TERRESTRIAL FAUNAL AND AVIFAUNAL SPECIES COMPLIANCE STATEMENT REPORT FOR THE PROPOSED DEVELOPMENT ON ERF 998, TERGNIET AND PORTION 5 OF THE FARM ZANDHOOGTE NO. 139, MOSSEL BAY LOCAL MUNICIPALITY

February 2024

Prepared for:

Sharples Environmental Services cc (SES)

Prepared by:

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Qualifications

- PhD (Zoology), University of Johannesburg (2015 - 2017)
- MSc (Zoology), Stellenbosch University (2011 - 2013)
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- BSc (Biodiversity and Ecology) cum laude, Stellenbosch University (2007 - 2009)

Expertise

- 28 years of in-the-field naturalist experience involving all faunal groups
- Zoologist with 17 years of professional experience
- 14 Peer-reviewed publications in high impact national and international scientific journals on the patterns and processes which drive and maintain faunal biodiversity, as well as on aspects of faunal biology and ecology
- Five IUCN Red List assessments

- Involved in the Southern African Bird Atlas Project 2 (SABAP2)
- Contributor on the National Biodiversity Assessment 2018: The status of South Africa's ecosystems and biodiversity. Synthesis Report. South African National Biodiversity Institute, an entity of the Department of Environment, Forestry and Fisheries, Pretoria.

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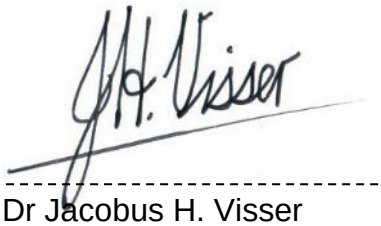
Declaration of independence by the independent person who compiled a specialist report or undertook a specialist process

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.



08 February 2024

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TERRESTRIAL FAUNAL AND AVIFAUNAL SPECIES COMPLIANCE STATEMENT REPORT FOR THE PROPOSED DEVELOPMENT ON ERF 998, TERGNIET AND PORTION 5 OF THE FARM ZANDHOOGTE NO. 139, MOSSEL BAY LOCAL MUNICIPALITY

1. Introduction

The applicant is proposing the construction of a business development on Erf 998, Tergniet and the Farm Zandhoogte No. 139, Western Cape (hereafter referred to as the “study area” or “site”). The study area is approximately 10.6 hectares in size, and three alternative layouts are being considered. These alternatives include the construction of roads (all alternatives), a service station (alternatives A and B), fast foods and takeaway area (alternative B), mixed use industrial zones (all alternatives), business zones (all alternatives), residential zones (all alternatives) and currently includes an existing nursery (see Section 11).

A combined botanical and faunal assessment report compiled by Chepri (Pty) Ltd has been provided for the project, but is missing certain information including an assessment of the alternatives and a clear indication of the way forward on the outcomes. To this end, it is required that the assessment of the various alternatives be completed, as well as an outcomes based management plan for the area (should this be recommended). Blue Skies Research was appointed by Sharples Environmental Services cc (SES) on behalf of the applicant to perform a terrestrial faunal and avifaunal assessment of the study area (see Sections 2 and 3), and preform an assessment of the various development alternatives. The current report represents a Compliance Statement for the proposed development alternatives, following a terrestrial faunal and avifaunal assessment of the site 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. Accessed on 25 January 2024.

- *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 proposed project footprint identifies the site as being of an overall "High" sensitivity under the "Relative Animal Species Sensitivity Theme". This follows from the projected and possible occurrence of two mammal, four avifaunal and three invertebrate Species of Conservation Concern (SCC) (Table 1). The current report therefore considers the presence or likely presence of these mammal, avifaunal and invertebrate SCC within the study area based on a field survey to detect their potential presence, as well as the availability of suitable habitat for these species (Section 9).

Table 1 List of Species of Conservation Concern (SCC) identified in the DFFE Screening Tool Report (https://screening.environment.gov.za/screeningtool/). 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. Of these, two species were assigned codes, with its identity hidden for protection, as these are species that are prone to illegal harvesting.

Sensitivity	Species	Common name	IUCN status
High	*Circus ranivorus*	African Marsh-harrier	Least Concern
High	*Neotis denhami*	Denham's Bustard	Near-Threatened
High	*Bradypterus sylvaticus*	Knysna Warbler	Vulnerable
High	*Campethera notata*	Knysna Woodpecker	Near-Threatened
Medium	*Aloeides thyra orientis*	Red Russet	Endangered
Medium	*Chrysoritis brooksi tearei*	Brook's Opal	Endangered
Medium	*Sensitive Species 5*	Sensitive Species 5	Least Concern
Medium	*Sensitive Species 8*	Sensitive Species 8	Vulnerable
Medium	*Aneuryphymus montanus*	Yellow-winged Agile Grasshopper	Vulnerable

4. Overview of the study area

4.1 Geographic location

The study area encompasses Erf 998, Tergniet and the Farm Zandhoogte No. 139 with the proposed project footprint around 10.6 hectares in size and situated between the town of Groot Brakrivier and coastal village, Tergniet. The site is bordered by the provincial road R102, the N2 National Highway and a municipal road, Old Mossel Bay Road (Figures 1 and 2). The R102, which immediately borders and runs parallel to the site's southern fenceline, is a major regional road connecting various coastal towns. Old Mossel Bay Road runs immediately adjacent and parallel to the site's eastern border and is one of the major access roads between Groot Brakrivier and Tergniet and connects the rural communities further inland to the town and coastal villages. The N2 runs adjacent and parallel to the site's northern border.

The site's western fence line borders a residential property in the southernmost part and undeveloped land on the northern part. The landscape north of the site consists of a multitude of farming practices and diverse farm types including crop cultivation, livestock farming, horticulture, and specific practices such as vineyards and wineries. The landscape south of the site mainly consists of a densely developed residential area. A built-up area situated on the south-western corner of the site is fenced off from the undeveloped area and is currently used as a nursery and restaurant which include a parking lot, a building and footpaths.

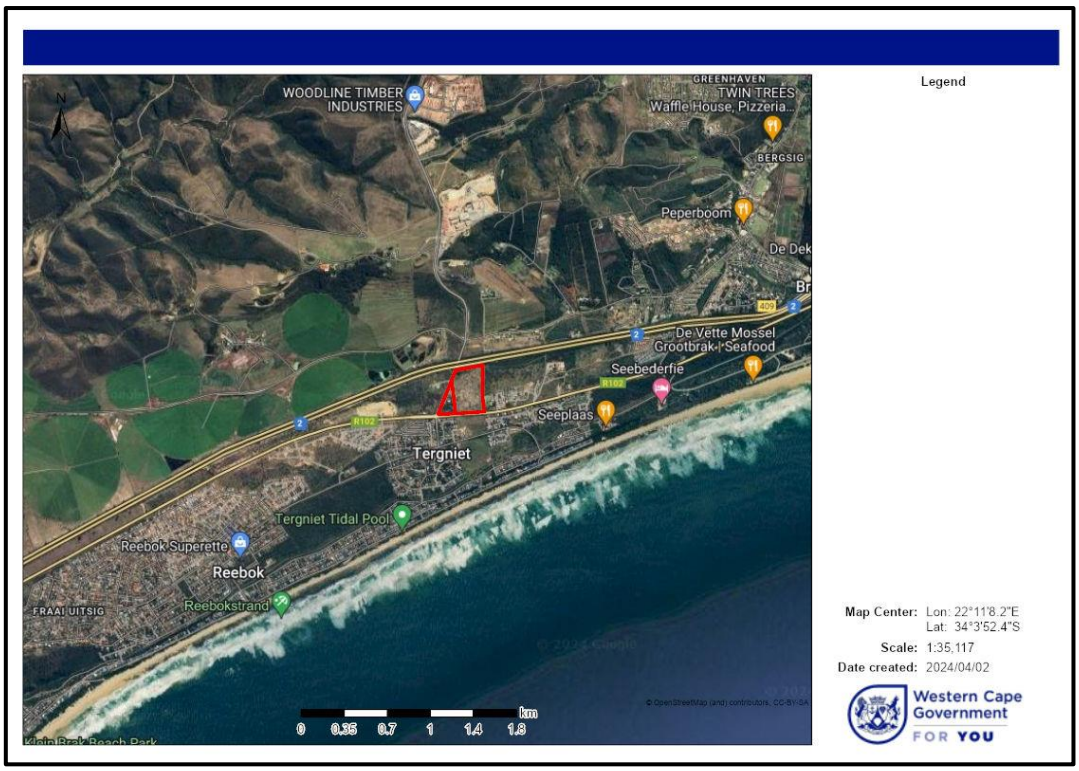


Figure 1 Spatial location of the study area relative to surrounding residential areas and main roads on a broad scale (Red polygon = Study area; map generated in Cape Farm Mapper version 3, Western Cape Department of Agriculture).

Figure 2 Spatial location of the study area relative to surrounding residential areas and main roads at a finer scale (Red polygon = Study area; map generated in Cape Farm Mapper version 3, Western Cape Department of Agriculture).

4.2 Topology

The larger northern part of the site slopes gently south-eastward, with the southern part sloping north-westward to create a slight depression in the southern section (Figure 3).

Figure 3 Topology of the study area showing 5 meter contour lines (Red polygon = Study area; map generated in Cape Farm Mapper version 3, Western Cape Department of Agriculture).

4.3 Vegetation

The Western Cape Biodiversity Spatial Plan (WCBSP), 2017 (Pool-Stanvliet et al. 2017) and the National Vegetation Map (Dayaram et al. 2019) identifies the

vegetation types in the larger northern part of the site as Groot Brak Dune Strandveld with a small southern section harbouring Canca Limestone Fynbos. Currently, these vegetation types are listed as “Endangered” ecosystem and “Least Threatened ecosystem types respectively (Figure 4) according to *The Revised National List of Ecosystems that are Threatened and in Need of Protection* (Government Notice No. 2747 of 18 November 2022). In the 2018 beta Vegetation Map, however, the vegetation on the entire site has been mapped as Hartenbos Dune Thicket (VegMap, 2018; Figure 5). Even so, only small remnants of natural vegetation remain on the site (Section 7).

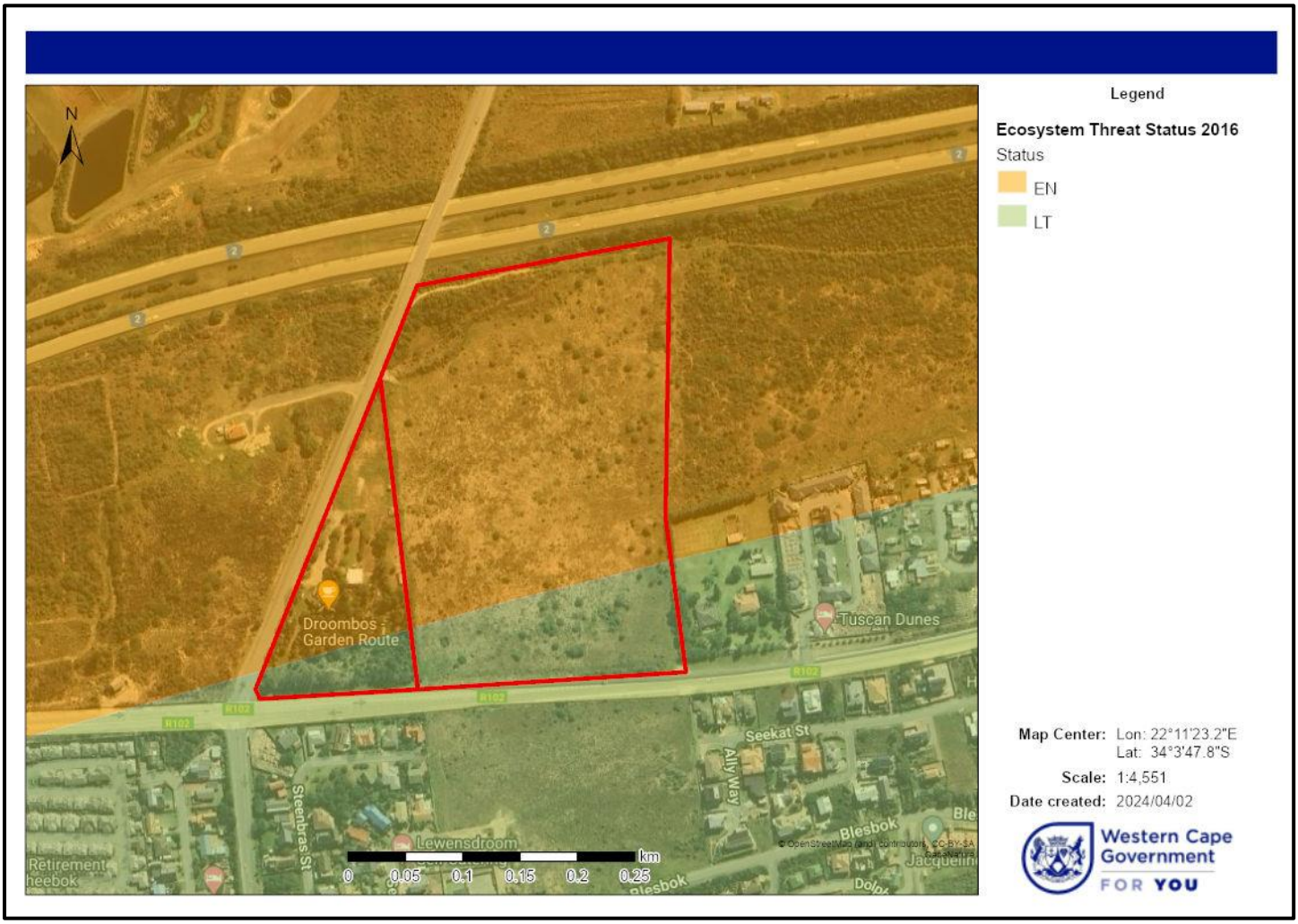


Figure 4 Spatial location of ecosystems and their threat statuses according to *The Revised National List of Ecosystems that are Threatened and in Need of Protection (Government Notice No. 2747 of 18 November 2022*, overlapping with the study area (Red polygon = Study area; information sourced from Cape Farm Mapper version 3, Western Cape Department of Agriculture).

