

**TERRESTRIAL FAUNAL AND AVIFAUNAL SPECIES COMPLIANCE
STATEMENT REPORT FOR THE PROPOSED DEVELOPMENT OF A
SCHOOL AND HOSPITAL, HARTLAND, MOSSEL BAY
MUNICIPALITY**

February 2026



Prepared for:

Sharples Environmental Services cc

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Specialist details and expertise

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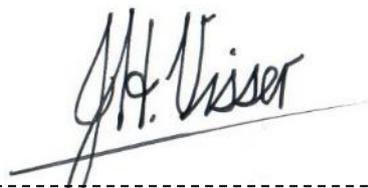
- Five IUCN Red List assessments
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Declaration of independence by the independent person who compiled a specialist report or undertook a specialist process

I, Dr Jacobus Hendrik Visser, as the appointed independent specialist hereby declare that I:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations and any specific environmental management Act;
- have no and will not have any vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;

- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence.



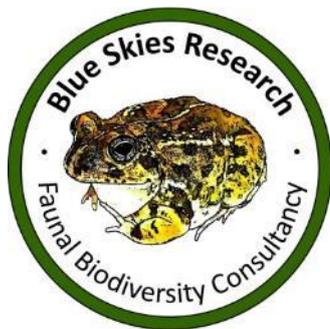
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10 February 2026

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TERRESTRIAL FAUNAL AND AVIFAUNAL SPECIES COMPLIANCE STATEMENT REPORT FOR THE PROPOSED DEVELOPMENT OF A SCHOOL AND HOSPITAL, HARTLAND, MOSSEL BAY MUNICIPALITY

1. Introduction

Suid Kaap Landgoed (Pty) Ltd is proposing the construction of a school and hospital near the Hartland residential development (Hartland Estate), Hartenbos, Mossel Bay Municipality. An area of around 28.6 hectares has been identified as the potential project footprints (hereafter referred to as the “study area” or “site”). The proposed footprint is located on agricultural land to the west of the Hartland Estate, adjacent to the R102 Road and just west of the N2 Road.

Blue Skies Research was appointed by Sharples Environmental Services cc on behalf of Suid Kaap Landgoed (Pty) Ltd to perform the required terrestrial faunal and avifaunal assessment of the site (see Sections 2 and 3). The current report represents a Compliance Statement for the study area and proposed development in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment (EIA) Regulations 2014 (Government Notice (GN) 984), as amended.

2. Terms of Reference

2.1. General legislature pertaining to this report

This terrestrial faunal and avifaunal assessment report is compiled in accordance with the following guidelines:

- *Department of Environmental Affairs and Development Planning (DEA&DP) Guidelines for Involving Biodiversity Specialists in the EIA Process* (Brownlie, 2005).
- *Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes, Government Notice No. 320* (Gazetted 20 March 2020).
- *Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Animal Species, Government Notice No. 1150* (Gazetted 30 October 2020).
- South African National Biodiversity Institute (SANBI). 2020. *Species Environmental Assessment Guideline. Guidelines for the implementation of the terrestrial fauna and terrestrial flora species protocols for environmental impact assessments in South Africa*. South African National Biodiversity Institute, Pretoria. Version 2.1 2021.

2.2 Other sources consulted

Other sources pertaining to this report are as follows:

- IUCN. 2021. The IUCN Red List of Threatened Species. Version 2021-3. <https://www.iucnlist.org>.
- *National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004): Publication of lists of critically endangered, endangered, vulnerable and protected species, Government Notice No. 2007* (Gazetted 14 December 2007).

3. Reporting protocol

The DFFE Screening Tool Report generated for the study area identifies the site as being of an overall “High” sensitivity under the “Relative Animal Species Sensitivity Theme” (**Figure 1**). This follows from the projected and possible occurrence of two mammal, two avifaunal and three invertebrate Species of Conservation Concern (SCC) (see **Table 1**). The current report therefore assesses the presence or likely presence of these SCC (as well as other possible SCC in these faunal groups, see Section 9) within the study area in accordance with the protocols outlined in the Species Environmental Assessment Guideline (SANBI, 2020).



Figure 1 Relative Animal Species Sensitivity Map retrieved for the study area by the DFFE Screening Tool (<https://screening.environment.gov.za/screeningtool/>).

Table 1 List of Species of Conservation Concern (SCC) identified in the DFFE Screening Tool Report (<https://screening.environment.gov.za/screeningtool/>) for the study area. For each, the listed sensitivity (possibility of occurrence within the study area), scientific name and common name is shown, along with its current IUCN status. The identity of Sensitive species 5 and 8 are purposefully obfuscated due to potential illegal harvesting of these species.

Sensitivity	Species	Common name	IUCN status
High	<i>Hydroprogne caspia</i>	Caspian Tern	Least Concern
High	<i>Bradypterus sylvaticus</i>	Knysna Warbler	Vulnerable
Medium	<i>Aloeides thyra orientis</i>	Red Copper	Endangered
Medium	<i>Aloeides trimeni southeyae</i>	Trimen's Copper	Endangered
Medium	<i>Sensitive Species 5</i>	Sensitive Species 5	Least Concern
Medium	<i>Sensitive Species 8</i>	Sensitive Species 8	Least Concern
Medium	<i>Aneuryphymus montanus</i>	Yellow-winged Agile Grasshopper	Vulnerable

4. Overview of the study area

4.1 Geographic location

The study area encompasses 28.6 hectares on agricultural (farm) land to the west (~150 away) of the Hartland Estate (**Figures 2 and 3**). The site is located adjacent (and along) the north-western extent of the R102 Road with the N2 Road also located around 50m and parallel to the south-east of the site. The site forms part of the agricultural-urban mosaic of the surrounding landscape and does not overlap any remaining natural areas.

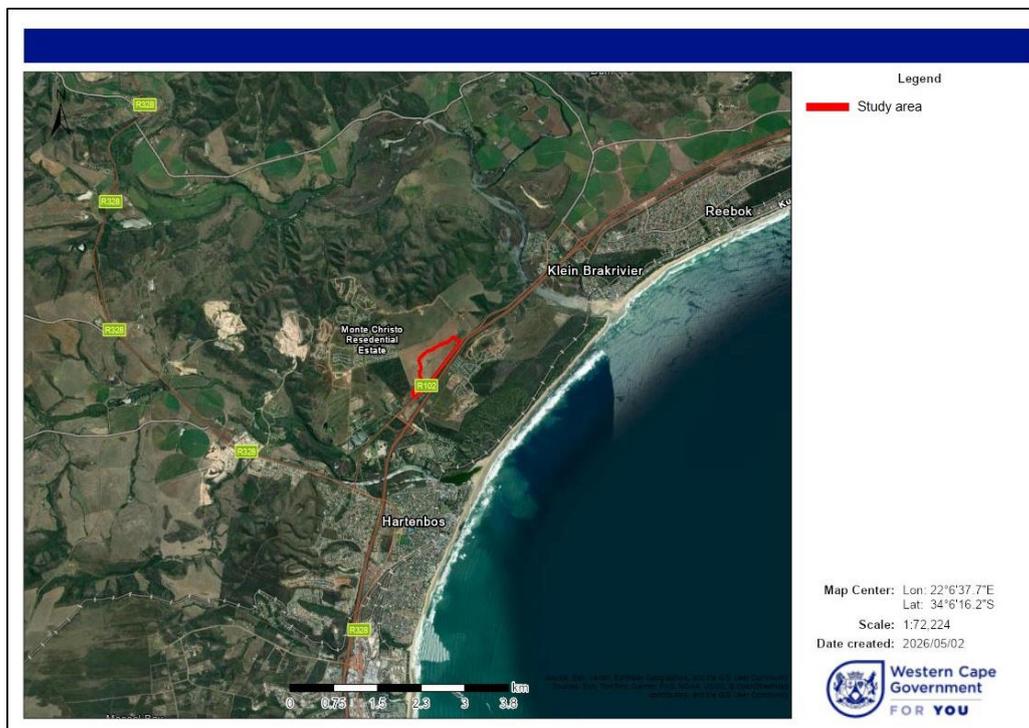


Figure 2 Spatial location of the study area relative to major settlements on a broad scale (map generated in Cape Farm Mapper version 3.0, Western Cape Department of Agriculture).



Figure 3 Spatial extent of the study area relative to roads and agricultural areas at a finer spatial scale (map generated in Cape Farm Mapper version 3.0, Western Cape Department of Agriculture).

4.2 Vegetation

Vegetation across the site would have historically comprised Mossel Bay Shale Renosterveld (VEGMAP 2024 Beta; **Figure 4**) classified as a “Critically Endangered” ecosystem type according to *The Revised National List of Ecosystems that are Threatened and in Need of Protection* (Government Notice No. 2747 of 18 November 2022). Because the entire site represents agricultural land, none of this vegetation remains with the entire site existing in a transformed state (Section 7).

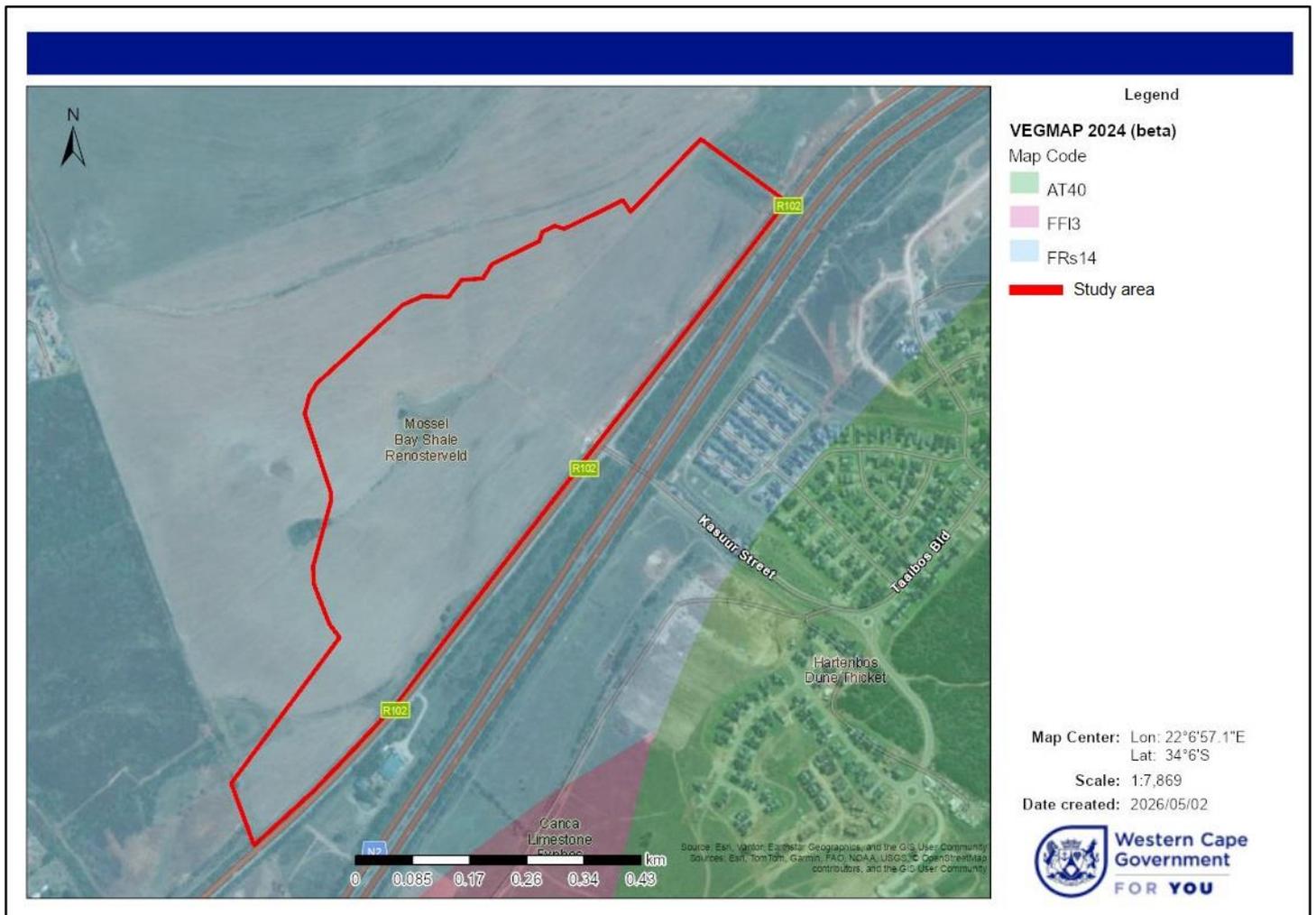


Figure 4 Vegetation type across the study area (VEGMAP 2024 Beta; map generated in Cape Farm Mapper version 3.0, Western Cape Department of Agriculture).

4.3 Critical Biodiversity Areas (CBAs)

Critical Biodiversity Areas (CBAs) are required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan (Purves and Holmes, 2015). According to the 2023 Western Cape Biodiversity Spatial Plan (WCBSP), the site does not intersect with any major CBA, however very small patches of terrestrial CBA1 fringe on the site due to mapping error (Figure 5).

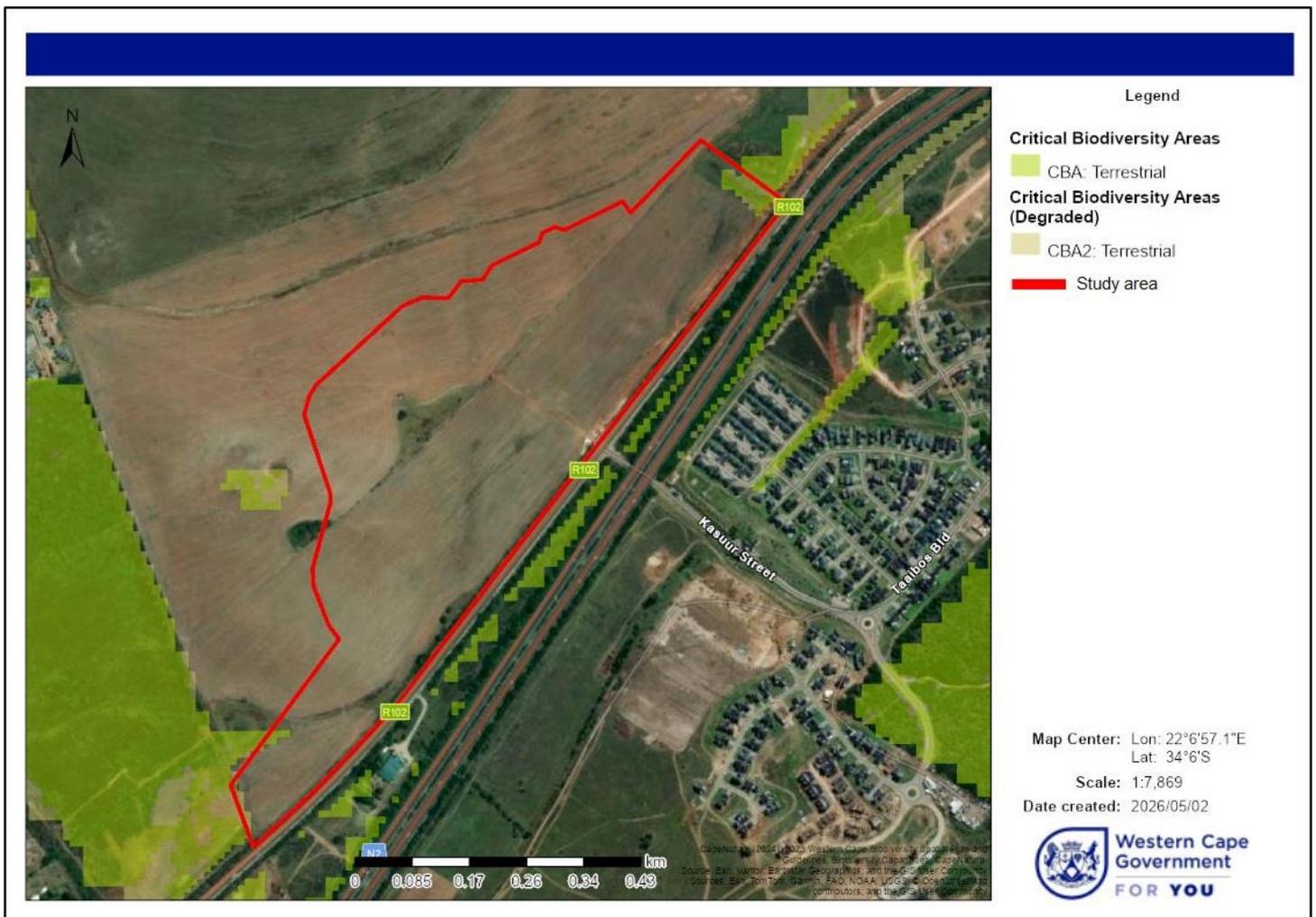


Figure 5 Spatial location of Critical Biodiversity Areas (CBAs) overlapping the study area (information sourced from Cape Farm Mapper version 3.0, Western Cape Department of Agriculture).

