Proposed Development on Portion 257 of Melkhoutefontein 480, Riethuiskraal, Hessequa Local Municipality, Western Cape

Terrestrial Animal Species:

Site Sensitivity Verification Report and Compliance Statement

Prepared For: Cape Environmental practitioners
Author: Vusumzi Martins (MSc)
Confluent Environmental Pty (Ltd)
7 St. Johns Street,
Dormehls Drift,
George, 6529
SACNASP: Professional Natural Scientist (Ecological Sciences), 131088 (Application pending)
Reviewer: Dr JM Dabrowski – Pr. Sci. Nat. (Ecological Sciences) 114084

Date: September 2024
Version: Draft 1

confluent

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;
- I do not have any influence over decisions made by the governing authorities;
- I undertake to disclose all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by a competent authority to such a relevant authority and the applicant;
- I have the necessary qualifications and guidance from professional experts in conducting specialist reports relevant to this application, including knowledge of the relevant Act, regulations and any guidelines that have relevance to the proposed activity;
- This document and all information contained herein is and will remain the intellectual property of Confluent Environmental. This document, in its entirety or any portion thereof, may not be altered in any manner or form, for any purpose without the specific and written consent of the specialist investigators.
- All the particulars furnished by me in this document are true and correct.

Vusumzi Martins

Vusumzi Martins (PhD candidate)
Faunal Specialist
September 2024

SUMMARY OF EXPERIENCE AND ABRIDGED CV - VUSUMZI MARTINS

Core skills

- MSc. Zoology (University of Fort Hare) and 7 years of work experience in the field of terrestrial fauna conservation and management. Expertise with conducting different research projects involving at mammal ecology and behaviour, human-wildlife conflict, and natural resources use.
- Extensive ecological and field work experience across a range of environments including indigenous forests, mountain terrain fynbos and grasslands.
- Experience in conducting transdisciplinary research aimed at understanding the motivations and impacts of wild fauna harvesting and implementing mitigation strategies.

Work experience

- 2023-2023: Social-ecological research- Cape Leopard Trust.
- 2018-2019: Conservation co-ordinator- Kwantu Private Game Reserve (Makanda, Eastern Cape).
- 2014-2015: Biodiversity officer (SANBI Groen Sebenza)- Eastern Cape Parks and Tourism Agency.
- 2013-2014: Environmental education officer (NRF Intern)- FOSST Discovery Science Centre, University of Fort Hare.

Qualifications

- BSc. Zoology and Entomology (2011, University of Fort Hare)
- BSc. Honours Zoology (2012, University of Fort Hare)
- MSc. Zoology (with distinction, 2015, University of Fort Hare)
- Ph.D. Environmental Sciences (Current, Rhodes University)

Publications

- Martins, V., Shackleton, C., and De Vos, A., (2024). Bushmeat hunting practices by rural communities in the forests of Eastern South Africa: motivations, methods and perceptions. (In Prep)
- Wendy J. Annecke., Vusumzi Martins., Kathryn S. Williams., Anita Wilkinson., Jacqueline Bishop (2024). What triggers snaring? Towards understanding the motivations of illegal hunters in the Overberg district of the Western Cape, South Africa. (Submitted)
- Shackleton, C., Sinasson, G., Adeyemi, O. and Martins, V. (2022) Fuelwood in South Africa revisited: Widespread use in a policy vacuum. Sustainability 2022, 14, 11018. http//doi.org/10.3390/su14171101
- Martins, V. and Shackleton, C.M., (2019). Bushmeat use is widespread but under researched in rural communities of South Africa. Global Ecology and Conservation, p.e00583.
- Jordan, N.R., O'Rianin, J.,Balmforth, Z., Martins,V & Do Lihn San, E. (2016). A conservation assessment of Suricatta suricatta. In: The Red List of Mammals of South Africa, Swaziland and Lesotho.

SACNASP Registration - Professional Natural Scientist (Ecological Sciences), 131088.

References

- Dr. Wendy Annecke – Supervisor (Cape Leopard Trust)
  Email: glo-worm@iafrica.com; Tel: 084 447 3977
- Prof. Charlie Shackleton – Ph.D. advisor and Previous employer (Rhodes University)
  Department of Environmental Science, Rhodes University
  E-mail: c.shackleton@ru.ac.za; Tel: 046 603 7001

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACCRONYMS

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
WCBSP	Western Cape Biodiversity Spatial Plan

1. INTRODUCTION

1.1 Background and Site Location

Confluent Environmental Pty (Ltd.) was appointed by Cape Environmental Practitioners to conduct a specialist assessment for the proposed construction of a single residence (House Phillip) on Farm 480, Melkhoudfontein, Western Cape (Figure 1). Farm 480 is located in between Melkhoutefontein (southeast), Riversdale (north), and Stillbaai (south), on the banks of the Goukou River.