Figure 5 Vegetation type across the study area (VEGMAP, SANBI 2018; Red polygon = Study area; map generated in Cape Farm Mapper version 3, Western Cape Department of Agriculture).

4.4 Land cover

Land cover within the study area comprises commercial annual crops rain-fed / dryland over the larger part with smallholdings (trees) in the south-western portion and a mosaic of low shrubland (fynbos) and dense forest & woodland along the northern margin (Land Cover 73-class, Department of Environmental Affairs, 2020; Figure 6). Overall, these designations of land cover were found to accurately reflect the habitat conditions on the site (Section 7).

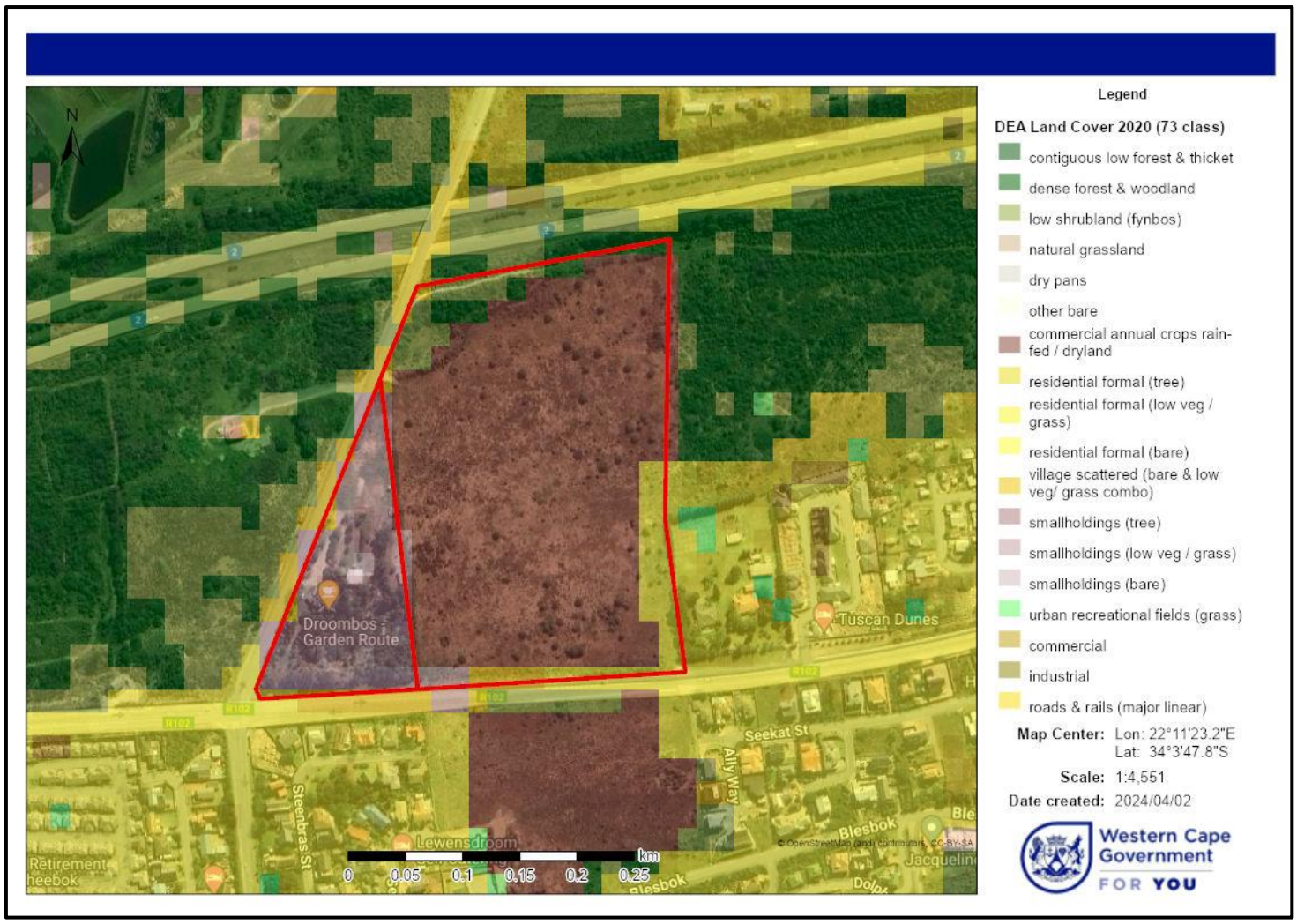


Figure 6 Land cover (Land Cover 73-class, Department of Environmental Affairs, 2020) within the study area (Red polygon = Study area; information sourced from Cape Farm Mapper version 3, Western Cape Department of Agriculture).

4.5 Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs)

Critical Biodiversity Areas (CBAs) are areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan (Purves and Holmes, 2015). Ecological Support Areas (ESAs) are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of CBAs and/or in delivering ecosystem services.

While no CBAs overlap with the site (Figure 7), he WCBSP (Pool-Stanvliet et al. 2017) designates the larger northern part of the site as a terrestrial Ecological Support Area 1 (ESA1) with the southern section intersecting Other Natural Areas

(ONAs) (Figure 8). The presence and integrity of these ESA and ONAs are discussed in Section 12.

Figure 7 Spatial locations of Critical Biodiversity Areas (CBAs) overlapping with the study area (Red polygon = Study area; information sourced from Cape Farm Mapper version 3, Western Cape Department of Agriculture).

Figure 8 Spatial locations of Ecological Support Areas (ESAs) and Other Natural Areas (ONAs) overlapping with the study area (Red polygon = Study area; information sourced from Cape Farm Mapper version 3, 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 (and other) 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 faunal species list (including mammals, avifauna and grasshoppers) within the study area through field surveying so as to assess the possibility of occurrence any SCC which are present on the site, and

3.) 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 Field survey

The study area was surveyed on foot over a single day on the 18th of January 2024, during the Summer season. Weather conditions during the surveying period were characterised by relatively warm daily temperatures, no cloud cover and moderate wind conditions (Figure 9).

Surveying included unconstrained point sampling through search meanders, as well active searching under rocks and debris. All tracks surveyed were recorded by GPS (Garmin eTrex® 10, Garmin International Inc, USA) and are represented in Figure 10. Terrestrial faunal species (mammals) were identified by direct visual observation, or by their tracks, burrows, remains or scat. Avifaunal species were identified by visual observation, using a 180x zoom lens, or by auditory means. Finally, grasshopper 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 A.

Given relatively optimal weather conditions, faunal and avifaunal species' activity was observed to be high over the surveying period, thereby resulting in 53 recorded

observations across the study area (Figure 11, Appendix A), relating to one observation per every 0.2 hectares of study area (the study area is 10.6 hectares in extent). During surveying, faunal habitats were broadly identified in the field, and thereafter delineated through a desktop assessment of the study area using satellite imagery (CapeFarmMapper Version 3, Western Cape Department of Agriculture).

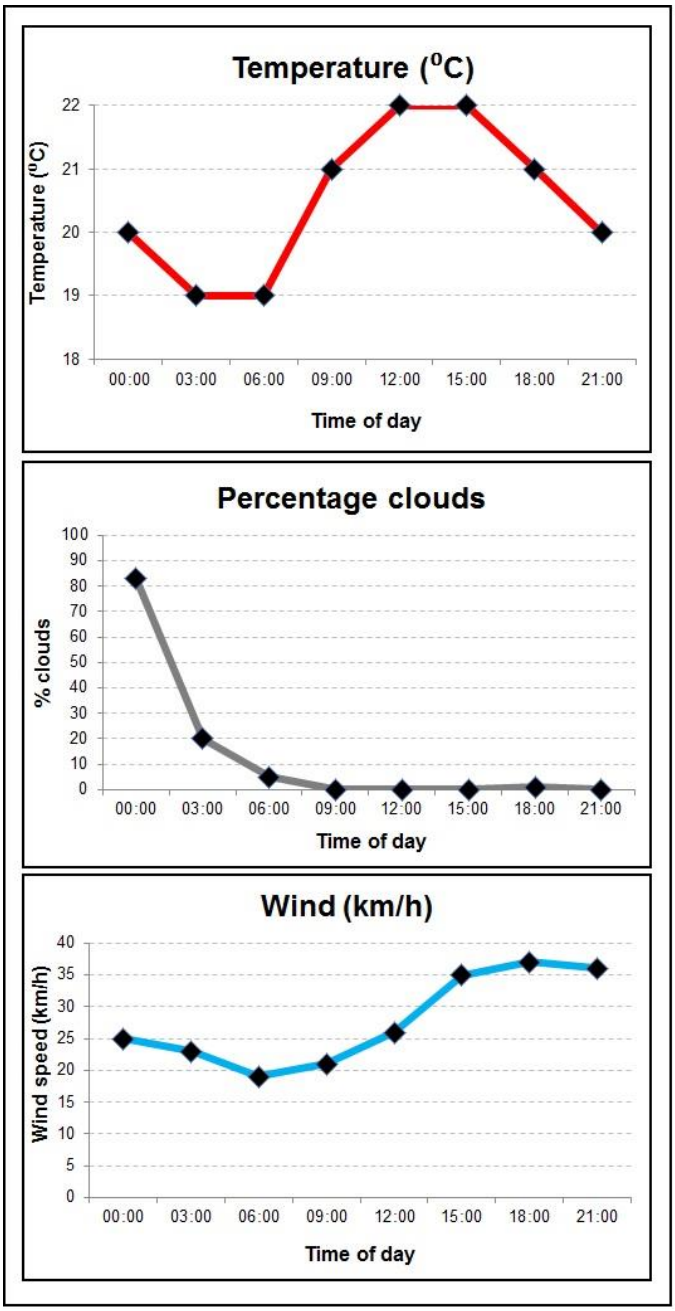


Figure 9 Weather conditions in the study area over the surveying period (18 January 2024). The time of day is indicated, along with the temperature (in °C), percentage cloud cover and wind speed (in km/h) (weather data sourced from https://www.worldweatheronline.com).

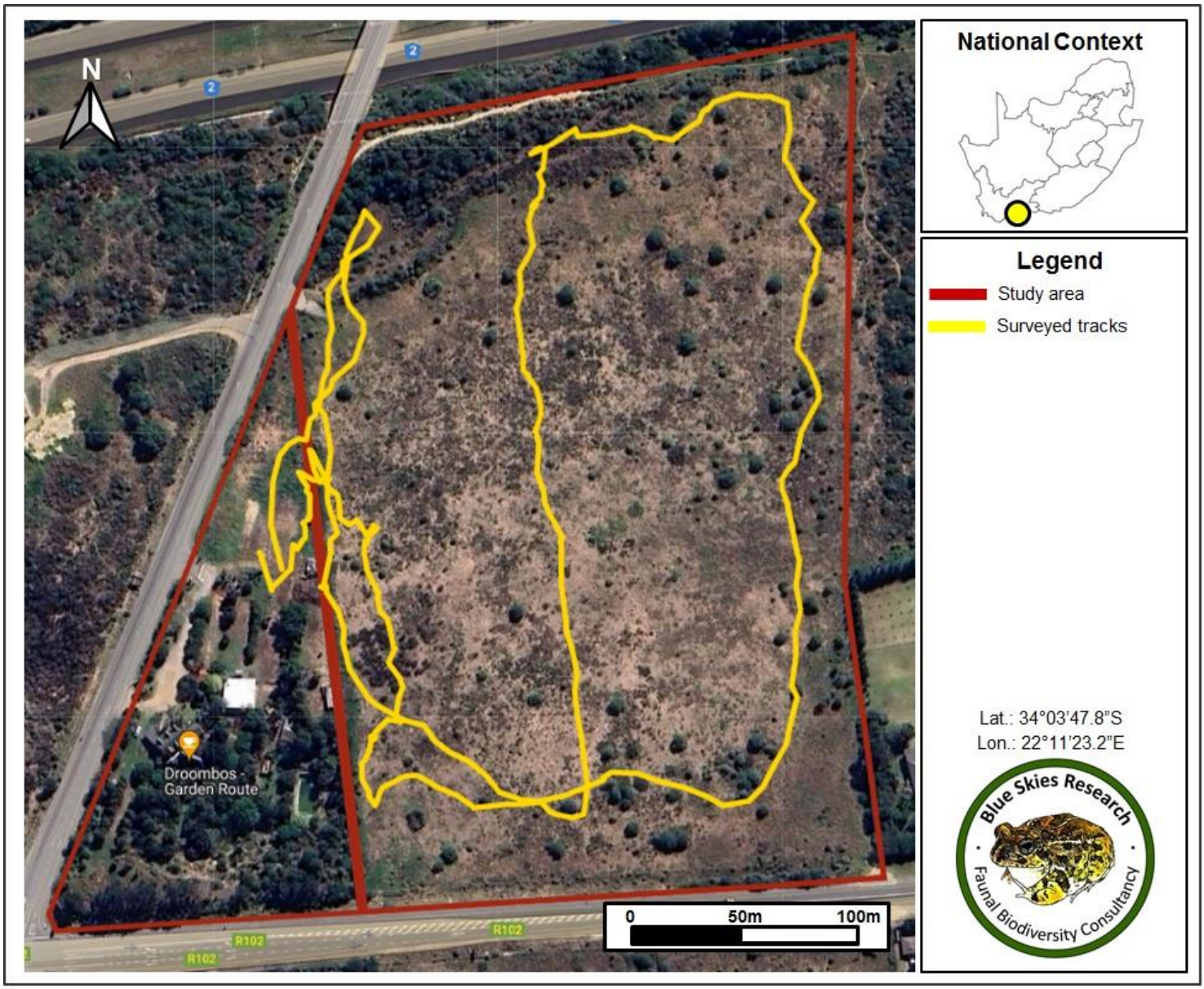


Figure 10 Spatial tracks recorded by GPS for all the search meanders across the study area over the surveying period.