4.4 Freshwater features

According to the National Freshwater Ecosystem Priority Areas (NFEPA) spatial layer, the study area overlaps three artificial wetlands in the north-east, west and south-west with a non-perennial stream centreline transecting the eastern margin (**Figure 6**). The south-western wetland is also mapped as natural, and transects an existing dam (to the west and outside of the study area). A dam is also located at the north-eastern extent outside of the study area. While both dams were confirmed as present outside of the boundary of the study area, there is currently no indication of the presence of any of the mapped artificial or natural wetlands or stream centreline (Section 7), and this mapping may reflect features which were present prior to transformation of the site to agricultural land.

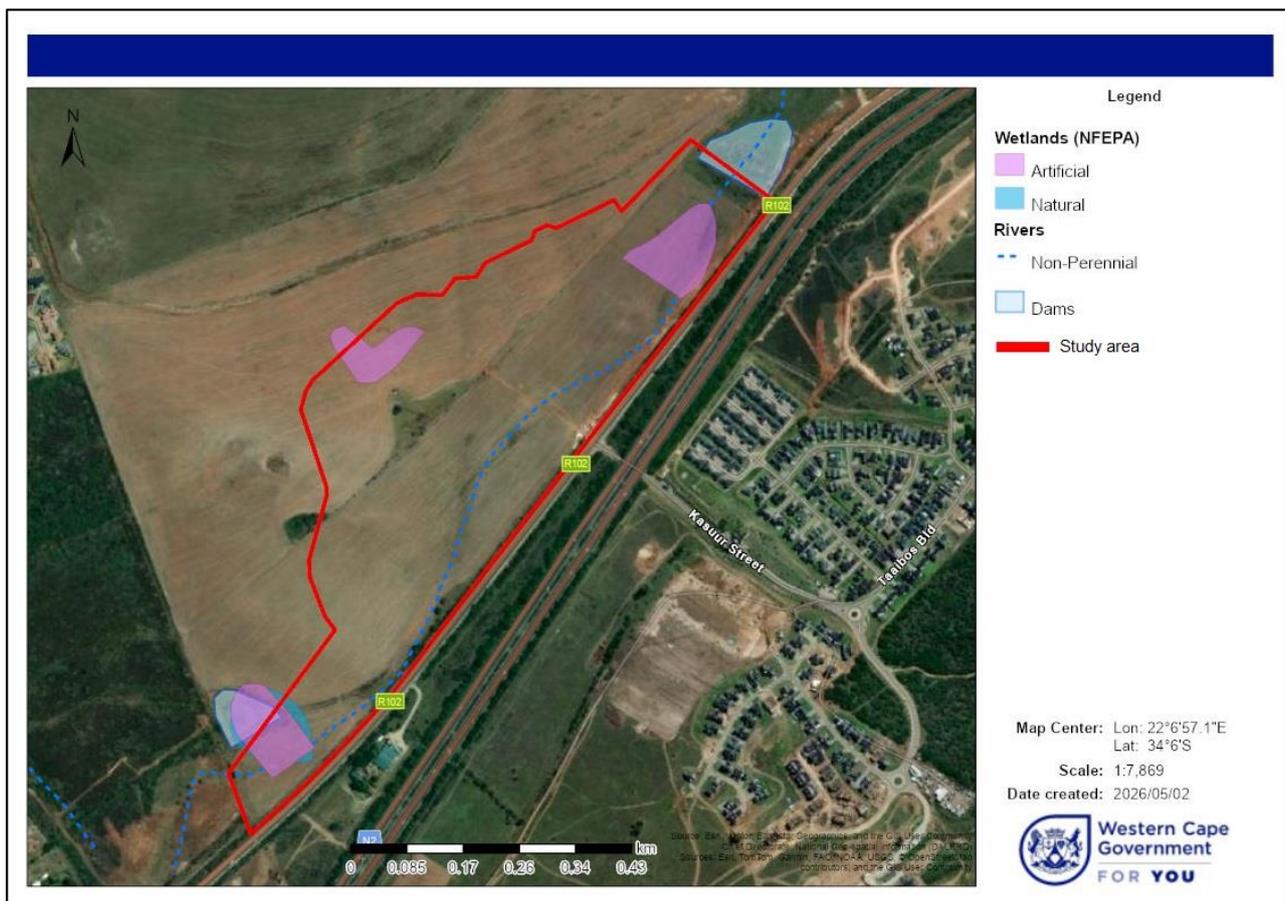


Figure 6 Spatial location freshwater features overlapping the study area (information sourced from Cape Farm Mapper version 3.0, Western Cape Department of Agriculture).

5. Study methodology

5.1 Study aims

This study represents an assessment of the terrestrial faunal and avifaunal diversity and abundances, -habitat composition, ecosystem dynamics and potential occurrence of mammal, avifaunal and invertebrate SCC within the study area. As such, the aims of this investigation were to:

- 1.) Assess, define and create a spatial rendering of available faunal habitats across the study area based on information gathered during the field survey as well as through a desktop assessment using the latest satellite imagery,
- 2.) compile a complete faunal desktop species list (including mammals, avifauna and butterflies) for the broader study area landscape based on a thorough desktop assessment so as to assess the presence of any of the listed SCC (Table 1) as well as any additional SCC within these faunal groups,
- 3.) compile a faunal species list (including mammals, amphibians, avifauna and butterflies) within the study area through field surveying so as to assess the possibility of occurrence of the SCC retrieved in the desktop assessment (based on appropriate sampling methods, as well as the presence of suitable habitat for these species), or any additional SCC which are present, and
- 4.) generate spatial occurrence maps for the recovered faunal species within the study area to assess the spatial extent of areas supporting higher levels of diversity, and SCC subpopulations and habitats which may be of conservation concern.

5.2 Desktop assessment

To assess the possible occurrence of the listed (Table 1) as well as any additional mammal, avifaunal and butterfly SCC, a desktop assessment was performed to create representative desktop species lists for these faunal

groups. Given the general lack of observations on grasshopper species, the presence or absence of the Yellow-winged Agile Grasshopper was assessed based on suitable on-site habitat for the species (Section 9).

5.2.1 Mammals and butterflies

The desktop species list for mammal and butterfly species (**Appendix A**) was constructed with reference to the observational records available on the iNaturalist (www.iNaturalist.org) platform for the broader study area landscape.

5.2.2 Avifauna

The desktop avifaunal species list for the study area landscape was generated by referring to the species records of the South African Bird Atlas Project 2 (SABAP2, <https://sabap2.birdmap.africa/>). The study area overlaps with one well-represented pentad (3405_2205) and to create the avifaunal desktop species list, the species observed in this pentad was included along with the total number of observations and latest date that the species was recorded (**Appendix B**).

5.3 Field survey

The study area was surveyed on foot over two separate surveying periods and two seasons on the 16th of August 2024 (during the Winter season) and 30th of January 2025 (during the Summer season). Weather conditions during the surveying periods were characterised by relatively warm daily temperatures, no cloud cover and no wind conditions.

Surveying included unconstrained point sampling through search meanders, as well as active searching under debris. All tracks surveyed were recorded by GPS (Garmin eTrex® 10, Garmin International Inc, USA) and are represented in **Figure 7**.

Terrestrial faunal species (mammals) were identified by direct visual observation, or by their tracks, burrows, remains or scat. Amphibian species were identified by direct visual observation, supplemented by acoustic methods. Avifaunal species were

identified by visual observation, using a 90x zoom lens, or by auditory means. Finally, butterfly species were identified and photographed from less than one meter away. All observations were recorded by GPS and the species or evidence of species' presence or activity were photographed using a digital camera (Canon PowerShot SX430 IS, Canon Inc, USA). A species list for all fauna recorded within the study area is given in **Appendix C**.

Given relatively optimal weather conditions, terrestrial faunal and avifaunal species' activity was observed to be high over the surveying periods, thereby resulting in 73 recorded observations (**Figure 8, Appendix C**) relating to one observation per every 0.4 hectares of study area (the study area is 28.6 hectares in extent). During surveying, faunal habitats were broadly identified in the field, and thereafter delineated through a desktop assessment of study area using satellite imagery (CapeFarmMapper Version 3.0, Western Cape Department of Agriculture).

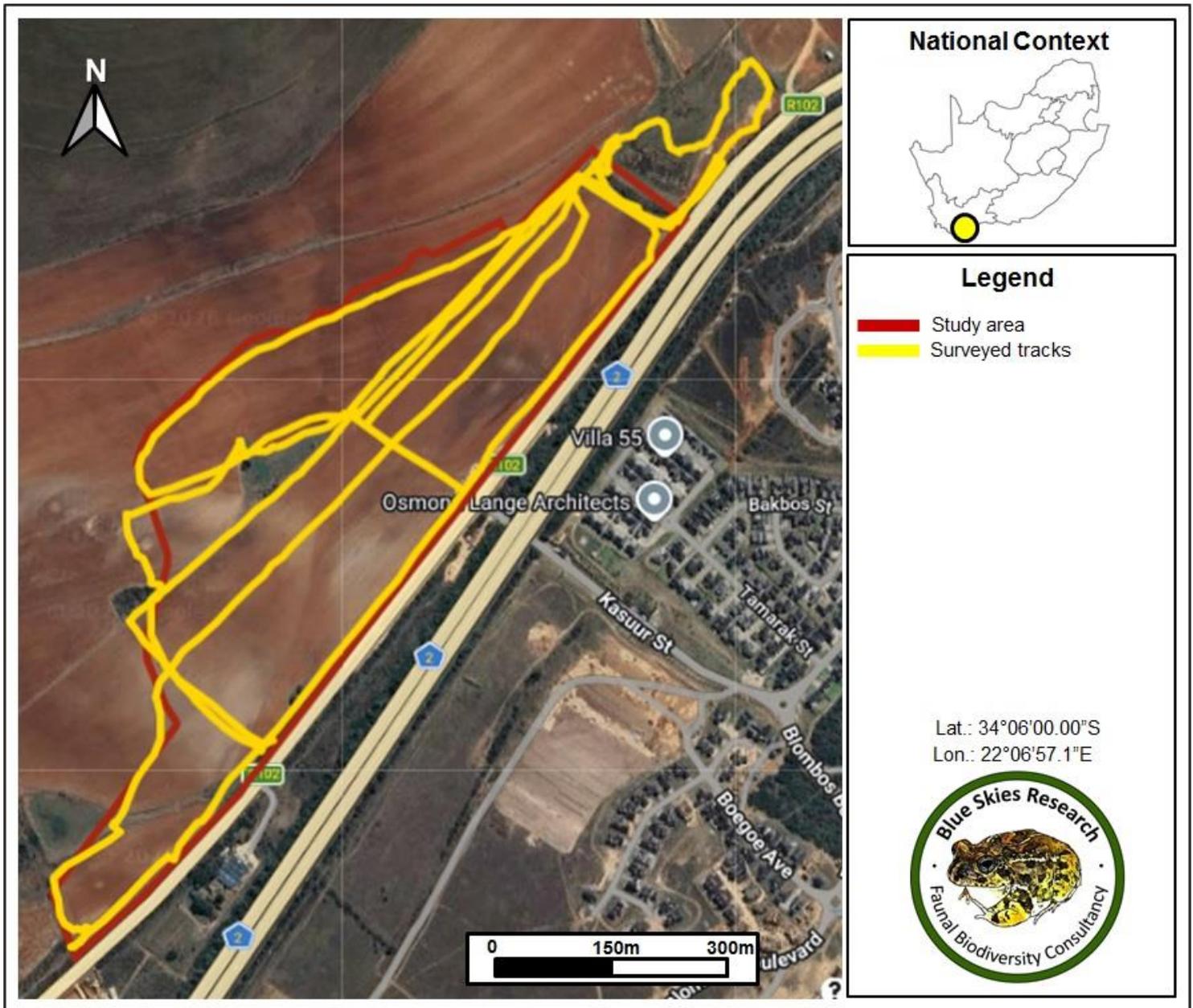


Figure 7 Spatial tracks recorded by GPS for all the search meanders across the study area over the surveying periods.

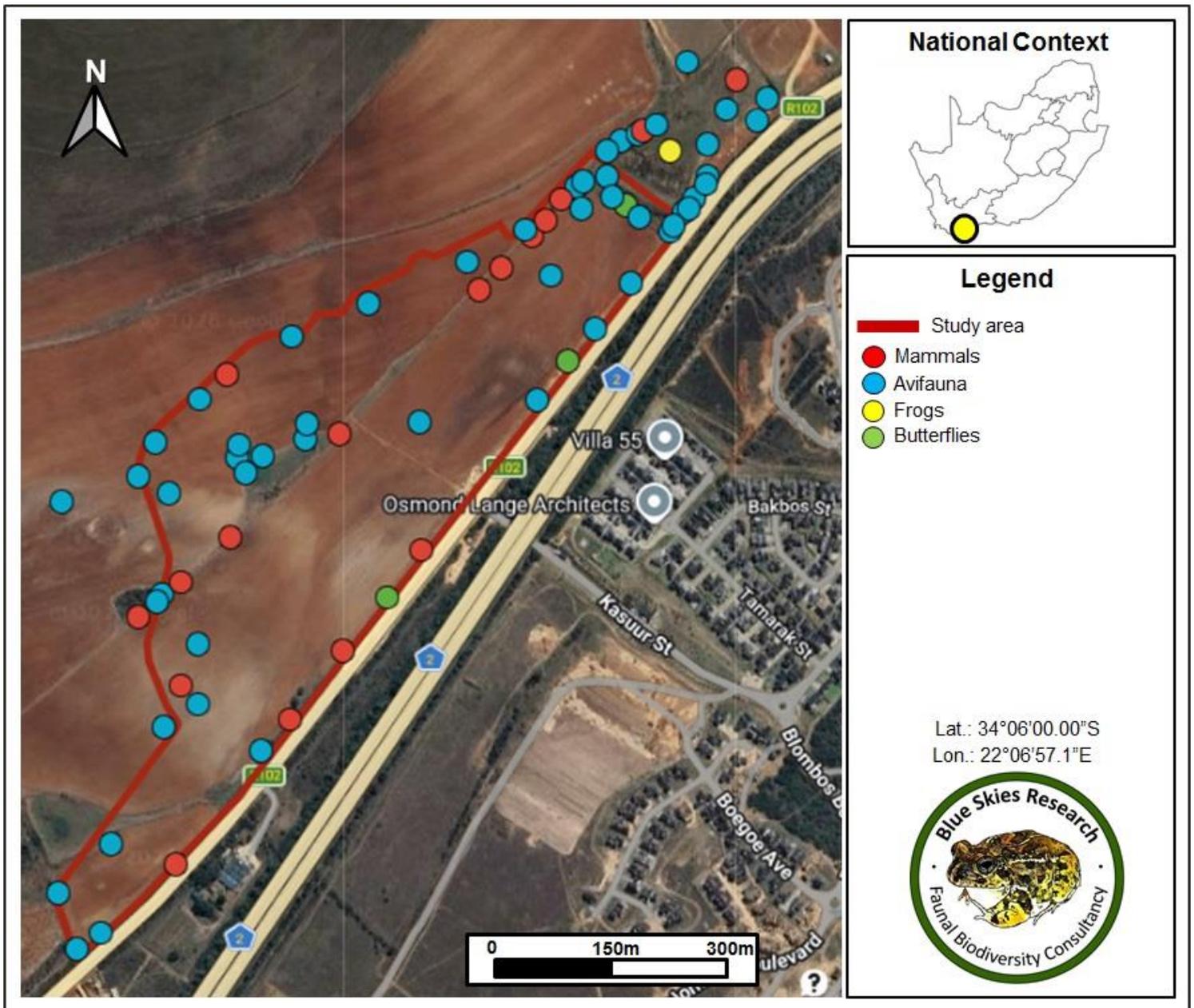


Figure 8 Spatial locations of all the faunal observations across the study area over the surveying periods.

6. Assumptions and limitations

Weather conditions during the surveying periods combined with a completely open and transformed (farmland) habitat structure were optimal for establishing a representative indication of faunal diversity on the site. Even so, it is possible that the species list for the site may not be complete given that the surveying period did not correspond to the activity period of some species. Taken together therefore, the current rendering of the faunal composition within the study area only partly reflects the true faunal species richness of, and faunal abundances on the site. Even so, the inclusion and consideration of SCC was further based on a thorough desktop assessment for the included faunal groups (mammals, avifauna and butterflies; **Appendices A and B**) and further takes account the habitat composition of the site meaning that the majority of possibly occurring SCC within the considered faunal groups were included in the current assessment (Section 9).