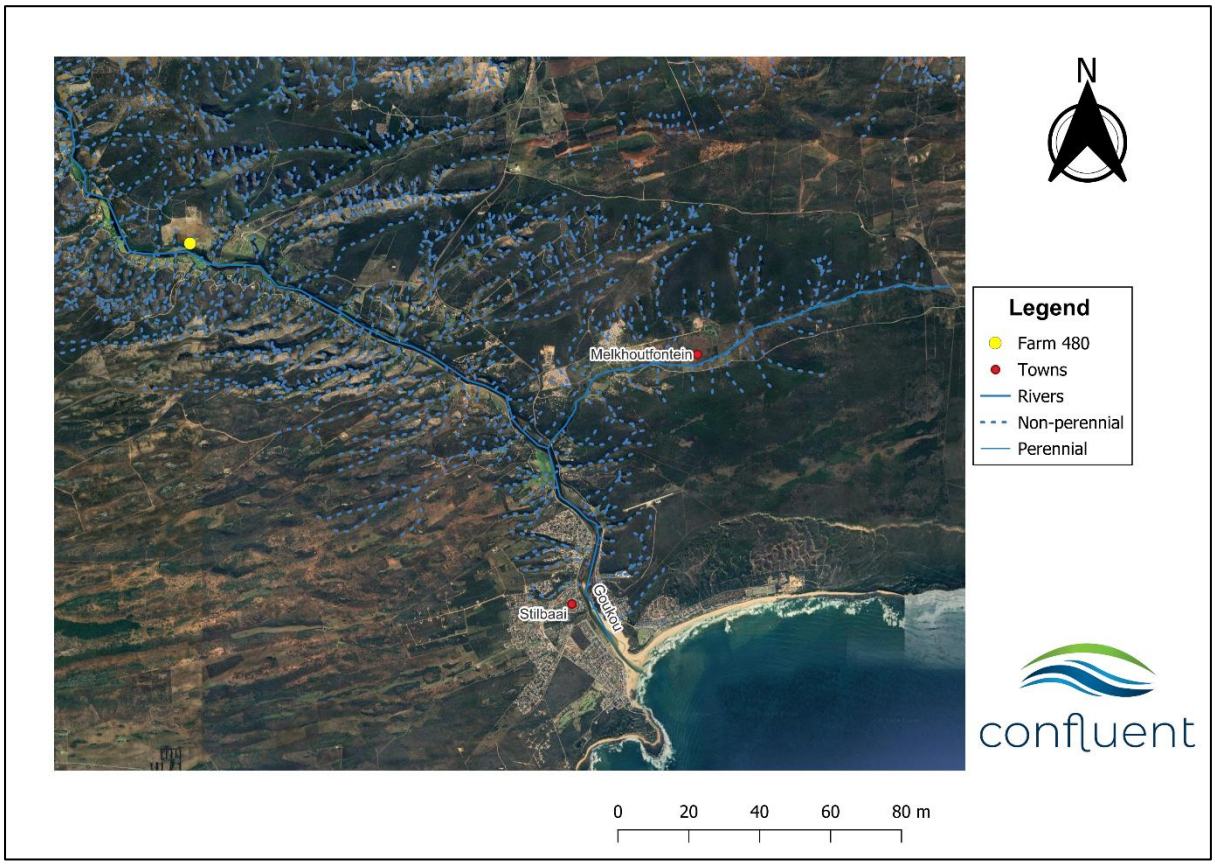

Figure 1: The general location of Farm 480, Melkhoudfontein, Western Cape

1.2 Development Layout

As of the date of this report, the Site Development Plan (SDP) for farm 480 (Figure 2) indicates the presence of an existing house (green outline on map). The proposed development of House Phillip will occur on portion 24 of farm 480 (Green stripes on map).

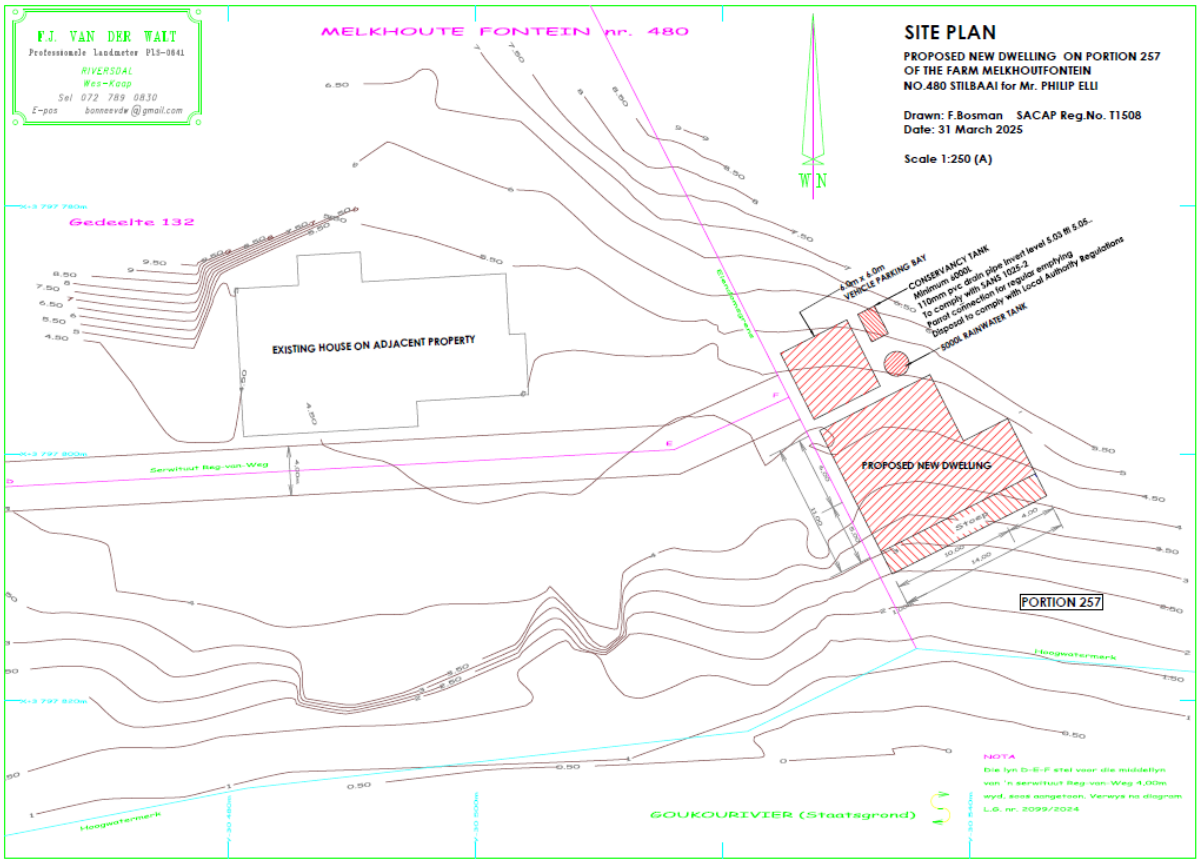

Figure 2: Map showing existing property on Farm 480 (green outline) and proposed House Phillip on portion 24 of the property (green stripes).

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), and the animal species protocols specified the Published Government Notice No. 1150, Government Gazette 43855 (30 October 2020). As such, the Department of Forestry, Fisheries and the Environment (DFFE) Screening Tool is used to assess the site sensitivity for the property.

The DFFE Screening Tool revealed a **MEDIUM** sensitivity for the terrestrial animal species theme across Farm 480, Melkhoutefontein (**Error! Reference source not found.**), with 10 f aunal Species of Conservation Concern (SCC) highlighted (**Error! Reference source not found.**).

A **MEDIUM** sensitivity rating indicates:

- 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.
- 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.