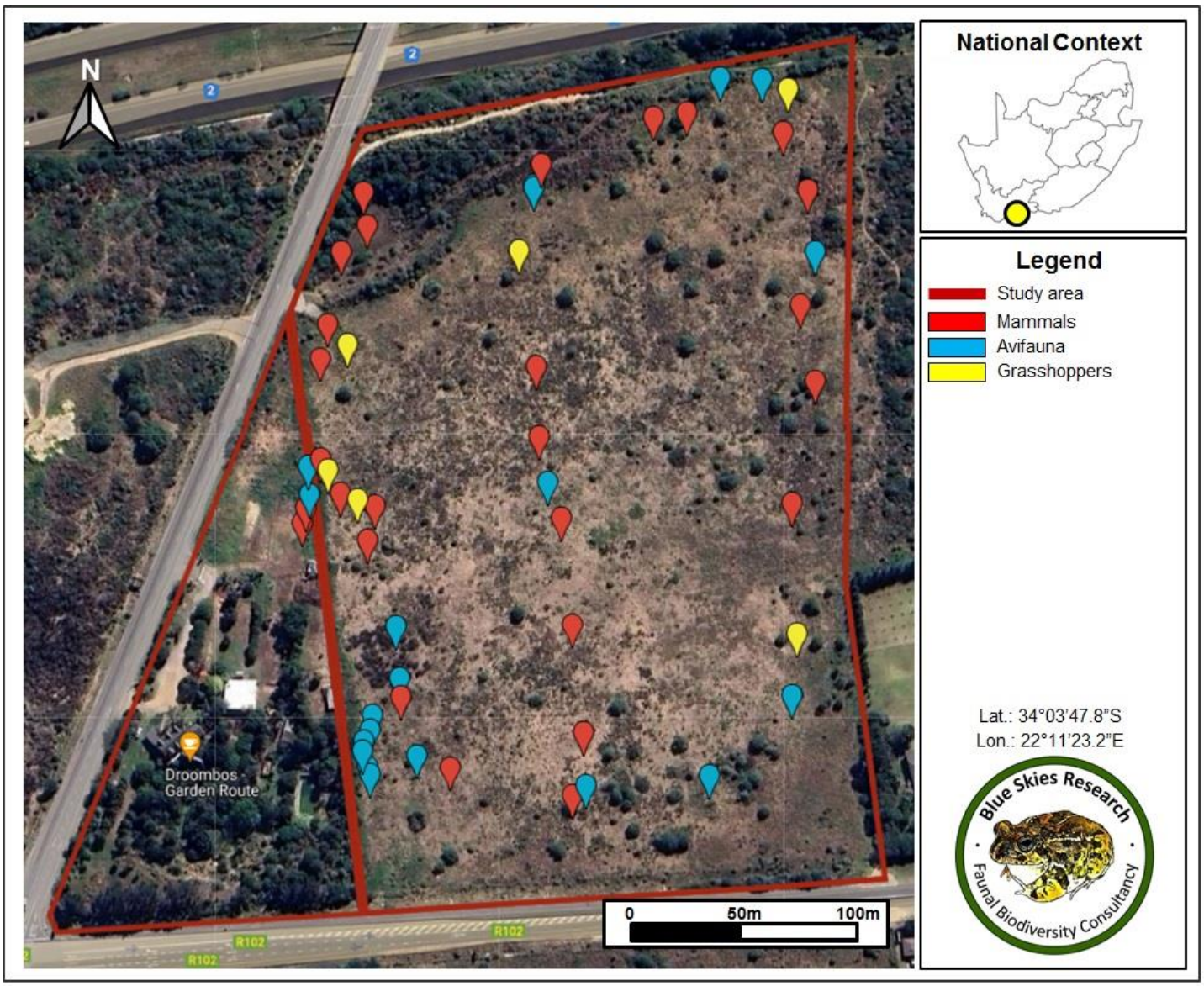


Figure 11 Spatial locations of all the faunal observations across the study area over the surveying period.

6. Assumptions and limitations

Weather conditions during the surveying period combined with an open and degraded habitat structure were relatively optimal for detecting a representative sample of the terrestrial faunal and avifaunal species diversity across the study area. Even so, it is possible that not all species could be observed (especially cryptic species). It is further possible that the surveying period did not correspond to the activity period or activity season of some species. The observed faunal composition of the study area therefore only partly reflects the species richness of, and faunal abundances within the study area (Appendix A).

7. Faunal habitat types within the study area

The study area is comprised of four broadly identified habitat features based on habitat composition and habitat integrity (Figure 12, Table 2). The natural vegetation on the site was transformed through radical clearing practices before 2004 (20 years ago) to a predominantly grassland phase and therefore exists in a highly degraded state with only remnant patches of recovering natural vegetation. The north-western corner of the site around the artificial dam is characterised by thicket and woody vegetation (trees) comprising a large number of alien and invasive species such as Port Jackson and Blackwattle. Finally, the south-western part of the site is characterised by a built-up area representing an existing nursery and restaurant which include a parking lot, a building and footpaths.

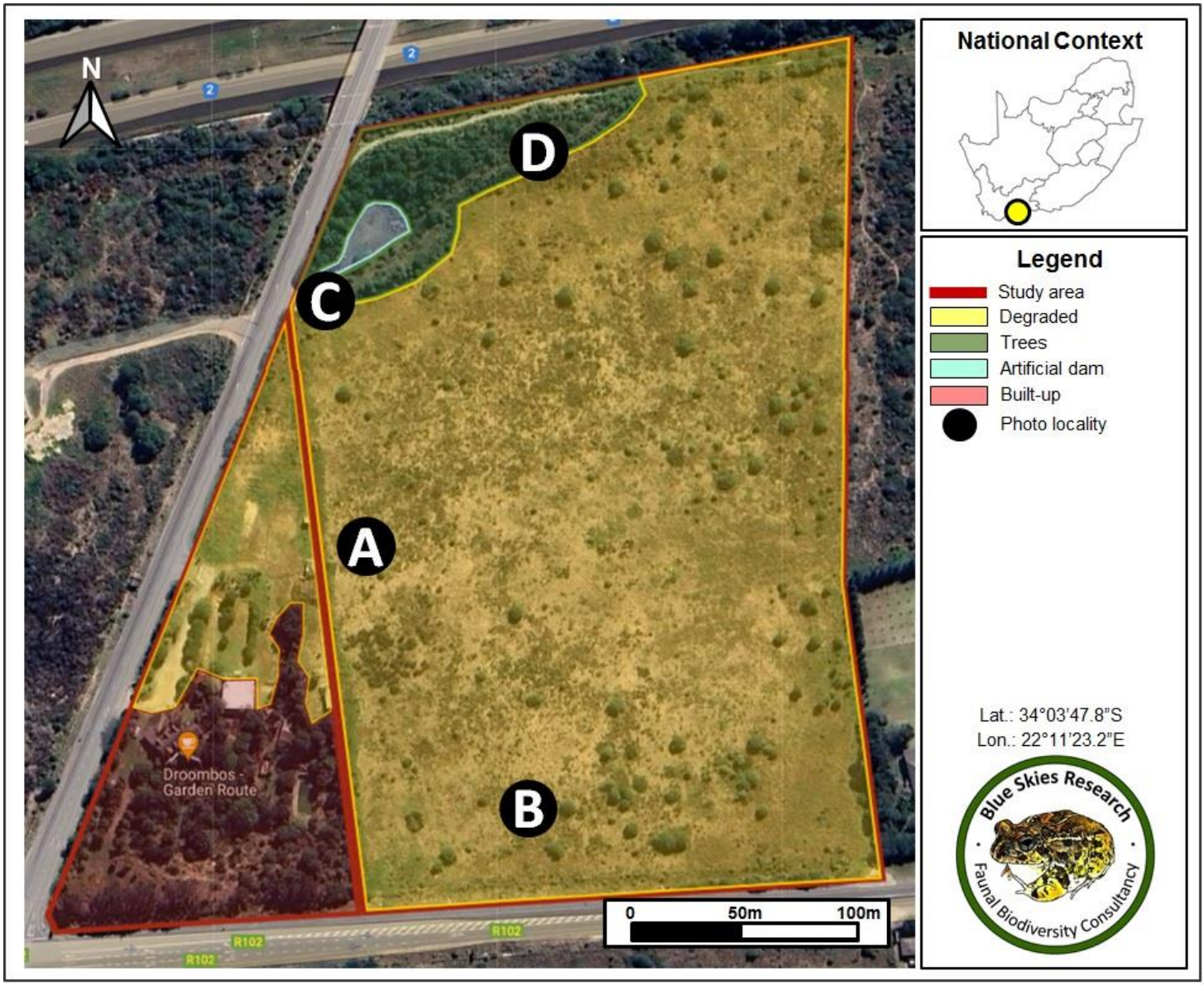


Figure 12 A broad indication of the spatial extent of habitat types overlapping the study area. Photo localities (A to D) correspond to the habitat photos in Table 2.

Table 2 Habitat locations, habitat descriptions and visual representations of the different habitat types within the study area. Location designations (A to D) correspond to the photo locations in Figure 12.

Location	Habitat description	Photo 1	Photo 2
A -34.06333, 22.18899 **B** -34.06439, 22.18978	**Degraded (open)** This habitat comprises the larger part of the site and consists of deep sandy soil with remnant patches of vegetation, common grass species and a number of alien and invasive trees.		

C -34.06235, 22.1888 **D** -34.06176, 22.18984	**Trees** This habitat encompasses a small section along the northern margin of the site and comprises thick an impenetrable stands of alien and invasive trees such as Port Jackson and Black Wattle. A small artificial dam is also located in the north-western part of the site (C).		

8. Faunal and avifaunal composition within the study area

8.1 Mammals

Evidence of six mammal species were recovered within the study area (Figures 13 and 14), all of which are currently classified as “Least concern” by the IUCN (Appendix A). Given the deep sandy substrate of the site, the most prominent species pertains to the burrowing Cape Dune Mole-rat (*Bathyergus suillus*). Other burrowing rodent species are also present, including the African Mole-rat (*Cryptomys hottentotus*), Cape Porcupine (*Hystrix africaeaustralis*) and Cape Gerbil (*Gerbilliscus afra*). The site harbours very few terrestrial mammal species, with the most abundant being the Four-striped Grass Mouse (*Rhabdomys pumilio*) and with single incidences of the Cape Grysbok (*Raphicerus melanotis*) also noted.

