



The Avifauna Assessments for the proposed Azaadville Power Line Project

Azaadville, Gauteng

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CLIENT



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1 Introduction

1.1 Background

The Biodiversity Company was appointed to undertake an avifauna baseline and impact assessment for the proposed deviation of the Azaadville power line in Azaadville, Gauteng.

This assessment was conducted in accordance with the amendments to the Environmental Impact Assessment Regulations, 2014 (GNR 326, 7 April 2017) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). The approach has taken cognisance of the recently published Government Notices (GN) 320 (20 March 2020): “Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation” (Reporting Criteria). The National Web based Environmental Screening Tool has characterised the terrestrial sensitivity of the project area as “Very High” and animal sensitivity as “Medium”.

The purpose of the specialist studies is to provide relevant input into the environmental authorisation process. This report, after taking into consideration the findings and recommendations provided by the specialist herein, should inform and guide the Environmental Assessment Practitioner (EAP) and regulatory authorities, enabling informed decision making, as to the ecological viability of the project.

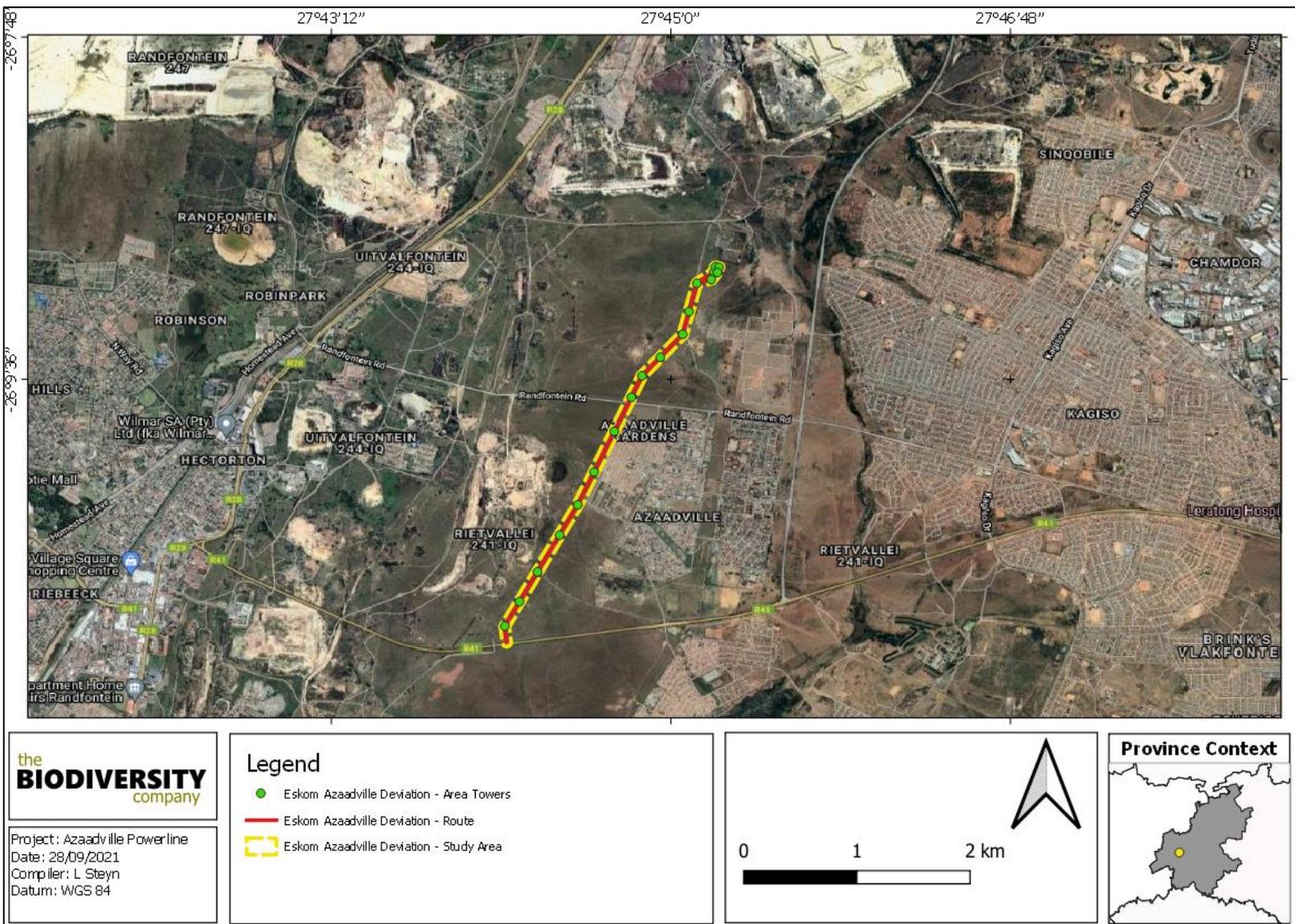
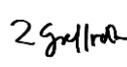