Figure 3. DFFE Online Screening Tool outcome for the terrestrial animal species theme for House Phillip on Farm 480, Melkhoutefontein. The property boundary is indicated by the blue dashed line.

Table 1. Species of Conservation Concern highlighted by the DFFE Online Screening Tool for Philp's house on farm 480, Melkhoutefontein, Western Cape

Sensitivity	Classification	Scientific name	Common name	Red list status
High	Aves	*Bradypterus sylvaticus*	Knysna warbler	Vulnerable
High	Aves	*Circus ranivorus*	African marsh harrier	Least Concerned
Medium	Aves	*Podica senegalensis*	African finfoot	Vulnerable
Medium	Aves	*Circus maurus*	Black harrier	Vulnerable
Medium	Aves	*Stephanoaetus coronatus*	Crowned eagle	Near Threatened
Medium	Aves	*Hydroprogne caspia*	Caspian tern	Least Concerned
Medium	Aves	*Neotis denhami*	Denham's bustard	Near Threatened
Medium	Aves	*Afrotis afra*	Southern black korhaan	Vulnerable
Medium	Invertebrate	*Aneuryphymus montanus*	Yellow-winged Agile Grasshopper	Vulnerable
Medium	Invertebrate	*Chrysoritis brooksi tearei*	Brook's opal	Endangered

2.2 Scope of Work

The purpose of this report is to verify the site sensitivity of the proposed development of House Phillip on farm 480 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, 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
- 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 including an Impact Assessment will be compiled.

3. DESKTOP ASSESSMENT

3.1 Vegetation, Climate and General Habitat

Farm 480 is situated in a temperate climate zone and receives almost the same amount of rainfall in all four seasons (Figure 4), with peaks in August and November. Temperature averages between 20 and 28 °C in the summer and between 12 and 20 °C in the winter. Rainfall is 639.2 mm per annum on average.

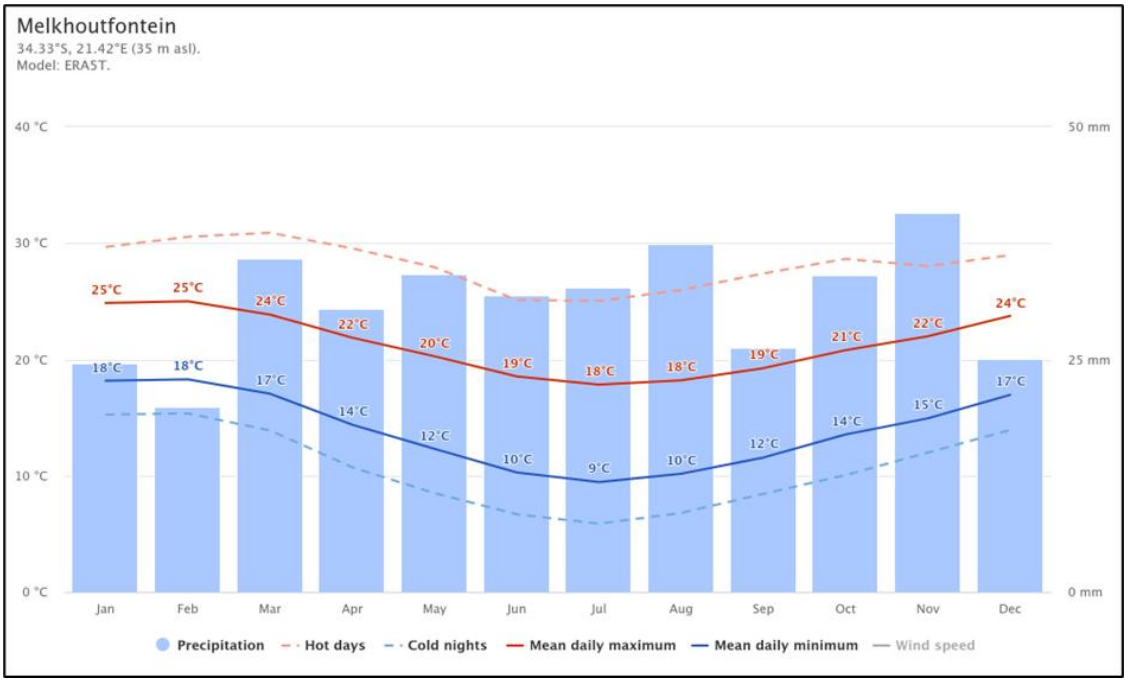

Figure 4. Summary of historical climate (modelled) for Melkhoutefontein, Western Cape (www.meteoblue.com).

The property borders the Goukou River and has a mosaic of habitats that supports various wildlife species. The house is planned to be constructed on grass lawn area which slopes gently down to the river edge. A patch of Gouritz Valley Thicket occurs on a steep slope immediately adjacent to the proposed development footprint. This vegetation type has a complex vegetation structure, characterized by a dense, impenetrable layer of shrubs and small trees, with a high species richness and diversity (Mucina & Rutherford, 2006) (Figure 5). The vegetation is dominated by a mix of succulent and leafy shrubs, including species such as *Euphorbia*, *Portulacaria*, and *Diospyros*, which have adapted to the local conditions (Cowling et al., 2005). The canopy cover is approximately 70%, with a dense layer of woody vegetation that shades the understorey, where a limited number of herbaceous species and geophytes, such as bulbs and tubers, have adapted to the low light conditions (Procheş et al., 2006).