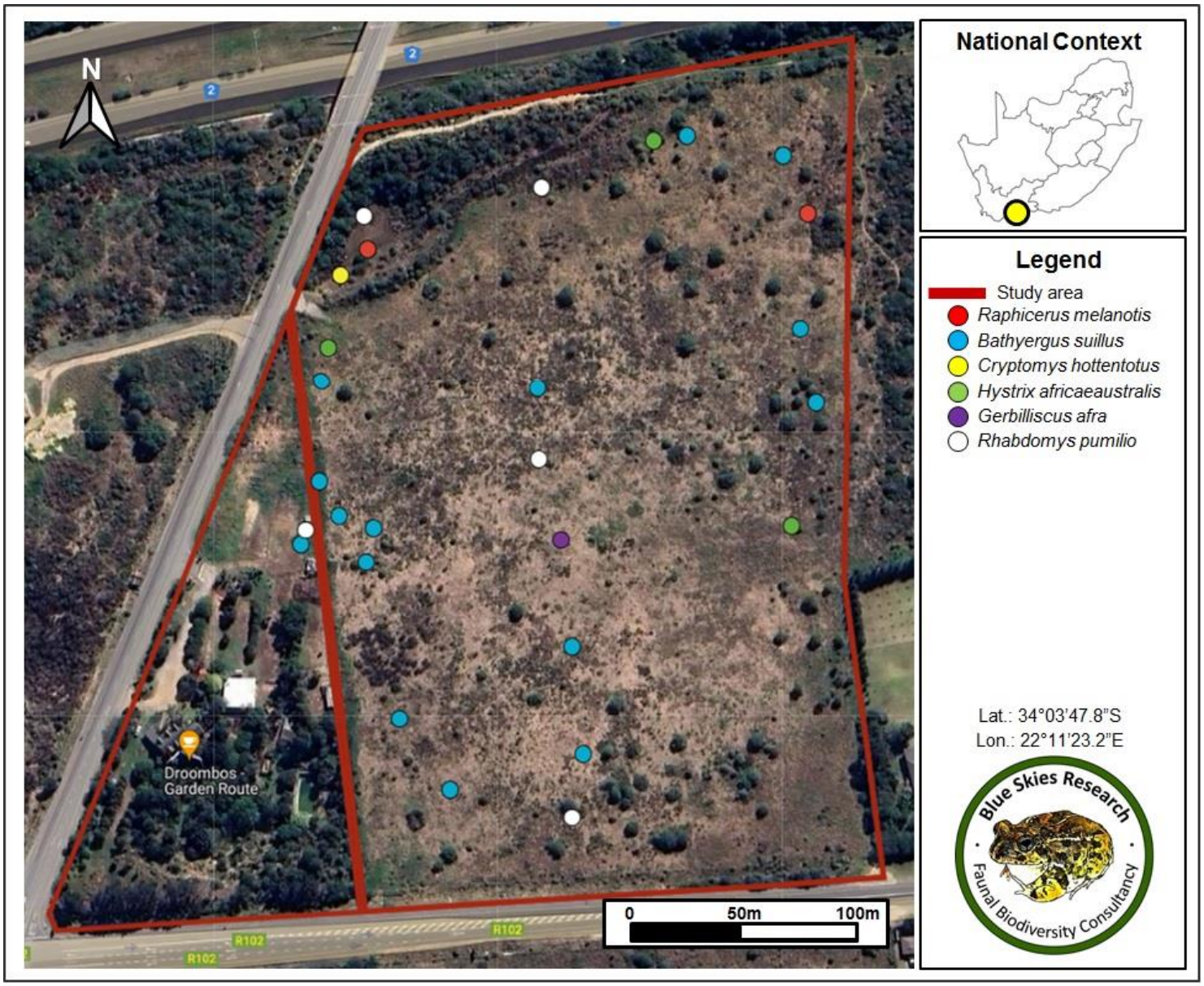


Figure 13 Spatial locations of the different mammal species recorded within the study area.

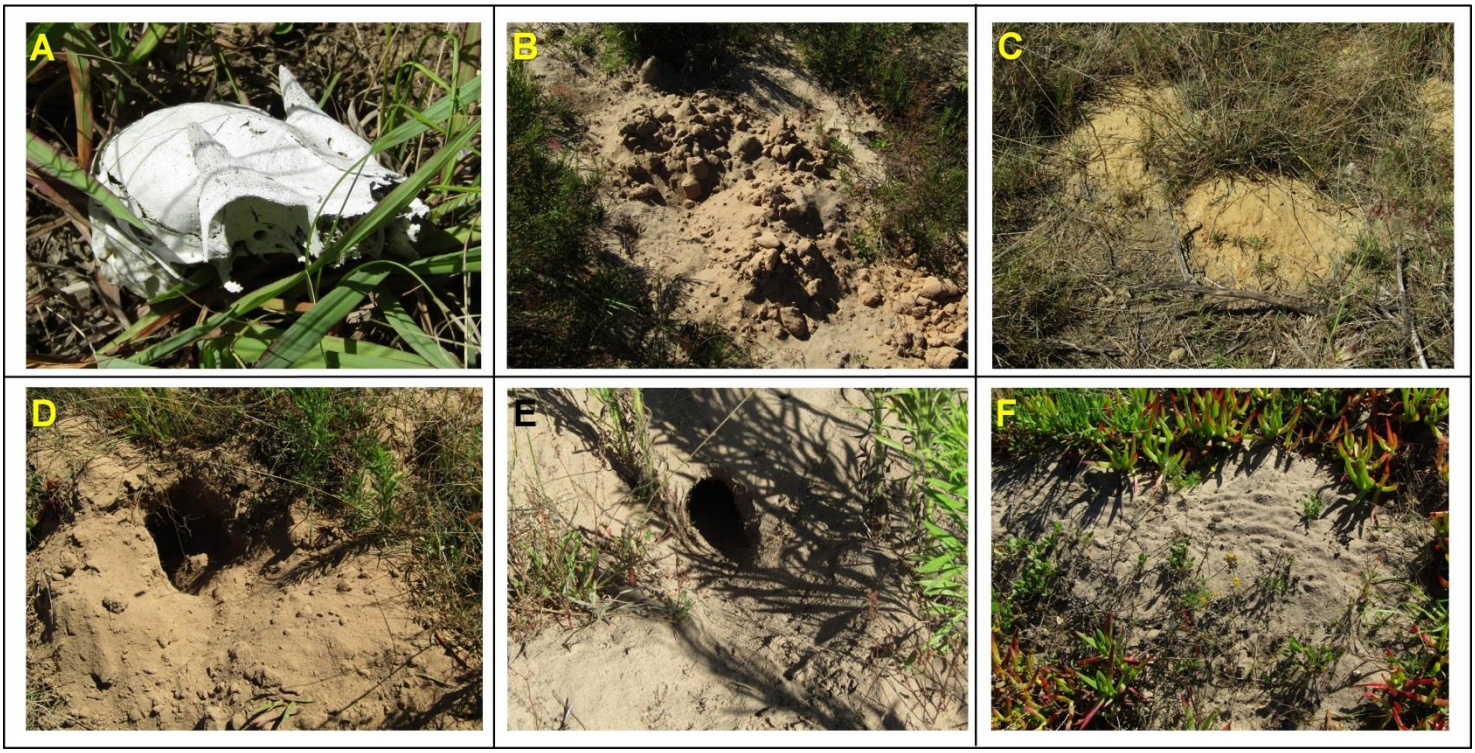


Figure 14 Photographic evidence of the different mammal species recorded in the study area. A) Remains of the Cape Gysbok (*Raphicerus melanotis*). B) Mounds of the Cape Dune Mole-rat (*Bathyergus suillus*). C) Mounds of the African Mole-rat (*Cryptomys hottentotus*). D) Feeding hole of the Cape Porcupine (*Hystrix africaeaustralis*). E) Burrow of the Cape Gerbil (*Gerbilliscus afra*). F) Tracks of the Four-striped Grass Mouse (*Rhabdomys pumilio*).

8.2 Avifauna

In total, only 19 bird species were recorded within the study area (Figures 15 and 16), all of which are currently classified as “Least concern” by the IUCN (Appendix B). All avifauna on the site constitute common species which are frequently encountered in an urban setting. Overall, avifaunal diversity on the site appears relatively impaired.

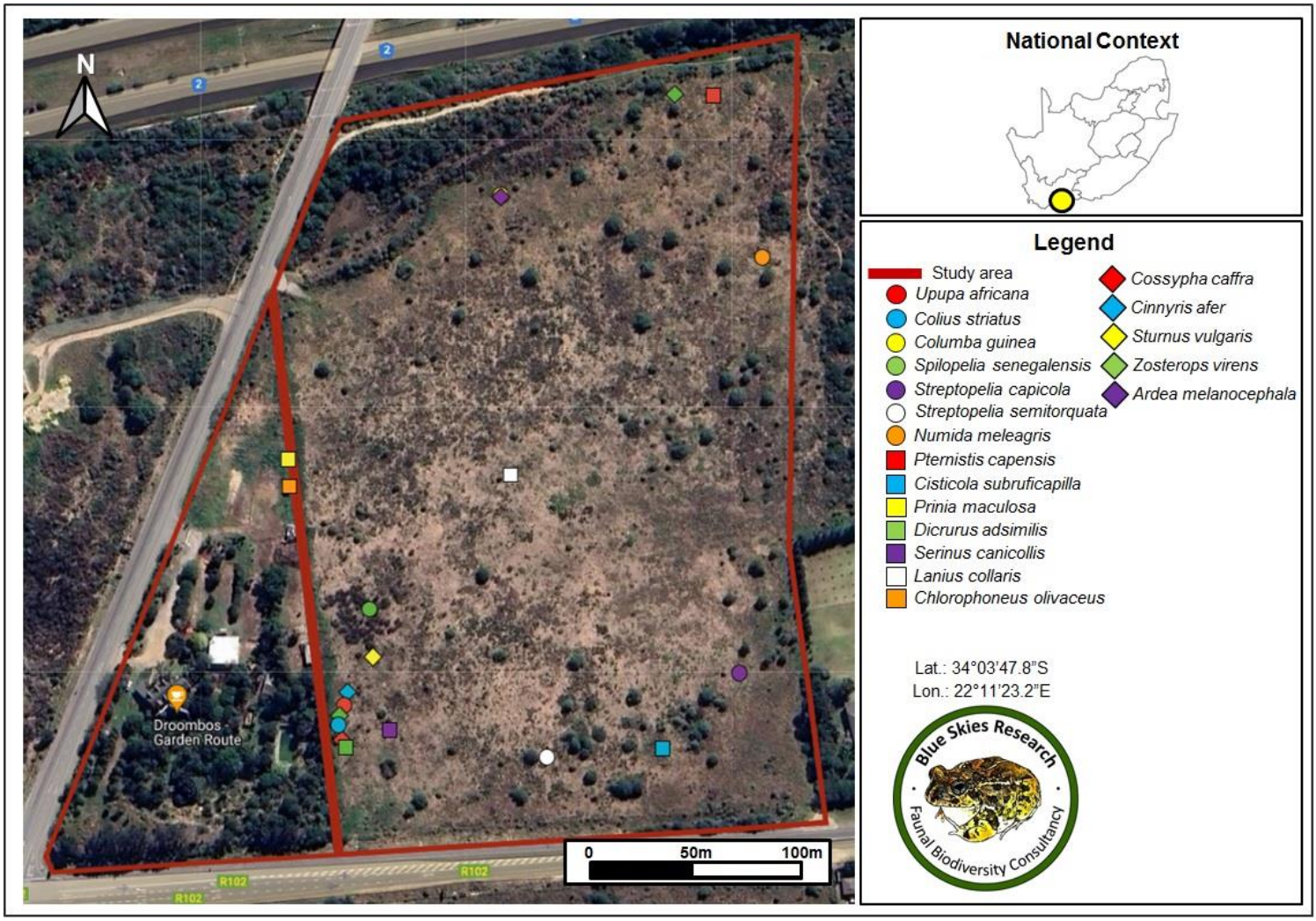


Figure 15 Spatial locations of the different avifaunal species recorded within the study area.

Figure 16 Photographic evidence of different avifaunal species recorded in the study area. A) Laughing Dove (*Spilopelia senegalensis*). B) Red-eyed Dove (*Streptopelia semitorquata*). C) Helmeted Guineafowl (*Numida meleagris*). D) Grey-backed Cisticola (*Cisticola subruficapilla*). E) Karoo Prinia (*Prinia maculosa*). F) Fork-tailed Drongo (*Dicrurus adsimilis*). G) Cape Canary (*Serinus canicollis*). H) Greater Double-collared Sunbird (*Cinnyris afer*). I) Common Starling (*Sturnus vulgaris*). J) Cape White-eye (*Zosterops virens*).

8.3 Grasshoppers

Three grasshopper species were recorded within the study area (Figures 17 and 18), all of which are currently not assessed by the IUCN (Appendix A). These three species pertain to the widespread Common Stick Grasshopper (*Acrida acuminata*), Common Digging Grasshopper (*Acrotylus insubricus*) and Band-winged Grasshopper (*Morphacris fasciata*).