7. Faunal habitat types within the study area

The study area is comprised of only two broadly identified habitat types based on habitat composition and habitat integrity (**Figure 9, Table 2**). The entire site exists in a transformed state, comprising mostly agricultural (farm) land which is worked and planted annually. Some parts along the existing fence lines, a small stormwater drainage channel in the south-west and the dam in the north-east (outside of the proposed project footprint) harbour low pioneer grassland with limited remaining natural vegetation. The entire site therefore exists in an open state with no remaining natural habitats.

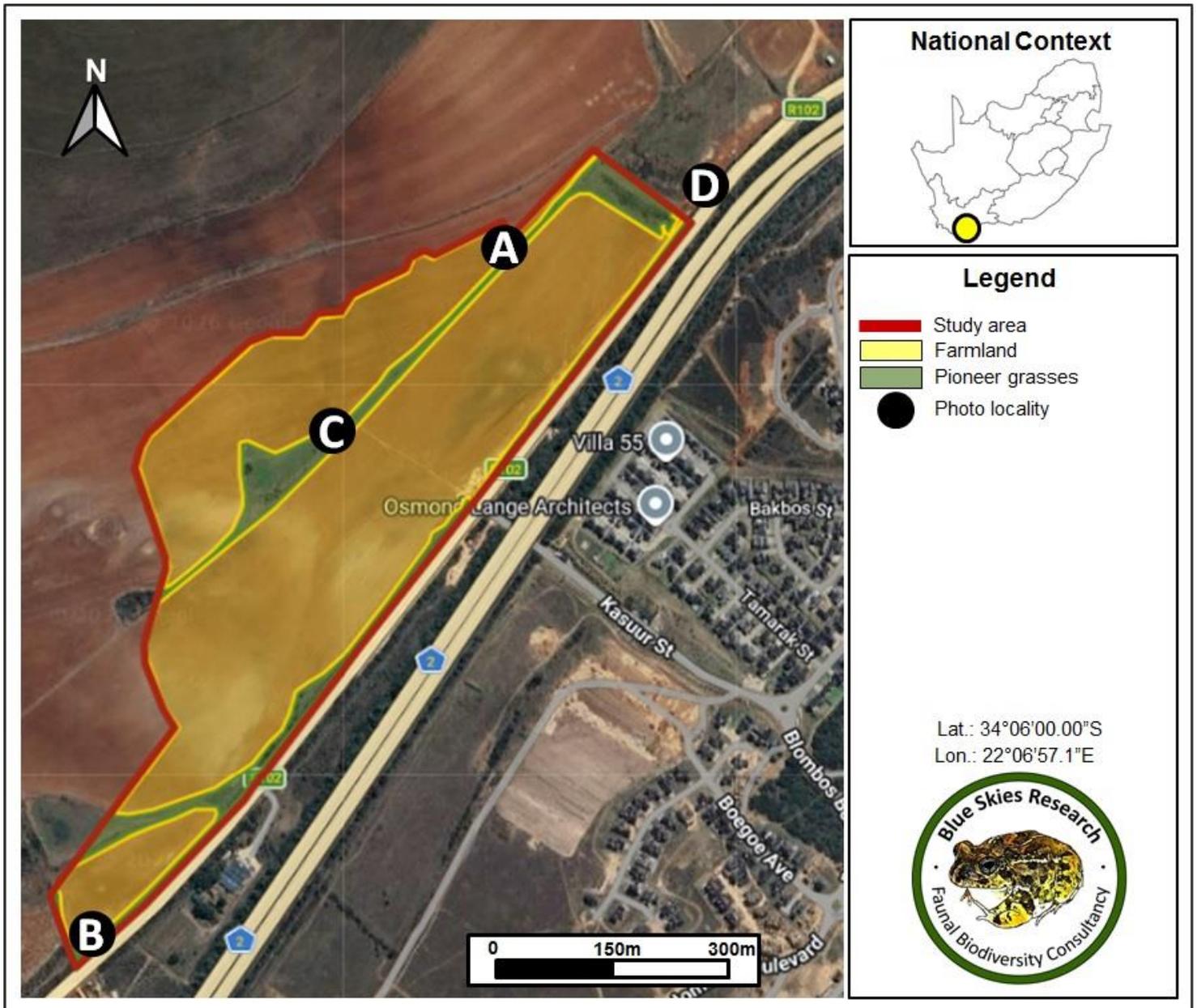


Figure 9 A broad indication of the spatial extent of habitat types in the study area. Photo localities (A to D) correspond to the habitat photos in Table 2.

Table 2 Habitat locations, habitat descriptions and visual representations of the single habitat type within the study area. Location designations (A to D) correspond to the photo locations in Figure 9.

Location	Habitat description	Photo 1	Photo 2
<p>A -34.09653, 22.11762</p> <p>B -34.10453, 22.11196</p>	<p>Farmland</p> <p>The majority of the site comprises agricultural (farm) land which is worked and planted annually.</p>		

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C
-34.09867,
22.11532

D
-34.09584,
22.12057

Pioneer grasses

Some parts along the existing fence lines, a small stormwater drainage channel in the south-west and the dam in the north-east (outside of the proposed project footprint, D) harbour low pioneer grassland with limited remaining natural vegetation.



8. Faunal and avifaunal composition within the study area

8.1 Mammals

8.1.1 Desktop assessment

According to the distributional records available on the iNaturalist (www.iNaturalist.org) platform, 17 naturally occurring mammal species (a number of species are not free-roaming in the Western Cape Province and their records pertain to existing reserves and private game farms) have been recorded within the broader study area landscape (**Appendix A**). Among these, 15 species are currently classified as “Least Concern” by the IUCN, with two species representing mammal SCC. These two SCC include the Grey Rhebok (*Pelea capreolus*) and African Clawless Otter (*Aonyx capensis*), both classified as “Near-Threatened”.

8.1.2 Field survey

Six mammal species were recorded within the study area (**Figures 10 and 11**), all of which are currently classified as “Least concern” by the IUCN (**Appendix C**). While the agricultural parts are devoid of any signs of mammals, the site fringes (along the fence lines) shows some digging activity of the Cape Porcupine (*Hystrix africaeausstralis*) and burrows of the Cape Short-eared Gerbil (*Desmodillus auricularis*) which feed on the planted crops in the area. Areas where larger shrubs are still present also harbour a low number of Four-striped Grass Mouse (*Rhabdomys pumilio*). Given the presence of these rodent prey items, there is evidence of at least one small mammal predator, the African Wild Cat (*Felis silvestris*), traversing the site. Finally, the two antelope species, the Common Duiker (*Sylvicapra grimmia*) and Southern Bushbuck (*Tragelaphus scriptus*) also appear to have transiently traversed the site. Overall, mammal diversity over this transformed area is low and pertain to mostly transient associations of species traversing the site from nearby natural parts.

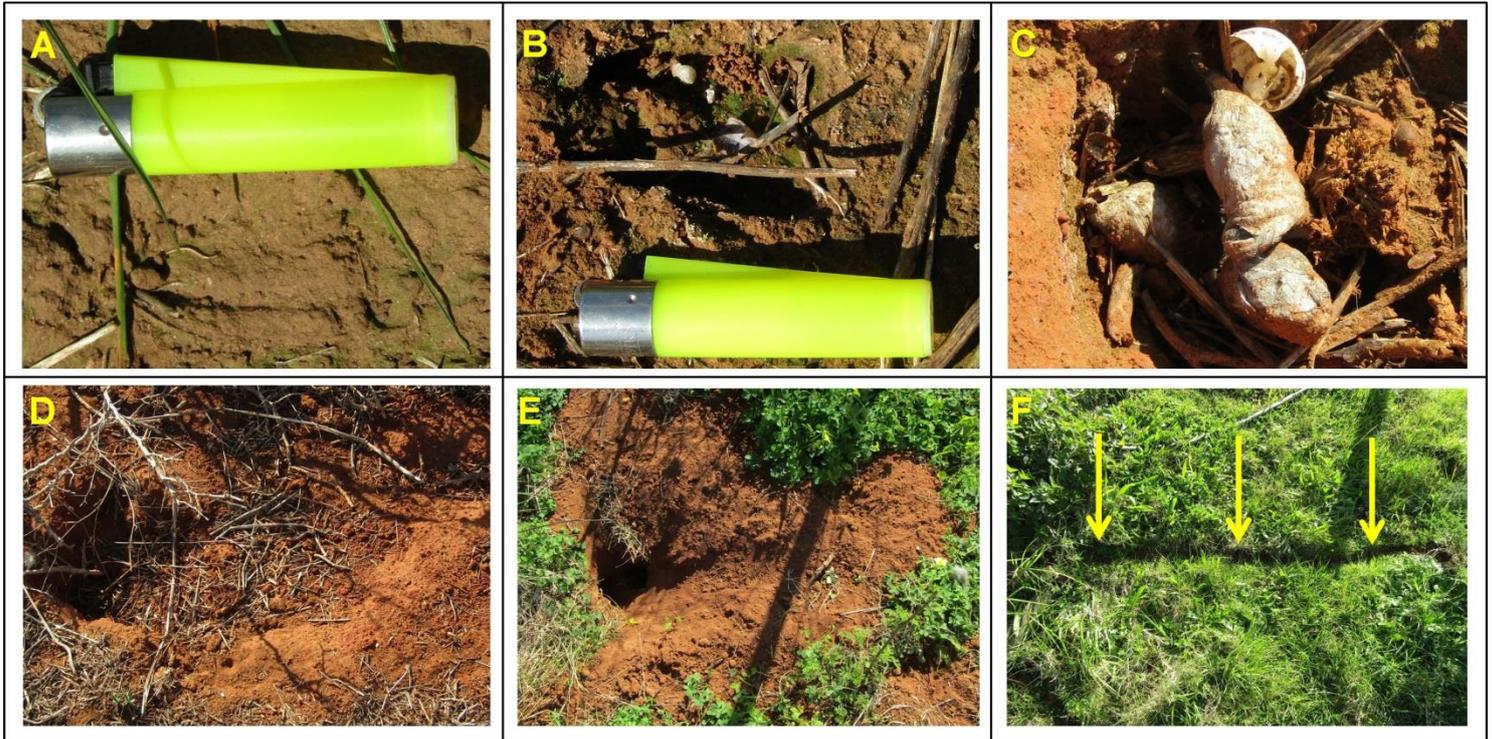


Figure 10 Photographic evidence of the different mammal species recorded in the study area. A) Track of the Common Duiker (*Sylvicapra grimmia*). B) Track of the Southern Bushbuck (*Tragelaphus scriptus*). C) Scat of the African Wild Cat (*Felis silvestris*). D) Feeding hole of the Cape Porcupine (*Hystrix africaeaustralis*). E) Burrow of the Cape Short-eared Gerbil (*Desmodillus auricularis*). F) Run (arrowed) of the Four-striped Grass Mouse (*Rhabdomys pumilio*).

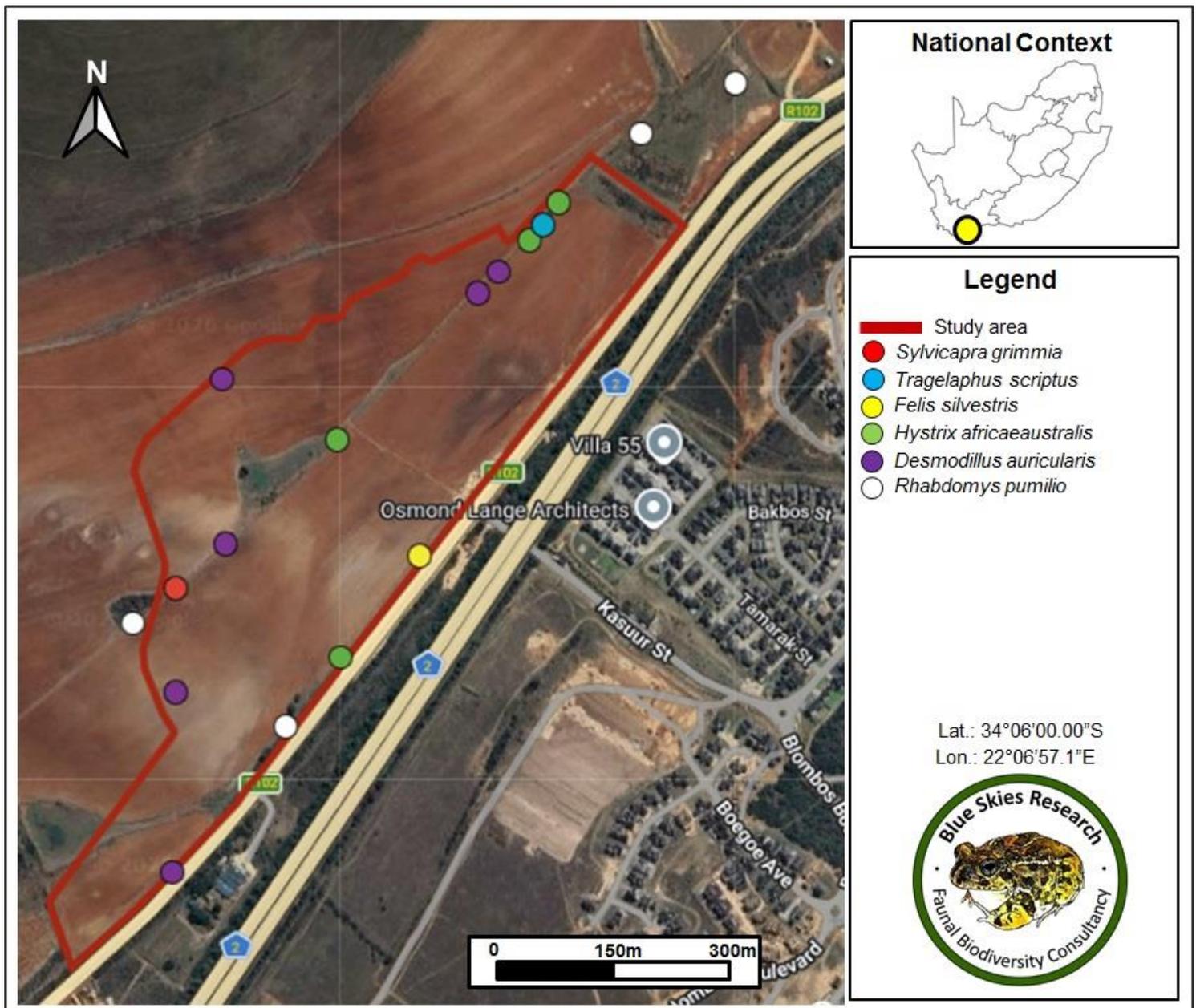


Figure 11 Spatial locations of the different mammal species recorded within the study area.

8.2 Amphibians

Only a single amphibian species, the Clicking Stream Frog (*Strongylopus grayii*) currently classified as “Least Concern” by the IUCN (**Appendix C**), was observed vocalising in the dam to the north-east (and outside of) the site (**Figure 12**). The presence of this single species points to apparent lower water quality in this artificial dam, with this small area also holding no water during drier parts of the year and offering limited habitat for aquatic species.