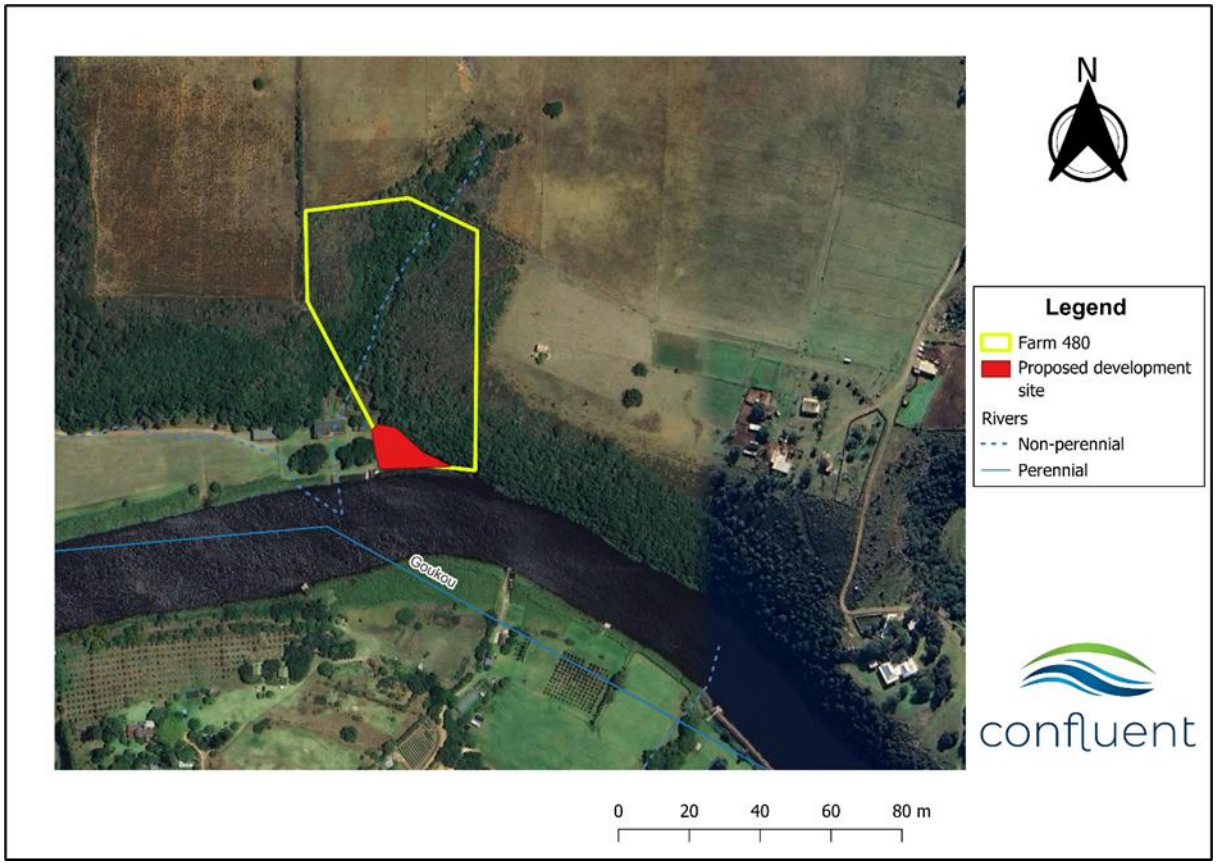

Figure 5. Satellite imagery showing the vegetation of the area and the proposed development site (in red)

The Gouritz Valley Thicket on the farm supports a rich diversity of vegetation, which is characterized by a mosaic of thicket species, including several endemic and threatened plant taxa (Boucher et al., 2010). This dense vegetation provides critical habitat for a wide range of wildlife, from herbivores to pollinators and seed dispersers, all of which depend on the thicket for food, shelter, and reproduction (Cowling et al., 2003). The flora, with its structural complexity, supports a variety of fauna, including threatened bird species, small mammals, and reptiles, which play essential roles in the ecosystem's trophic dynamics (Boucher et al., 2010; Cowling et al., 2003).

3.2 Western Cape Biodiversity Spatial Plan

Additional mapping layers were applied to the site to include the Western Cape Biodiversity Spatial Plan (CapeNature, 2017), with Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs) and Other Natural Areas (ONAs) assessed in Figure . The vast majority of the farm and the proposed development site fall within Critical Biodiversity Area 1 and a small portion is an Ecological Support Area 2. The reasons for the CBA and ESA assignments are listed as follows (CapeNature, 2017):

Feature 1: Albany Thicket Valley Channelled Valley Bottom Wetland

Feature 2: Bontebok Natural Distribution Range

Feature 3: Canca Limestone Fynbos (LT)

Feature 4: Climate adaptation corridor

Feature 5: Southern Cape Valley Thicket (VU)