Figure 1-1 Location of the project area in relation to the nearby towns.

1.2 Specialist Details

Report Name	The Avifauna Assessments for the proposed Azaadville Power Line Project	
Reference	Gabions	
Submitted to		
Report Writer (Desktop and Avifauna)	Lindi Steyn	
	Dr Lindi Steyn has completed her PhD in Biodiversity and Conservation from the University of Johannesburg. Lindi is a terrestrial ecologist with a special interest in ornithology. She has completed numerous studies ranging from basic Assessments to Environmental Impact Assessments following IFC standards.	
Report Writer	Rudolph Greffrath	
	Rudolph is a terrestrial ecology specialist with 14 years of experience in biodiversity baseline assessments, biodiversity action planning design and development, biodiversity off-set design and implementation, biodiversity strategy design, conservation management planning and implementation, IFC performance standards best practice, ecological restoration, ecosystems services and environmental impact assessments, across Africa. He is Pr Sci Nat registered (400018/17) in Conservation Science field of practice.	
Reviewer	Andrew Husted	
	Andrew Husted is Pr Sci Nat registered (400213/11) in the following fields of practice: Ecological Science, Environmental Science and Aquatic Science. Andrew is an Aquatic, Wetland and Biodiversity Specialist with more than 12 years' experience in the environmental consulting field. Andrew has completed numerous wetland training courses, and is an accredited wetland practitioner, recognised by the DWS, and also the Mondi Wetlands programme as a competent wetland consultant.	
Declaration	The Biodiversity Company and its associates operate as independent consultants under the auspice of the South African Council for Natural Scientific Professions. We declare that we have no affiliation with or vested financial interests in the proponent, other than for work performed under the Environmental Impact Assessment Regulations, 2017. We have no conflicting interests in the undertaking of this activity and have no interests in secondary developments resulting from the authorisation of this project. We have no vested interest in the project, other than to provide a professional service within the constraints of the project (timing, time and budget) based on the principals of science.	

2 Scope of Work

The principle aim of the assessment was to provide information to guide the risk of the activity to the avifauna communities of the associated ecosystems within the project area. This was achieved through the following:

- Desktop assessment to identify the relevant ecologically important geographical features within the project area;
- Desktop assessment to compile an expected species list and possible threatened avifauna species that occur within the project area;
- Field survey to ascertain the species composition of the present avifauna community within the project area;

- Delineate and map the habitats and their respective sensitivities that occur within the project area;
- Identify the manner that the project impacts the avifauna community and evaluate the level of risk of these potential impacts; and
- The prescription of mitigation measures and recommendations for identified risks.

3 Key Legislative Requirements

The legislation, policies and guidelines listed below in Table 3-1 are applicable to the current project. The list below, although extensive, may not be complete and other legislation, policies and guidelines may apply in addition to those listed below.

Table 3-1 A list of key legislative requirements relevant to biodiversity and conservation in the Gauteng Province.