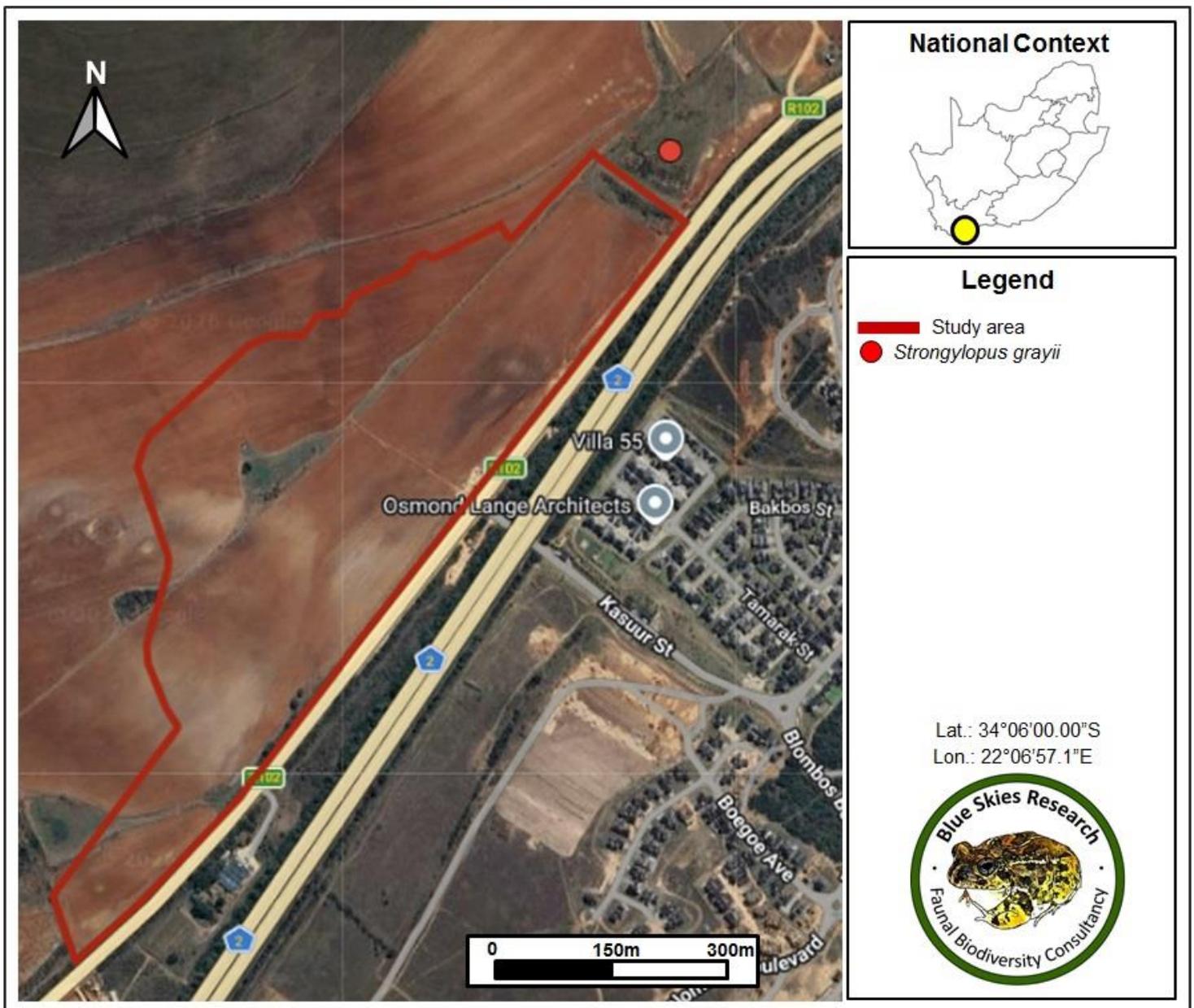


Figure 12 Spatial location of the single amphibian species recorded within the study area.

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8.3 Avifauna

8.3.1 Desktop assessment

According to the SABAP2 records, 273 bird species have been recorded from the pentad overlapping the study area with 248 species classified as “Least Concern” by the IUCN, and 25 species which constitute avifaunal SCC (**Appendix B**). These avifaunal SCC includes the:

1. Forest Buzzard (*Buteo trizonatus*) classified as “Near-Threatened”,
2. Black Harrier (*Circus maurus*) classified as “Endangered”,
3. African Marsh Harrier (*Circus ranivorus*) classified as “Least Concern”,
4. Martial Eagle (*Polemaetus bellicosus*) classified as “Endangered”,
5. Maccoa Duck (*Oxyura maccoa*) classified as “Endangered”,
6. Siberian Sandplover (*Charadrius mongolus*) classified as “Endangered”,
7. Caspian Tern (*Hydroprogne caspia*) classified as “Least Concern”,
8. Elegant Tern (*Thalasseus elegans*) classified as “Near-Threatened”,
9. Ruddy Turnstone (*Arenaria interpres*) classified as “Near-Threatened”,
10. Red Knot (*Calidris canutus*) classified as “Near-Threatened”,
11. Curlew Sandpiper (*Calidris ferruginea*) classified as “Near-Threatened”,
12. Bar-tailed Godwit (*Limosa lapponica*) classified as “Near-Threatened”,
13. Eurasian Curlew (*Numenius arquata*) classified as “Near-Threatened”,
14. Fynbos Buttonquail (*Turnix hottentottus*) classified as “Least Concern”,
15. Lanner Falcon (*Falco biarmicus*) classified as “Least Concern”,
16. Blue Crane (*Anthropoides paradiseus*) classified as “Vulnerable”,
17. Denham's Bustard (*Neotis denhami*) classified as “Near-Threatened”,
18. Knysna Warbler (*Bradypterus sylvaticus*) classified as “Vulnerable”,
19. Cape Cormorant (*Phalacrocorax capensis*) classified as “Endangered”,
20. Lesser Flamingo (*Phoeniconaias minor*) classified as “Near-Threatened”,
21. Knysna Woodpecker (*Campethera notata*) classified as “Near-Threatened”,
22. Sooty Shearwater (*Ardenna grisea*) classified as “Near-Threatened”,
23. White-chinned Petrel (*Procellaria aequinoctialis*) classified as “Vulnerable”,

24. African Penguin (*Spheniscus demersus*) classified as “Critically Endangered”, and
25. Cape Gannet (*Morus capensis*) classified as “Endangered” by the IUCN.

Notably, a large number of these avifaunal SCC represent coastal / marine and estuarine species, given the overlap of the representative pentad with the coastal shelf. Only a few of these species represent terrestrial species, however their occurrence on the site is also unlikely given its agricultural nature. The potential presence of these avifaunal SCC on the site is further outlined in Section 9.

8.3.2 Field survey

In total, 30 bird species were recorded within the study area, all of which are currently classified as “Least concern” by the IUCN (**Figures 13 and 14, Appendix C**). Avifauna on the site constitutes relatively common insectivorous and granivorous species which are abundant within the broader landscape and are indicative of a disturbance-prone species profile. Avifaunal diversity clusters mostly towards vegetation around the artificial dam to the north-east and outside of the site, but also along the fringes and fence lines of the site where some pioneer grassland and / or shrubs and trees (mostly outside of the project footprint and along the road reserves of the R102 Road) are present. The agricultural areas themselves are largely devoid of avifaunal species given limited foraging and no perching opportunities.



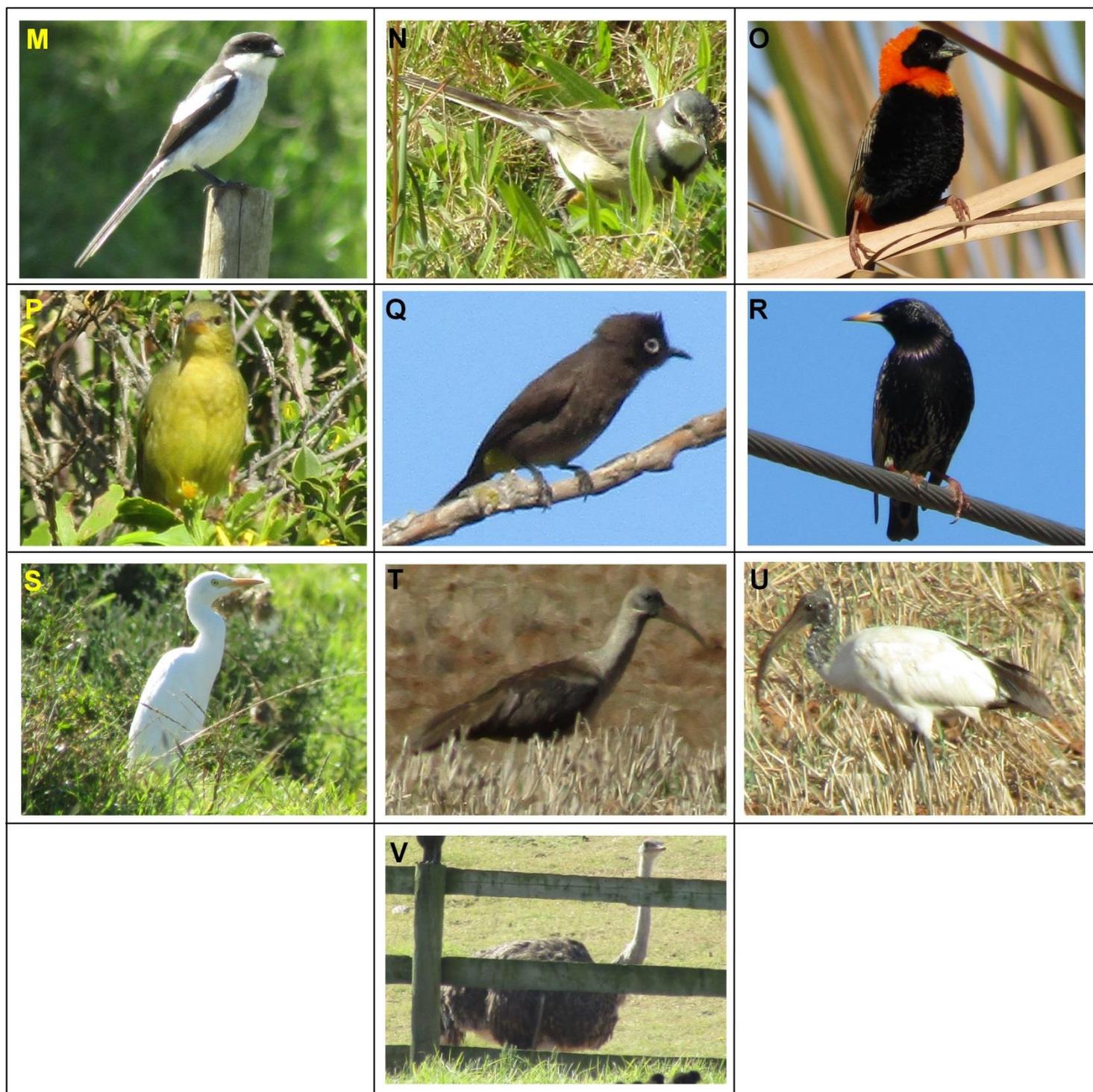


Figure 13 Photographic evidence of different avifaunal species recorded in the study area.

A) Egyptian Goose (*Alopochen aegyptiaca*). B) Spur-winged Goose (*Plectropterus gambensis*). C) Speckled Mousebird (*Colius striatus*). D) Speckled Pigeon (*Columba guinea*). E) Cape Turtle Dove (*Streptopelia capicola*). F) Red-eyed Dove (*Streptopelia semitorquata*). G) Helmeted Guineafowl (*Numida meleagris*). H) Karoo Prinia (*Prinia maculosa*). I) Cape Canary (*Serinus canicollis*). J) Greater Striped Swallow (*Cecropis cucullata*). K) Pearl-breasted Swallow (*Hirundo dimidiata*). L) Barn Swallow (*Hirundo rustica*).

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M) Southern Fiscal (*Lanius collaris*). N) Cape Wagtail (*Motacilla capensis*). O) Southern Red Bishop (*Euplectes orix*). P) Cape Weaver (*Ploceus capensis*). Q) Cape Bulbul (*Pycnonotus capensis*). R) Common Starling (*Sturnus vulgaris*). S) Western Cattle Egret (*Bubulcus ibis*). T) Hadada Ibis (*Bostrychia hagedash*). U) African Sacred Ibis (*Threskiornis aethiopicus*). V) Common Ostrich (*Struthio camelus*).

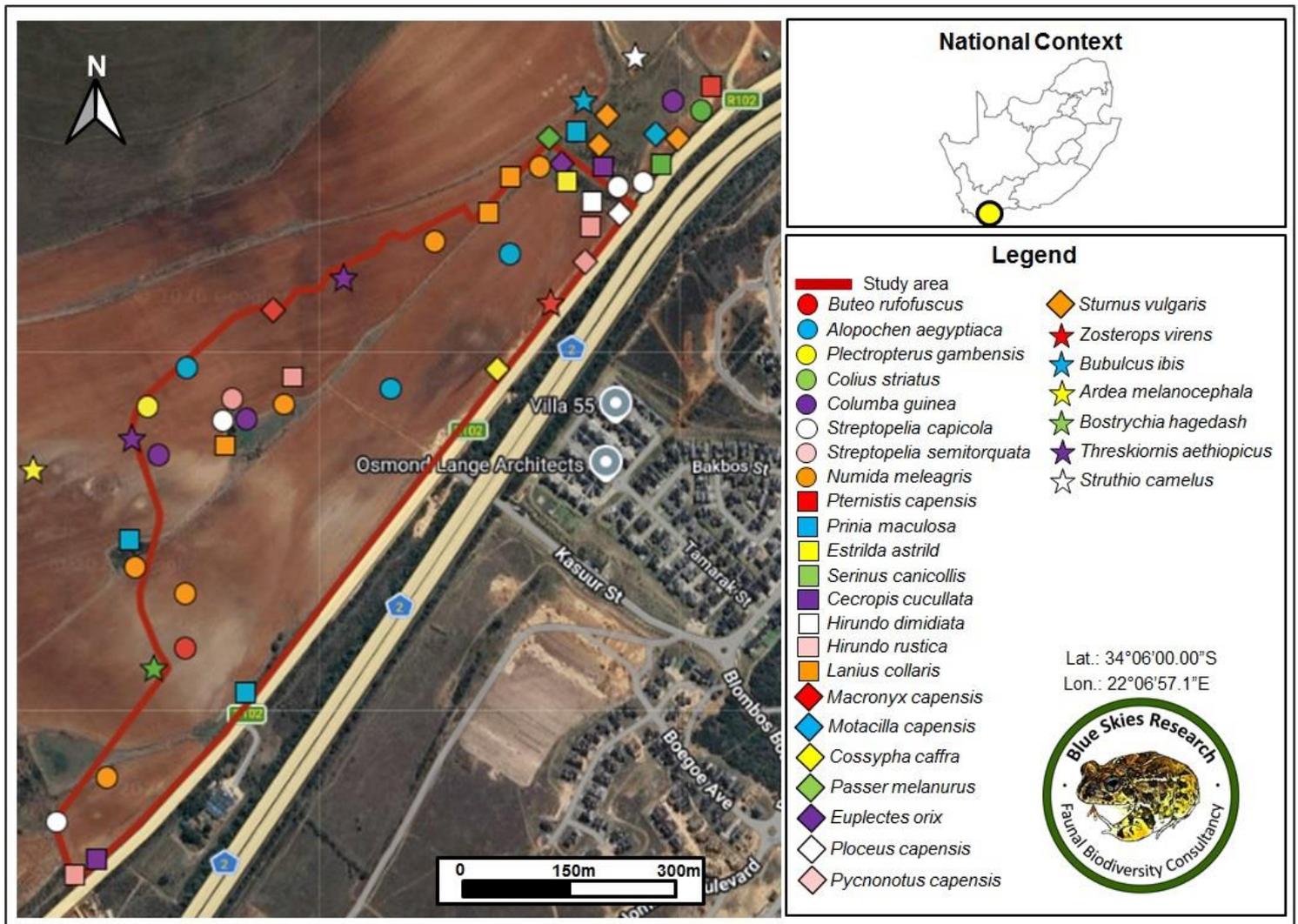


Figure 14 Spatial locations of the different avifaunal species recorded within the study area.

8.4 Butterflies

8.4.1 Desktop assessment

According to the distributional records available on the iNaturalist (www.iNaturalist.org) platform, 26 butterfly species have been recorded within the broader study area landscape, all of which are currently classified as “Least Concern” by the IUCN (**Appendix A**).

8.4.2 Field survey

Only three butterfly species were recorded within the study area (**Figures 15 and 16**), all of which are currently classified as “Least concern” by the IUCN (**Appendix C**). The presence of the African Clouded Yellow (*Colias electo*), Green-eyed Vagrant (*Nepheronia buquetii*) and Southern Meadow White (*Pontia helice*) were noted along the fringes of the site where some vegetation remains (mostly outside of the project footprint and along the road reserves of the R102 Road and at the north-eastern artificial dam). This low butterfly diversity (and abundances) are indicative of a transformed landscape where limited flowering plants are available.



Figure 15 Photographic evidence of one of the butterfly species recorded in the study area.
A) African Clouded Yellow (*Colias electo*).