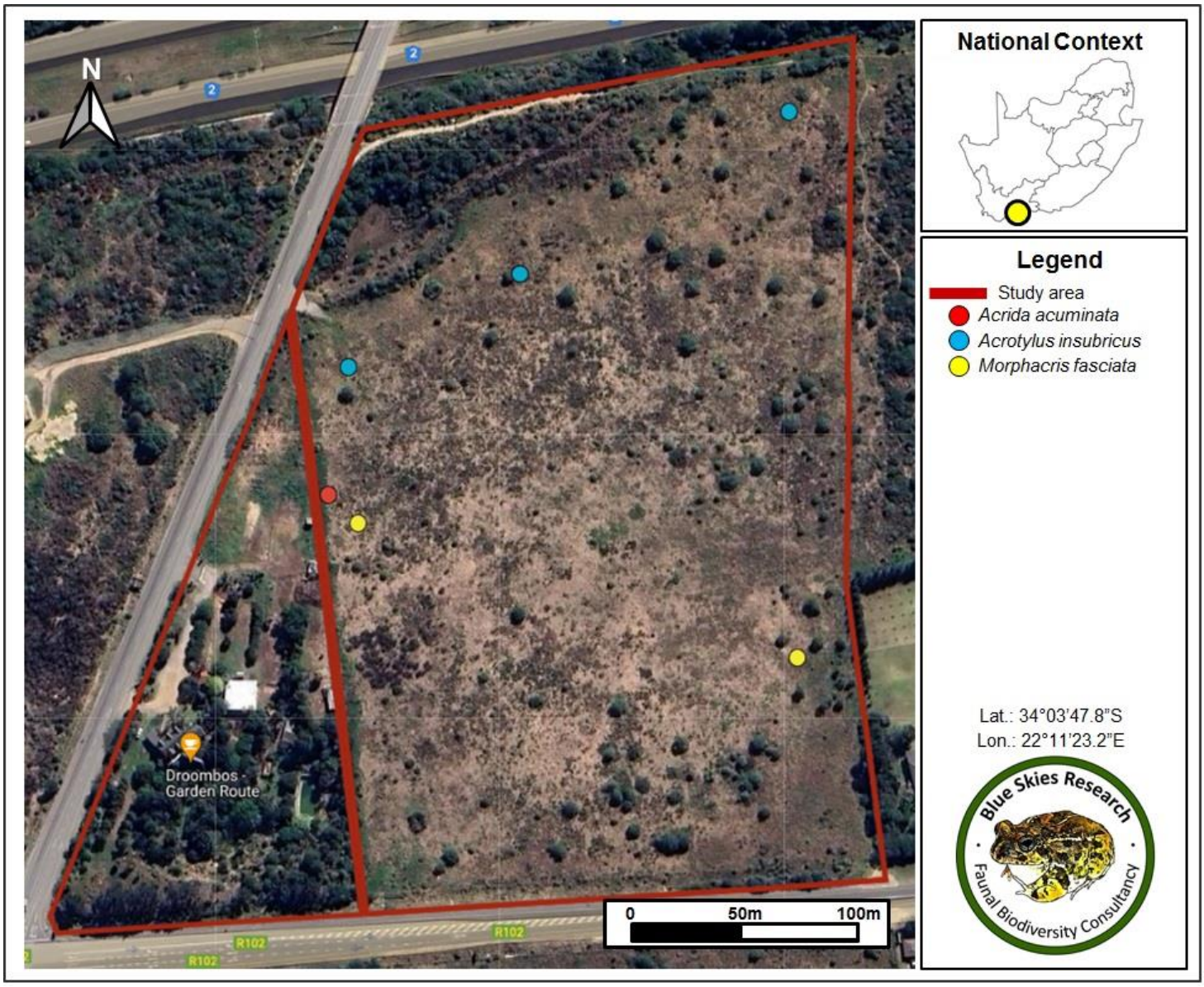


Figure 17 Spatial locations of the different grasshopper species recorded within the study area.

Figure 18 Photographic evidence of the different grasshopper species recorded in the study area. A) Common Stick Grasshopper (*Acrida acuminata*). B) Common Digging Grasshopper (*Acrotylus insubricus*). C) Band-winged Grasshopper (*Morphacris fasciata*).

8.4 Faunal and avifaunal diversity within the study area

Overall, terrestrial faunal and avifaunal diversity and abundances appears relatively low and is comprised of relatively common species of “Least Concern” (IUCN, 2021). This impaired faunal diversity is likely a result of the degraded an isolated nature of the site. For instance, the larger part of the site exists in a degraded and open state from radical clearing practices that took place before 2004 (20 years ago), with the north-western corner characterised by alien and invasive plant species and the south-western part comprising a built-up area. Furthermore, the site is situated next to busy roads (national highway, provincial and municipal roads from where daily noise and vibration is evident), a densely populated residential area to the south and south-east border, and developed agricultural farmlands to the north which isolates the site from surrounding natural areas in the landscape.

Taken together, there appears to be very few intact predator-prey dynamics on the site, with ecosystem dynamics appearing highly compromised. To this end, the study area does not appear to function as an important ecological link and faunal dispersal corridor in the study area landscape, rendering it of a lower sensitivity in a biodiversity and ecological context.

9. Species of Conservation Concern

The potential presence of nine (two mammal, four avifaunal and three invertebrate) SCC listed in the DFFE Screening Tool (Table 1) was considered. The probability of occurrence of each specific SCC within the study area landscape was assessed based on the following criteria:

Confirmed - The species was confirmed as present within the study area during the field survey.

High - The species was not confirmed as present within the study area during the field survey but has been recorded in the overlapped pentad (3400_2210) recently (less than 2 years ago) and in high number (>10 times) and is therefore likely to also occur in the study area, given suitable habitat characteristics.

Medium - The species was not confirmed as present within the study area during the field survey, but it has been recorded a number of times (<10 times) in the overlapped pentad (3400_2210) recently (less than 2 years ago). Suitable habitat for the species is also present in the study area.

Low - No suitable habitat for the species is present in the study area. Further, the species has been recorded a low number of times (<2 times) or more than five years ago in the overlapped pentad (3400_2210).

All of the SCC considered have a low likelihood of occurring on the site, given a lack of suitable habitat characteristics along with high levels of daily disturbances. The larger part of the site exists in a degraded and open state from radical historical clearing practices, with the north-western corner characterised by alien and invasive plant species and the south-western part comprising a built-up area. Furthermore, the site is situated next to busy roads (national highway, provincial and municipal roads), a densely populated residential area to the south and south-east border, and developed agricultural farmlands to the north. To this end, all considered SCC are highly unlikely to occur on the site.

Table 3 Probability of occurrence of specific SCC in the study area. For each species, 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, the species' preferred habitat and the probability that the species occurs within the study area is given, along with a justification for listing this probability.

Order	Family	Species	Common name	Status	Habitat	Probability of occurrence in the study area	Justification of probability
Sensitive Species 8	Sensitive Species 8	*Sensitive Species 5*	*Sensitive Species 5*	-	-	Low	The presence of the species was not recorded during the field survey and it is highly unlikely that this species will occur in the study area given a lack of suitable thicket habitats.
Sensitive Species 8	Sensitive Species 8	*Sensitive Species 8*	*Sensitive Species 8*	-	-	Low	This species occurs only in protected areas and is therefore highly unlikely that the species will be present on the site.
Accipitriformes	Accipitridae	*Circus ranivorus*	African Marsh Harrier	Least Concern	The species breeds in wetlands, foraging primarily over reeds and lake margins (Harrison *et al*. 1997). Its diet consists largely of small mammals, particularly striped mouse *Rhabdomys pumilio* (Kemp and Dean, 1988).	Low	The species was not recorded in the study area landscape during the field survey. Furthermore, the species has only been recorded once in the study area landscape more than 10 years ago (April 2012). Coupled to this, the site does not harbour any of the reedbed habitats required by this species, and habitats on the site exist in an open and degraded state with a high level of daily disturbances. It is therefore highly unlikely that the species will be present on the site.
Otidiformes	Otididae	*Neotis denhami*	Denham's Bustard	Near-Threatened	The species inhabits grasslands, grassy *Acacia*-studded dunes, fairly dense shrubland, light woodland, farmland, crops, dried marsh and arid scrub plains, also grass-covered ironstone pans and burnt savanna woodland in Sierra Leone and high rainfall sour grassveld, planted pastures and cereal croplands in fynbos in South Africa (del Hoyo et al. 1996). It feeds on insects, small vertebrates and plant material (Collar, 1996).	Low	The species was not recorded in the study area landscape during the field survey. Even so, the species has been recorded a number of times (31 times) in the study area landscape, with the latest observation in October 2023. Even so, habitats on the site exist in an open and degraded state with a high level of daily disturbances. It is therefore highly unlikely that the species will be present on the site.
Passeriformes	Locustellidae	*Bradypterus sylvaticus*	Knysna Warbler	Vulnerable	The species occurs in thick, tangled vegetation along the banks of watercourses, or covering drainage lines in fynbos forest patches, or on the edges of afromontane forest. It breeds in dense understorey vegetation (Pryke et al. 2010).	Low	The species was not recorded in the study area landscape during the field survey, but has been recorded a number of times (87 times) in the study area landscape, with the latest observation in December 2023. Even so, habitats on the site exist in an open and degraded state with a high level of daily disturbances. It is therefore highly unlikely that the species will be present on the site.

Piciformes	Picidae	*Campethera notata*	Knysna Woodpecker	Near-Threatened	The species is confined to coastal areas of forest, woodland, dense bush, Euphorbia scrub, or open country with large trees.	Low	The species was not recorded in the study area landscape during the field survey, but has been recorded a number of times (seven times) in the study area landscape, with the latest observation in December 2021. Even so, habitats on the site exist in an open and degraded state with a high level of daily disturbances. It is therefore highly unlikely that the species will be present on the site.
Lepidoptera	Lycaenidae	*Aloeides thyra orientis*	Red Russet	Endangered	It occurs in a variety of habitats, including the sea-shore, sandy scrub-covered ground (e.g. coastal fynbos on flat sandy ground (either naturally occurring or from anthropogenic disturbances such as footpaths or unsurfaced track) between 40 m to 240 m above sea level) and at high altitudes in mountains. It also penetrates into parts of the Karoo. Larval host plants for *Aloeides thyra* are not differentiated between subspecies, and so the larval host plants for this taxon are assumed to include *Aspalathus acuminate*, *A. tulbaghensis*, *A. cymbiformis* and *A. laricifolia* (see e.g. Henning et al. 2009, Mecenero et al. 2013, Williams 2016).	Low	The species was not recorded in the study area landscape during the field survey. Furthermore, the site does not harbour any of the *Aspalathus* host plants preferred by the species, with habitats on the site existing in an open and degraded state with a high level of daily disturbances. It is therefore unlikely that the species will be present on the site.
Lepidoptera	Lycaenidae	*Chrysoritis brooksi tearei*	Brook's Opal	Endangered	Found on sandy, low hills, sparsely covered by shrubs. Reasons for decline are encroachment of alien plants, expansion of agricultural activities, and grazing by domestic livestock.	Low	The species was not recorded in the study area landscape during the field survey. Furthermore, although the site does harbour the site does harbour low hills sparsely covered by shrubs, habitats on the site existing in an open and degraded state with a high level of daily disturbances. It is therefore unlikely that the species will be present on the site.
Orthoptera	Acrididae	*Aneuryphymus montanus*	Yellow-winged Agile Grasshopper	Vulnerable	The species is associated with fynbos vegetation, where it has been collected "amongst partly burnt stands of evergreen Sclerophyll in rocky foothills" (Brown 1960). It prefers south-facing cool slopes (Kinvig 2005).	Low	The species was not confirmed as present on the site during the field survey. The site is furthermore devoid of any of the partly burnt stands of evergreen Sclerophyll in rocky foothills, or south-facing cool slopes preferred by the species. It is therefore highly unlikely that the species will be present on the site.

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 habitats in the study area was performed following the methods and criteria outlined in the Species Environmental Assessment Guideline (SANBI, 2020). Evaluation of SEI was performed for mammals, avifauna and invertebrates combined (given the low likelihood of SCC within any of these faunal groups being present on the site, Table 3). 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 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	Very large (> 100 ha) intact area for any conservation status of ecosystem type or > 5 ha for CR ecosystem types. High habitat connectivity serving as functional ecological corridors, limited road network between intact habitat patches. No or minimal current negative ecological impacts with no signs of major past disturbance (e.g. ploughing).
High	Large (> 20 ha but < 100 ha) intact area for any conservation status of ecosystem type or > 10 ha for EN ecosystem types. Good habitat connectivity with potentially functional ecological corridors and a regularly used road network between intact habitat patches. 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.
Medium	Medium (> 5 ha but < 20 ha) semi-intact area for any conservation status of ecosystem type or > 20 ha for VU ecosystem types. Only narrow corridors of good habitat connectivity or larger areas of poor habitat connectivity and a busy used road network between intact habitat patches. 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.
Low	Small (> 1 ha but < 5 ha) area. 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. Several minor and major current negative ecological impacts.
Very low	Very small (< 1 ha) area. No habitat connectivity except for flying species or flora with wind-dispersed seeds. Several major current negative ecological impacts.

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 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%28 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.

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 9 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 for 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 19. Because all habitats on the site do not constitute suitable habitat for any of the SCC considered, and further exist in a degraded and isolated state, these habitats are retrieved as having a “Very low” SEI, allowing for development activities of medium to high impact without restoration activities being required (Table 9). To this end, this renders the entire site as less sensitive from a faunal perspective.

Table 10 Evaluation of SEI within the study area. BI = Biodiversity Importance, RR = Receptor Resilience.

