, and a new entrance is proposed midway along the development from Aalwyn Way.

The proposed residential development consists of:

- 69 x Single Residential Erven (350 – 385 sqm)
- 26 x General Residential Units (townhouses) (160 sqm)
- 59 x General Residential Units (apartments) (60-80 sqm)

A preliminary site development plan, by FC Holm Architects, is presented in the following diagram:



Figure 2. Proposed layout of the development on Erf 23731, Aalwyndal indicating access and streets layout.

The property is not serviced with a municipal sewer connection, and a municipal sewer network is not available in the immediate area of Aalwyndal. There are two conservancy tanks proposed for the collection of sewage: one in the south-east and another in the north-east (Figure 3). During the early stages of the first phase of the project, it will only be necessary to empty the tanks on an ad-hoc basis and towards the end of the first phase of the project, it will

be necessary to empty the tanks on a once daily basis. A contract will be signed with a vacuum truck operator to perform this duty on a dedicated and permanent stand-by basis. Waste will be disposed of at Hartenbos Wastewater Treatment Works. The conservancy tanks will be designed in a modular fashion so as to be expanded for each phase (or group of phases) of the project and the conservancy tanks are designed for a 24hr raw sewer storage capacity to mitigate any environmental risk (Civil Engineering Services Report Rev. 2, October 2025).



Figure 3. Proposed layout of the development on Erf 23731, Aalwyndal indicating internal sewer network design and the locations for conservancy tanks (in red).

1.3 Aalwyndal Biodiversity Offset Framework Plan

Environmental sensitivities of the site and surrounding area are well understood as a result of the recently concluded Aalwyndal Biodiversity Offset Framework Plan; a series of 5 reports jointly compiled by Confluent Environmental and Eco-Pulse.

1.3.1 Site Ecological Importance (SEI) and Biodiversity Offset Requirements

Site Ecological Importance (SEI) was determined for the Aalwyndal precinct in Report 1 of the Aalwyndal Biodiversity Offset Framework Plan. The SEI integrated the most sensitive ratings for each of the biodiversity sensitivity themes, covering Aquatic, Terrestrial, Botanical and Faunal. The mapped SEI for Erf 23731 indicates that majority of the sub-divided area as Low Sensitivity (Figure 4). The very small strip of High Sensitivity was left out of the proposed development area in the SDP. Areas of Low and Very Low SEI do not require biodiversity offsets. All delineated watercourses were rated as High Sensitivity.

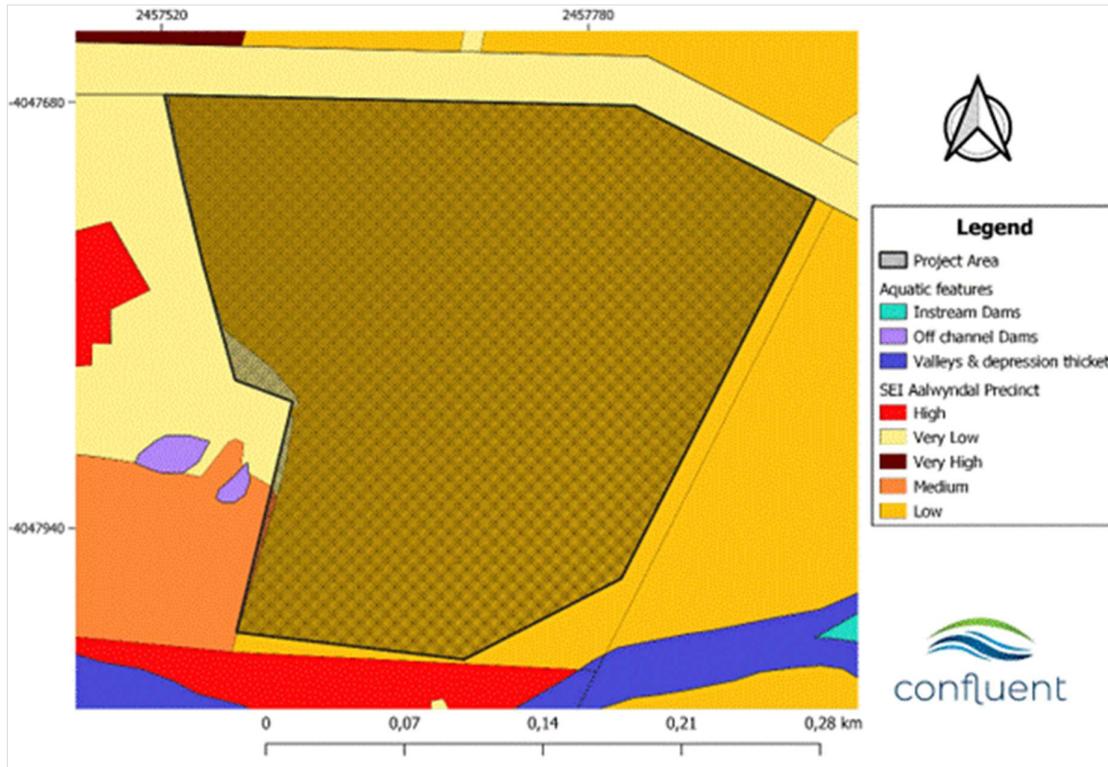


Figure 4. Site Ecological Importance (SEI) determined for Erf 23731 and immediate surroundings (from Aalwyndal Biodiversity Offset Framework Plan).

1.3.2 Core Area

A conservation corridor referred to as the Core Area was proposed through Aalwyndal for the purpose of conserving well connected areas of important or irreplaceable biodiversity (Report 1, Aalwyndal Biodiversity Offset Framework Plan). The aim is for the Core Area to preferentially provide on-site (in Aalwyndal) offset opportunities before off-site areas are required. As such, the Core Area must be set aside and managed for conservation as described in Report 3 of the Aalwyndal Biodiversity Offset Framework Plan series.

A small section of the Core Area is located along the southern boundary and south-eastern corner of Erf 23731 which extends onto neighbouring properties to the west and east (Figure 5).

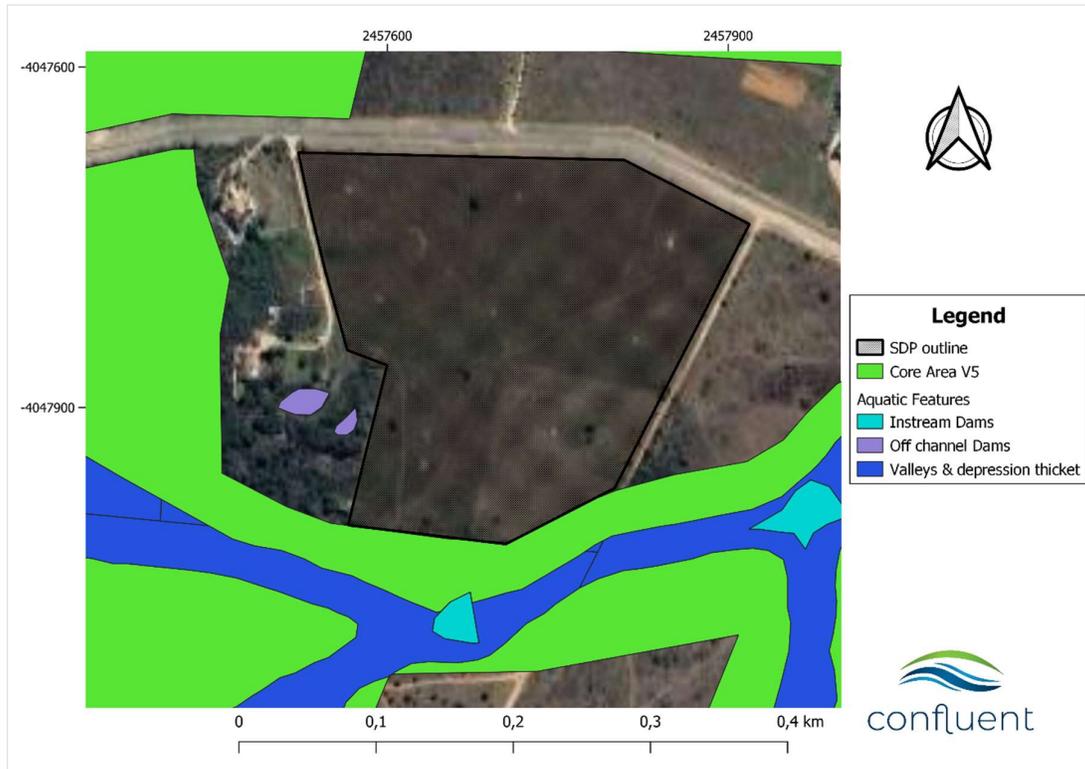


Figure 5. Erf 23731 in relation to the proposed Core Area through Aalwyndal. This area should be fenced off and managed for conservation as indicated in Report 3 (Aalwyndal Biodiversity Offset Framework Plan).

2. TERMS OF REFERENCE

2.1 Online Screening Tool

The scope of work for this report is guided by the legislative requirements of the National Environmental Management Act (NEMA; Act 107 of 1998).

The Department of Forestry, Fisheries, and the Environment (DFFE) Screening Tool determined a **HIGH** and **MEDIUM** sensitivity for the terrestrial animal species theme across Erf 23731 (Figure 6), with several animal Species of Conservation Concern (SCC) potentially present (Table 1).

As per Published Government Notice No. 1150 of the Government Gazette 43855 (30 October 2020):

These areas are irreplaceable for SCC.

A **HIGH** sensitivity rating indicates:

1. Confirmed habitat for SCC.
2. SCC, listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable, according to the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare.

These areas are unsuitable for development due to a very likely impact on SCC.

A **MEDIUM** sensitivity rating indicates:

1. Suspected habitat for SCC based either on historical records (prior to 2002) or being a natural area included in a habitat suitability model for this species.