Feature 6: Watercourse protection- Southern Coastal Belt

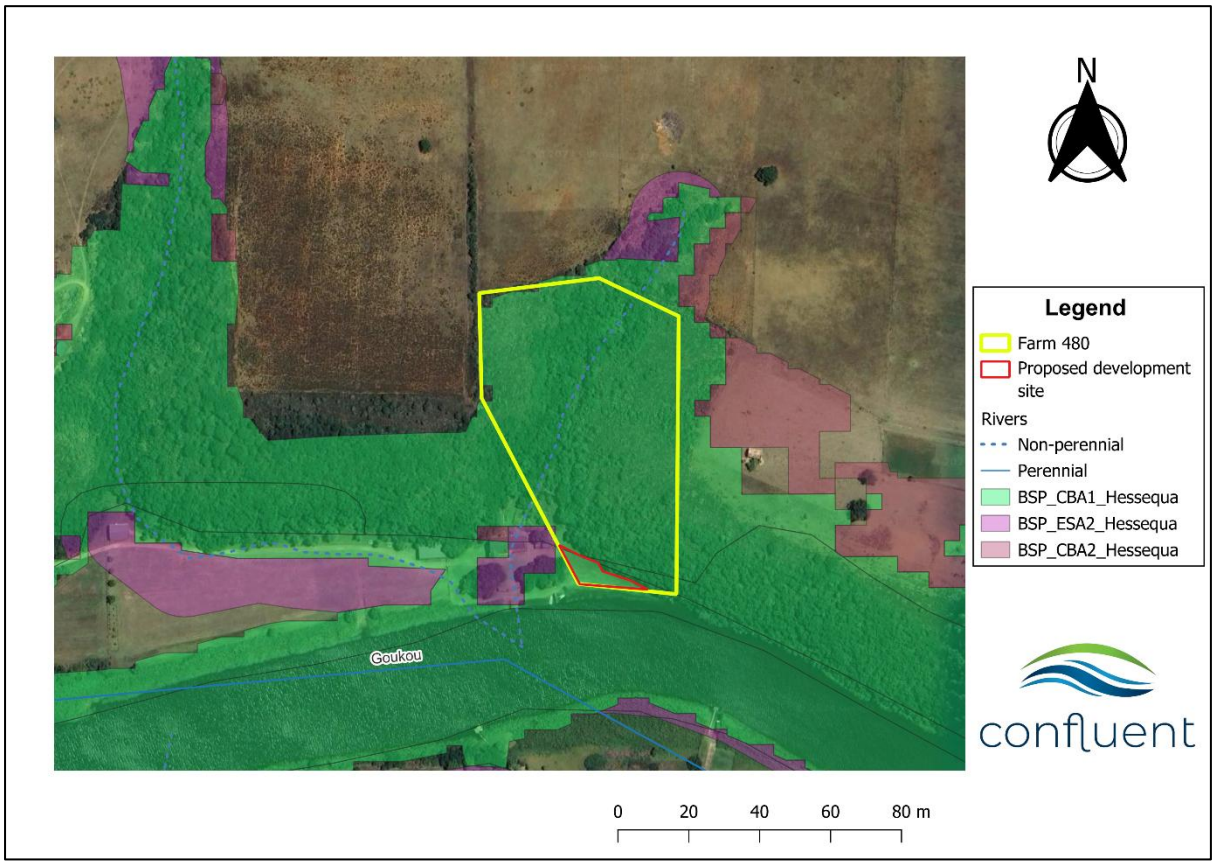

Figure 6. The proposed development area in relation to mapped conservation features of the Western Cape Biodiversity Spatial Plan (2017).

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

WCBSP Category	Definition	Management Objective
Critical Biodiversity Areas	Areas in a natural 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 natural habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.
Ecological Support Area	Areas severely degraded or have no natural cover and ecological functioning severely impaired. Not essential for meeting biodiversity targets but support ecological functioning and delivering ecosystem services.	Restoration required to return ecological functioning. Some limited habitat loss may be acceptable. A greater range of land uses over wider areas is appropriate but ensures the underlying biodiversity objectives and ecological functioning are not compromised.

3.3 Historical Assessment of Project Area

No historical images are available for the site prior to 2003, but analysis of satellite imagery from 2003 to 2023 shows the proposed development site has remained relatively consistent, with an open grass lawn patch bordered by Gouritz Valley Thicket to the north and the Goukou

River to the south (Figure 7). The proposed development of House Phillip on the grass lawn patch is unlikely to have any significant impact on vegetation and fauna, as no significant alterations to land cover and habitat features will be altered, ensuring ecological integrity is maintained.

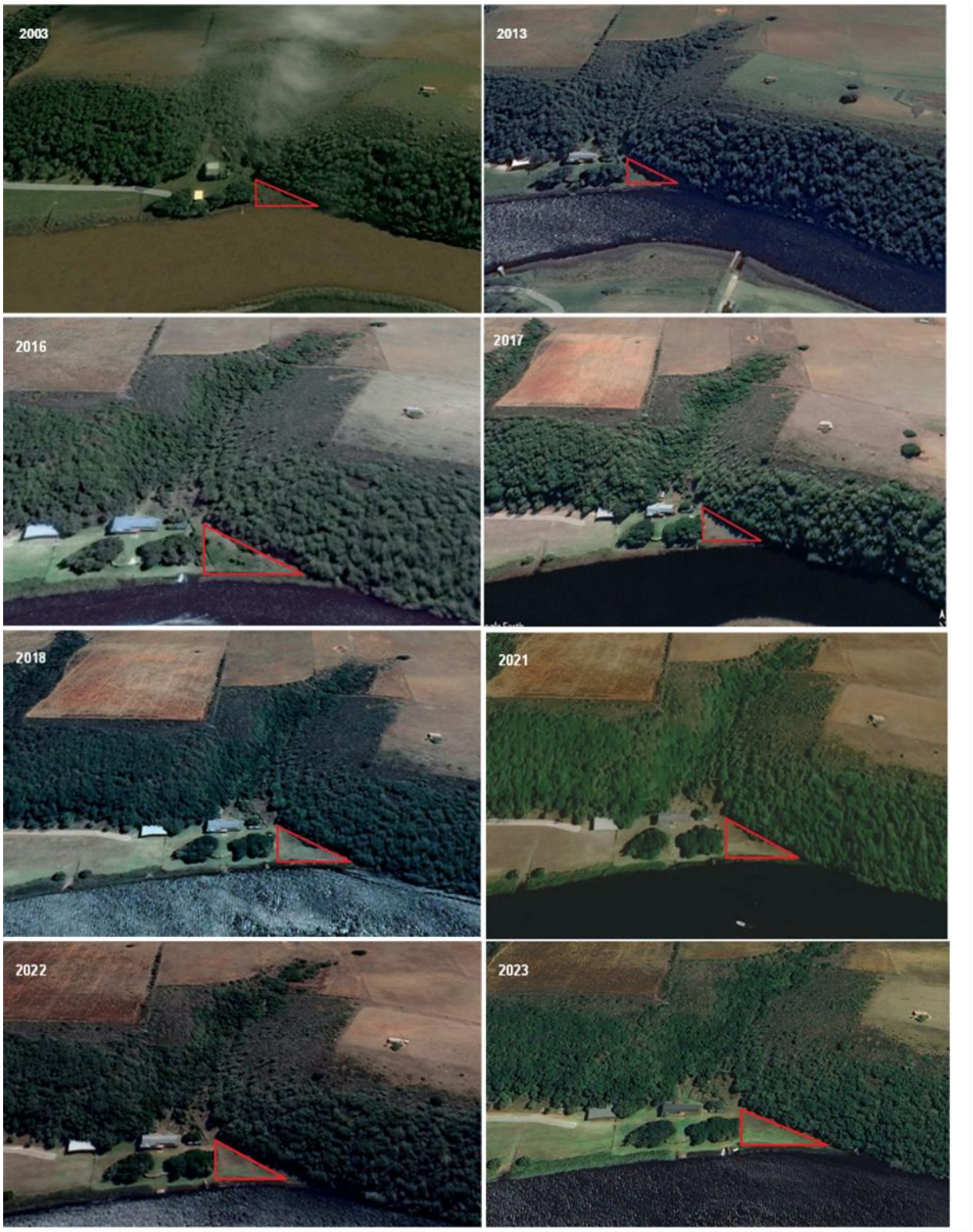

Figure 7. Historical imagery of development area sourced from the CD: NGI geospatial portal and Google Earth.