Habitat type	Conservation Importance	Functional Integrity	Receptor Resilience	Site Ecological Importance
Degraded (open)	**Very low** - No confirmed and a highly unlikely presence of populations of terrestrial faunal and avifaunal SCC.	**Low** - Several minor and major current negative ecological impacts (little remaining natural vegetation with a high level of daily disturbances and an isolated nature in the landscape).	**Very high** - Because this habitat exists in a degraded state, the faunal species diversity on the site already appears reduced, with only common species present. As such, this species diversity can recover relatively quickly (less than 5 years).	**Very low** - BI = Very low; RR = Very high
Trees	**Very low** - No confirmed and a highly unlikely presence of populations of terrestrial faunal and avifaunal SCC.	**Very low** - Several major current negative ecological impacts (a high incidence of alien and invasive vegetation).	**Very high** - Because this habitat consists of thick stands of alien and invasive vegetation, this habitat will recover to this state relatively quickly (less than 5 years).	**Very low** - BI = Very low; RR = Very high
Artificial dam	**Very low** - No confirmed and a highly unlikely presence of populations of terrestrial faunal and avifaunal SCC.	**Very low** - Several major current negative ecological impacts (a small artificial non-perennial dam).	**Very high** - Because this habitat is artificial, it an only recover to this artificial state.	**Very low** - BI = Very low; RR = Very high
Built-up	**Very low** - No confirmed and a highly unlikely presence of populations of terrestrial faunal and avifaunal SCC.	**Very low** - Several major current negative ecological impacts (established buildings and infrastructure).	**Very high** - This area comprises existing buildings and infrastructure and can only recover to this state.	**Very low** - BI = Very low; RR = Very high

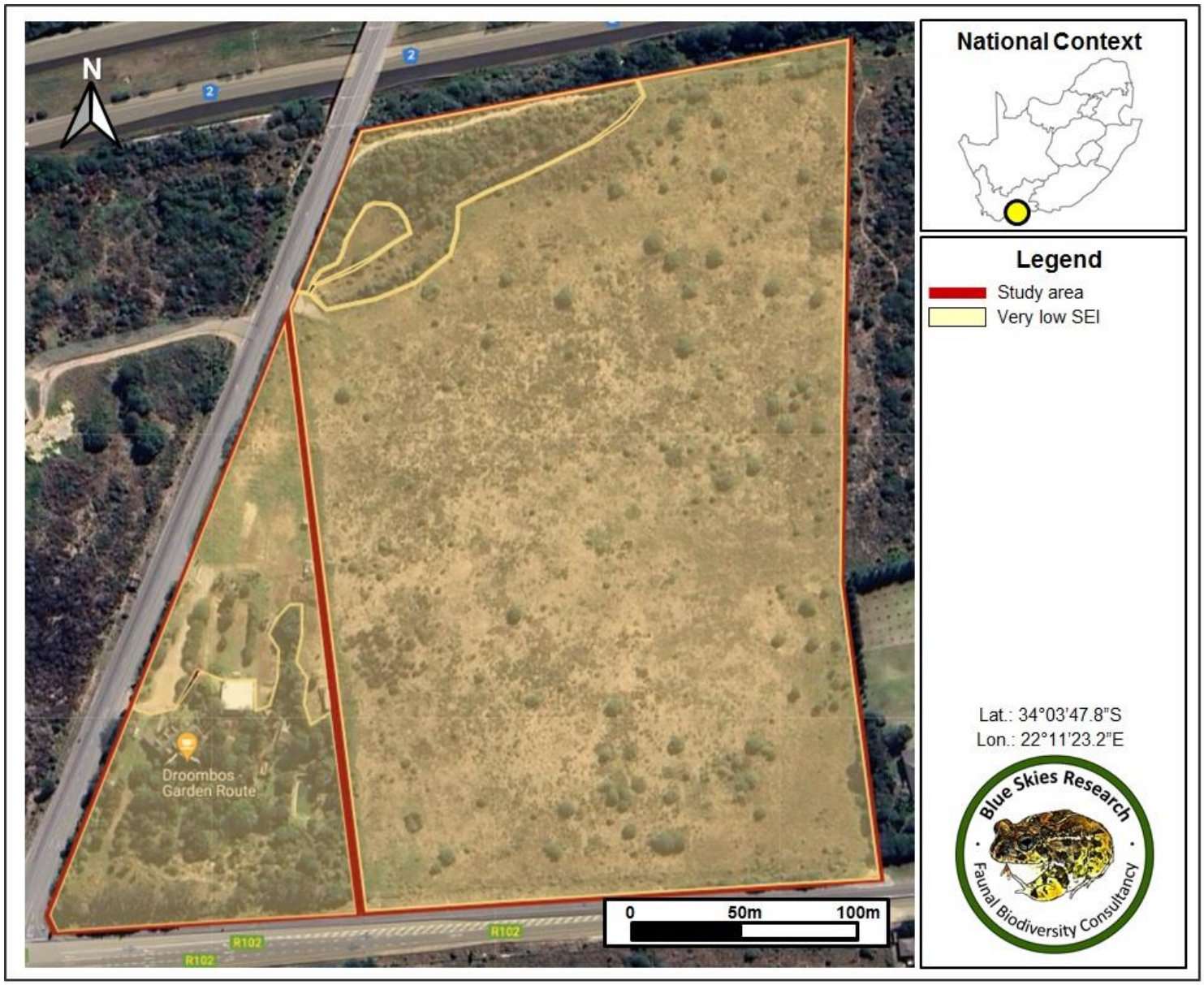


Figure 19 Spatial representation of the SEI for habitats within the study area.

11. Current impacts, project-related impacts and mitigation measures

11.1 Current impacts

Current impacts within the study area include the following:

- The study area has been subjected to radical past vegetation clearance, thereby degrading the habitat structure to a predominantly grassland phase.
- The northern-western part of the site harbours thick stands of alien and invasive vegetation.
- The study area is fenced over its entirety.
- The property is situated next to very busy roads (including a national highway, a provincial road and a municipal road) on its northern, western and southern borders, densely populated residential area next to its south and south-eastern border and developed agricultural farmlands to its north thereby isolating the site and limiting its functionality as a corridor for faunal movement.
- The south-western corner of the site comprises a fenced off area which is currently used as a nursery and restaurant which include a parking lot, a building and footpaths.
- A non-perennial man-made dam is situated on the north-western corner of the property.
- The site does not harbour suitable habitat for any of the faunal SCC considered.

Currently, these impacts appear severe to the point where the ecological integrity of the site has been compromised to such a degree that only a low number of common terrestrial faunal and avifaunal species are present.

11.2 Anticipated project impacts

Planned development activities for the proposed development footprint will include the clearing of vegetation, soil preparation, installation of roads and services and construction of building and infrastructure.

Impacts from these activities during the construction phase will include:

- Destruction of habitat,
- direct mortality of fauna, and
- vibration and noise (from machinery and people).

The placement of the proposed project footprint currently overlaps a relatively small area (10.6 hectares) of degraded habitat which harbours a low faunal diversity, is retrieved as having a “Very low” SEI and does not serve as an important ecological link in the broader landscape. To this end, impacts from the proposed development are expected to lead to the loss of only a relatively small area of degraded habitats and small subpopulations of burrowing species of “Least Concern” during the construction phase. From a broader conservation perspective, this loss of habitat and species is acceptable given that this should not compromise biodiversity targets on either a local, regional or national scale.

During the operational phase the entire study area will be developed for business and residential purposes. Impacts to the surrounding environment will therefore include:

- Possible pollution of the surrounding environment,
- predation by domestic pets (cats and dogs),
- collision of fauna with vehicles, and
- vibration and noise (from vehicles and people).

Considering the spatial location of the study area along with existing impacts (see Subsection 11.2), these impacts will not be a novel feature to the surrounding

receiving environment, and are not expected to drastically affect biodiversity and ecological patterns in the broader study area landscape.

11.3 Potential development layouts and proposed mitigation measures

The three development alternatives considered include the construction of roads (all alternatives), a service station (alternatives A and B), fast foods and takeaway area (alternative B), mixed use industrial zones (all alternatives), business zones (all alternatives), residential zones (all alternatives) and currently includes an existing nursery (Figures 20 to 22).

Considering the compromised biodiversity and ecological characteristics and ecosystem dynamics of the site, its isolated nature, the degraded state of habitats and their retrieval as having a “Very low” SEI, this renders the entire site is developable from a faunal perspective (Figure 23). To this end, any of the three development layouts may be considered for the study area without restoration activities being required.

It is, however, recommend that the newly developed area be fenced off so as to curb the potential predation by domestic pets and collision of fauna with vehicles. Furthermore, it is recommend that the development footprint be kept at the provided minimum to minimise disturbance of surrounding natural habitats. Furthermore, every effort should be made to save and relocate any mammal, reptile, amphibian, bird, or invertebrate that cannot flee of its own accord, encountered during site preparation (i.e., to avoid and minimise the direct mortality of faunal species). These animals should be relocated to a suitable habitat area immediately outside the project footprint, but under no circumstance to an area further away.

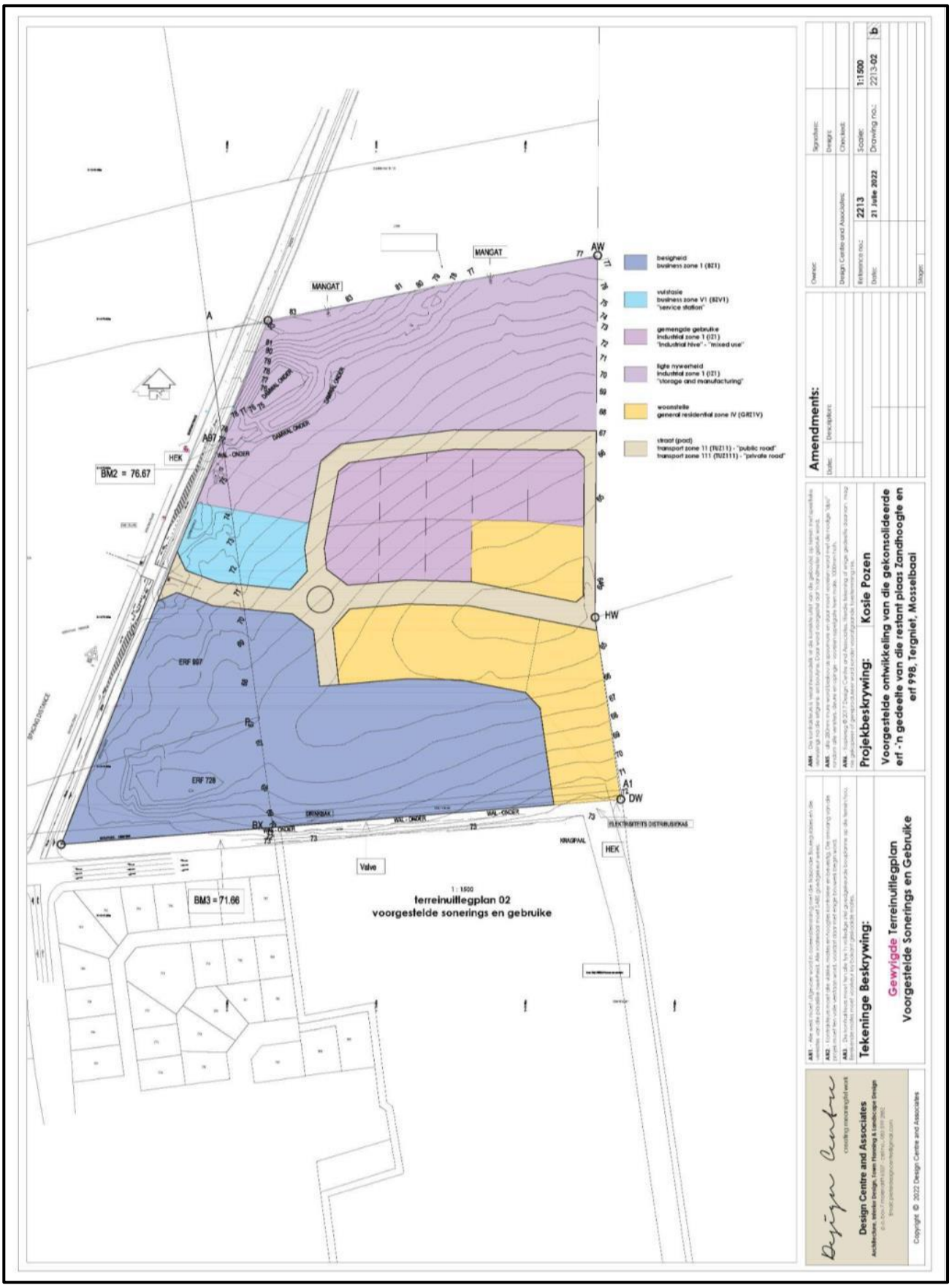


Figure 20 Proposed site development plan (SDP) for the study area under alternative A.