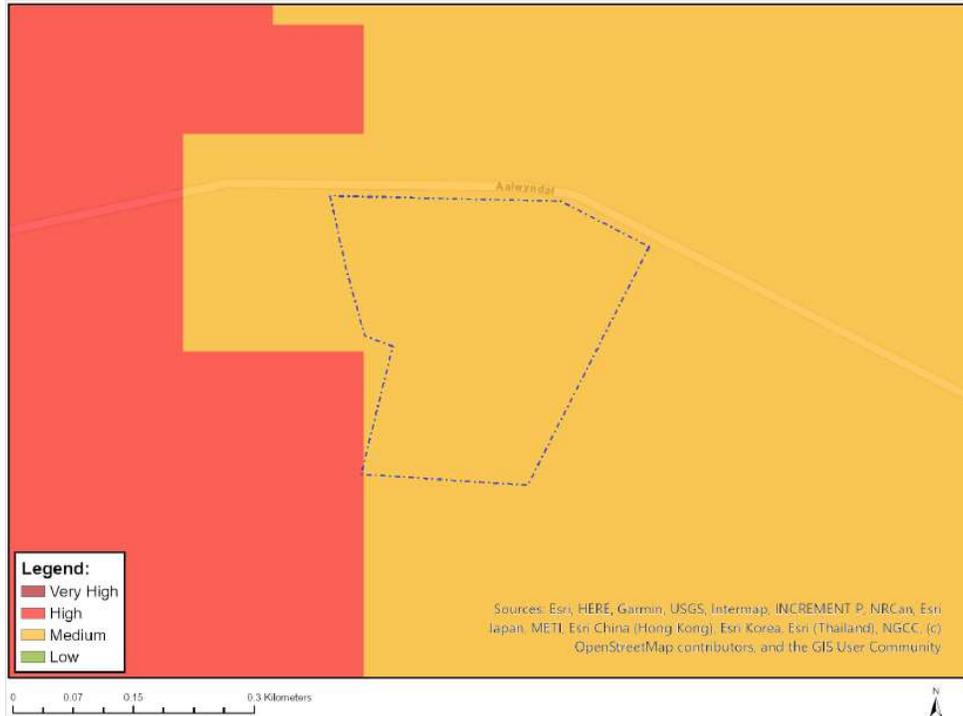


Figure 6. DFFE Online Screening Tool outcome for the terrestrial animal species theme. The SDP boundary is indicated by the blue dashed line.

Table 1. Species of Conservation Concern highlighted by the DFFE Online Screening Tool for Erf 23731.

Sensitivity	Taxon	Scientific name	Common name	Red list status*
High	Avifauna	<i>Circus ranivorus</i>	Marsh Harrier	Endangered
Medium	Mammal	-	Sensitive Species 8	Vulnerable
Medium	Invertebrate	<i>Aneuryphymus montanus</i>	Yellow-winged Agile Grasshopper	Vulnerable

* Red list status as per SANBI's Red List of South African Species <http://speciesstatus.sanbi.org>

2.2 Scope of Work

The purpose of this report is to verify the site sensitivity of Erf 23731 for the terrestrial animal species theme in accordance with the protocols specified in the Published Government Notice No. 1150, Government Gazette 43855 (30 October 2020).

The site sensitivity verification includes:

- A desktop assessment, to:
 - Characterize the vegetation, climate, general habitat features, and topography of the property.
 - Assess the property's location within the context of the Western Cape Biodiversity Spatial Plan (WCBSP).
 - Conduct a historical assessment of the property and immediate surroundings for any disturbances, development, and changes in land use or habitat characteristics over time.
 - Provide information on the habitat requirements for Species of Conservation concern highlighted by the DFFE online screening tool, in addition to other SCC indicated through online resources (e.g. Virtual Museum, GBIF, iNaturalist) for the property and surrounding areas.
- On-site inspection(s) and field assessments to:
 - Verify the current land use and identify current impacts or disturbances on the property.
 - Characterize faunal habitats, determine the habitat suitability and the likelihood of SCC occurring on the property.
 - Conduct taxa-specific sampling for SCC in suitable habitats.
- Any other available and relevant information from
 - Discussions with landowners/neighbours.
 - Previous report findings for the property or surrounding areas, namely the faunal studies conducted for the Aalwyndal Precinct and its offset sites.

Should the site sensitivity verification indicate a **LOW** sensitivity, then a Terrestrial Animal Species Compliance Statement will be issued.

Should the site sensitivity verification indicate a **HIGH** sensitivity, then a Terrestrial Animal Species Specialist Assessment will be compiled.

3. DESKTOP ASSESSMENT

3.1 Vegetation, Climate and General Habitat

The project area falls within the Fynbos biome (Mucina and Rutherford 2006, Rebelo, *et al.* 2006). The mapped vegetation type at the site is Mossel Bay Shale Renosterveld (FRs 14; Critically Endangered) according to the SANBI National Vegetation Map (2024). This classification is confirmed in Report 1 of the Aalwyndal Biodiversity Offset Framework Plan, although it is noted that the project area is given a disturbance score of 8 (out of 12), where sources of disturbance are outlined as predominantly grazing and anthropogenic disturbance and secondarily invasion by alien plants. The southeast corner and southern edge of the site,

excluded in the SDP are outlined as Core areas for onsite biodiversity offsets for Aalwyndal Precinct (Report 3 of the Aalwyndal Biodiversity Offset Framework Plan). Further details on the vegetation of the site are provided in the Botanical Specialist Report (B. Fouche—Confluent Environmental).

The area has a cool semi-arid climate (BSk) according to the Köppen-Geiger Climate Zones (1980-2016). Average temperatures range between 25°C and 10°C, with the hottest days experienced from December to March, peaking in February, and the coldest days experienced in July and August. Rain occurs throughout the year with a peak in November (Figure 7).

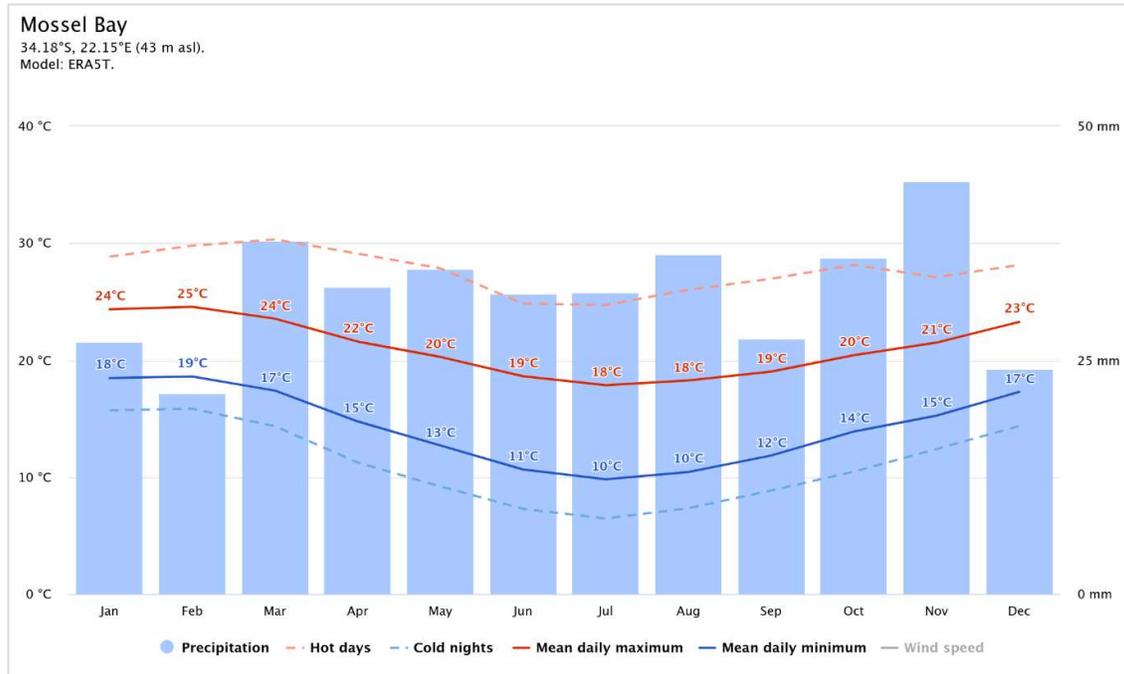


Figure 7. Summary of historical climate (modelled) for Mossel Bay (www.meteoblue.com).

Satellite imagery from Google Earth and Cape Farm Mapper was used to assess general vegetation structure, elevational gradients, and water bodies within the project area (Figure 8; Figure 10). The site mainly comprises of pasture and is uniform topographically (Figure 8).

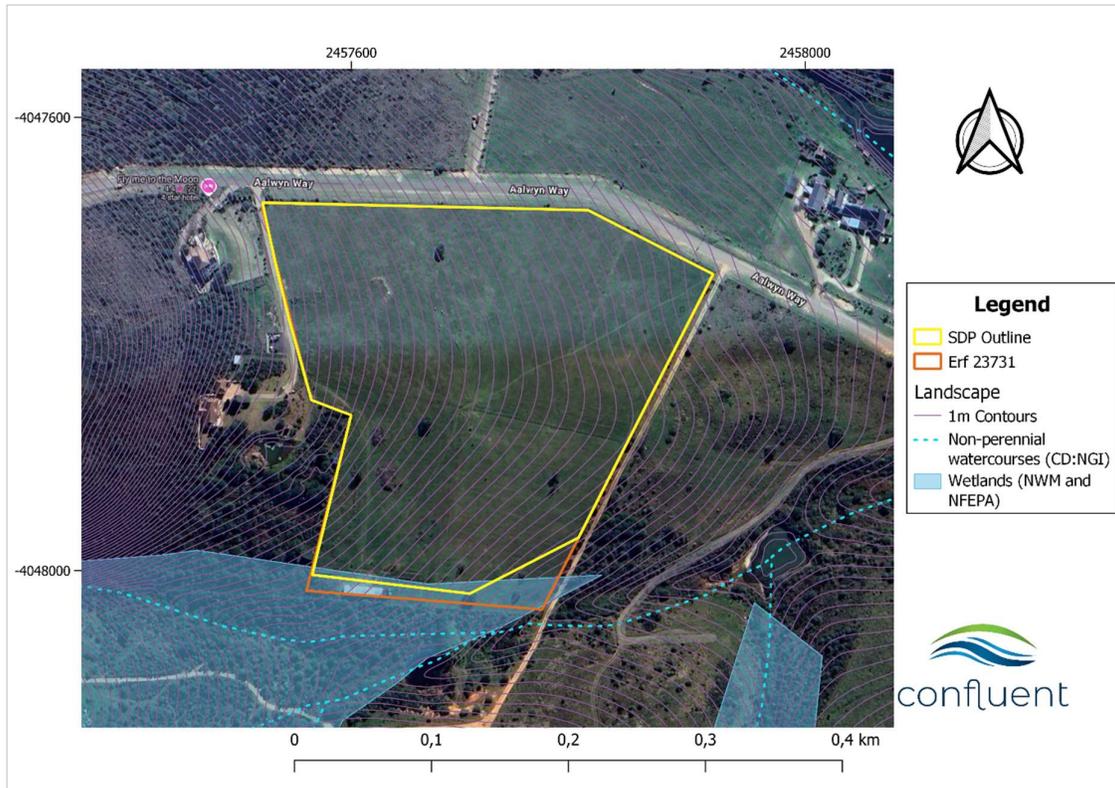


Figure 8. The proposed development site with contour lines and in relation to mapped watercourses.