Region	Legislation / Guideline
International	Convention on Biological Diversity (CBD, 1993)
	The Convention on Wetlands (RAMSAR Convention, 1971)
	The United Nations Framework Convention on Climate Change (UNFCCC, 1994)
	The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES 1973)
	The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention, 1979)
	Constitution of the Republic of South Africa (Act No. 108 of 1996)
	The National Environmental Management Act (NEMA) (Act No. 107 of 1998)
	The National Environmental Management: Protected Areas Act (Act No. 57 of 2003)
	The National Environmental Management: Biodiversity Act (Act No. 10 of 2004), Threatened or Protected Species Regulations
	Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, GNR 320 of Government Gazette 43310 (March 2020)
National	Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, GNR 1150 of Government Gazette 43855 (October 2020)
	The National Environmental Management: Waste Act, 2008 (Act 59 of 2008);
	The Environment Conservation Act (Act No. 73 of 1989)
	National Protected Areas Expansion Strategy (NPAES)
	Natural Scientific Professions Act (Act No. 27 of 2003)
	National Biodiversity Framework (NBF, 2009)
	National Forest Act (Act No. 84 of 1998)
	National Veld and Forest Fire Act (101 of 1998)
	National Water Act (NWA) (Act No. 36 of 1998)
	National Spatial Biodiversity Assessment (NSBA)
	World Heritage Convention Act (Act No. 49 of 1999)
	Municipal Systems Act (Act No. 32 of 2000)
	Alien and Invasive Species Regulations and, Alien and Invasive Species List 2014/2020, published under NEMBA
	South Africa's National Biodiversity Strategy and Action Plan (NBSAP)
	Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983) (CARA)
	Sustainable Utilisation of Agricultural Resources (Draft Legislation).
	White Paper on Biodiversity
Provincial	GDARD Requirements for Biodiversity Assessments (Version 3, 2014a)

4 Methods

4.1 Project Area

The project area is situated on the outskirts of Azaadville and stretches from the R41 to the ESKOM Westgate substation in the Gauteng Province (Figure 4-1). Presently, the project area is surrounded by some mining areas, urban development and some open veld.