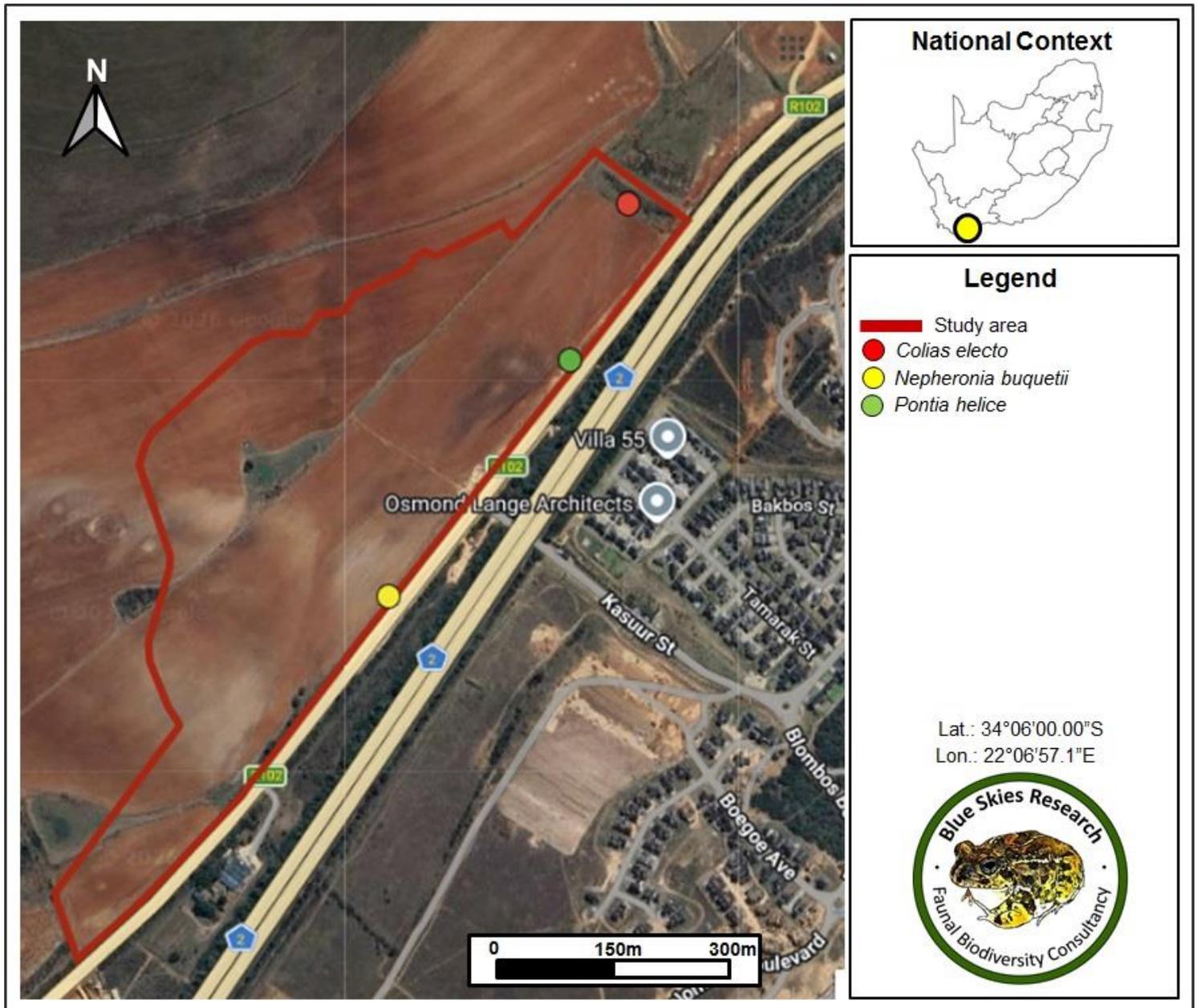


Figure 16 Spatial locations of the different butterfly species recorded within the study area.

8.5 Faunal and avifaunal diversity within the study area

Overall, the study area harbours a terrestrial fauna and avifauna profile comprising species of “Least Concern” which are common in transformed landscapes. The majority of faunal species (save for two rodent species) are non-resident and only ephemerally pass through this agricultural zone. To this end, this open and transformed area exists in an altered ecological condition and offers no notable suitable habitat for permanent faunal subpopulations.

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9. Species of Conservation Concern

Along with the seven (two mammal, two avifaunal and three invertebrate) SCC listed in the DFFE Screening Tool (**Table 1**), the potential occurrence of 24 other (two mammal and 22 avifaunal) SCC within the study area was assessed (**Table 3**), given their recovery in the desktop assessment.

Because of the transformed and open agricultural (farmland) nature of the site, the majority of SCC considered are highly unlikely to be present due to their strict and specialist habitat requirements. Only two species, the Lanner Falcon and Blue Crane have broader habitat specificities, with the Lanner Falcon being able to prey upon the avifaunal prey base over the site, and the Blue Crane being potentially able to utilise the site given its affinity for foraging over agricultural areas. Even so, the association of these two species are likely to be highly ephemeral and they are unlikely to be permanent residents. Similarly, although the site does represent farmland conditions which is sometimes utilised by the Grey Rhebok for foraging, the species is scarce in the surrounding agricultural and urban landscape and is not likely to occur on the site because of significant and regular disturbances.

Table 3 Faunal SCC considered in the current study. For each, the taxonomic Family, scientific name and common name is shown, along with its current classification under the IUCN Red List of Threatened Species (IUCN, 2021). In addition, a broad indication of the species' preferred habitat is given along with an indication whether such habitat is present on the site, and a broad note on the presence or absence of the species.

Family	Species	Common name	Status	Habitat	Habitat present on site	Justification for presence / absence
Mammals						
Sensitive Species 5	<i>Sensitive Species 5</i>	Sensitive Species 5	-	Terrestrial (Savannah)	No	The species does not naturally occur in the Western Cape Province and is only found in reserves.
Sensitive Species 8	<i>Sensitive Species 8</i>	Sensitive Species 8	-	Terrestrial (Forest / Woodland)	No	Forest / Woodland habitat is not available for this habitat specialist species on or near the site.
Bovidae	<i>Pelea capreolus</i>	Grey Rhebok	Near-Threatened	Terrestrial (Fynbos / Open)	Yes	The site represents open farmland conditions which is sometimes utilised by this species for foraging. Even so, this species is scarce in the surrounding agricultural and urban landscape and is not likely to occur on the site.
Mustelidae	<i>Aonyx capensis</i>	African Clawless Otter	Near-Threatened	Aquatic	No	The site is devoid of the wetland habitats required by this species.
Avifauna						
Accipitridae	<i>Buteo trizonatus</i>	Forest Buzzard	Near-Threatened	Terrestrial (Forest / Woodland)	No	Forest / Woodland habitat and suitable prey items is not available for this species on or near the site.
Accipitridae	<i>Circus maurus</i>	Black Harrier	Endangered	Terrestrial (Fynbos)	No	The site is devoid of the necessary vegetation and populations of <i>Rhabdomys pumilio</i> required by this species.
Accipitridae	<i>Circus ranivorus</i>	African Marsh Harrier	Least Concern	Terrestrial (Reedbeds)	No	The site is devoid of the wetland habitats and large reedbeds required by this species.
Accipitridae	<i>Polemaetus bellicosus</i>	Martial Eagle	Endangered	Terrestrial (Woodland / Grassland)	No	The site is devoid of the necessary vegetation and prey items required by this species.
Anatidae	<i>Oxyura maccoa</i>	Maccoa Duck	Endangered	Aquatic	No	The site is devoid of the wetland habitats required by this species.

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Charadriidae	<i>Charadrius mongolus</i>	Siberian Sandplover	Endangered	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Laridae	<i>Hydroprogne caspia</i>	Caspian Tern	Least Concern	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Laridae	<i>Thalasseus elegans</i>	Elegant Tern	Near-Threatened	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Scolopacidae	<i>Arenaria interpres</i>	Ruddy Turnstone	Near-Threatened	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Scolopacidae	<i>Calidris canutus</i>	Red Knot	Near-Threatened	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Scolopacidae	<i>Calidris ferruginea</i>	Curlew Sandpiper	Vulnerable	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Scolopacidae	<i>Limosa lapponica</i>	Bar-tailed Godwit	Near-Threatened	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Scolopacidae	<i>Numenius arquata</i>	Eurasian Curlew	Near-Threatened	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Turnicidae	<i>Turnix hottentottus</i>	Fynbos Buttonquail	Least Concern	Terrestrial (Fynbos)	No	The site is devoid of the Fynbos vegetation required by this species.
Falconidae	<i>Falco biarmicus</i>	Lanner Falcon	Least Concern	Terrestrial (Open)	Yes	Although in an open and transformed state, the site does display some of the prey items (doves and pigeons) required by this species. It is therefore possible that this species may ephemerally pass over the site.
Gruidae	<i>Anthropoides paradiseus</i>	Blue Crane	Vulnerable	Terrestrial (Wetland; Open grassland / agricultural)	Yes	The site represents open farmland conditions which is frequently utilised by this species for foraging. Although not confirmed, it is possible that this species may be ephemerally associated to the site.
Otididae	<i>Neotis denhami</i>	Denham's Bustard	Near-Threatened	Terrestrial (Open grassland)	No	The site exists in a too open and transformed state without any suitable vegetated cover and is in an area with regular disturbances (busy used roads and residential areas). These areas are avoided by this disturbance-prone species.

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Locustellidae	<i>Bradypterus sylvaticus</i>	Knysna Warbler	Vulnerable	Terrestrial (Thicket)	No	The site is devoid of the thicket habitats required by this species.
Phalacrocoracidae	<i>Phalacrocorax capensis</i>	Cape Cormorant	Endangered	Marine / Estuarine / Aquatic	No	The site is devoid of the open freshwater or marine and / or estuarine habitats required by this species.
Phoenicopteridae	<i>Phoeniconaias minor</i>	Lesser Flamingo	Near-Threatened	Marine / Estuarine / Aquatic	No	The site is devoid of the open freshwater or marine and / or estuarine habitats required by this species.
Picidae	<i>Campethera notata</i>	Knysna Woodpecker	Near-Threatened	Terrestrial (Forest / Woodland / Thicket)	No	The site is devoid of the forest / woodland or thicket habitats required by this species.
Procellariidae	<i>Ardenna grisea</i>	Sooty Shearwater	Near-Threatened	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Podicipedidae	<i>Procellaria aequinoctialis</i>	White-chinned Petrel	Vulnerable	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Spheniscidae	<i>Spheniscus demersus</i>	African Penguin	Critically Endangered	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Sulidae	<i>Morus capensis</i>	Cape Gannet	Endangered	Marine / Estuarine	No	The site is devoid of the marine and / or estuarine habitats required by this species.
Invertebrates						
Lycaenidae	<i>Aloeides thyra orientis</i>	Red Copper	Endangered	Terrestrial (Coastal Fynbos)	No	The site is devoid of the coastal Fynbos and open sandy conditions required by this species.
Lycaenidae	<i>Aloeides trimeni southeyae</i>	Mosselbay Copper	Endangered	Terrestrial (Low shrubland)	No	The site is devoid of the low shrubland and north-facing slope conditions required by this species.
Acrididae	<i>Aneuryphymus montanus</i>	Yellow-winged Agile Grasshopper	Vulnerable	Terrestrial (Fynbos)	No	The site is devoid of the recently burnt shrubland and south-facing slope conditions required by this species.

10. Evaluation of Site Ecological Importance (SEI)

10.1 Evaluating SEI for habitats in the study area

Evaluation of the Site Ecological Importance (SEI) for the habitats in the study area was performed following the methods and criteria outlined in the Species Environmental Assessment Guideline (SANBI, 2020). In short, SEI is a function of the Biodiversity Importance (BI) of the receptor (e.g., SCC, the vegetation/faunal community or habitat type present on the site) and its resilience to impacts (Receptor Resilience, RR) as follows: $SEI = BI + RR$. Biodiversity Importance (BI) is in turn a function of Conservation Importance (CI) and the Functional Integrity (FI) of the receptor as follows: $BI = CI + FI$.

To calculate the Conservation Importance (CI) and Functional Integrity (FI) of each habitat within the study area, the criteria outlined in **Table 4** and **Table 5** were respectively used.

According to the Species Environmental Assessment Guideline, Conservation Importance (CI) may be defined as follows:

Conservation Importance (CI): *“The importance of a site for supporting biodiversity features of conservation concern present, e.g. populations of IUCN threatened and Near Threatened species (CR, EN, VU and NT), Rare species, range-restricted species, globally significant populations of congregatory species, and areas of threatened ecosystem types, through predominantly natural processes.”*

Table 4 Conservation importance (CI) criteria (table adapted from the Species Environmental Assessment Guideline, SANBI, 2020).

Conservation Importance (CI)	Fulfilling Criteria
Very high	Confirmed or highly likely occurrence of CR, EN, VU or Extremely Rare or Critically Rare species that have a global EOO of < 10 km ² . Any area of natural habitat of a CR ecosystem type or large area (> 0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type. Globally significant populations of congregatory species (> 10% of global population).
High	Confirmed or highly likely occurrence of CR, EN, VU species that have a global EOO of > 10 km ² . IUCN threatened species (CR, EN, VU) must be listed under any criterion other than A. If listed as threatened only under Criterion A, include if there are less than 10 locations or < 10 000 mature individuals remaining. Small area (> 0.01% but < 0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type or large area (> 0.1%) of natural habitat of VU ecosystem type. Presence of Rare species. Globally significant populations of congregatory species (> 1% but < 10% of global population).
Medium	Confirmed or highly likely occurrence of populations of NT species, threatened species (CR, EN, VU) listed under Criterion A only and which have more than 10 locations or more than 10 000 mature individuals. Any area of natural habitat of threatened ecosystem type with status of VU. Presence of range-restricted species. > 50% of receptor contains natural habitat with potential to support SCC.
Low	No confirmed or highly likely populations of SCC. No confirmed or highly likely populations of range-restricted species. < 50% of receptor contains natural habitat with limited potential to support SCC.
Very low	No confirmed and highly unlikely populations of SCC. No confirmed and highly unlikely populations of range-restricted species. No natural habitat remaining.

According to the guideline, Functional Integrity (FI) is defined as:

Functional integrity (FI): *“The receptors’ current ability to maintain the structure and functions that define it, compared to its known or predicted state under ideal conditions. Simply stated, FI is: ‘A measure of the ecological condition of the impact receptor as determined by its remaining intact and functional area, its connectivity to other natural areas and the degree of current persistent ecological impacts.’”*

Table 5 Functional integrity (FI) criteria (table adapted from the Species Environmental Assessment Guideline, SANBI, 2020).

Functional Integrity (FI)	Fulfilling Criteria
Very high	<p>Very large (> 100 ha) intact area for any conservation status of ecosystem type or > 5 ha for CR ecosystem types.</p> <p>High habitat connectivity serving as functional ecological corridors, limited road network between intact habitat patches.</p> <p>No or minimal current negative ecological impacts with no signs of major past disturbance (e.g. ploughing).</p>
High	<p>Large (> 20 ha but < 100 ha) intact area for any conservation status of ecosystem type or > 10 ha for EN ecosystem types.</p> <p>Good habitat connectivity with potentially functional ecological corridors and a regularly used road network between intact habitat patches.</p> <p>Only minor current negative ecological impacts (e.g. few livestock utilising area) with no signs of major past disturbance (e.g. ploughing) and good rehabilitation potential.</p>
Medium	<p>Medium (> 5 ha but < 20 ha) semi-intact area for any conservation status of ecosystem type or > 20 ha for VU ecosystem types.</p> <p>Only narrow corridors of good habitat connectivity or larger areas of poor habitat connectivity and a busy used road network between intact habitat patches.</p> <p>Mostly minor current negative ecological impacts with some major impacts (e.g. established population of alien and invasive flora) and a few signs of minor past disturbance. Moderate rehabilitation potential.</p>
Low	<p>Small (> 1 ha but < 5 ha) area.</p> <p>Almost no habitat connectivity but migrations still possible across some modified or degraded natural habitat and a very busy used road network surrounds the area. Low rehabilitation potential.</p> <p>Several minor and major current negative ecological impacts.</p>
Very low	<p>Very small (< 1 ha) area.</p> <p>No habitat connectivity except for flying species or flora with wind-dispersed seeds.</p> <p>Several major current negative ecological impacts.</p>

Based on assessments of CI and FI for habitats within the study area, the Biodiversity Importance (BI) of each habitat was calculated using the matrix in **Table 6** (based on the formula: $BI = CI + FI$). As Biodiversity Importance (BI) is a function of Conservation Importance (CI) and the Functional Integrity (FI) of a receptor, BI can be derived from a simple matrix of CI and FI as follows:

Table 6 Matrix for calculating Biodiversity Importance (BI) (table adapted from the Species Environmental Assessment Guideline, SANBI, 2020).

Biodiversity Importance (BI)		Conservation Importance (CI)				
		Very high	High	Medium	Low	Very low
Functional Integrity (FI)	Very high	Very high	Very high	High	Medium	Low
	High	Very high	High	Medium	Medium	Low
	Medium	High	Medium	Medium	Low	Very low
	Low	Medium	Medium	Low	Low	Very low
	Very low	Medium	Low	Very low	Very low	Very low

Finally, the Receptor Resilience for each habitat was evaluated following the criteria listed in **Table 7**. According to the Species Assessment Guidelines, Receptor resilience (RR) may be defined as follows:

Receptor resilience (RR): “*The intrinsic capacity of the receptor to resist major damage from disturbance and/or to recover to its original state with limited or no human intervention.*”

Table 7 Receptor Resilience (RR) criteria (table adapted from the Species Environmental Assessment Guideline, SANBI, 2020).