3.2 Western Cape Biodiversity Spatial Plan

The Western Cape Biodiversity Act 6 of 2021 (WCBA) recognises the unique biodiversity in the Western Cape, the Republic's international obligations, the province's dependence on ecosystem services, the need for access and benefit sharing, and the need to ensure long-term ecological resilience.

Section 35 of the WCBA defines that the purpose of a Biodiversity Spatial Plan is to:

- Set biodiversity targets.
- Spatially identify one or more categories of biodiversity priority areas that will ensure the continued existence and functioning of biodiversity and ecosystems, including the delivery of ecosystem services.
- Provide guidelines that set out the desired management objectives for land and resource use in each category of biodiversity priority areas.
- Provide spatial planning and land-use decision-making guidelines to ensure environmentally sustainable development and resource use, as well as ecological and spatial resilience in the province.
- Ensure that the ecological infrastructure in the province is maintained, ecosystem fragmentation and loss are avoided, and the resilience of ecosystems and human communities to the impacts of climate change is strengthened.

To this end, additional mapping layers were applied to Erf 23731 to include the Western Cape Biodiversity Spatial Plan (Cape Nature 2023) with Critical Biodiversity Areas (CBAs) and Other Natural Areas (ONAs) assessed in Figure 9 and Table 2. The property falls within a CBA 1 and CBA 2 zone, with these areas outlined predominantly in the south-east and south-western corner of the erf. Mapped ESAs and ONAs fall outside of the boundaries of the property. The reasons for the biodiversity spatial plan layer assignments as mapped here are taken from the 2017 version of the Western Cape Biodiversity Spatial Plan (CapeNature 2017), as the updated reasons layer for 2023 is not yet available to the public. The reasons are as follows (grey entries either do not apply to the site or are outside of the scope of this report to provide comment on):

- Bontebok Extended Distribution Range: This indicates that the habitat is modelled to be suitable for Bontebok (*Damaliscus pygargus pygargus*) should the range of the species need to be expanded. Bontebok are currently not present outside of Bontebok National Park. An urbanized, fragmented, and open-access landscape such as this would not be suitable for the species.
- Groot Brak Dune Strandveld (EN): Natural habitats are important for the conservation of fauna. This theme is, however, better addressed by a botanical specialist report since some animal species have plasticity in the environments they can colonise.
- North Langeberg Sandstone Fynbos (LT): This theme is not addressed by this report. See the Botanical Specialist's Report (B. Fouche — Confluent Environmental)
- South Strandveld Western Strandveld Channelled Valley Bottom Wetland: This theme is better addressed by the Aquatic Specialist's Report (J. Dabrowski — Confluent Environmental)
- Southern Sandstone Fynbos Channelled Valley Bottom Wetland: This theme is better addressed by the Aquatic Specialist's Report (J. Dabrowski — Confluent Environmental)
- Watercourse protection- Southern Coastal Belt: This theme is not addressed by this report.

The information as given in this section therefore proves that the reason for the CBA classification is more relevant for the botanical and terrestrial ecology theme than the faunal theme in this area. Additionally, CBA areas are mapped on the site where ground truthing shows no natural habitat present for any faunal SCC.

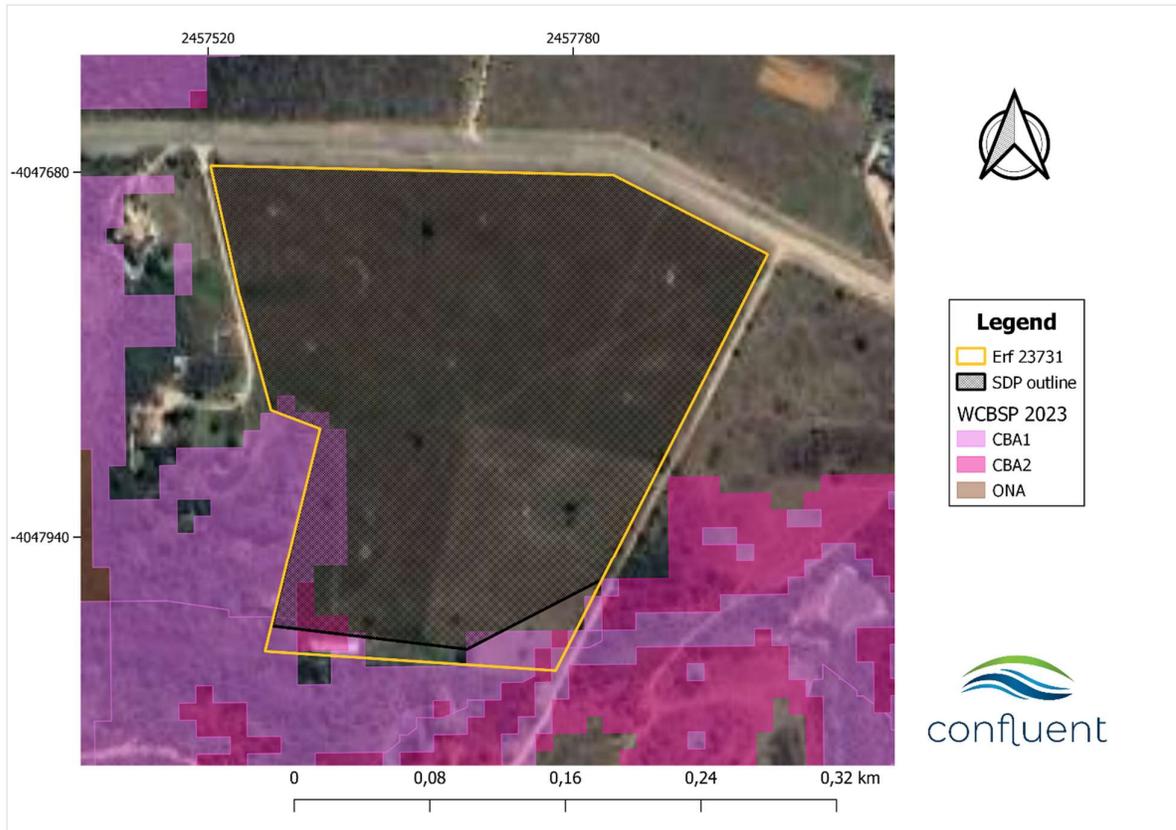


Figure 9. Map of Erf 23731 with layers for the Western Cape Biodiversity Spatial Plan’s Critical Biodiversity Areas (CBA1), Other Natural Areas (ONAs), and Ecological Support Areas (ESA2).

Table 2. Definitions and objectives for conservation categories identified in the Western Cape Biodiversity Spatial Plan (CapeNature 2017).

Category	Definition	Management Objective
Critical Biodiversity Area 1 (CBA1)	Areas in a natural condition. Required to meet biodiversity targets for species, ecosystems or ecological processes and infrastructure.	Maintain in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.
Critical Biodiversity Area 2 (CBA2)	Areas in a degraded or secondary condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.	Maintain in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land-uses are appropriate.
Other Natural Area	Areas not currently identified as a priority but retain most of their natural character and perform a range of biodiversity and	Minimize habitat and species loss and ensure ecosystem functionality through strategic landscape planning. Offers

Category	Definition	Management Objective
(ONA)	ecological infrastructure functions. Although not prioritised, they are still an important part of the natural ecosystem.	flexibility in permissible land-uses, but some authorisation may still be required for high-impact land-uses.

3.3 Historical Assessment of Project Area

The property has undergone minimal transformation over the past 88 years from 1939 to 2024 (Figure 10). The property has no dwellings from 1939 to 1989. In 1939, the whole property is covered in natural vegetation (low shrubs). This changes by 1974 when the erf is used as pasture. In 1989, vegetation shows denser cover which could be attributed to low stocking rates or the colonization/ introduction of vegetation. By 2005, Aalwyn Way along which the is built. Additionally, dwellings are found at the site as are dirt roads and a small dam. The property remains largely unchanged until 2024, barring the south-east of the site becoming more bare and roads on the erf being tarred prior to 2018.