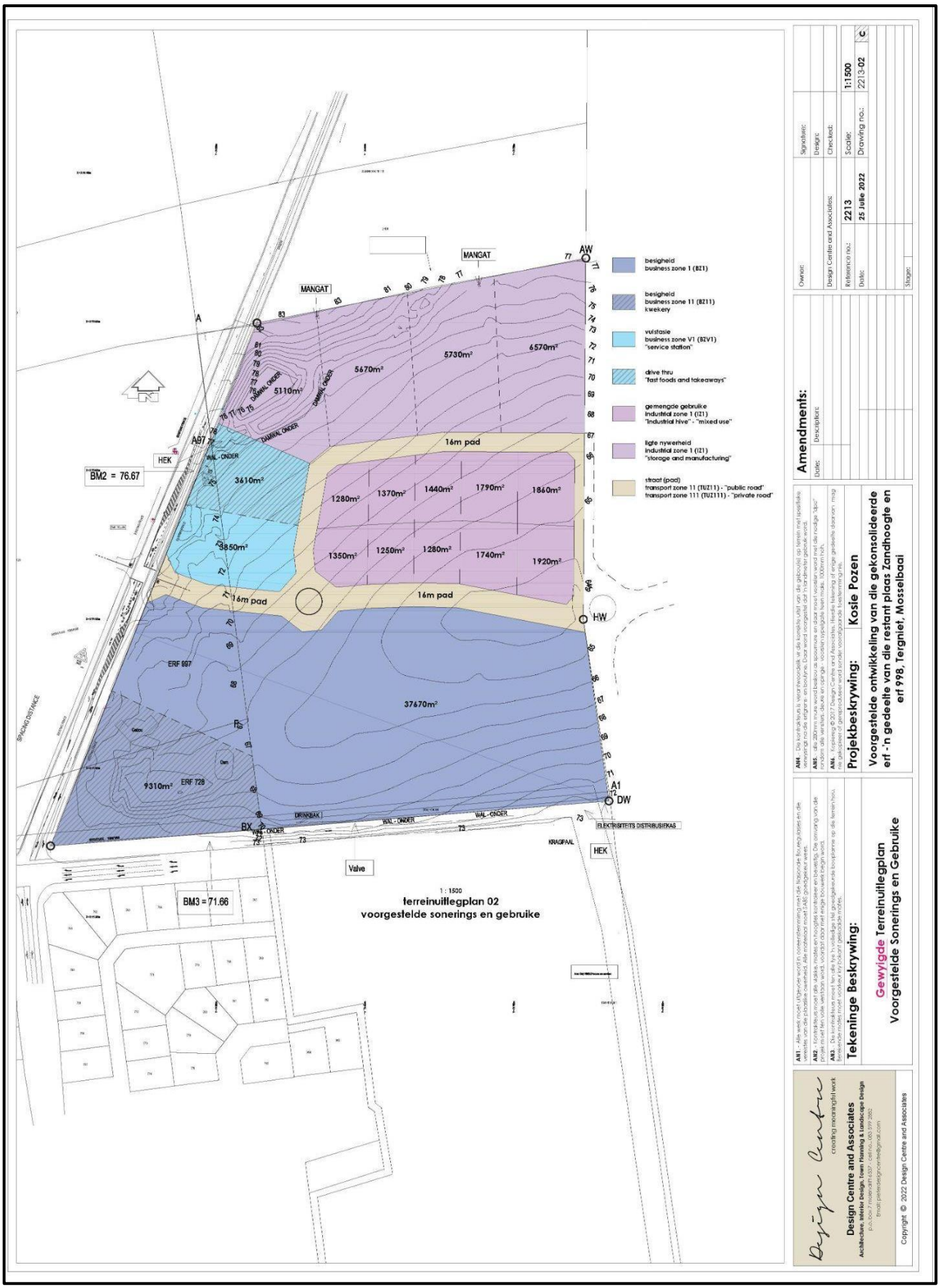


Figure 21 Proposed site development plan (SDP) for the study area under alternative B.

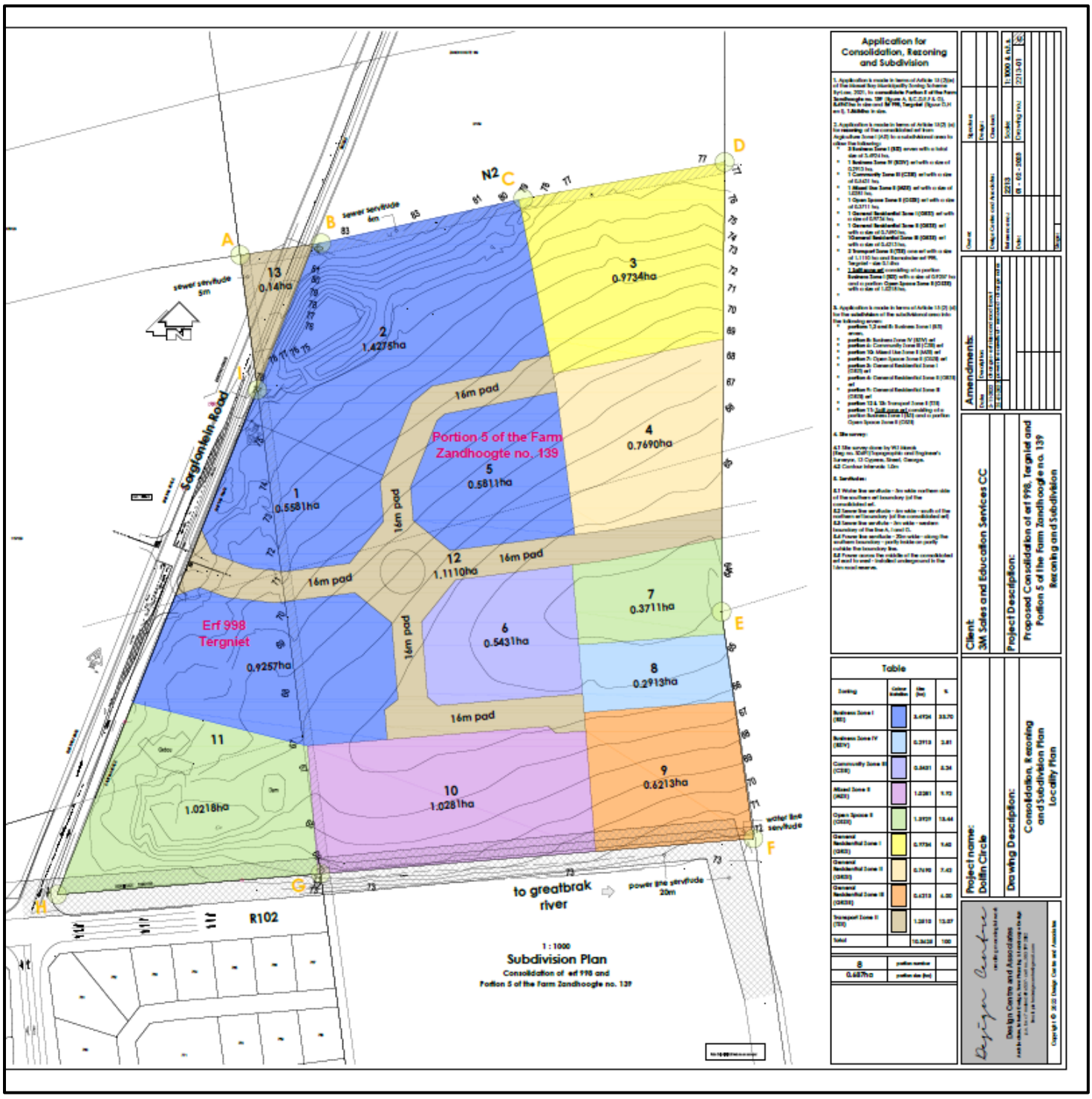


Figure 22 Proposed site development plan (SDP) for the study area under alternative C.

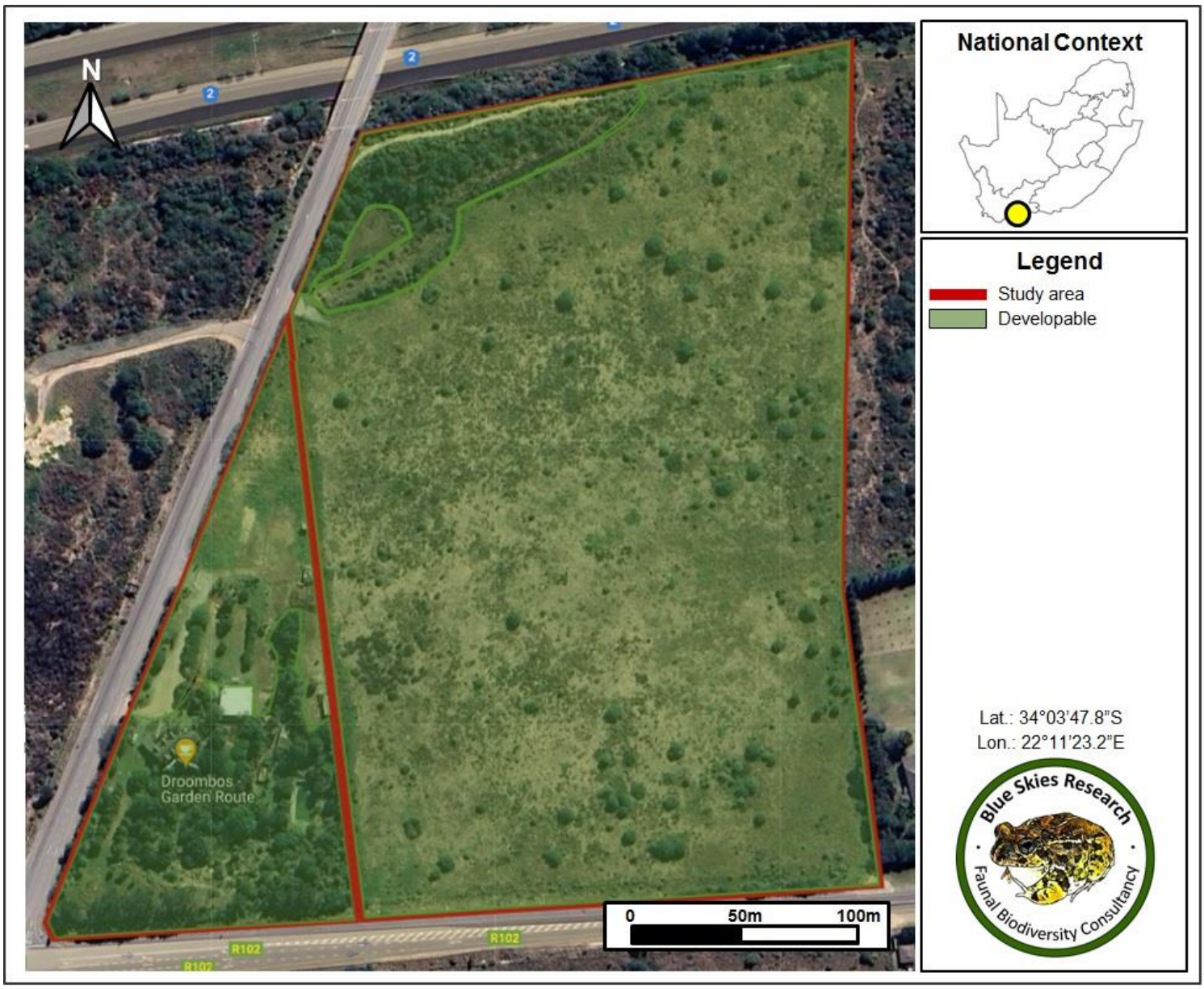


Figure 23 "Constraints and Opportunities" map of the study area showing the spatial overlap with areas which are suitable for potential development without considering mitigation.

12. Conclusion

12.1 Listed sensitivity in the DFFE Screening Tool Report

The results from this report confirm the site sensitivity of the proposed project footprint to be “Low” rather than “High” as identified in the DFFE Screening Tool Report (Section 3). This follows from degraded nature of the on-site habitat which offers little in the way of faunal habitats, does not provide a functional link in providing ecosystem services and which does not represent suitable habitat for any faunal or avifaunal SCC (Section 9).

12.2 Overlap with Ecological Support Area (ESAs) and Other Natural Areas (ONAs)

Following the ground-truthing phase, the following conclusions may be drawn:

- The site harbours degraded habitats retrieved as having a “Very low” SEI.
- The site harbours an impaired terrestrial faunal and avifaunal diversity.
- The site displays compromised biodiversity and ecological characteristics and ecosystem dynamics.
- The site does not serve as an important or highly functional ecological corridor in the broader study area landscape.

Although the larger northern part of the site is designated as a terrestrial Ecological Support Area 1 (ESA1) with the southern section intersecting Other Natural Areas (ONAs), the study area therefore fails to meet the criteria of these categories defined as:

ESA 1: “*Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs, and are often vital for delivering ecosystem services.*”

or

ONA: "*Areas not currently identified as a priority, but retain most of their natural character and perform a range of biodiversity and ecological infrastructure functions. Although not prioritised, they are still an important part of the natural ecosystem.*"

Taken together, the study area does not support the functioning of surrounding CBAs, is not vital in delivering ecosystem services and does not perform a range of biodiversity and ecological infrastructure functions. To this end, this further indicates that the site is of a lower sensitivity, and is therefore developable from a faunal sensitivity perspective.

12.3 Conclusion

This report provides a representative faunal and avifaunal assessment of the study area considering facets of:

- Terrestrial faunal and avifaunal habitat composition (Section 7),
- terrestrial faunal and avifaunal components (Section 8),
- the presence of any terrestrial faunal and avifaunal SCC on the site (Section 9),
- the SEI of habitats within the study area, with associated acceptable development activities (Section 10), and
- a "Constraints and opportunities" map of the site (Section 11).