Receptor Resilience (RR)	Fulfilling Criteria
Very high	Habitat that can recover rapidly (~ less than 5 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a very high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a very high likelihood of returning to a site once the disturbance or impact has been removed.
High	Habitat that can recover relatively quickly (~ 5–10 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a high likelihood of returning to a site once the disturbance or impact has been removed.
Medium	Will recover slowly (~ more than 10 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a moderate likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a moderate likelihood of returning to a site once the disturbance or impact has been removed.
Low	Habitat that is unlikely to be able to recover fully after a relatively long period: > 15 years required to restore ~ less than 50% of the original species composition and functionality of the receptor functionality, or species that have a low likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a low likelihood of returning to a site once the disturbance or impact has been removed.
Very low	Habitat that is unable to recover from major impacts, or species that are unlikely to remain at a site even when a disturbance or impact is occurring, or species that are unlikely to return to a site once the disturbance or impact has been removed.

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Taken together, the Site Ecological Importance (SEI) was calculated for each habitat within the study area using the formula: $SEI = BI + RR$, and following the matrix outlined in **Table 8**. The interpretation of the development actions allowed for each SEI category are outlined in **Table 9**.

Table 8 Matrix for calculating Site Ecological Importance (SEI) (table adapted from the Species Environmental Assessment Guideline, SANBI, 2020).

Site Ecological Importance (SEI)		Biodiversity Importance (BI)				
		Very high	High	Medium	Low	Very low
Receptor Resilience (RR)	Very high	Very high	Very high	High	Medium	Low
	High	Very high	Very high	High	Medium	Very low
	Medium	Very high	High	Medium	Low	Very low
	Low	High	Medium	Low	Very low	Very low
	Very low	Medium	Low	Very low	Very low	Very low

Table 9 Guidelines for interpreting SEI in the context of the proposed development activities (table adapted from the Species Environmental Assessment Guideline, SANBI, 2020).

Site Ecological Importance (SEI)	Interpretation in relation to proposed development activities
Very high	Avoidance mitigation – no destructive development activities should be considered. Offset mitigation not acceptable/not possible (i.e. last remaining populations of species, last remaining good condition patches of ecosystems/unique species assemblages). Destructive impacts for species/ecosystems where persistence target remains.
High	Avoidance mitigation wherever possible. Minimisation mitigation – changes to project infrastructure design to limit the amount of habitat impacted; limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.
Medium	Minimisation and restoration mitigation – development activities of medium impact acceptable followed by appropriate restoration activities.
Low	Minimisation and restoration mitigation – development activities of medium to high impact acceptable followed by appropriate restoration activities.
Very low	Minimisation mitigation – development activities of medium to high impact acceptable and restoration activities may not be required.

10.2 SEI of habitats in the study area

The SEI results for habitats within the study area are given in **Table 10** with the spatial representation for each habitat and its concomitant SEI category portrayed in **Figure 17**. Habitats on the site exist in a completely transformed and open agricultural (farmland) state with a limited potential to support any notable faunal diversity, or any permanent subpopulations of terrestrial faunal and avifaunal SCC. As such, the entire study area is retrieved as having a “Very low” SEI. Minimisation mitigation is acceptable for this area, allowing for development activities of medium to high impact without restoration activities being required (**Table 9**).

Table 10 Evaluation of SEI for habitats within the study area from a faunal perspective. BI = Biodiversity Importance, RR = Receptor Resilience.

Habitat type	Conservation Importance	Functional Integrity	Receptor Resilience	Site Ecological Importance
Farmland	Low - Although not confirmed, it is possible that avifaunal SCC such as the Lanner Falcon and Blue Crane may ephemerally forage over this habitat.	Very low - Several major current negative ecological impacts in the form completely transformed agricultural (farm) land with no remaining natural vegetation.	Very high - This habitat consists of completely transformed agricultural (farm) land. To this end, it harbours only a relatively common and disturbance-tolerant faunal profile.	Very low - BI = Very low; RR = Very high
Pioneer grasses	Low - Although not confirmed, it is possible that avifaunal SCC such as the Lanner Falcon and Blue Crane may ephemerally forage over this habitat.	Very low - Several major current negative ecological impacts in the form completely transformed land with only a low incidence of pioneer grasses.	Very high - This habitat consists of completely transformed land with only a low incidence of pioneer grasses. To this end, it harbours only a relatively common and disturbance-tolerant faunal profile.	Very low - BI = Very low; RR = Very high

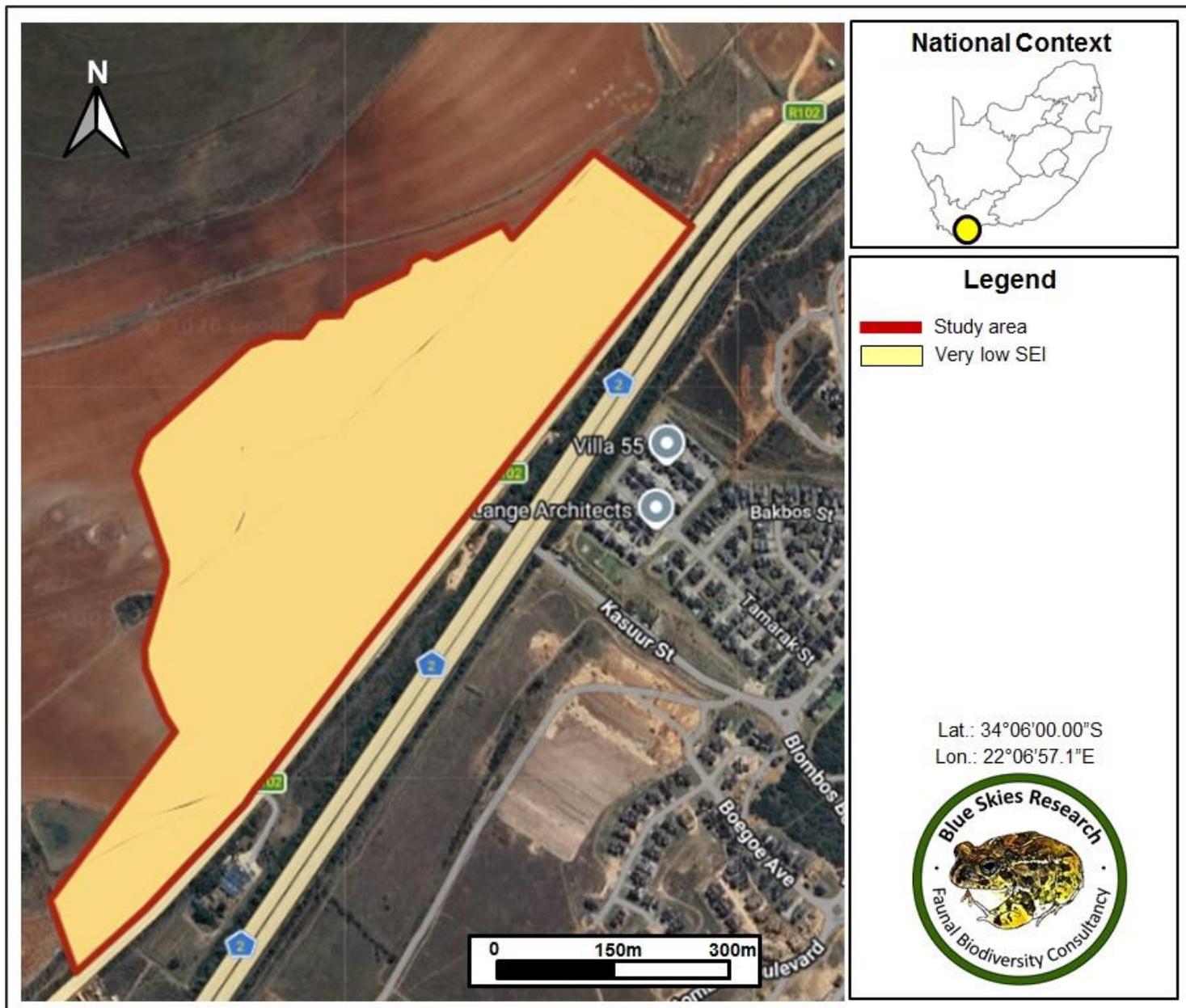


Figure 17 Spatial representation of the SEI of habitats within the study area.

11. Current and project-related impacts

11.1 Current impacts

Current impacts within the study area include the following:

- The entire site exists in a transformed state, comprising mostly agricultural (farm) land or low pioneer grassland with no remaining natural vegetation.
- The site is located adjacent (and along) the north-western extent of the R102 Road with the N2 Road also located around 50m and parallel to the south-east of the site from where regular disturbance is evident through vehicle traffic.

These impacts are currently severe to the point where the site harbours almost no permanent faunal subpopulations and exhibits a faunal profile comprising only transient species which are common in the broader landscape.

11.2 Anticipated project impacts

The study area is earmarked for the construction of a school and hospital. To this end, development activities during the construction phase will include:

- Clearing of the vegetation,
- soil preparation,
- installation of roads and services, and
- construction of the relevant buildings.

Direct impacts from these activities are expected to include:

- The destruction of habitat and loss of habitat,
- direct mortality or displacement of fauna, and
- vibration and noise through machinery and people.

During the operational phase, the required roads, services and building infrastructure will be established and will lead to novel human and vehicle activity to the area. Over the long term, the most prominent impact will therefore pertain to noise and vibration from the newly established areas.

11.3 Impacts

11.3.1 Destruction and loss of habitats

The proposed development footprint of 28.6 hectares intersects already transformed agricultural (farm) land with no remaining faunal habitats and a transient terrestrial faunal and avifaunal profile. This area is therefore also retrieved as “Low” SEI. Taken together therefore, the proposed development is expected to lead to no notable loss of habitat and **“Insignificant” consequence** to the **receiving faunal environment**.

11.3.2 Direct mortality of, or displacement of fauna

The terrestrial faunal and avifaunal profile of the site is currently comprised of transient species which infrequently pass over the area. The only resident faunal species pertains to a low number of Cape Short-eared Gerbil (*Desmodillus auricularis*) classified as “Least Concern”, and having a wide distribution, both in South Africa and in the broader landscape. Loss of the few resident individuals is therefore of little significance to its conservation statuses and genetic diversity patterns at local, regional or national scales. With regards to **direct mortality of, or displacement of fauna**, impacts are therefore expected to be of **“Insignificant” consequence** to the **receiving faunal environment**.

11.3.3 Noise and vibration through machinery and people (construction phase)

Noise and vibration through machinery and people are an unavoidable impact during the construction phase and will also lead to the displacement of fauna. As noted, the site harbours a non-resident and transient terrestrial faunal and avifaunal profile. This impact is therefore expected to be of **“Insignificant” consequence** to the **receiving faunal environment**.

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11.3.4 Vibration and noise through machinery and people (operational phase)

As with the construction phase, noise and vibration through machinery and people are an unavoidable impact during the operational phase. Given the already transient nature of the current terrestrial faunal and avifaunal profile, along with the placement of the site in an agricultural landscape and near busy used roads, it is expected that a similar faunal profile will persist, either in areas adjacent to the project footprint or in the broader landscape. This impact is therefore expected to be of **“Insignificant” consequence** to the **receiving faunal environment**.

12. Conclusion

12.1 Listed sensitivity in the DFFE Screening Tool Report

The results from this report represent a more site-specific and finer-grained rendering of the site sensitivity than is represented in the DFFE Screening Tool Report (Section 3). The site comprises habitats in a completely transformed and open agricultural (farmland) state with a limited potential to support any notable faunal diversity, or any permanent subpopulations of terrestrial faunal and avifaunal SCC. From a terrestrial faunal and avifaunal perspective, the site sensitivity may therefore be regarded as “Low” rather than “High” sensitivity.

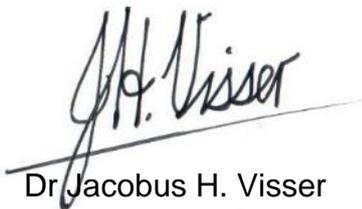
12.2 Conclusion

The current study outlines the “Low” sensitivity of the study area from a terrestrial faunal and avifaunal perspective following from its transformed habitat structure and transient faunal profile of only common “Least Concern” species. Because of these considerations, the proposed development is expected to have negligible (insignificant) impacts to the receiving environment. Taken together therefore, the current development is supported from a terrestrial faunal and avifaunal perspective, especially considering the socio-economic benefits and need for schools and hospitals in the Western Cape Province.

13. Conditions to which this statement is subjected

The content of this report is based on the author's best scientific and professional knowledge as well as available information. Since environmental impact studies deal with dynamic natural systems, additional information may come to light at a later stage which is not listed in this report. As such, the conclusions and recommendations made in this report are done in good faith based on information gathered at the time of the investigation.

This report must not be altered or added to without the prior written consent of the author. This also refers to electronic copies of the report, which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.



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Appendix A

Appendix A Desktop species list of the mammal and butterfly species which have been previously recorded within the broader study area landscape (iNaturalist, www.iNaturalist.org). For each species, the taxonomic Order, Family, species binomial name and common name is shown, along with the current IUCN Red List classification of the species. Species in bold represent reptile species of conservation concern (SCC).

Mammals Desktop Species List				
Order	Family	Species	Common name	Status
Artiodactyla	Bovidae	<i>Pelea capreolus</i>	Grey Rhebok	Near-Threatened
		<i>Raphicerus melanotis</i>	Cape Grysbok	Least Concern
		<i>Sylvicapra grimmia</i>	Common Duiker	Least Concern
		<i>Tragelaphus scriptus</i>	Southern Bushbuck	Least Concern
Carnivora	Felidae	<i>Caracal caracal</i>	Caracal	Least Concern
	Mustelidae	<i>Aonyx capensis</i>	African Clawless Otter	Near-Threatened
	Herpestidae	<i>Atilax paludinosus</i>	Marsh Mongoose	Least Concern
	Hyaenidae	<i>Proteles cristata</i>	Aardwolf	Least Concern
	Viverridae	<i>Genetta tigrina</i>	Cape Genet	Least Concern
Chiroptera	Pteropodidae	<i>Epomophorus wahlbergi</i>	Wahlberg's Epauletted Fruit Bat	Least Concern
Hyracoidea	Procaviidae	<i>Procavia capensis</i>	Rock Hyrax	Least Concern
Lagomorpha	Leporidae	<i>Lepus saxatilis</i>	Cape Scrub Hare	Least Concern
Rodentia	Bathyergidae	<i>Bathyergus suillus</i>	Cape Dune Mole-rat	Least Concern
		<i>Cryptomys hottentotus</i>	African Mole-rat	Least Concern
	Hystricidae	<i>Hystrix africae australis</i>	Cape Porcupine	Least Concern
	Muridae	<i>Otomys irroratus</i>	Southern African Vlei Rat	Least Concern
		<i>Rhabdomys pumilio</i>	Four-striped Grass Mouse	Least Concern
Butterflies Desktop Species List				
Order	Family	Species	Common name	IUCN status
Lepidoptera	Hesperiidae	<i>Afrogegenes letterstedti</i>	Common Dodger	Least Concern
		<i>Spialia spio</i>	Mountain Sandman	Least Concern
	Lycaenidae	<i>Aloeides pierus</i>	Dull Copper	Least Concern
		<i>Cacyreus fracta</i>	Water Bronze	Least Concern
		<i>Cacyreus marshalli</i>	Common Geranium Bronze	Least Concern
		<i>Lampides boeticus</i>	Long-tailed Blue	Least Concern
		<i>Lepidochrysops patricia</i>	Patricia Blue	Least Concern
		<i>Leptomyrina lara</i>	Cape Black-eye	Least Concern
		<i>Myrina silenus</i>	Amber Fig-tree Blue	Least Concern
		<i>Phasis thero</i>	Silver Arrowhead	Least Concern
	<i>Zizeeria knysna</i>	African Grass Blue	Least Concern	
	Nymphalidae	<i>Charaxes varanes</i>	Common Pearl Charaxes	Least Concern
		<i>Danaus chrysippus</i>	Plain Tiger	Least Concern
		<i>Dira clytus</i>	Cape Autumn Widow	Least Concern

	<i>Hypolimnias misippus</i>	Danaid Eggfly	Least Concern
	<i>Junonia hierta</i>	Yellow Pansy	Least Concern
	<i>Junonia orithya</i>	Blue Pansy	Least Concern
	<i>Pseudonympha magoides</i>	False Silver-bottom Brown	Least Concern
	<i>Pseudonympha magus</i>	Silver-bottom Brown	Least Concern
	<i>Vanessa cardui</i>	Painted Lady	Least Concern
Papilionidae	<i>Papilio demodocus</i>	Citrus Swallowtail	Least Concern
	<i>Papilio nireus</i>	Narrow Green-banded Swallowtail	Least Concern
Pieridae	<i>Catopsilia florella</i>	African Migrant	Least Concern
	<i>Colias electo</i>	African Clouded Yellow	Least Concern
	<i>Dixeia charina</i>	African Small White	Least Concern
	<i>Pontia helice</i>	Southern Meadow White	Least Concern

Appendix B

Appendix B Desktop species list of the avifaunal species which have been recorded in the pentad (3405_2205) which overlaps the study area (the South African Bird Atlas Project 2, <https://sabap2.birdmap.africa/>). The species observed in this pentad are included, noting the total number of observations and the latest date the species was recorded. Furthermore, for each, the common group name, common species name, genus and species is shown. Species in bold represent avifaunal species of conservation concern (SCC).