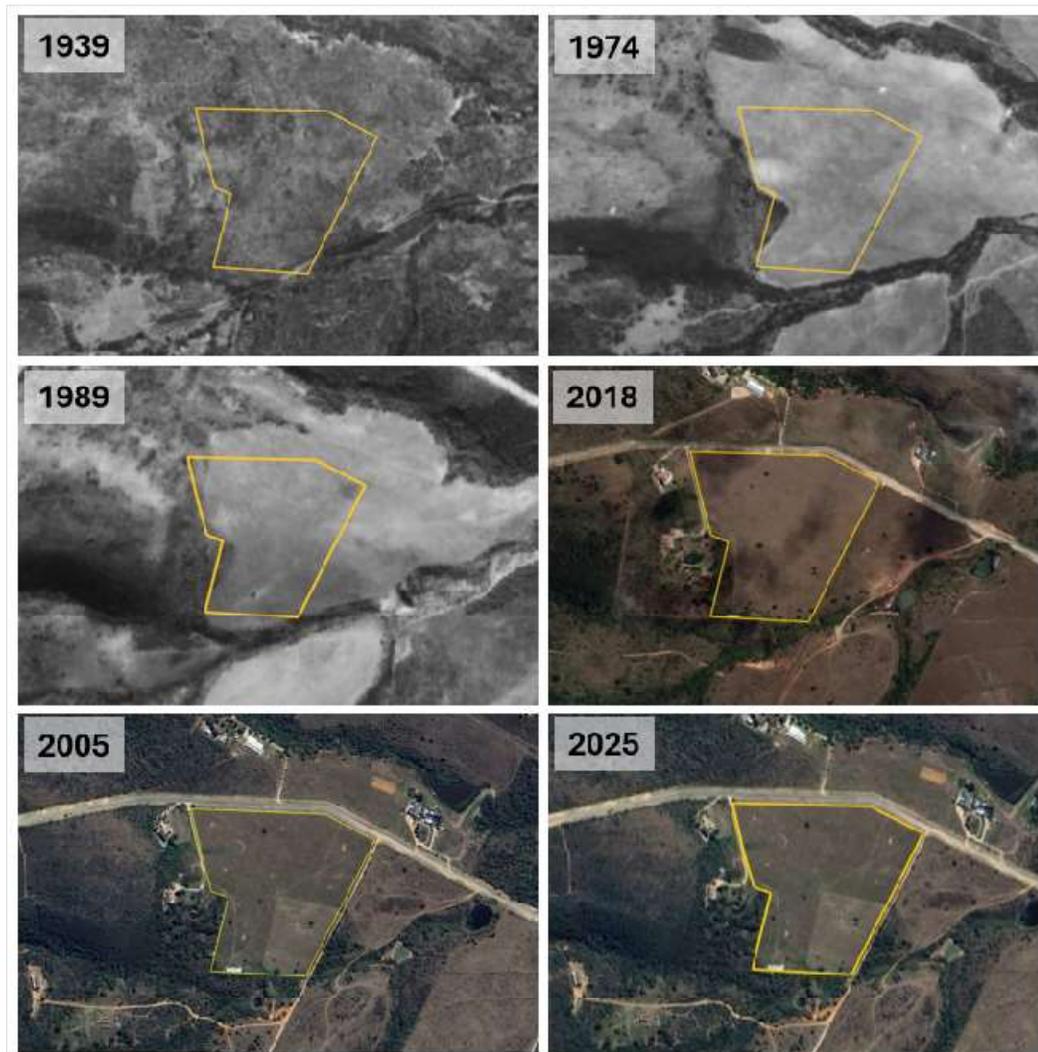


Figure 10. Historical imagery of Erf 23731 (yellow line) sourced from the CD: NGI geospatial portal and Google Earth.

3.4 Species of Conservation Concern

In addition to the SCC highlighted by the DFFE screening tool (Table 1), the following public resources were consulted to provide additional SCC for Erf 23731 and its immediate surroundings:

1. [iNaturalist](#) (all taxa) within 3 km x 3 km of the project area
2. Virtual Museum for herpetofauna, mammals, and invertebrate taxa within the Quarter Degree Square (QDS) 3422AA: DungBeetleMAP, FrogMAP, LacewingMAP, LepiMAP, MammalMAP, OdonataMAP, ReptileMAP, ScorpionMAP, SpiderMAP. Data are correct as of December 2024.
3. South African Bird Atlas Project (SABAP2) for pentad 3405_2200.
4. [Global Biodiversity Information Facility \(GBIF\)](#) occurrences and observations of present fauna within ca. 3 km x 3 km of the project area.
5. Species flagged in previous assessments conducted within the vicinity of the site such as the Aalwyndal Precinct project.

Some SCC reported on the platforms were highly unlikely to occur at the site given either clearly unsuitable habitat or being deemed a vagrant/transient animal. For example, species that are fully adapted to marine environments would not occur at the site. For the purposes of this report these animals were excluded from further assessment (see also Section 4.2 and Appendix 1 for additional information).

The combined list of SCC (from DFFE Screening Tool and public resources) possibly occurring on Erf 2125, Aalwyndal, along with their habitat, breeding, and feeding requirements are listed in Table 3. The information for each SCC presented in Table 3 stems largely from the online SANBI Red List of South African Species (<http://speciesstatus.sanbi.org>) in addition to a few key resources for each taxa:

6. Avifauna: Roberts Birds of Southern Africa VII (Roberts, et al. 2005)
7. Mammals: The Mammals of the Southern African Subregion (Skinner 2005)
8. Invertebrates:
 - Field guide to the insects of South Africa (Picker, Griffiths and Weaving 2019)
 - Field guide to the butterflies of South Africa (Woodhall 2005)
 - Field guide to the spiders of South Africa (Dippenaar-Schoeman 2023)
9. Amphibians: A complete guide to the frogs of Southern Africa (Du Preez and Carruthers 2015)

Any information presented from different sources is cited in the text.

Table 3. Summary of habitat, breeding, and feeding requirements for animal SCC potentially occurring on Erf 23731.

Species	Red list status	Habitat	Breeding	Feeding
AMPHIBIANS				
<i>Afrixalus knysnae</i> Knysna Leaf-folding Frog	Endangered	Typically inhabit endorheic (inward draining) wetlands with shallow water (< 50cm), high clarity, and sufficient vegetation suitable for breeding (De Lange & Du Preez, 2018). No streaming or running water was recorded at any of the sites where they have been found. The frog is associated with vegetation it can use for breeding which includes indigenous and exotic species. For example, slender knotweed (<i>Persicaria decipiens</i>) and kikuyu grass (<i>Cenchrus clandestinus</i>). It requires a habitat with diverse plant species, including shrubs, grasses, and ferns providing shelter and breeding sites (De Lange & Du Preez, 2018).	Females lay eggs on leaves which are folded and sealed by males, creating a protected environment (Du Preez & Carruthers, 2017). Breeding occurs during warmer wetter months, September to November (De Lange, 2019). Breeding takes place near deeper parts of the waterbody, but still close to the waters' edge.	The Knysna Leaf-folding Frog is an insectivorous amphibian feeding on small invertebrates found in its habitat (e.g. insects and spiders). Foraging behaviour includes actively searching for prey on the forest/fynbos floor and in the leaf litter. The frog uses its sticky, projectile tongue to capture and quickly ingest prey. It is primarily active at night, relying on its vision to locate and capture prey in the darkness.
AVIFAUNA				
<i>Circus maurus</i> Black Harrier	Endangered	In Western Cape, mostly found in Fynbos, especially montane Fynbos and Strandveld. Less common in dry restios and renosterveld. Elsewhere, occurs in dry grassland, Karoo scrub, crop fields (wheat), and grasslands (sometimes >3000m elevation). Many move from fynbos to Karoo and grasslands during the winter, likely to follow rodent numbers (e.g. capitalise	Mainly monogamous but some polygamy observed. Mate fidelity is low. Usually a solitary nester and territorial, but in Western Cape some semi-colonial nesting is observed with less territorial behaviour. Nest is a small structure of grass, stems, and small twigs. Usually on or just above ground, in rank marsh grasses or near Fynbos bushes and sedges (<i>Juncus</i> spp.)	Specialist predator of mice and birds. Predominantly rodents (vlei rats, mice) eaten by birds in fynbos areas and small birds dominate diet of birds in mountain areas. Also takes reptiles and frogs. Insects are eaten but to a lesser extent. Sometimes caches prey. Forages most actively on

Species	Red list status	Habitat	Breeding	Feeding
		on late summer litter of Sloggett's ice rats in Free State and Lesotho). Birds move away following fires and do not return for several years.	Nests most often in marshes or next to small streams, but also on damp soil or dry ground. Nest areas are reused in successive years. There is one observation of nest site used for 26 years. Lay dates are from mid-May to mid-December with a peak in mid-August to end of September. It is, however, noteworthy that laying occurs relatively earlier under rainier conditions, particularly when rain was more intense in autumn, winter, and spring, and when summers preceding laying were wetter. Birds in coastal regions have been shown to have earlier lay dates than those located in mountain regions and to lay over a more extended period (up to two months earlier and one month later than in the interior-mountain regions) (Garcia-Heras et al., 2016)	blustery days (windy and rainy), hovers 1- 3m above vegetation with buoyant flight. Flashes into vegetation, hits prey hard and eats on ground. Perch hunting rare.
<i>Circus ranivorus</i> Marsh Harrier	Endangered	Considered a waterbird. Roosts on taller trees around wetland edges from where it has a good vantage point. Can adapt to novel wetland habitats such as wastewater treatment works.	Breeding occurs between September and December. Egg-laying is from August to November in South Africa. Nests are made of grass, reed stems, or sticks in reedbeds, short sedge areas, or in trees along the water's edge. The same nest is often reused by the same pair in following years.	Dietary assessment (Simmons et al., 1991) of pellets and prey deliveries to nests includes birds, frogs, fish, eggs, and small mammals (<i>Rhabdomys</i> , <i>Otomys</i> , and shrews). Hunts primarily in wetland habitats using various flight methods including soaring, hovering, and low flight over wetlands and along the water's edge. May