3.4 Species of Conservation Concern

In addition to the SCC highlighted by the DFFE screening tool (Figure 3. *DFFE Online Screening Tool outcome for the terrestrial animal species theme for House Phillip on Farm 480, Melkhoutefontein. The property boundary is indicated by the blue dashed line.*

Table 1), the following public resources were consulted to provide additional SCC for farm 480 and its immediate surroundings:

1. iNaturalist (all taxa) within a 2 km x 2 km radius of the property.
2. Virtual Museum for herpetofauna, mammals and invertebrate taxa within the Quarter Degree Squares (QDS) 3322DC: DungBeetleMAP, FrogMAP, LacewingMAP, LepiMAP, MammalMAP, OdonataMAP, ReptileMAP, ScorpionMAP, SpiderMAP.
3. South African Bird Atlas Project (SABAP2) for pentad 3355_2235.

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 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 the site, 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:

1. Avifauna: Roberts Birds of Southern Africa VII (Roberts, Hockey, Dean, & Ryan, 2005)
2. Mammals: The Mammals of the Southern African Subregion (Skinner & Chimimba, 2005)
3. Invertebrates:
    - Field guide to the insects of South Africa (Picker, Griffiths, & Weaving, 2019)
    - Field guide to the butterflies of South Africa (Woodhall, 2005)

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 in the proposed development site.

Red list status	Species	Habitat	Breeding	Feeding
AVIFAUNA				
Vulnerable	*Bradypterus sylvaticus* Knysna warbler	Inhabits dense understorey vegetation along riverbanks in fynbos forest patches, riverine woodland and Afromontane forest and has even adapted to thickets of non-native brambles (e.g. Rubus). (BirdLife International, 2016).	Breeds from August and December coinciding with the greatest abundance of invertebrate species. (BirdLife International, 2016).	Mostly on ground, creeping through dense, matted vegetation and scratches in humus. Eats mostly grasshoppers, insect larvae, spiders, slugs, worms
Endangered	*Circus ranivorus* Marsh Harrier	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 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 micromammals (*Rhabdomys*, *Otomys*, 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 hunt in open grasslands or pastures near wetland areas.
Vulnerable	*Podica senegalensis* African finfoot	Species inhabit slow-moving rivers, streams and estuaries, usually in densely vegetated or forested areas. They are highly secretive and difficult to spot.	The breeding behaviour of the species is not well-documented due to the bird's elusive nature. The breeding season varies across its range, often coinciding with the rainy season.	Species has a diverse diet, primarily consisting of aquatic and semi-aquatic prey. Forages by either swimming slowly along the surface or diving underwater to catch prey.
Vulnerable	*Circus maurus* Black harrier	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 (sometime >3000m elevation). Many move from Fynbos to Karoo and grasslands during the winter, likely to follow rodent numbers (e.g. capitalise on late summer litter of Sloggett's ice rats in Free State and Lesotho). Birds move away following fires and don't return for several years.	Mainly monogamous but some polygamy observed. Mate fidelity is low. Usually solitary nester and territorial, but in Western Cape some semi-colonial nesting 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 (*Juncus spp*.) Nests most often in marshes or next to small streams, but also on damp soil or dry ground. Nest areas reused in successive years (one observation of nest site used for 26 years).	Primarily feeds on small mammals e.g. rodents, ground-nesting birds, and occasionally reptiles and insects. Hunts in open grasslands, fynbos, or wetlands. Diet varies with prey availability, but rodents often make up a large portion.

Red list status	Species	Habitat	Breeding	Feeding
Vulnerable	*Stephanoaetus coronatus* Crowned eagle	Forest (including gallery forest), dense woodlands and forested gorges in savannas and grasslands. Also, in Eucalyptus and Pine plantations. Perches for long periods, resting in canopy. Sometimes soars high over territory, then descends vertically to perch. Manoeuvres agilely through thick forest, can take off vertically from forest floor.	Monogamous, possibly long-term pair bond. Territorial (at least 10 km2), solitary nester. Tallest trees used to build large stick platform nest (sticks/branches up to 1.5m long, 3cm thick). Nest copiously lined with Beachwood *(Faurea saligna*), Pine or Eucalyptus leaves/needles. Nest often reused and added to in consecutive years, can reach up 2-3m diameter, 3m high. Nest trees often at the base of cliff/ravine or at the edge of plantation. Nest trees usually White-stinkwood (*Celtis africana*), yellowwoods (*Podocarpus spp*.), Cabbage tree (*Cussonia spicata*) but also Eucalytus and Pine species. Incubation 49-51 days.	Predominantly feeds on mammals (96% diet) and mostly on hyrax, antelope and primates. Will also take porcupine, hares, mongoose, sometimes domestic stock and domestic cats/dogs. Avian prey includes Hadeda Ibis, Egyptian geese and domestic chickens. Reptile prey mainly monitor lizards. Most prey taken on ground, but occasionally crashes into dense foliage in pursuit. Frequently still-hunts (stalks prey) and hunts from concealed perches frequently above waterholes in evening waiting for antelope to drink. Pair sometimes hunt monkeys cooperatively. Prey struck with downward blow of open foot, massive hind claw penetrates the skull killing instantly. Large prey that cannot be lifted are partly eaten and dismembered on the ground and then cached in trees.
Vulnerable	*Hydroprogne caspia* Caspian tern	Concentrated at estuaries and sheltered bays along the coastline and at large, permanent inland waterbodies (natural and artificial). The primary threats to this species are during the breeding period when it is highly susceptible to human disturbance, predation by domestic dogs and kelp gulls, and extreme weather events.	Coastal breeding habitat is primarily offshore islands but increasingly uses sandy beaches. Inland breeding habitat includes small islets in dams/pans. Monogamous, pair bonds lasting from year to year. Defends territory around nest site. Nest is shallow scrape on ground lined with dead vegetation. Laying dates in Western Cape are October - January. 1-3 eggs laid, incubation lasting 22-24 days.	Forages in clear, shallow water. Feeds throughout the day but most active the mornings. Diet almost entirely of fish, swallowed in flight.