Avifauna Desktop Species List					
Common group	Common species	Genus	Species	# observations	Latest record
	Bokmakierie	<i>Telophorus</i>	<i>zeylonus</i>	180	2026/01/16
	Hamerkop	<i>Scopus</i>	<i>umbretta</i>	9	2025/07/29
	Mallard	<i>Anas</i>	<i>platyrhynchos</i>	214	2026/01/21
	Neddicky	<i>Cisticola</i>	<i>fulvicapilla</i>	175	2026/01/16
	Ruff	<i>Calidris</i>	<i>pugnax</i>	47	2025/12/06
	Sanderling	<i>Calidris</i>	<i>alba</i>	69	2025/11/05
Apalis	Bar-throated	<i>Apalis</i>	<i>thoracica</i>	392	2026/01/21
Avocet	Pied	<i>Recurvirostra</i>	<i>avosetta</i>	156	2026/01/08
Barbet	Acacia Pied	<i>Tricholaema</i>	<i>leucomelas</i>	6	2024/01/07
Batis	Cape	<i>Batis</i>	<i>capensis</i>	8	2024/06/17
Bishop	Yellow	<i>Euplectes</i>	<i>capensis</i>	79	2026/01/16
Bittern	Little	<i>Ixobrychus</i>	<i>minutus</i>	49	2024/11/06
Boubou	Southern	<i>Laniarius</i>	<i>ferrugineus</i>	213	2026/01/16
Brownbul	Terrestrial	<i>Phyllastrephus</i>	<i>terrestris</i>	15	2025/10/28
Bulbul	Cape	<i>Pycnonotus</i>	<i>capensis</i>	400	2026/01/21
Bulbul	Dark-capped	<i>Pycnonotus</i>	<i>tricolor</i>	26	2025/11/18
Bunting	Cape	<i>Emberiza</i>	<i>capensis</i>	28	2025/04/11
Bushshrike	Olive	<i>Chlorophoneus</i>	<i>olivaceus</i>	37	2025/09/19
Bustard	Denham's	Neotis	denhami	2	2024/08/06
Buttonquail	Fynbos	Turnix	hottentottus	1	2023/04/16
Buzzard	Common	<i>Buteo</i>	<i>buteo</i>	40	2025/12/23
Buzzard	Forest	Buteo	trizonatus	2	2024/01/07
Buzzard	Jackal	<i>Buteo</i>	<i>rufofuscus</i>	187	2026/01/21
Camaroptera	Green-backed	<i>Camaroptera</i>	<i>brachyura brachyura</i>	5	2025/12/30
Canary	Brimstone	<i>Crithagra</i>	<i>sulphurata</i>	31	2025/12/23
Canary	Cape	<i>Serinus</i>	<i>canicollis</i>	207	2026/01/16
Canary	Forest	<i>Crithagra</i>	<i>scotops</i>	3	2014/12/07
Canary	White-throated	<i>Crithagra</i>	<i>albogularis</i>	49	2025/12/27
Canary	Yellow	<i>Crithagra</i>	<i>flaviventris</i>	135	2026/01/01
Chat	Familiar	<i>Oenanthe</i>	<i>familiaris</i>	153	2025/12/30
Chat	Karoo	<i>Emarginata</i>	<i>schlegelii</i>	2	2020/09/12

Cisticola	Cloud	<i>Cisticola</i>	<i>textrix</i>	2	2023/12/19
Cisticola	Grey-backed	<i>Cisticola</i>	<i>subruficapilla</i>	81	2025/11/05
Cisticola	Levaillant's	<i>Cisticola</i>	<i>tinniens</i>	359	2026/01/21
Cisticola	Zitting	<i>Cisticola</i>	<i>juncidis</i>	69	2025/10/11
Coot	Red-knobbed	<i>Fulica</i>	<i>cristata</i>	463	2026/01/21
Cormorant	Cape	<i>Phalacrocorax</i>	<i>capensis</i>	205	2026/01/21
Cormorant	Reed	<i>Microcarbo</i>	<i>africanus</i>	495	2026/01/21
Cormorant	White-breasted	<i>Phalacrocorax</i>	<i>lucidus</i>	541	2026/01/21
Coucal	Burchell's	<i>Centropus</i>	<i>burchellii</i>	94	2025/11/18
Crake	Black	<i>Zaporina</i>	<i>flavirostra</i>	140	2026/01/21
Crane	Blue	<i>Grus</i>	<i>paradisea</i>	18	2025/12/27
Crombec	Long-billed	<i>Sylvietta</i>	<i>rufescens</i>	29	2025/10/17
Crow	Cape	<i>Corvus</i>	<i>capensis</i>	42	2024/11/19
Crow	Pied	<i>Corvus</i>	<i>albus</i>	227	2026/01/21
Cuckoo	Black	<i>Cuculus</i>	<i>clamosus</i>	1	2023/12/26
Cuckoo	Diederik	<i>Chrysococcyx</i>	<i>caprius</i>	123	2026/01/21
Cuckoo	Jacobin	<i>Clamator</i>	<i>jacobinus</i>	12	2025/02/15
Cuckoo	Klaas's	<i>Chrysococcyx</i>	<i>klaas</i>	52	2025/12/23
Cuckoo	Red-chested	<i>Cuculus</i>	<i>solitarius</i>	9	2023/12/31
Cuckooshrike	Black	<i>Campephaga</i>	<i>flava</i>	1	2022/05/24
Curlew	Eurasian	<i>Numenius</i>	<i>arquata</i>	6	2024/08/12
Darter	African	<i>Anhinga</i>	<i>rufa</i>	446	2026/01/21
Dove	Laughing	<i>Spilopelia</i>	<i>senegalensis</i>	527	2026/01/21
Dove	Namaqua	<i>Oena</i>	<i>capensis</i>	9	2024/01/07
Dove	Red-eyed	<i>Streptopelia</i>	<i>semitorquata</i>	485	2026/01/21
Dove	Ring-necked	<i>Streptopelia</i>	<i>capicola</i>	311	2026/01/16
Dove	Rock	<i>Columba</i>	<i>livia</i>	163	2026/01/21
Dove	Tambourine	<i>Turtur</i>	<i>tymanistria</i>	7	2023/02/01
Drongo	Fork-tailed	<i>Dicrurus</i>	<i>adsimilis</i>	216	2026/01/21
Duck	African Black	<i>Anas</i>	<i>sparsa</i>	4	2024/12/10
Duck	Domestic	<i>Anas</i>	<i>platyrhynchos domesticus</i>	3	2025/03/16
Duck	Hybrid	<i>Anas</i>	<i>hybrid</i>	2	2020/12/05
Duck	Maccoa	<i>Oxyura</i>	<i>maccoa</i>	4	2022/12/16
Duck	White-backed	<i>Thalassornis</i>	<i>leuconotus</i>	9	2024/06/23
Duck	White-faced Whistling	<i>Dendrocygna</i>	<i>viduata</i>	46	2024/11/06
Duck	Yellow-billed	<i>Anas</i>	<i>undulata</i>	440	2026/01/21
Eagle	Booted	<i>Hieraaetus</i>	<i>pennatus</i>	24	2025/01/16
Eagle	Long-crested	<i>Lophaetus</i>	<i>occipitalis</i>	2	2025/10/11
Eagle	Martial	<i>Polemaetus</i>	<i>bellicosus</i>	8	2021/01/23
Eagle-Owl	Spotted	<i>Bubo</i>	<i>africanus</i>	25	2025/01/02
Egret	Great	<i>Ardea</i>	<i>alba</i>	3	2021/12/26
Egret	Intermediate	<i>Ardea</i>	<i>intermedia</i>	27	2024/06/10
Egret	Little	<i>Egretta</i>	<i>garzetta</i>	545	2026/01/21
Egret	Western Cattle	<i>Bubulcus</i>	<i>ibis</i>	448	2026/01/21
Falcon	Lanner	<i>Falco</i>	<i>biarmicus</i>	8	2025/12/26
Falcon	Peregrine	<i>Falco</i>	<i>peregrinus</i>	91	2026/01/01

Firefinch	African	<i>Lagonosticta</i>	<i>rubricata</i>	2	2023/03/29
Fiscal	Southern	<i>Lanius</i>	<i>collaris</i>	444	2026/01/21
Fish Eagle	African	<i>Haliaeetus</i>	<i>vocifer</i>	68	2025/09/25
Flamingo	Greater	<i>Phoenicopterus</i>	<i>roseus</i>	189	2025/10/11
Flamingo	Lesser	<i>Phoeniconaias</i>	<i>minor</i>	27	2025/06/16
Flufftail	Red-chested	<i>Sarothrura</i>	<i>rufa</i>	1	2023/12/31
Flycatcher	African Dusky	<i>Muscicapa</i>	<i>adusta</i>	8	2025/07/29
Flycatcher	African Paradise	<i>Terpsiphone</i>	<i>viridis</i>	16	2026/01/16
Flycatcher	Fairy	<i>Stenostira</i>	<i>scita</i>	1	1992/12/11
Flycatcher	Fiscal	<i>Melaenornis</i>	<i>silens</i>	302	2026/01/21
Flycatcher	Spotted	<i>Muscicapa</i>	<i>striata</i>	3	2024/03/06
Francolin	Grey-winged	<i>Scleroptila</i>	<i>afra</i>	14	2025/06/10
Gallinule	Allen's	<i>Porphyrio</i>	<i>alleni</i>	1	2024/06/16
Gannet	Cape	<i>Morus</i>	<i>capensis</i>	85	2025/10/28
Godwit	Bar-tailed	<i>Limosa</i>	<i>lapponica</i>	48	2025/12/08
Goose	Domestic	<i>Anser</i>	<i>anser domesticus</i>	2	2025/05/03
Goose	Egyptian	<i>Alopochen</i>	<i>aegyptiaca</i>	402	2026/01/16
Goose	Spur-winged	<i>Plectropterus</i>	<i>gambensis</i>	62	2025/11/17
Goshawk	African	<i>Accipiter</i>	<i>tachiro</i>	4	2022/12/17
Grassbird	Cape	<i>Sphenoeacus</i>	<i>afer</i>	53	2025/04/11
Grebe	Black-necked	<i>Podiceps</i>	<i>nigricollis</i>	3	2025/12/26
Grebe	Great Crested	<i>Podiceps</i>	<i>cristatus</i>	34	2025/10/17
Grebe	Little	<i>Tachybaptus</i>	<i>ruficollis</i>	377	2026/01/21
Greenbul	Sombre	<i>Andropadus</i>	<i>importunus</i>	381	2026/01/21
Greenshank	Common	<i>Tringa</i>	<i>nebularia</i>	253	2026/01/16
Guineafowl	Helmeted	<i>Numida</i>	<i>meleagris</i>	248	2026/01/16
Gull	Black-headed	<i>Chroicocephalus</i>	<i>ridibundus</i>	4	2024/12/10
Gull	Franklin's	<i>Leucophaeus</i>	<i>pipixcan</i>	4	2017/04/08
Gull	Grey-headed	<i>Chroicocephalus</i>	<i>cirrocephalus</i>	529	2026/01/21
Gull	Hartlaub's	<i>Chroicocephalus</i>	<i>hartlaubii</i>	197	2026/01/21
Gull	Kelp	<i>Larus</i>	<i>dominicanus</i>	565	2026/01/21
Harrier	African Marsh	<i>Circus</i>	<i>ranivorus</i>	51	2026/01/21
Harrier	Black	<i>Circus</i>	<i>maurus</i>	9	2023/12/31
Harrier-Hawk	African	<i>Polyboroides</i>	<i>typus</i>	11	2024/08/12
Heron	Black-headed	<i>Ardea</i>	<i>melanocephala</i>	382	2026/01/01
Heron	Grey	<i>Ardea</i>	<i>cinerea</i>	522	2026/01/21
Heron	Purple	<i>Ardea</i>	<i>purpurea</i>	149	2025/12/27
Heron	Squacco	<i>Ardeola</i>	<i>ralloides</i>	16	2024/11/02
Heron	Striated	<i>Butorides</i>	<i>striata</i>	5	2024/06/16
Honeyguide	Greater	<i>Indicator</i>	<i>indicator</i>	1	2018/05/26
Honeyguide	Lesser	<i>Indicator</i>	<i>minor</i>	2	2023/12/19
Hoopoe	African	<i>Upupa</i>	<i>africana</i>	151	2026/01/21
House Martin	Common	<i>Delichon</i>	<i>urbicum</i>	7	2024/11/27
Ibis	African Sacred	<i>Threskiornis</i>	<i>aethiopicus</i>	506	2026/01/21
Ibis	Glossy	<i>Plegadis</i>	<i>falcinellus</i>	115	2025/10/01
Ibis	Hadada	<i>Bostrychia</i>	<i>hagedash</i>	384	2026/01/21

Jacana	African	<i>Actophilornis</i>	<i>africanus</i>	40	2024/09/11
Jaeger	Parasitic	<i>Stercorarius</i>	<i>parasiticus</i>	2	2025/10/28
Kestrel	Lesser	<i>Falco</i>	<i>naumanni</i>	1	2024/01/07
Kestrel	Rock	<i>Falco</i>	<i>rupicolus</i>	190	2026/01/21
Kingfisher	Brown-hooded	<i>Halcyon</i>	<i>albiventris</i>	34	2026/01/08
Kingfisher	Giant	<i>Megaceryle</i>	<i>maxima</i>	96	2025/12/27
Kingfisher	Malachite	<i>Corythornis</i>	<i>cristatus</i>	35	2026/01/01
Kingfisher	Pied	<i>Ceryle</i>	<i>rudis</i>	416	2026/01/17
Kite	Black-winged	<i>Elanus</i>	<i>caeruleus</i>	264	2026/01/21
Kite	Yellow-billed	<i>Milvus</i>	<i>aegyptius</i>	19	2025/12/26
Knot	Red	<i>Calidris</i>	<i>canutus</i>	11	2025/10/14
Lapwing	Black-winged	<i>Vanellus</i>	<i>melanopterus</i>	4	2025/10/11
Lapwing	Blacksmith	<i>Vanellus</i>	<i>armatus</i>	488	2026/01/21
Lapwing	Crowned	<i>Vanellus</i>	<i>coronatus</i>	168	2025/11/08
Lark	Agulhas Long-billed	<i>Certhilauda</i>	<i>brevirostris</i>	7	2024/12/07
Lark	Cape Clapper	<i>Mirafr</i>	<i>apiata</i>	4	2024/01/07
Lark	Large-billed	<i>Galerida</i>	<i>magnirostris</i>	4	2022/12/25
Lark	Red-capped	<i>Calandrella</i>	<i>cinerea</i>	7	2025/10/17
Longclaw	Cape	<i>Macronyx</i>	<i>capensis</i>	26	2025/04/11
Mallard	Hybrid	<i>Anas</i>	<i>hybrid</i>	31	2026/01/01
Martin	Banded	<i>Neophedina</i>	<i>cincta</i>	1	2012/12/26
Martin	Brown-throated	<i>Riparia</i>	<i>paludicola</i>	357	2026/01/21
Martin	Rock	<i>Ptyonoprogne</i>	<i>fuligula</i>	255	2026/01/21
Martin	Sand	<i>Riparia</i>	<i>riparia</i>	1	2024/11/09
Moorhen	Common	<i>Gallinula</i>	<i>chloropus</i>	388	2026/01/21
Mousebird	Red-faced	<i>Urocolius</i>	<i>indicus</i>	292	2026/01/21
Mousebird	Speckled	<i>Colius</i>	<i>striatus</i>	386	2026/01/21
Mousebird	White-backed	<i>Colius</i>	<i>colius</i>	8	2024/03/07
Night Heron	Black-crowned	<i>Nycticorax</i>	<i>nycticorax</i>	240	2026/01/21
Nightjar	Fiery-necked	<i>Caprimulgus</i>	<i>pectoralis</i>	27	2025/10/17
Oriole	Black-headed	<i>Oriolus</i>	<i>larvatus</i>	6	2026/01/01
Osprey	Western	<i>Pandion</i>	<i>haliaetus</i>	42	2026/01/16
Ostrich	Common	<i>Struthio</i>	<i>camelus</i>	35	2026/01/08
Owl	Western Barn	<i>Tyto</i>	<i>alba</i>	8	2023/12/31
Oystercatcher	African	<i>Haematopus</i>	<i>moquini</i>	489	2026/01/21
Peafowl	Indian	<i>Pavo</i>	<i>cristatus</i>	22	2025/10/11
Penguin	African	<i>Spheniscus</i>	<i>demersus</i>	3	2022/02/17
Petrel	White-chinned	<i>Procellaria</i>	<i>aequinoctialis</i>	4	2025/12/22
Pigeon	African Olive	<i>Columba</i>	<i>arquatrix</i>	2	2021/11/27
Pigeon	Speckled	<i>Columba</i>	<i>guinea</i>	519	2026/01/21
Pipit	African	<i>Anthus</i>	<i>cinnamomeus</i>	62	2025/10/17
Plover	Chestnut-banded	<i>Charadrius</i>	<i>pallidus</i>	2	2018/08/23
Plover	Common Ringed	<i>Charadrius</i>	<i>hiaticula</i>	138	2026/01/01
Plover	Greater Sand	<i>Charadrius</i>	<i>leschenaultii</i>	1	2019/12/26
Plover	Grey	<i>Pluvialis</i>	<i>squatarola</i>	43	2025/12/26
Plover	Kittlitz's	<i>Charadrius</i>	<i>pecuarius</i>	100	2025/12/27