Species	Red list status	Habitat	Breeding	Feeding
				hunt in open grasslands or pastures near wetland areas.
<i>Polemaetus bellicosus</i> Martial Eagle	Endangered	Savanna, Karoo shrubland, and semi desert. Can occur in open farmland with clumps of trees. Rare in mountainous and forest areas. The presence of electricity pylons has increased distribution in the Karoo (Doherty, 2023)	Monogamous with pair bond lasting several seasons. Solitary nester. Nest is a substantial platform of sticks (up to 1.5m long and 3cm thick) on tall trees or pylons. Nest tree usually tallest in vicinity, and nest placed in a large fork below the canopy. Rarely uses rocky outcrops. 1 egg laid, incubation 48-53 days predominantly by female bird.	Mainly small mammals like hare, jackal, small antelope, mongoose, small baboons, but also small stock animals, birds (especially gamebirds) and reptiles (especially monitor lizards). Usually hunts on the wing by soaring high and attacking in long slanting stoop. Surprises prey by using available cover. Occasionally hunts from perch, especially at waterholes or along game trails. Prey killed by impact or strangulation and taken to high perch to eat.
<i>Aquila verreauxii</i> Verreaux's Eagle	Vulnerable	Hilly and mountainous regions with cliffs. Mostly active at dawn and dusk, then roosting/ resting in shade during the heat of the day.	Monogamous, solitary nester, and territorial. Territories can contain up to 5 nest sites, although one is usually favoured. Typically nests on cliffs, often in an overhung crevice or in a small cave, and sometimes on an open ledge. Very rare for a nest to be in trees. Nest is a large platform of sticks with a cup lined with green leaves. Old nests can be 2.5m in diameter and 4m high. Laying dates are between April and July. Usually lays 1 or 2 eggs. Incubation lasts between 44 and 48 days.	Preys on small mammals mostly, with main prey being rock hyraxes (<i>Procavia capensis</i>) but will also take small antelopes, gamebirds, hares, monkeys and small stock (young goats, sheep). Hunts aerially or from a perch, often in pairs, and takes most prey on the ground. Sometimes uses trees or cliff faces for cover. Hunting usually in early morning or late afternoon

Species	Red list status	Habitat	Breeding	Feeding
<i>Bradypterus sylvaticus</i> Knysna warbler	Vulnerable	Inhabits dense understorey vegetation along riverbanks in fynbos forest patches, riverine woodland, and afro-montane forest and has even adapted to thickets of non-native brambles (e.g. <i>Rubus</i>). (BirdLife International, 2016).	Breeds from August and December coinciding with the greatest abundance of invertebrate species. (BirdLife International, 2016).	Forages mostly on the ground, creeping through dense, matted vegetation and scratching in humus. Eats mostly grasshoppers, insect larvae, spiders, slugs, and worms
<i>Neotis denhami</i> Denham's Bustard	Vulnerable	Inhabits a mosaic of cultivated pastures, agricultural croplands, and natural vegetation, with seasonal variation in their preferences (Allan, 2002). Cultivated pastures are favoured habitat during winter in the southern Cape (Allan, 2002). Harvested cereal crop fields (stubble fields) are favoured, but ploughed fields and fields with growing cereal crops are avoided (Allan, 2002). Primarily inhabits open grasslands and African savannas (Allan, 2002). Being large-bodied with low flight manoeuvrability also leads to preference for open habitat. Preference for grasslands with a mix of short and tall grasses, and good visibility for foraging. Proximity to water sources, such as rivers or wetlands, is important for drinking and potential foraging (Allan, 2002). Avoids dense forests and habitats with high human disturbance.	Male courtship displays occur between August and January, but mainly in September and October (Allan, 2002). Eggs are laid in September and October, with unfledged young present between September and January (Allan, 2002). Preference for natural vegetation over pastures during summer breeding months. Larger bird groupings occur in winter, while in summer smaller groupings or individual birds occur. Nesting sites are concealed in open grasslands, often near vegetation or shrubs. Females construct shallow ground nests lined with grass or plant materials. Clutches consist of 1-3 eggs, incubated primarily by the female. Incubation lasts around 21-24 days.	Ground-dwelling bird that forages in open grasslands and savannas (Tarboton, 1989). Diet is omnivorous including insects, seeds, fruit, and vegetation. Grasshoppers, beetles, and termites are important insect prey, especially in the breeding season (Allan, 2002). Feeding technique is probing and pecking the ground with their long bills. Opportunistically feed on grasshopper swarms.
<i>Sagittarius serpentarius</i> Secretarybird	Vulnerable	Grassland, open savanna, and Karoo shrubland with scattered trees. Can	Monogamous and solitary nesting. Territorial with home ranges usually 50-60 km ² around nests, actively defends	Anything it can overpower: insects, reptiles, birds, small mammals. Attracted to recently

Species	Red list status	Habitat	Breeding	Feeding
		occupy other short-grass areas. Absent from rocky hills and dense woodlands.	against conspecifics. Nest is a large flat platform on top of flat thorn trees (<i>Senegalia</i> or <i>Vachellia</i> spp.) or black wattle (<i>Acacia mearnsii</i>). Nests can be reused in successive years. 1-3 eggs laid, incubation 40-46 days.	burnt areas for prey but does not eat carrion. Most prey caught on ground with bill and swallowed whole. Larger prey killed with downward blows of feet and torn up before swallowing.
<i>Anthropoides paradiseus</i> Blue Crane	Near Threatened (Global: Vulnerable)	Open Grassland, Grassland-Karoo mosaic, and wetlands. Habitats with >300mm per year annual rainfall. Adapted to crop lands and pastures and tolerant of intense grazing or burnt grasslands.	Monogamous, solitary nester. Nests on wet ground (on a pad of vegetation) or dry ground (small layer of stones, dung, and vegetation). Often reuses the same nesting site for several years.	Pecking and digging with bill. Omnivorous, feeds on small bulbs, seeds, roots, insects, crabs, amphibians, fish, and small mammals. Eats crops (maize, lucerne, wheat) and sometimes noted as causing damage, but also eats insect pests. Commonly feeds at small stock feedlots
<i>Certhilauda brevirostris</i> Agulhas Long-billed Lark	Near Threatened	Sparsely vegetated shrubs and agricultural fields. Less common in fynbos favouring sandy areas with restios. Endemic to Western Cape Province and largely restricted to the Agulhas Plain and Overberg wheatbelt, east of the Hottentots Holland Mountains.	Presumed to be monogamous. Nesting predominantly in renosterveld but has been shown to use pasture, grassy dirt road verges, croplands (alfalfa and oats) and thick <i>Bromus</i> . sp stands if need be. Males defend non-overlapping territories. Nest is a cup of dry grass lined with fine grass and roots located on the ground under cover of shrubs or grass. Nesting months are July - December (Rose, 2024) although laying dates are commonly reported as September-November. Incubation period is 16 days with a nestling period of 15 days, based on camera trap footage (Rose, 2024)	Forages on ground, digging with bill or pulling vegetation with feet. Mostly insectivorous but will eat seeds.

Species	Red list status	Habitat	Breeding	Feeding
<i>Buteo trizonatus</i> Forest Buzzard	Least Concern (Regional), Near Threatened (Global)	Afromontane forests and plantations (mainly Pine, but also <i>Eucalyptus</i>). Generally unobtrusive, perching on large branches partially concealed under canopy, sometimes perching in the open at the edge of forests.	Monogamous, territorial, solitary nester. Nest is platform of sticks, cup-lined with green leaves. Nests in plantations are smaller than in native forests. Laying dates from August to November. Breeding is confined to the Western Cape and Eastern Cape Provinces.	Forages along forest edges and within forests (also in plantations). Hunts mainly from perch. Diet consists of small mammals (mice and moles), small birds, snakes, lizards, frogs, and invertebrates.
TERRESTRIAL INVERTEBRATES				
<i>Aloeides thyra orientis</i> Red Copper Butterfly	Endangered	Restricted range taxon endemic to the Western Cape from Witsand to Gouritsmond in the west, to Brenton-on-Sea in the east. Declining because of alien plant encroachment and lack of regular burning of the fynbos. Occurs in coastal fynbos on flat sandy ground (either naturally occurring or from anthropogenic disturbances such as footpaths or unsurfaced track) between 40m to 240m above sea level.	Adults are on wing from July to April with peaks in October and February. Several generations per year through the warmer months (Woodhall, 2005)	Larvae feed on <i>Aspalathus acuminata</i> , <i>A. laricifolia</i> and <i>A. cymbiformis</i> . The larvae are attended to by <i>Lepisiota capensis</i> ants (Woodhall, 2005).
<i>Aloeides trimeni southeyae</i> Trimen's Copper Butterfly	Endangered	Restricted range endemic to the southern coastal region in the Western Cape. Three widely separated (disjunct) populations between Albertinia in the west and Hartenbos in the east. The species occupies grassy fynbos near Mossel Bay. Gently north-facing slopes or flat lands, sparsely covered by low shrubs with bare ground in between.	Two broods, September to December (peak in October) and January to April (peak in February).	Larval food includes <i>Aspalathus</i> spp. and <i>Hermannia depressa</i> .
<i>Lepidochrysops littoralis</i>	Endangered	Endemic to the Western Cape with severely fragmented and isolated	Extended brood from late August to December.	No larval food is known.