Red list status	Species	Habitat	Breeding	Feeding
Near Threatened	*Neotis denhami* Denham's bustard	Inhabits a mosaic of cultivated pastures, agricultural croplands and natural vegetation, with seasonal variation in their preferences (Allan, 2003). Cultivated pastures are favoured habitat during winter in the southern Cape (Allan, 2003). Harvested cereal crop fields (stubble fields) are favoured, but ploughed fields and fields with growing cereal crops are avoided (Allan, 2003). Primarily inhabits open grasslands and African savannas (Allan, 2003). 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, 2003). Avoids dense forests and habitats with high human disturbance.	Male courtship displays occur between August and January, but mainly in September and October (Allan, 2003). Eggs are laid in September and October, with unfledged young present between September and January (Allan, 2003). 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, 2003). Feeding technique is probing and pecking the ground with their long bills. Opportunistically feed on grasshopper swarms.
Near Threatened	*Afrotis afra* Southern black korhaan	Renosterveld, Strandveld and Succulent Karoo shrublands. Endemic to South Africa, being confined to areas of the Albany Thicket, Fynbos and Succulent Karoo biomes, and the southern extreme of the Nama Karoo Biome, in the Western, Northern and Eastern Cape provinces.	Polygynous, no evidence of permanent pair-bonds. Solitary nester. Males display regularly and noisily at regularly used sites. Egg is laid on the ground where it conceals female incubating under shrubs. Laying dates August-November, incubation only by female.	Forages by walking and pecking close to ground. Diet includes insects, small reptiles, and plant material (green shoots). Eats invasive *Acacia* seeds possibly aiding their dispersal.
INVERTEBRATES				
Vulnerable	*Aneuryphymus montanus* Yellow-winged Agile Grasshopper	Very low area of occupancy between 100 and 1 000 km2. Threatened by 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.	Unknown	Unknown

Red list status	Species	Habitat	Breeding	Feeding
Vulnerable	*Chrysoritis brooksi tearei* Brook's opal	Endemic to the Western Cape Province in South Africa, only recorded from the Still Bay area in the west, Brenton on Sea near Knysna and from Goesabos (Tsitsikamma) in the east. At Brenton on Sea on both north- and south-facing slopes at an altitude of 80 m to 120 m in disturbed areas of Knysna Sand Fynbos with a high abundance of *Osteospermum monilifera* (Bitou). Habitat at Stilbaai is by contrast on limestone fynbos-covered hillsides at altitudes up to 300 m.	Adults are on wing year-round with peaks in October and March.	Larvae feed on *Chrysanthemoides incana*, *C. monilifera, Osteospermum polygaloides, Lebeckia plukenetiana, Aspalathus, Zygophyllum* and *Thesium* species. Host ant species is *Crematogaster peringueyi* ants.

4. FIELD ASSESSMENT

4.1 Methods

Following the Species Environmental Assessment Guidelines (SANBI, 2020) and Table 3, taxa-specific sampling techniques were conducted in habitats where SCC were likely to occur. Taxa-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 the site.

Taxa	Field methods	Public platform where observations were reported
Avifauna	• Meander* across site for direct observations. • 4 point counts (5-minute bird counts).	Birdlasser (species lists), iNaturalist (photos)
Mammals	• Meander* across site for direct observations, tracks, scats and signs.	iNaturalist (photos)
Amphibia	• Meander* across site for direct observations. • Active searching.	iNaturalist (photos)
Invertebrates	• Meander* across site for direct observations. • Active searching. • Sweep netting.	iNaturalist (photos)

* Meandering involved slow walking across the site 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 represents 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. One field visit took place to the site for the faunal assessment. This only represents a "snap-shot" in time and it is possible that SCC occurring on site were not observed during this visit. These results should therefore be interpreted with this in mind and not be treated as an exhaustive list of species occurring on site.
3. The site visit took place during daylight hours so the likelihood of encountering nocturnal species was limited.
4. The site visit coincided with winter for the site. This may be of consequence for detecting some species showing seasonal variation in breeding and activity patterns. Nevertheless, the precautionary principle is applied where appropriate.
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

A site visit was conducted on 26th August 2024, characterized by warm to hot and sunny weather conditions. The proposed development site for House Phillip is confirmed to an open patch of grass lawn approximately 1300 m^2 in extent. To the south of the patch lies the Goukou River and immediately north there is a patch of Gouritz Valley Thicket. A thorough survey of the project area was undertaken, incorporating a meandering approach to facilitate taxa-specific sampling techniques across a range of suitable habitats for potential Species of Conservation Concern (SCC) (Figure 8).

Figure 8: Proposed site for the development of Phillip House, (A) Grass patch where the proposed development is to occur also showing the Goukou River, (B) Proposed site development area also showing the Gouritz Valley Thicket patch.

4.4 Results

4.4.1 Avifauna

No SCC were detected on site. An avifaunal survey conducted during the site visit yielded a total of 6 bird species (see Appendix 2). The survey employed a multi-faceted approach, comprising systematic bird counts across the property, supplemented by opportunistic observations and targeted searches for nesting and roosting sites.

4.4.2 Mammals

No SCC were observed during the site visit. However, notable soil heaps made by the Cape dune mole-rat (*Bathyergus suillus*) were observed on the proposed development site. After further surveys in the adjacent thicket patch, scat from three different mammal species were observed (Figure 10).

Figure 10: (A) Soil heap made by Cape dune mole-rat (Georychus capensis) on proposed development site (B) Bushpig (Potamochoerus larvatus) and (C) Suspected steenbok (Raphicerus campestris) scat, all observed during meander in the Goutitz Valley Thicket patch adjacent the proposed development site on Farm 480.

4.4.3 Terrestrial Invertebrates

No SCC were detected during the site inspection conducted on the property.

4.4.4 Amphibians

No SCC were encountered during the site visit. The comprehensive search yielded no amphibian species.

4.4.5 Likelihood of Occurrence for SCC

Following the terrestrial fauna surveys and site inspection, the possible SCC occurring on the proposed development site 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 of occurrence for terrestrial fauna SCC in the proposed development site. Bold text indicates SCC highlighted by DFFE Online Screening Tool.