Taken together, the results of the report indicate the following:

- The study area is comprised of four broadly identified habitat features with the larger part existing in a highly degraded state, the north-western corner harbouring an artificial dam and a large number of alien and invasive trees and the south-western part representing a built-up area (Section 7).
- Terrestrial faunal and avifaunal diversity and abundances in the study area appear low which likely results from the degraded an isolated nature of the site. To this end, predator-prey dynamics and ecosystem dynamics appearing highly compromised, with the study area not forming an important ecological link and faunal dispersal corridor in the landscape (Section 8).

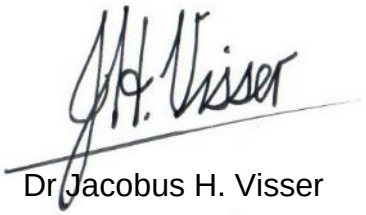
- Given a lack of suitable habitat characteristics along with high levels of daily disturbances, all considered SCC are highly unlikely to occur on the site (Section 9).
- All habitats on the site are retrieved as having a “Very low” SEI, allowing for development activities of medium to high impact without restoration activities being required (Section 10).
- Current impacts within the study area appear severe to the point where the ecological integrity of the site has been compromised to such a degree that only a low number of common terrestrial faunal and avifaunal species are present (Section 11).
- Impacts from the proposed development during the construction phase are expected to lead to the loss of only a relatively small area of degraded habitats and small subpopulations of burrowing species of “Least Concern”, with this loss being acceptable given that it should not compromise biodiversity targets on either a local, regional or national scale (Section 11).
- During the operational phase impacts to the surrounding environment will not be a novel feature to the surrounding receiving environment, and are not expected to drastically affect biodiversity and ecological patterns in the broader study area landscape (Section 11).
- Considering the compromised biodiversity and ecological characteristics and ecosystem dynamics of the site, its isolated nature, the degraded state of habitats and their retrieval as having a “Very low” SEI, this renders the entire site is developable from a faunal perspective, and any of the three development layouts may be considered for the study area without restoration activities being required (Section 11).
- The results from this report confirm the site sensitivity of the proposed project footprint to be “Low” rather than “High” as identified in the DFFE Screening Tool Report (Subsection 12.1).
- Following the ground-truthing phase, the study area fails to meet the criteria of the overlapped ESA 1 and ONAs categories further indicating that it is of a lower sensitivity, and is therefore developable from a faunal sensitivity perspective (Subsection 12.2).

Taken together therefore, the relatively limited spatial extent of the proposed project footprint along with the limited impact of its limited impact on the receiving environment is therefore acceptable from a faunal conservation perspective. Also considering the socio-economic benefits in the Western Cape, this development is therefore supported from a faunal biodiversity perspective.

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 Species list of the faunal species recovered 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**	**IUCN status**	**Number of observations**
Cetartiodactyla	Bovidae	*Raphicerus melanotis*	Cape Grysbok	Least Concern	2
Rodentia	Bathyergidae	*Bathyergus suillus*	Cape Dune Mole-rat	Least Concern	15
		Cryptomys hottentotus	African Mole-rat	Least Concern	1
	Hystricidae	*Hystrix africaeaustralis*	Cape Porcupine	Least Concern	3
	Muridae	*Gerbilliscus afra*	Cape Gerbil	Least Concern	1
		Rhabdomys pumilio	Four-striped Grass Mouse	Least Concern	5
Avifauna					
Order	**Family**	**Species**	**Common name**	**Status**	**Number of observations**
Bucerotiformes	Upupidae	*Upupa africana*	African Hoopoe	Least Concern	1
Coliiformes	Coliidae	*Colius striatus*	Speckled Mousebird	Least Concern	1
Columbiformes	Columbidae	*Columba guinea*	Speckled Pigeon	Least Concern	1
		Spilopelia senegalensis	Laughing Dove	Least Concern	1
		Streptopelia capicola	Cape Turtle Dove	Least Concern	1
		Streptopelia semitorquata	Red-eyed Dove	Least Concern	1
Galliformes	Numididae	*Numida meleagris*	Helmeted Guineafowl	Least Concern	1
	Phasianidae	*Pternistis capensis*	Cape Spurfowl	Least Concern	1
Passeriformes	Cisticolidae	*Cisticola subruficapilla*	Grey-backed Cisticola	Least Concern	1
		Prinia maculosa	Karoo Prinia	Least Concern	1

	Dicruridae	*Dicrurus adsimilis*	Fork-tailed Drongo	Least Concern	1
	Fringillidae	*Serinus canicollis*	Cape Canary	Least Concern	1
	Laniidae	*Lanius collaris*	Southern Fiscal	Least Concern	1
	Malaconotidae	*Chlorophoneus olivaceus*	Olive Bushshrike	Least Concern	1
	Muscicapidae	*Cossypha caffra*	Cape Robin-Chat	Least Concern	1
	Nectariniidae	*Cinnyris afer*	Greater Double-collared Sunbird	Least Concern	1
	Sturnidae	*Sturnus vulgaris*	Common Starling	Least Concern	1
	Zosteropidae	*Zosterops virens*	Cape White-eye	Least Concern	2
Pelecaniformes	Ardeidae	*Ardea melanocephala*	Black-headed Heron	Least Concern	1
Grasshoppers					
Order	**Family**	**Species**	**Common name**	**IUCN status**	**Number of observations**
Orthoptera	Acrididae	*Acrida acuminata*	Common Stick Grasshopper	Not Assessed	1
		Acrotylus insubricus	Common Digging Grasshoppe	Not Assessed	3
		Morphacris fasciata	Band-winged Grasshopper	Not Assessed	2

Appendix B

Curriculum Vitae of Jacobus Hendrik Visser

Full Name: Jacobus Hendrik Visser

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Qualifications

- PhD (Zoology), University of Johannesburg (2015 - 2017)
- MSc (Zoology), Stellenbosch University (2011 - 2013)
- BSc Honours (Zoology) cum laude, Stellenbosch University (2010)
- BSc (Biodiversity and Ecology) cum laude, Stellenbosch University (2007 - 2009)

Scientific publications

- **Visser J.H.** (2013). Gene-flow in the rock hyrax (*Procavia capensis*) at different spatial scales. MSc thesis, Stellenbosch University, Stellenbosch, South Africa. https://core.ac.uk/download/pdf/37420485.pdf
- **Visser J.H.** (2017). Evolution of the South African Bathyergidae: patterns and processes. PhD dissertation, University of Johannesburg, Johannesburg, South Africa.

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- **Visser J.H.**, Bennett N.C., Jansen van Vuuren B. (2017). Distributional range, ecology and mating system of the Cape mole-rat, *Georychus capensis* family Bathyergidae. Canadian Journal of Zoology 95 (10): 713-726. https://doi.org/10.1139/cjz-2017-0016
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List of fauna reports

- **Visser, J.H.** Terrestrial Animal Species Compliance Statement Report For A Portion of Remainder of Farm 630, Rawsonville, Breede Valley Municipality. November 2021. Prepared for inClover Environmental Consulting.
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Compliance Statement Report for a Portion of Brazil 329, Nama Khoi Municipality, Namakwa District. April 2022. Prepared for WNel Environmental Consulting Services.
- **Visser, J.H.** Terrestrial Faunal And Avifaunal Species Scoping Report for the Proposed Waste Management Facility at Portions 1 and 6 of Farm 32 Brakkefontein, City of Cape Town. April 2022. Prepared for SLR Consulting.
- **Visser, J.H.** Terrestrial Faunal And Avifaunal Species Impact Assessment Report for a Portion of Riet Valleij (Somerset Vale, Farm Portion RE/150), Estelm Boerdery, Swellendam Municipality, Overberg District. June 2022. Prepared for PHS Consulting.
- **Visser, J.H.** Site Sensitivity Verification Report for Remainder of Farm De Draay No 563, Overstrand Municipality. August 2022. Prepared for PHS Consulting.
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Impact Assessment Report for Remainder of Farm Rooilandia No. 472, Breede Valley Municipality. October 2022. Prepared for McGregor Environmental Services.
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Impact Assessment Report for Portion 3 of Farm 781, Theewaterskloof Local Municipality. December 2022. Prepared for PHS Consulting.
- **Visser, J.H.** Terrestrial Faunal Species Compliance Statement Report for Farm Portion 49, Hansmoeskraal Farm 202, George Local Municipality. April 2023. Prepared for Sharples Environmental Services cc (SES).
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Compliance Statement Report for Farm 153 Vissershok (C1038: Upgrading of TR11/1), City of Cape

Town Municipality. May 2023. Prepared for Sharples Environmental Services cc (SES).

- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Impact Assessment Report for Farm Witteklip 69/123, Vredenburg, Saldanha Bay Municipality. June 2023. Prepared for Ecosense Environmental Consultants.
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Impact Assessment Report for the Proposed Greenvalley Mixed-use Development on Portion 28, 31 and 32 of the Farm Wittedrift No. 306, and Associated Bulk Infrastructure, Plettenberg Bay, Bitou Municipality. June 2023. Prepared for Sharples Environmental Services cc (SES).
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Compliance Statement Report for the Upgrade of the Schaapkop Sewer Rising Main on Remainder of Erf 464 and Erf 13486, George Local Municipality. July 2023. Prepared for Sharples Environmental Services cc (SES).
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Impact Assessment Report for the Proposed Mixed-use Housing Development on Portions 7 and 8 of the Farm Kranshoek No. 432, Plettenberg Bay, Bitou Municipality. July 2023. Prepared for Sharples Environmental Services cc (SES).
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Compliance Statement Report for the Proposed Sandmine on Portion 109 of the Farm Zwarte Jongers Fontein No. 489, Hessequa Municipality. August 2023. Prepared for Pro-Earth Consulting.
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Impact Assessment Report for the Upgrading of Herold's Bay Sewer Pump Station and Associated Rising Main on Remainder of Farm Brakfontein 236, Portion 10 of Farm Brakfontein 236 and Erven RE/95 and 116, Herholds Bay, George Municipality. September 2023. Prepared for Sharples Environmental Services cc (SES).
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Impact Assessment Report for the Proposed Flood Damage Repairs, Rehabilitation and Other Mitigation Measures in Van Riebeeck Gardens and Camphersdrift, George, George Municipality. September 2023. Prepared for Sharples Environmental Services cc (SES).

- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Compliance Statement Report for the Proposed Hartenbos Waste Water Treatment Works PV Solar Plant on Remainder of Portion 101 of the Farm Hartenbosch 217, Mossel Bay, Mossel Bay Municipality. September 2023. Prepared for Sharples Environmental Services cc (SES).
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Site Sensitivity Verification Report for the Proposed Construction of Tourist Accommodation on Portions 10, 11 and 13 of the Farm Arieskraal A 456, Elgin. September 2023. Prepared for PHS Consulting.
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Impact Assessment Report for the Proposed Multifunctional Agricultural Development on Remainder of Farm De Draay No 563, Overstrand Municipality. November 2023. Prepared for PHS Consulting.
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Site Sensitivity Verification Report for Portion 7 of the Farm Witteklip No. 123, Saldanha Bay Municipality. November 2023. Prepared for Ecosense Environmental Consultants.
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Compliance Statement Report for the Proposed Construction of Two Hard Water Reservoirs and Associated Infrastructure at the Koeberg Nuclear Power Station Located on the Farm Duynefontyn No. 1552, City of Cape Town Metropolitan Municipality. November 2023. Prepared for Sharples Environmental Services cc (SES).
- **Visser, J.H.** Terrestrial Faunal and Avifaunal Species Site Sensitivity Verification Report for Portion 7 of The Farm Hans Moes Kraal No. 202, George Local Municipality. December 2023. Prepared for Sharples Environmental Services cc (SES).

Other projects

- Southern African Bird Atlas Project 2 (SABAP2)
- Endemism, genetic variance and conservation priorities in the highlands of south-western Africa.
- Biodiversity and ecology of scorpions in the Cape Floristic Region.

- National Biodiversity Assessment 2018: The status of South Africa's ecosystems and biodiversity. Synthesis Report. South African National Biodiversity Institute, an entity of the Department of Environment, Forestry and Fisheries, Pretoria.

Conferences

- Presenter at the 2017 conference of the South African Wildlife Management Association (Presentation title: The influence of commercial game farming on maintaining genetic diversity in the sable antelope (*Hippotragus niger*) and roan antelope (*Hippotragus equinus*)
- Presenter at the 2017 conference of the Zoological Society of Southern Africa (Presentation title: Evolution of the South African Bathyergidae: Patterns and processes)
- Presenter at the 2010 conference of the Zoological Society of Southern Africa (Presentation title: Local and regional scale genetic variation in the Cape dune mole-rat, *Bathyergus suillus*

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I **Dr Jacobus Hendrik Visser**, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or

  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);

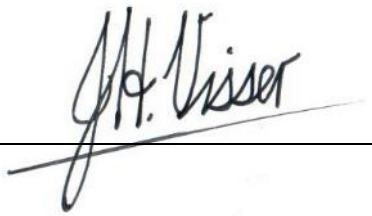
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;

- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and

- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.

25 April 2024

Signature of the EAP: Date:



Blue Skies Research (trading name)

Name of company (if applicable):