Species	Red list status	Habitat	Breeding	Feeding
Nimble Coastal Blue		populations existing between De Hoop Nature Reserve (near Bredasdorp) in the west to a few kilometres west of Mossel Bay in the east. Occurs in rocky limestone ridges or sand dunes in coastal fynbos. Usually found quite close to the seashore, as at Still Bay. There may be suitable habitat between some of the known locations on rocky outcrops. Male has territories around clumps of shrubs, at dune peaks, and in clearings in dense vegetation. Classified as an extreme stenotope (Williams and Dobson, 2023)		
<i>Spesbona angusta</i> Ceres Streamjack Damselfly	Endangered	Endemic to Western Cape. Thought to be extinct, but rediscovered in 2003 in Du Toits River, near Villiersdorp. Recorded from Ceres to the lower reaches of the Du Toits River and Sedgefield, Western Cape. Inland wetlands. Prefers bush-fringed pools in river braids (Samways 2006) with the water weed <i>Aponogeton</i> . Standing waters in open landscapes. Especially pools in streams that stop flowing in summer, mostly with a soft muddy or sandy bottom, emergent and aquatic vegetation, submerged roots, dead trunks, or branches and/or coarse detritus (Loftie-Eaton et al., 2020)	Not known.	Little is known, but the order is insectivorous.
<i>Aneuryphymus montanus</i>	Vulnerable	Very low area of occupancy between 100 and 1000 km ² . Threatened by	Not known	Not known

Species	Red list status	Habitat	Breeding	Feeding
Yellow-winged Agile Grasshopper		declining habitat due to invasion by aliens and habitat transformation. Strong association with sclerophyllous fynbos vegetation on the southern slopes of the Outeniqua mountains, post-fire. Threats to the species include habitat transformation and invasion by alien plants.		
<i>Aloeides pallida littoralis</i> Knysna Pale Copper Butterfly	Near Threatened	Endemic taxon to the Western Cape Province. Relatively flat terrain near the coast, coastal Fynbos	Little is known, but <i>Lepisiota capensis</i> ants are hosts for subspecies <i>A. p. grandis</i> .	Little is known, but larval food for the subspecies <i>A. p. pallida</i> and <i>A. p. jonathani</i> feed on <i>Aspalathus</i> species. The larvae of subspecies <i>A. p. grandis</i> are fed by trophallaxis by <i>Lepisiota capensis</i> ants and later feed on these ants' eggs.
<i>Ceratogomphus triceraticus</i> Cape Thorntail Dragonfly	Near Threatened	Wide range throughout the Western Cape. Pools in streams, and occasionally in reservoirs. Rocky, shallow rivers, with deposition pools, and possibly farm dams. Usually in fairly open or hilly countryside. Main threat is invasive alien trees, loss of habitat, water pollution and to lesser extent agriculture. Clearing of alien trees greatly benefits species.	Not known.	Little is known, but taxon is insectivorous.
<i>Circellium bacchus</i> Flightless dung beetle	Near Threatened (Global)	Endemic to South Africa, occurring in bimodal rainfall regions and on the Southern coastline in winter. Habitat types include the Albany Thicket and Fynbos biome, including vegetation units in Shale Renosterveld, Limestone	In Addo Elephant National Park: Buffalo and cattle dung preferred for breeding, but also recorded on dung of monkey, human, rhinoceros, hare, and ostrich (Davis et al. 2020).	Elephant dung preferred for feeding but also recorded on dung of monkey, human, rhinoceros, hare, and ostrich (Davis et al. 2020).

Species	Red list status	Habitat	Breeding	Feeding
		Fynbos, Sandstone Fynbos, Sand Fynbos, and Strandveld. No association for a particular soil type is known (Davis et al. 2020). Abundant in dense shrub/ woodland on sandy soils and uncommon in adjacent disturbed open vegetation (Davis et al. 2020). Flightless, ectothermic, and diurnal with maximum activity between 18– 26°C, particularly after rainfall (Davis et al. 2020). EOO = 11 950 km ² .		
MAMMALS				
<i>Chlorotalpa duthieae</i> Duthie's Golden Mole	Vulnerable	Occur on alluvial sands and sandy loams in southern Cape Afrotropical forests (Bronner, 2014). Preference for forest vegetation over fynbos. Narrow coastal band 275km long between Wilderness and Port Elizabeth with fairly disjunct populations. Can occur in gardens and pastures adjoining forests. Mainly active at night.	Little is known but a female was recorded with a litter of two young in November (Bronner, 2014).	Shallow subsurface foraging tunnels radiate outwards from beneath the roots of trees. Forages at night in tunnels and through the leaf litter. Diet includes earthworms.
Sensitive Species 8	Vulnerable	Specialised habitat requirements within a home range of approximately 0.75 ha (Skinner & Chimimba, 2005). Strong habitat preference for dense vegetation with good undergrowth providing good cover in which to retreat. Forest, thicket, dense coastal bush, independent of water. Can inhabit forest edges and transitional zones. Requires diverse plant community with a variety of tree and shrub species. Can adapt to	This species can breed throughout the year. Males establish territories and exhibit aggressive behaviours towards other males as well as to attract females.	Highly selective feeders, often feeding on food below troops of monkeys or frugivorous birds which drop lots of material. Preference for fruit, but also fallen leaves, flowers and insects. Seldom actively browse. Active in the early morning and late afternoon, foraging for around 8 hours a day within their territory.

Species	Red list status	Habitat	Breeding	Feeding
		fragmented habitat given sufficient cover and food availability. Actively avoids open grasslands, and areas with human disturbance.		
<i>Amblysomus corriae</i> Fynbos Golden Mole	Near Threatened	Sandy soils and soft loams in mountain fynbos, grassy fynbos and renosterveld of the south-west Cape. Also afro-montane forest and southern African moist savanna along the southern Cape coast. Favours richer and wetter soils (Broom, 1907) preferring forest fringes and associated fynbos. Thrives in gardens, cultivated lands, golf courses and livestock paddocks. Present also in exotic plantations at lower densities (Bronner, 2013).	Fynbos Golden Moles probably breed aseasonally because pregnant females have been captured in August, May, and December. Mean litter size is two; young are altricial and hairless at birth.	Feeds mainly on earthworms and insects (Skinner & Chimimba, 2005).

4. FIELD ASSESSMENT

4.1 Methods

Following the Species Environmental Assessment Guidelines (SANBI 2020) and Table 3, taxon-specific sampling techniques were conducted in habitats where SCC were likely to occur. Taxon-specific sampling was interspersed with a meander across the project area to collect additional opportunistic data for all fauna and inspect all habitat types (Table 4).

Table 4. Sampling techniques conducted for potential SCC occurring on Erf 23731.

Taxon	Field methods	Public platform where observations were reported
Avifauna	<ul style="list-style-type: none"> • Meander* across site for direct observations. • 2 point counts (5-minute bird counts). • Camera trapping 	Birdlasser (species lists), iNaturalist (photos)
Mammals	<ul style="list-style-type: none"> • Meander* across site for direct observations, tracks, scats and signs. • Camera trapping 	iNaturalist (photos)
Amphibians	<ul style="list-style-type: none"> • Meander* across site for direct observations. • Active searching. 	iNaturalist (photos)
Invertebrates	<ul style="list-style-type: none"> • Meander* across site for direct observations. • Active searching. • Sweep netting. 	iNaturalist (photos)

* Meandering involved slow walking through various habitat types and key landscape features. Active observations took place for all fauna throughout this walk which was then supplemented by taxa specific sampling methods in habitats deemed most suitable for SCC.

4.2 Assumptions and Limitations

1. While the public platforms mentioned in Section 3.4 are excellent sources of additional information for animal species occurring within an area, these results require some expert interpretation to determine which of the SCC are relevant to include in the faunal assessment of the project area. For example, the coarse spatial scale of reporting within the Virtual Museum platforms (Quarter Degree Square level (27km x 27km) or SABAP2 pentad level (9km x 7 km)) can result in species records from habitats quite different to those present on site. Additionally, these platforms include sightings of vagrant or transient animals upon which an assessment cannot reasonably be based. Expert interpretation is therefore applied to the full list of SCC identified by the various public platforms (see Appendix 1) and some species are then excluded from further assessment due to the project area clearly lacking suitable habitat or the species clearly representing a vagrant or transient animal outside its normal range. The SCC assessed in this report therefore represent those which may reasonably occur on site. However, there is always the possibility that some SCC (although highly unlikely to occur on site) are overlooked in this process.
2. Two field visits took place to the site for the faunal assessment. The detectability of animal species increases with more visits. This assessment therefore only represents

a “snap-shot” in time and it is possible that SCC occurring on site were not observed during the visit. It is, however, noted that the site forms part of the wider Aalwyndal Offset Area for Aalwyndal Precinct for which many sites visits were conducted in all seasons and weather conditions as well as overnight camera trapping in key habitats.

3. Site visits took place during daylight hours reducing the likelihood of encountering nocturnal species. This is of consequence for the final species list (although not for any SCC since no nocturnal species are flagged). To compensate for this, a camera trap was set out for a week in the dammed section of the wetland south of the property, recording animals that may use that area at night. Camera trapping, however, does not provide an exhaustive list of species using the site or the habitat.
4. The site visit coincided with late winter in July 2024 and early autumn in April 2025. This may be of consequence for some species showing seasonal variation in breeding and activity patterns.
5. Evidence of animals in the form of tracks, scats, and signs always brings with it a level of uncertainty, but best efforts were made in this regard, and uncertainties are highlighted in the report.

4.3 Site Inspection Details

Two site visits took place to Erf 23731 on 17 July 2024 and 15 April 2025. The weather was warm with little wind on both days. Vegetation type mapped for the site according to the National Vegetation Map is Mossel Bay Shale Renosterveld (FRs 14; Critically Endangered) with North Langeberg Sandstone Fynbos (FFs 15; Not Listed) along the south-eastern edge of the property. Habitat types found on the property consists of pasture grazed by a small number of sheep and goats, infrastructure (a building), and disturbed areas. A vegetated watercourse and a dam are present outside the site on Erf 23731 (Figure. 10). An effort was made to cover the project area with the meander and to conduct taxa specific sampling techniques across a range of suitable habitats for potential SCC (Figure. 13).



Figure 11. Habitats and GPS tracks of the site visit conducted in Erf 23731.

4.4 Results

4.4.1 Avifauna

Two bird counts were conducted nearby, and in and around the project area, in addition to opportunistic sightings noted throughout the meander and searching for nests/roosting sites in suspected habitat. A total of 12 bird species were identified during the site visit (See Appendix 2). One bird, a Black-crowned Night Heron (*Nycticorax nycticorax*) was observed on the camera trap deployed at the site (Figure 14). It is noted that this species has recently been listed as Near Threatened by the [Regional Red Data Book of Birds of South Africa, Lesotho and Eswatini 2025](#) released by BirdLife South Africa in June 2025 making it an SCC.



Figure 12. Black-crowned Night Heron (*Nycticorax nycticorax*) captured near the dam in the wetland south of the site using a camera trap.

4.4.2 Mammals

There was no evidence of any mammal SCC at the site. Domestic cattle (*Bos taurus*) were observed foraging in the pasture as were Domestic sheep (*Ovis orientalis aries*) and Domestic goat (*Capra hircus*). A Domestic horse (*Equus caballus*; Figure 15) was captured by camera trap. Numerous scats in the vicinity of the dam outside of the property indicates that this area is heavily used by both horses and cows. These also represent a nutrient input to the dam and watercourse.