Red list status	Species	Observed on site	Suitable habitat	Likelihood of occurrence
AVIFAUNA				
Vulnerable	*Bradypterus sylvaticus* Knysna warbler	No	Possible	**LOW** SCC inhabits fynbos forest patches, riverine woodland and Afromontane forests. Though the species is likely to occur in the adjacent thicket, the construction of the house will not affect the habitat and breeding of the species.
Vulnerable	*Circus ranivorus* African marsh harrier	No	No	**LOW** Habitat unsuitable for SCC. SCC prefers cultivated pastures, agricultural croplands and natural vegetation, with seasonal variation in their preferences (Allan, 2003).
Vulnerable	*Podica senegalensis* African finfoot	No	Possible	**LOW** Species inhabits slow-moving rivers, streams, and estuaries, usually in densely vegetated or forested areas. Though species may occur in the estuary adjacent the proposed development site, the development will not affect the habitat and breeding of the species.
Vulnerable	*Circus maurus* Black harrier	No	NO	**LOW** Habitat not suitable for SCC. SCC found in Fynbos, especially montane Fynbos and strandveld.
Vulnerable	*Stephanoaetus coronatus* Crowned eagle	NO	Possible	**LOW** The SCC prefers forests and forested gorges in savannas and grasslands.
Vulnerable	*Hydroprogne caspia* Caspian tern	No	Possible	**LOW** Species typically found in coastal areas, large estuaries and rivers. Though species may occur in the estuary adjacent the proposed development site, the development will not affect the habitat and breeding of the species.
Near Threatened	*Neotis denhami* Denham's bustard	No	No	**LOW** Unfavourable habitat, as SCC prefers cultivated pastures, agricultural croplands

Red list status	Species	Observed on site	Suitable habitat	Likelihood of occurrence
Near Threatened	*Afrotis afra* Southern black korhaan	No	No	**Low** Unfavourable habitat, as SCC prefers Renosterveld, Strandveld and Succelent Karoo shrublands.
INVERTEBRATES				
Vulnerable	*Aneuryphymus montanus* Yellow-winged Agile Grasshopper	No	No	**Low** Unfavourable habitat, as SCC prefers sclerophyllous fynbos vegetation on the southern slopes of the Outeniqua mountains,
Vulnerable	*Chrysoritis brooksi tearei* Brook's opal	No	No	**Low** SCC not likely to occur in the site as the species is commonly associated with fynbos vegetation.

5. SITE SENSITIVITY VERIFICATION AND COMPLIANCE STATEMENT

During the site visit the faunal specialist conducted a thorough assessment of the site sensitivity for the terrestrial animal theme on Farm 480, Melkhoutefontein, Western Cape. Contrary to the **MEDIUM** sensitivity indicated by the Department of Forestry, Fisheries and the Environment (DFFE) Screening tool, our desktop and field assessment indicate that the site sensitivity is, in fact, **LOW** for the following reasons:

- The faunal surveys conducted in and around the farm revealed no SCC. The absence of SCC significantly reduces the site's conservation significance and sensitivity. Furthermore, the lack of habitat-specific or range-restricted species, which are typically indicative of high conservation value, reinforces the site's LOW sensitivity.
- Based on a comprehensive analysis of habitat characteristics and species requirements, there is a low probability of occurrence for the SCC identified by the DFFE Screening tool and public resources. This conclusion is supported by the fact that the site's habitat attributes do not align with the specific requirements of these SCCs, rendering it unsuitable for their survival and persistence.

6. RECOMMENDATIONS

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: <u>Best practice principles for ALL fauna encountered during construction or operational phases of projects.</u>

If any animals are seen on site, a photo or video should be taken if at all 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 a room/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 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.

Some helpful contact details numbers for the ECO's disposal include:

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

A local SPCA can collect and treat most animals, and should be a first point of call for assistance. If they cannot directly assist, they will revert and notify the relevant authorities/vets. In the Garden Route please contact:

SPCA George: 044 878 1990

SPCA Mossel Bay: 044 693 0824

For any assistance with snake removals/relocations, identifications, or bite treatment:

African Snakebite Institute (all details available on www.africansnakebiteinstitute.com)

General Enquiries: +27 73 186 9176

Snakebite Emergencies: +27 82 494 2039

7. REFERENCES

CapeNature. (2017). *An overview of the Western Cape Biodiversity Spatial Plan.*

Mucina, L., & Rutherford, M. C. (2006). *The Vegetation of South Africa, Lesotho and Swaziland.* Strelitzia.

Picker, M., Griffiths, C., & Weaving, A. (2019). *Field Guide To The Insects Of South Africa.* Struik Publishers.

Roberts, A., Hockey, P. A., Dean, W. R., & Ryan, P. (2005). *Roberts Birds of Southern Africa VII.* Trustees of the J. Voelcker Bird Book Fund.

SANBI. (2020). *Species Environmental Assessment Guideline. Guidelines for the the implementation of the Terrestrial Fauna and Terrestrial Flora Species Protocols for environmental in impact assessments in South Africa.* South African National Biodiversity Institute, Pretoria. Version 3.1. 2022.

Skinner, & Chimimba. (2005). *The Mammals of the Southern African Subregion.* Cambridge University Press.

Venter, J., Seydack, A., & Ehlers-Smith, Y. (2016). *Philantomba monticola.* In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

Walker, C. (1996). *Signs of the wild. A field guide to the spoor and signs of the mammals of southern Africa.* Struik Nature.

Woodhall, S. (2005). *Field guide to butterflies of South Africa.* New Holland Publishers (NZ) Limited.

APPENDIX 1: SCC IDENTIFIED FROM PUBLIC PLATFORMS.

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.

APPENDIX 2: AVIFAUNA SPECIES OBSERVED IN THE PROPOSED DEVELOPMENT SITE

Common name	Scientific name
Cape Bulbul	*Cape Bulbul*
Cape Cormorant	*Phalacrocorax capensis*
Cape Robin	*Dessonornis caffer*
Cape Weaver	*Ploceus capensis*
Sombre Greenbul	*Sombre Greenbul*
Southern Boubou	*Laniarius ferrugineus*

APPENDIX 3: MAMMAL SPECIES OBSERVED ON IN THE PROPOSED DEVELOPMENT SITE

Order	Family	Common name	Scientific name	Notes
Rodentia	Bathyergidae	Cape mole rate	*Georychus capensis*	Soil heaps observed in the proposed development site
Artiodactyla	Bovidae	Steenbok	*Raphicerus campestris*	Faecal material observed in thicket adjacent the proposed development site
Artiodactyla	Suidae	Bushpig	*Potamochoerus larvatus*	Faecal material observed in thicket adjacent the proposed development site