Plover	Siberian Sand	Charadrius	mongolus	7	2023/02/03
Plover	Three-banded	<i>Charadrius</i>	<i>tricoloris</i>	315	2026/01/21
Plover	White-fronted	<i>Charadrius</i>	<i>marginatus</i>	333	2026/01/21
Pochard	Southern	<i>Netta</i>	<i>erythrophthalma</i>	34	2025/11/17
Prinia	Karoo	<i>Prinia</i>	<i>maculosa</i>	450	2026/01/21
Quail	Common	<i>Coturnix</i>	<i>coturnix</i>	2	2020/10/26
Quelea	Red-billed	<i>Quelea</i>	<i>quelea</i>	26	2026/01/16
Rail	African	<i>Rallus</i>	<i>caerulescens</i>	13	2024/08/12
Raven	White-necked	<i>Corvus</i>	<i>albicollis</i>	72	2026/01/16
Red Bishop	Southern	<i>Euplectes</i>	<i>orix</i>	419	2026/01/21
Robin-Chat	Cape	<i>Cossypha</i>	<i>caffra</i>	428	2026/01/21
Robin-Chat	Chorister	<i>Cossypha</i>	<i>dichroa</i>	1	2024/12/14
Rock-Thrush	Cape	<i>Monticola</i>	<i>rupestris</i>	29	2025/05/22
Sandpiper	Common	<i>Actitis</i>	<i>hypoleucos</i>	93	2026/01/21
Sandpiper	Curlew	Calidris	ferruginea	25	2025/11/18
Sandpiper	Marsh	<i>Tringa</i>	<i>stagnatilis</i>	24	2025/10/11
Sandpiper	Pectoral	<i>Calidris</i>	<i>melanotos</i>	7	2017/01/12
Sandpiper	Terek	<i>Xenus</i>	<i>cinereus</i>	10	2020/11/19
Sandpiper	Wood	<i>Tringa</i>	<i>glareola</i>	116	2026/01/21
Saw-wing	Black	<i>Psalidoprocne</i>	<i>pristoptera</i>	69	2026/01/21
Scrub Robin	Karoo	<i>Cercotrichas</i>	<i>coryphoeus</i>	82	2026/01/16
Seedeater	Streaky-headed	<i>Crithagra</i>	<i>gularis</i>	177	2026/01/21
Shearwater	Sooty	Ardenna	grisea	1	2023/03/17
Sheathbill	Snowy	<i>Chionis</i>	<i>albus</i>	6	2017/06/18
Shelduck	South African	<i>Tadorna</i>	<i>cana</i>	20	2023/04/26
Shoveler	Cape	<i>Anas</i>	<i>smithii</i>	387	2026/01/21
Skua	Subantarctic	<i>Stercorarius</i>	<i>antarcticus</i>	7	2025/07/13
Snipe	African	<i>Gallinago</i>	<i>nigripennis</i>	55	2026/01/01
Sparrow	Cape	<i>Passer</i>	<i>melanurus</i>	489	2026/01/21
Sparrow	House	<i>Passer</i>	<i>domesticus</i>	401	2026/01/21
Sparrow	Southern Grey-headed	<i>Passer</i>	<i>diffusus</i>	107	2026/01/16
Sparrowhawk	Black	<i>Accipiter</i>	<i>melanoleucus</i>	9	2025/10/17
Sparrowhawk	Rufous-breasted	<i>Accipiter</i>	<i>rufiventris</i>	2	2020/03/27
Spoonbill	African	<i>Platalea</i>	<i>alba</i>	149	2026/01/21
Spurfowl	Cape	<i>Pternistis</i>	<i>capensis</i>	468	2026/01/21
Spurfowl	Red-necked	<i>Pternistis</i>	<i>afer</i>	1	2023/12/19
Starling	Common	<i>Sturnus</i>	<i>vulgaris</i>	588	2026/01/21
Starling	Pied	<i>Lamprotornis</i>	<i>bicolor</i>	3	2020/10/12
Starling	Red-winged	<i>Onychognathus</i>	<i>morio</i>	246	2026/01/21
Starling	Wattled	<i>Creatophora</i>	<i>cinerea</i>	1	2024/06/21
Stilt	Black-winged	<i>Himantopus</i>	<i>himantopus</i>	415	2026/01/21
Stint	Little	<i>Calidris</i>	<i>minuta</i>	63	2026/01/21
Stonechat	African	<i>Saxicola</i>	<i>torquatus</i>	71	2026/01/01
Stork	White	<i>Ciconia</i>	<i>ciconia</i>	6	2022/02/04
Sugarbird	Cape	<i>Promerops</i>	<i>cafer</i>	65	2026/01/21
Sunbird	Amethyst	<i>Chalcomitra</i>	<i>amethystina</i>	210	2026/01/21

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Sunbird	Greater Double-collared	<i>Cinnyris</i>	<i>afra</i>	229	2026/01/21
Sunbird	Grey	<i>Cyanomitra</i>	<i>veroxii</i>	1	2026/01/16
Sunbird	Malachite	<i>Nectarinia</i>	<i>famosa</i>	91	2026/01/16
Sunbird	Orange-breasted	<i>Anthobaphes</i>	<i>violacea</i>	2	2016/12/12
Sunbird	Southern Double-collared	<i>Cinnyris</i>	<i>chalybeus</i>	204	2026/01/21
Swallow	Barn	<i>Hirundo</i>	<i>rustica</i>	194	2026/01/21
Swallow	Greater Striped	<i>Cecropis</i>	<i>cucullata</i>	270	2026/01/21
Swallow	Lesser Striped	<i>Cecropis</i>	<i>abyssinica</i>	3	2021/01/16
Swallow	Pearl-breasted	<i>Hirundo</i>	<i>dimidiata</i>	84	2026/01/21
Swallow	White-throated	<i>Hirundo</i>	<i>albigularis</i>	252	2026/01/21
Swamphen	African	<i>Porphyrio</i>	<i>madagascariensis</i>	181	2026/01/08
Swift	African Black	<i>Apus</i>	<i>barbatus</i>	88	2026/01/16
Swift	African Palm	<i>Cypsiurus</i>	<i>parvus</i>	176	2026/01/16
Swift	Alpine	<i>Tachymarptis</i>	<i>melba</i>	14	2025/09/19
Swift	Common	<i>Apus</i>	<i>apus</i>	8	2023/12/31
Swift	Horus	<i>Apus</i>	<i>horus</i>	4	2022/03/09
Swift	Little	<i>Apus</i>	<i>affinis</i>	243	2026/01/21
Swift	White-rumped	<i>Apus</i>	<i>caffer</i>	262	2026/01/21
Tchagra	Southern	<i>Tchagra</i>	<i>tchagra</i>	96	2026/01/21
Teal	Blue-billed	<i>Anas</i>	<i>hottentota</i>	37	2024/11/09
Teal	Cape	<i>Anas</i>	<i>capensis</i>	382	2026/01/21
Teal	Red-billed	<i>Anas</i>	<i>erythrorhyncha</i>	291	2026/01/21
Tern	Arctic	<i>Sterna</i>	<i>paradisaea</i>	4	2020/11/19
Tern	Caspian	Hydroprogne	caspia	231	2025/11/18
Tern	Common	<i>Sterna</i>	<i>hirundo</i>	264	2026/01/21
Tern	Elegant	Thalasseus	elegans	2	2025/02/15
Tern	Greater Crested	<i>Thalasseus</i>	<i>bergii</i>	413	2026/01/21
Tern	Little	<i>Sternula</i>	<i>albifrons</i>	12	2025/11/18
Tern	Roseate	<i>Sterna</i>	<i>dougallii</i>	17	2025/05/24
Tern	Sandwich	<i>Thalasseus</i>	<i>sandvicensis</i>	211	2026/01/21
Tern	Whiskered	<i>Chlidonias</i>	<i>hybrida</i>	23	2025/10/17
Tern	White-winged	<i>Chlidonias</i>	<i>leucopterus</i>	5	2025/11/17
Thick-knee	Spotted	<i>Burhinus</i>	<i>capensis</i>	148	2026/01/21
Thick-knee	Water	<i>Burhinus</i>	<i>vermiculatus</i>	372	2026/01/21
Thrush	Olive	<i>Turdus</i>	<i>olivaceus</i>	64	2025/11/05
Tit	Cape Penduline	<i>Anthoscopus</i>	<i>minutus</i>	8	2022/05/24
Turaco	Knysna	<i>Tauraco</i>	<i>corythaix</i>	1	2019/07/03
Turnstone	Ruddy	Arenaria	interpres	26	2025/11/05
Wagtail	African Pied	<i>Motacilla</i>	<i>aguimp</i>	3	2020/09/03
Wagtail	Cape	<i>Motacilla</i>	<i>capensis</i>	572	2026/01/21
Warbler	African Reed	<i>Acrocephalus</i>	<i>baeticatus</i>	56	2022/12/30
Warbler	Common Reed	<i>Acrocephalus</i>	<i>scirpaceus</i>	21	2025/12/26
Warbler	Knysna	Bradypterus	sylvaticus	55	2025/11/05
Warbler	Layard's	<i>Curruca</i>	<i>layardi</i>	2	2020/03/22
Warbler	Lesser Swamp	<i>Acrocephalus</i>	<i>gracilirostris</i>	300	2026/01/21
Warbler	Little Rush	<i>Bradypterus</i>	<i>baboecala</i>	154	2026/01/21

Warbler	Willow	<i>Phylloscopus</i>	<i>trochilus</i>	13	2026/01/16
Waxbill	Common	<i>Estrilda</i>	<i>astrild</i>	229	2026/01/21
Waxbill	Swee	<i>Coccyzygia</i>	<i>melanotis</i>	11	2024/09/26
Weaver	Cape	<i>Ploceus</i>	<i>capensis</i>	442	2026/01/21
Weaver	Southern Masked	<i>Ploceus</i>	<i>velatus</i>	236	2026/01/16
Wheatear	Capped	<i>Oenanthe</i>	<i>pileata</i>	5	2022/05/01
Whimbrel	Eurasian	<i>Numenius</i>	<i>phaeopus</i>	264	2026/01/21
White-eye	Cape	<i>Zosterops</i>	<i>virens</i>	397	2026/01/21
Whydah	Pin-tailed	<i>Vidua</i>	<i>macroura</i>	161	2026/01/21
Woodpecker	Cardinal	<i>Dendropicos</i>	<i>fuscescens</i>	26	2026/01/16
Woodpecker	Knysna	<i>Campethera</i>	<i>notata</i>	1	2025/10/17
Woodpecker	Olive	<i>Dendropicos</i>	<i>griseocephalus</i>	2	2023/03/29

Appendix C

Appendix C Species list of the faunal species recorded within the study area during the field survey. For each, the taxonomic Order, Family, species binomial name and species common name are shown, along with the current IUCN Red List classification of the species, and the number of records of the species during the surveying period.

Mammals					
Order	Family	Species	Common name	Status	No. observations
Artiodactyla	Bovidae	<i>Sylvicapra grimmia</i>	Common Duiker	Least Concern	1
		<i>Tragelaphus scriptus</i>	Southern Bushbuck	Least Concern	1
Carnivora	Felidae	<i>Felis silvestris</i>	African Wild Cat	Least Concern	1
Rodentia	Hystricidae	<i>Hystrix africaeaustralis</i>	Cape Porcupine	Least Concern	4
	Muridae	<i>Desmodillus auricularis</i>	Cape Short-eared Gerbil	Least Concern	6
		<i>Rhabdomys pumilio</i>	Four-striped Grass Mouse	Least Concern	4
Amphibians					
Order	Family	Species	Common name	IUCN status	No. observations
Anura	Pyxicephalidae	<i>Strongylopus grayii</i>	Clicking Stream Frog	Least Concern	1
Avifauna					
Order	Family	Species	Common name	IUCN status	No. observations
Accipitriformes	Accipitridae	<i>Buteo rufofuscus</i>	Jackal Buzzard	Least Concern	1
Anseriformes	Anatidae	<i>Alopochen aegyptiaca</i>	Egyptian Goose	Least Concern	3
		<i>Plectropterus gambensis</i>	Spur-winged Goose	Least Concern	1
Coliiformes	Coliidae	<i>Colius striatus</i>	Speckled Mousebird	Least Concern	1
Columbiformes	Columbidae	<i>Columba guinea</i>	Speckled Pigeon	Least Concern	3
		<i>Streptopelia capicola</i>	Cape Turtle Dove	Least Concern	4
		<i>Streptopelia semitorquata</i>	Red-eyed Dove	Least Concern	1
Galliformes	Numididae	<i>Numida meleagris</i>	Helmeted Guineafowl	Least Concern	6

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Passeriformes	Phasianidae	<i>Pternistis capensis</i>	Cape Spurfowl	Least Concern	1	
	Cisticolidae	<i>Prinia maculosa</i>	Karoo Prinia	Least Concern	3	
	Estrildidae	<i>Estrilda astrild</i>	Common Waxbill	Least Concern	1	
	Fringillidae	<i>Serinus canicollis</i>	Cape Canary	Least Concern	1	
	Hirundinidae	<i>Cecropis cucullata</i>	Greater Striped Swallow	Least Concern	2	
		<i>Hirundo dimidiata</i>	Pearl-breasted Swallow	Least Concern	1	
		<i>Hirundo rustica</i>	Barn Swallow	Least Concern	3	
	Laniidae	<i>Lanius collaris</i>	Southern Fiscal	Least Concern	3	
	Motacillidae	<i>Macronyx capensis</i>	Cape Longclaw	Least Concern	1	
		<i>Motacilla capensis</i>	Cape Wagtail	Least Concern	1	
	Muscicapidae	<i>Cossypha caffra</i>	Cape Robin-Chat	Least Concern	1	
	Passeridae	<i>Passer melanurus</i>	Cape Sparrow	Least Concern	1	
	Ploceidae	<i>Euplectes orix</i>	Southern Red Bishop	Least Concern	1	
		<i>Ploceus capensis</i>	Cape Weaver	Least Concern	1	
		<i>Pycnonotus capensis</i>	Cape Bulbul	Least Concern	1	
	Sturnidae	<i>Sturnus vulgaris</i>	Common Starling	Least Concern	3	
	Zosteropidae	<i>Zosterops virens</i>	Cape White-eye	Least Concern	1	
	Pelecaniformes	Ardeidae	<i>Bubulcus ibis</i>	Western Cattle Egret	Least Concern	1
			<i>Ardea melanocephala</i>	Black-headed Heron	Least Concern	1
Threskiornithidae		<i>Bostrychia hagedash</i>	Hadada Ibis	Least Concern	1	
		<i>Threskiornis aethiopicus</i>	African Sacred Ibis	Least Concern	2	
Struthioniformes	Struthionidae	<i>Struthio camelus</i>	Common Ostrich	Least Concern	1	
Butterflies						
Order	Family	Species	Common name	IUCN status	No. observations	
Lepidoptera	Pieridae	<i>Colias electo</i>	African Clouded Yellow	Least Concern	1	
		<i>Nepheronia buquetii</i>	Green-eyed Vagrant	Least Concern	1	
		<i>Pontia helice</i>	Southern Meadow White	Least Concern	1	