Figure 13. Domestic horse (*Equus caballus*) captured at the site using a camera trap.

4.4.3 Terrestrial invertebrates

No SCC were found during the site inspections. Eleven insects across six orders were found (see Appendix 3). Butterfly host plants were not found at the site but are known to occur in the greater landscape.

4.4.4 Amphibians

No amphibians were seen but Clicking Stream Frogs (*Strongylopus grayii*) were heard. The watercourse and waterbodies at the site are not suitable for the amphibian SCC Knysna leaf-folding frog (*Afrivalus knysnae*) which typically inhabits endorheic (inward draining) wetlands.

4.4.5 Reptiles

No reptile SCC were highlighted for this site by the DFFE Screening Tool or any of the public platforms. As such, no targeted sampling took place for this group, but a Leopard tortoise (*Stigmochelys pardalis*) was observed in the road reserve outside of the site (Figure 17)



Figure 14. Leopard tortoise (*Stigmochelys pardalis*) observed in the road reserve outside of the site.

4.4.6 Likelihood of Occurrence for SCC

Following the terrestrial fauna surveys and site inspection, the possible SCC occurring on Erf 23731 were evaluated according to their likelihood of occurrence. It is always possible that a species assessed as having a low probability of occurrence can still occur on the site, and therefore this table should only be used as a guideline.

Table 5: Likelihood table for faunal SCC suspected to occur on Erf 23731.

Species	Red list status	Observed	Suitable habitat	Likelihood of occurrence	Reason
AMPHIBIANS					
<i>Afrixalus knysnae</i> Knysna Leaf-folding Frog	Endangered	No	No	Low	No suitable endorheic wetlands
AVIFAUNA					
<i>Circus maurus</i> Black Harrier	Endangered	No	Yes	Low	This SCC is known to be present in the greater landscape. The site, however, lacks key characteristics that would make it core habitat for the species and would therefore not support the needs of the SCC.
<i>Circus ranivorus</i> Marsh Harrier	Endangered	No	Yes	Medium	No suitable waterbodies are present to support this SCC but suitable habitat in which to forage is available by way of pasturelands. Pasture is, however, common in the landscape
<i>Polemaetus bellicosus</i> Martial Eagle	Endangered	No	No	Low	No suitable habitat or forage.
<i>Aquila verreauxii</i> Verreaux's Eagle	Vulnerable	No	No	Low	No suitable habitat or forage.
<i>Bradypterus sylvaticus</i> Knysna warbler	Vulnerable	No	No	Low	No forest vegetation is available at the site.
<i>Neotis denhami</i> Denham's Bustard	Vulnerable	No	Yes	Medium	This SCC is present in the greater landscape and the site may be used for foraging, but the high level of human disturbance makes the site unsuitable for full-time occupation by this SCC. It is more likely to use other sites with less human disturbance.
<i>Sagittarius serpentarius</i> Secretarybird	Vulnerable	No	No	Low	No suitable habitat is present at the site or near the site.
<i>Anthropoides paradiseus</i> Blue Crane	Near Threatened (Global: Vulnerable)	No	Yes	Medium	This species is present in the landscape and may use the site opportunistically for foraging. Nesting sites are reused annually, and no evidence of nests were seen at the property.

Species	Red list status	Observed	Suitable habitat	Likelihood of occurrence	Reason
<i>Certhilauda brevirostris</i> Agulhas Long-billed Lark	Near Threatened	No	No	Low	The vegetation at the site is not suitable to support this SCC.
<i>Buteo trizonatus</i> Forest Buzzard	Least Concern, (Global: Near Threatened)	No	No	Low	No suitable habitat is present to support this SCC
TERRESTRIAL INVERTEBRATES					
<i>Aloeides thyra orientis</i> Red Copper Butterfly	Endangered	No	No	Low	Plant and ant species that support the species are not present at the site.
<i>Aloeides trimeni southeyae</i> Trimen's Copper Butterfly	Endangered	No	No	Low	Plant and ant species that support the species are not present at the site.
<i>Lepidochrysops littoralis</i> Nimble Coastal Blue	Endangered	No	No	Low	This SCC occurs in rocky limestone ridges or sand dunes in coastal fynbos which does not characterise this habitat.
<i>Spesbona angusta</i> Ceres Streamjack Damselfly	Endangered	No	No	Low	No suitable habitat is available.
<i>Aneuryphymus montanus</i> Yellow-winged Agile Grasshopper	Vulnerable	No	No	Low	The property is not close to known locations of the SCC.
<i>Aloeides pallida littoralis</i> Knysna Pale Copper Butterfly	Near Threatened	No	No	Low	Plant and ant species that may support the species are not present at the site.
<i>Ceratogomphus triceraticus</i>	Near Threatened	No	Yes	Medium- Low	The species occurs throughout the Western Cape. The closest observations are more than 20km away. Habitat that is suitable to

Species	Red list status	Observed	Suitable habitat	Likelihood of occurrence	Reason
Cape Thorntail Dragonfly					support a population of the SCC is present, but falls outside of the development footprint.
<i>Circellium bacchus</i> Flightless dung beetle	Near Threatened (Global)	No	No	Low	No suitable dung is present to support the species.
MAMMALS					
<i>Chlorotalpa duthieae</i> Duthie's Golden Mole	Vulnerable	No	No	Low	Although observed in the greater Aalwyndal area, no sub-surface foraging tunnels were found, nor does the site have suitable habitat to support this SCC.
Sensitive Species 8	Vulnerable	No	No	Low	No suitable habitat is present at the site to support this species.
<i>Amblysomus corriae</i> Fynbos Golden Mole	Near Threatened	No	Yes	Low	Although observed in the greater Aalwyndal area, foraging tunnels leave conspicuous impressions used to confirm if Golden Moles are present. These were not observed within the project area.

5. SITE SENSITIVITY VERIFICATION

After the site visit and fauna surveys, it is determined that the site sensitivity for the terrestrial animal theme of Erf 23731 is **LOW**. This does not accord with the **MEDIUM** and **HIGH** highlighted by the DFFE Screening tool for the property.

Based on the information in this report during the desktop and field assessment, the following reasons support this finding:

- No SCC or evidence of SCCs were found at the property despite thorough survey conducted by three biodiversity specialists with backgrounds in ecological science who have undertaken extensive surveys across the Aalwyndal Precinct as part of a biodiversity offset planning project.
- An avifaunal SCC, the Near Threatened Black-crowned Night Heron (*Nycticorax nycticorax*), was observed south of the erf in the watercourse within the core area outlined by the Aalwyndal Biodiversity Offset Framework Plan. The emergence of new SCC in the core area is further evidence that preservation and management of this corridor for conservation will likely serve a vital role in the protection of these vulnerable species.
- One avifaunal SCC highlighted as having a medium likelihood of occurrence namely Marsh harrier (*Circus ranivorus*) is given this likelihood since the site may be used opportunistically as foraging grounds: the pastures are likely to support prey species. The site would not be suitable to support the other needs of this SCC (roosting, breeding, etc) and the pasture containing prey species is not rare in the landscape. Birds are highly mobile and are likely to use the greater landscape for hunting, of which this site is a small component.
- Blue Crane (*Anthropoides paradiseus*) and Denham's bustard (*Neotis denhamii*) may use the site opportunistically for foraging, but it is noted that the habitat they are likely to use for this purpose (pasture) is very common in the surrounding landscape. For Denham's bustard, preference would be given to sites with less human disturbance whereas for Blue Crane this would not be a deterrent. Blue Crane nesting sites were, however, not observed on the property and there are far more suitable foraging areas close by on the edges of Aalwyndal and beyond where a tagged individual's movements are well known. Pasture habitat type is common in the landscape and birds are highly mobile, which means that the larger landscape is available for use as habitat and foraging grounds.
- The medium-low likelihood of occurrence of Cape Thorntail Dragonfly (*Ceratogomphus triceraticus*) is given as a precautionary measure. The species has a wide distribution across the Western Cape and the property contains suitable habitat to support the species (farm dams). This SCC, however, has little likelihood of occurring within the development footprint and would be sufficiently provided for in the Core Area.

As per the Published Government Notice No. 1150, Government Gazette 43855 (30 October 2020), the **LOW** sensitivity allows for a Terrestrial Animal Species Compliance statement to be issued.

6. COMPLIANCE STATEMENT AND RECOMMENDATIONS

Following on from the site sensitivity verification for the Terrestrial Animal Species Theme, a compliance statement is issued for the proposed residential development on Erf 23731.

To ensure the efficacy of the Core Area (Aalwyndal Offset Report 1 and 3) for the faunal theme, several recommendations are repeated here with special reference to the south of the site abutting the Core Area. Recommendations include the following:

- Fencing is important to reduce the frequency of conservation conflicts between people and pets (in the development), and wild fauna (in the Core Area). To this end, it is recommended that the fencing used be compliant with the options outlined in Aalwyndal Offset Report 3. Several fencing options are considered for the core area with a range of advantages and disadvantages. For this development, to balance the need for security, reduce access to the core area by pets, reduce maintenance, and promote the safety of wildlife, anti-climb fencing with small spaces (e.g. galvanised ClearVu-type fencing; Figure 18) would be best. It would be best for fencing be dug in 0.2m to reduce permeability for both pets and wildlife that may attempt to dig underneath to get through. The fence should be 1.8m high. Additionally, the HOA should consider restricting the ownership of pets by residents to reduce this impact on more mobile wildlife such as birds, small mammals and reptiles.



Figure 15. An example of appropriate anti-climb fencing to reduce conflicts between wildlife, people, and pets.

- Lighting may have a significant impact on biodiversity and alter the way fauna use the landscape. It is therefore recommended that artificial lighting along roads and around infrastructure be kept to a minimum. ‘No-lighting’ options should be strongly considered in the south of the site along the Core Area. Where this is not practical, the impacts of lighting can be reduced through the selection of the colour/brightness (select yellow, dim lights which are less jarring and attractive to insects than bright white or blue lights) and design elements (lights facing down towards the ground rather than facing up towards the sky; Figure 19). Permanent lighting along roads must be avoided in the south of the site, except in cases where this measure would significantly

impact road safety. Low, bollard-type lighting can further reduce impacts, and installing sensors or timers to reduce the amount of time that lights are on is preferred.



Figure 16. Design options for lighting at the site.

- Invasive gardens and landscaping outside of core areas provide potential routes of introduction for alien invasive and exotic plant species into this sensitive area. Invasive plants pose a risk to native vegetation and in turn to native fauna. It is recommended that only plants indigenous to the vegetation type at the site are introduced. Figure 20 is an example of this concept poorly applied, where species indigenous to the country were erroneously planted instead of those suitable for the vegetation type. A list of suitable species available at local nurseries can be found in the Aalwyndal Offset Report 3.



Figure 17. Example from Numnum Estate adjacent to Aalwyndal where the HOA have a strict policy of indigenous plants from the area. Despite this a large stand of cycads and *Aloe arborescens* is planted (indigenous to South Africa but not Mossel Bay).

- Best efforts should be made to restrict the disturbance footprint of the development to the area to be developed since sensitive habitat exists south of the property, in the

core offset area. The status of native vegetation has a direct impact on the fauna dependent on it.

- General recommendations and best practice guidelines should be followed for all animal species encountered (regardless of whether they are SCC or not) during any stage of development on a site. These are summarised in Box 1 below:

Box 1: Best practice principles for ALL fauna encounters during construction or operational phases of projects

If any animals are seen on site, a photo or a video should be taken if possible (to assist in identification) and all fauna encountered on site should be reported to the ECO immediately. This is particularly important when:

- An animal is harmed or compromised in any way during construction.
- Ground-dwelling animals their nests or eggs are unearthed during earthworks (e.g. moles, tortoise eggs, terrapins/frogs estivating).
- Any animal with limited mobility is found on site (e.g. tortoises, moles, chameleons).
- Any potentially dangerous animal is encountered. This includes any potentially venomous animal (e.g. snakes, scorpions) or any medium-large animal that has become cornered in an enclosed area such that it cannot escape (e.g. porcupines, monkeys, baboons, antelope). It is critical in the case of snakes/ scorpions to get pictures/videos to aid in identification and appropriate treatment of anyone needing medical assistance.
- Any animal that shows a reluctance to escape or move away from the construction site thereby increasing its exposure to harm or increasing the risk of injuring people on site.

The ECO should provide guidance or assistance to get all animals to safety, treating any injured animals, and issuing instructions on when to continue with construction (once they are satisfied that all animals have been removed from site) or put additional mitigation measures in place to protect animals on the site from harm.

For any injured animals or animals to be removed from site (domestic or wild):

A local SPCA or animal welfare society can collect and treat most animals and should be the first point of call for assistance. If they cannot directly assist, they will revert and notify the relevant authorities/vets.

For any assistance with snake removals/relocations, identifications, or bite treatment contact the African Snakebite Institute. The contact details of a suitably qualified snake handler are provided at the following link: <https://snakeremoval.co.za/mossel-bay>. Also available are the following emergency contacts.

SNAKEBITE EMERGENCIES:

Poisons Information Helpline	+27 861 555 777
Dr Jenna Taylor	+27 83 631 4816
Dr Christoff Bell	+27 73 174 0199
Johan Marais	+27 82 494 2039
Jason Seale	+27 82 781 8498
Arno Naude	+27 83 739 9303
Dr PJC Buys	+26 481 127 5109 (Namibia)

GET THE FREE APP:



(Scan this code with your phone's camera.)

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APPENDIX 1: SCC IDENTIFIED FROM PUBLIC PLATFORMS FOR THE PROJECT AREA.

SCC were included or excluded from further analysis in this report based on expert interpretation for the presence/absence of key landscape and habitat features on site. See Section 4.2 Assumptions and Limitations for more information.

Species	Common name	Red List status	Source	Assessed
AMPHIBIANS				
<i>Afrixalus knysnae</i>	Knysna Leaf-folding Frog	Endangered	Virtual Museum	Yes
AVIFAUNA				
<i>Circus maurus</i>	Black Harrier	Endangered	Virtual Museum	Yes
<i>Circus ranivorus</i>	African Marsh Harrier	Endangered	Screening Tool; Virtual Museum	Yes
<i>Phalacrocorax capensis</i>	Cape Cormorant	Endangered	Virtual Museum	No
<i>Polemaetus bellicosus</i>	Martial Eagle	Endangered	Virtual Museum	Yes
<i>Aquila verreauxii</i>	Verreaux's Eagle	Vulnerable	Virtual Museum	Yes
<i>Bradypterus sylvaticus</i>	Knysna Warbler	Vulnerable	Screening Tool	Yes
<i>Ciconia nigra</i>	Black Stork	Vulnerable	Virtual Museum	No
<i>Falco biarmicus</i>	Lanner Falcon	Vulnerable	Virtual Museum	No
<i>Hydroprogne caspia</i>	Caspian Tern	Vulnerable	Virtual Museum	No
<i>Neotis denhami</i>	Denham's Bustard	Vulnerable	Screening Tool; Virtual Museum	Yes
<i>Sagittarius serpentarius</i>	Secretarybird	Vulnerable, Endangered	Virtual Museum	Yes
<i>Campethera notata</i>	Knysna Woodpecker	Near Threatened	Virtual Museum	No
<i>Certhilauda brevirostris</i>	Agulhas Long-billed Lark	Near Threatened	Virtual Museum	Yes
<i>Crithagra leucoptera</i>	Protea Canary (Seedeater)	Near Threatened	Virtual Museum	No
<i>Grus paradisea</i>	Blue Crane	Near Threatened, Vulnerable	Virtual Museum	Yes
<i>Phoeniconaias minor</i>	Lesser Flamingo	Near Threatened	Virtual Museum	No
<i>Phoenicopterus roseus</i>	Greater Flamingo	Near Threatened	Virtual Museum	No
<i>Buteo trizonatus</i>	Forest Buzzard	Least Concern, Near Threatened	Virtual Museum	Yes
TERRESTRIAL INVERTEBRATES				
<i>Aloeides thyra orientis</i>	Rooi-Kopervlerkie, Brenton	Endangered	Virtual Museum	Yes
<i>Aloeides trimeni southeyae</i>	Trimen's Copper	Endangered	Virtual Museum	Yes
<i>Lepidochrysops littoralis</i>	Coastal Nimble Blue	Endangered	Virtual Museum	Yes
<i>Spesbona angusta</i>	Ceres Featherlegs	Endangered	Virtual Museum	Yes
<i>Aneuryphymus montanus</i>	Yellow-winged Agile Grasshopper	Vulnerable	Screening Tool	Yes

Species	Common name	Red List status	Source	Assessed
<i>Circellium bacchus</i>	Flightless dung beetle	Vulnerable	Virtual Museum	Yes
<i>Aloeides pallida littoralis</i>	Knysna Pale Copper	Near Threatened	Virtual Museum	Yes
<i>Ceratogomphus triceraticus</i>	Cape Thorntail	Near Threatened	Virtual Museum	Yes
MAMMALS				
<i>Sousa plumbea</i>	Indian Humpback Dolphin	Endangered	Virtual Museum	No
-	Sensitive species 8	Vulnerable	Screening Tool; Virtual Museum	Yes
-	Sensitive species 5	Vulnerable	iNaturalist	No
<i>Chlorotalpa duthieae</i>	Duthie's Golden Mole	Vulnerable	Virtual Museum	Yes
<i>Damaliscus pygargus pygargus</i>	Bontebok	Vulnerable	Virtual Museum	No
<i>Panthera pardus</i>	Leopard	Vulnerable	Virtual Museum	No
<i>Aonyx capensis</i>	African Clawless Otter	Near Threatened	iNaturalist	No
<i>Pelea capreolus</i>	Grey rhebok	Near Threatened	iNaturalist	No
<i>Amblysomus corriae</i>	Fynbos Golden Mole	Near Threatened		Yes
<i>Kogia sima</i>	Dwarf Sperm Whale	Data Deficient	iNaturalist	No

APPENDIX 2: AVIFAUNA SPECIES OBSERVED DURING SITE VISITS

Common name	Species name
Cape Wagtail	<i>Motacilla capensis</i>
Cape Spurfowl	<i>Pternistis capensis</i>
Cape Weaver	<i>Ploceus capensis</i>
Ring-necked Dove	<i>Streptopelia capicola</i>
Speckled Mousebird	<i>Colius striatus</i>
Malachite Kingfisher	<i>Corythornis cristatus</i>
Egyptian goose	<i>Alopochen aegyptiaca</i>
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>
Cape Sparrow	<i>Passer melanurus</i>
Malachite Sunbird	<i>Nectarinia famosa</i>
Ring-necked dove	<i>Streptopelia capicola</i>
Spotted thick-knee	<i>Burhinus capensis</i>
Crowned lapwing	<i>Vanellus coronatus</i>

APPENDIX 3: INVERTEBRATE SPECIES OBSERVED DURING SITE VISITS

Order	Common name	Scientific name
Coleoptera	Chafer	Family Scarabaeidae
Diptera	Hoverfly	Family Syrphidae
Hymenoptera	Honeybee	<i>Apis mellifera</i>
Lepidoptera	Broad-bordered grass yellow	<i>Eurema brigitta</i>
Lepidoptera	Cape autumn widow	<i>Dira clytus clytus</i>
Lepidoptera	Common diadem	<i>Hypolimnas misippus</i>
Lepidoptera	Common white	<i>Pieris brassicae</i>
Lepidoptera	Vestal	<i>Rhodometra sacraria</i>
Odonata	Julia Skimmer	<i>Orthetrum julia</i>
Odonata	Nomad	<i>Sympetrum fonscolombii</i>
Orthoptera	Short-horned grasshopper	Family Acrididae