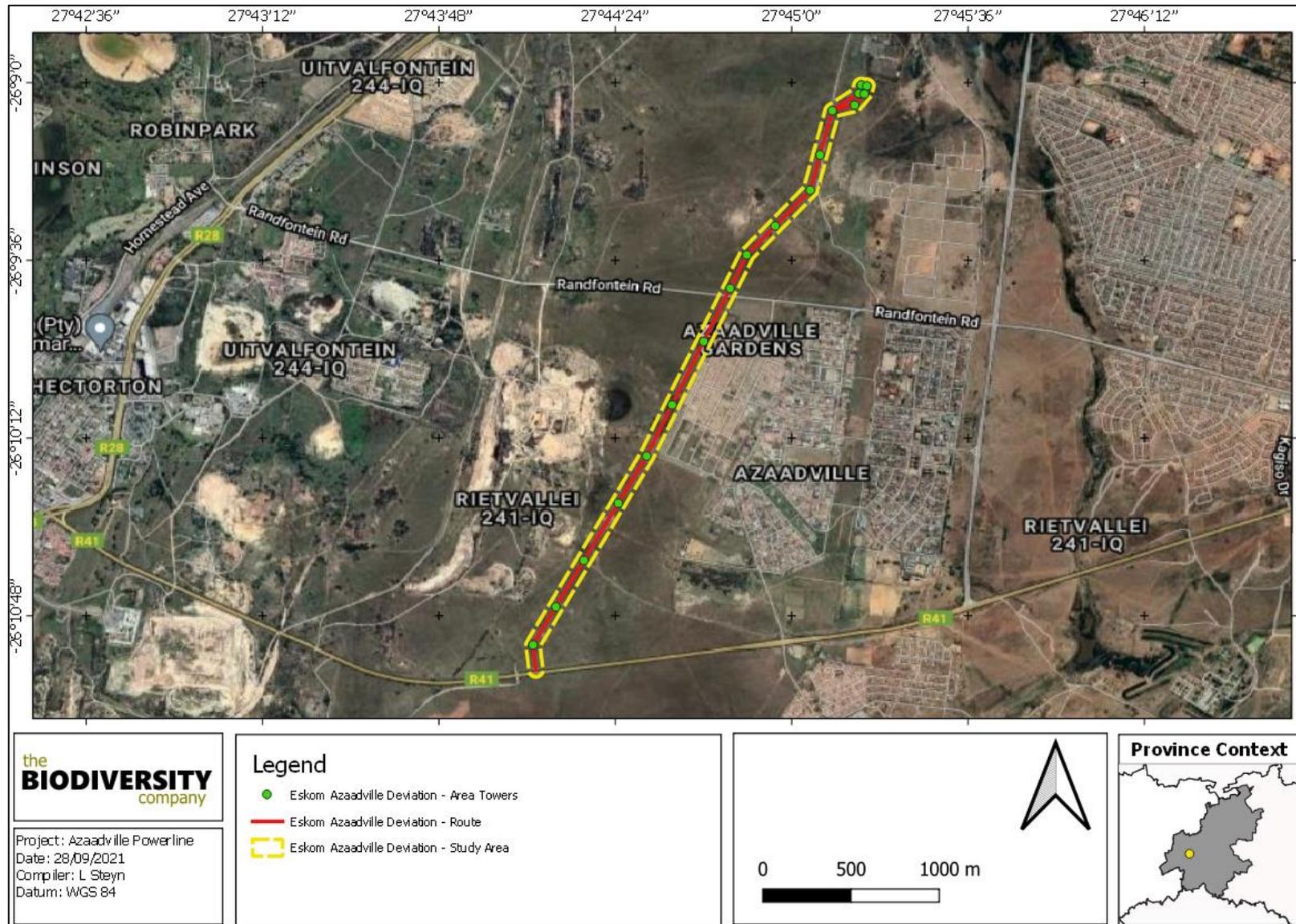


Figure 4-1 Map illustrating the project area

4.2 Desktop Assessment

The desktop assessment was principally undertaken using a Geographic Information System (GIS) to access the latest available spatial datasets to develop digital cartographs and species lists. These datasets and their date of publishing are provided below.

4.2.1 Ecologically Important Landscape Features

Existing ecologically relevant data layers were incorporated into a GIS to establish how the project might interact with any ecologically important entities. Emphasis was placed around the following spatial datasets:

- *National Biodiversity Assessment 2018 (Skowno et al, 2019) (NBA)*- The purpose of the NBA is to assess the state of South Africa's biodiversity based on best available science, with a view to understanding trends over time and informing policy and decision-making across a range of sectors. The NBA deals with all three components of biodiversity: genes, species and ecosystems; and assesses biodiversity and ecosystems across terrestrial, freshwater, estuarine and marine environments. The two headline indicators assessed in the NBA are:
 - *Ecosystem Threat Status* – indicator of an ecosystem's wellbeing, based on the level of change in structure, function or composition. Ecosystem types are categorised as Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT) or Least Concern (LC), based on the proportion of the original extent of each ecosystem type that remains in good ecological condition.
 - *Ecosystem Protection Level* – indicator of the extent to which ecosystems are adequately protected or under-protected. Ecosystem types are categorised as Well Protected (WP), Moderately Protected (MP), Poorly Protected (PP), or Not Protected (NP), based on the proportion of the biodiversity target for each ecosystem type that is included within one or more protected areas. NP, PP or MP ecosystem types are collectively referred to as under-protected ecosystems.
- Protected areas:
 - *South Africa Protected Areas Database (SAPAD) (DEA, 2021)* – The (SAPAD) Database contains spatial data for the conservation of South Africa. It includes spatial and attribute information for both formally protected areas and areas that have less formal protection. SAPAD is updated on a continuous basis and forms the basis for the Register of Protected Areas, which is a legislative requirement under the National Environmental Management: Protected Areas Act, Act 57 of 2003.
 - *National Protected Areas Expansion Strategy (NPAES) (SANBI, 2010)* – The NPAES provides spatial information on areas that are suitable for terrestrial ecosystem protection. These focus areas are large, intact and unfragmented and therefore, of high importance for biodiversity, climate resilience and freshwater protection.
- Gauteng Conservation Plan

The Gauteng Conservation Plan (Version 3.3) (GDARD, 2014b) classified areas within the province on the basis of its contribution to reach the conservation targets within the province. These areas are classified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) to ensure sustainability in the long term. The CBAs are classified as either 'Irreplaceable' (must be conserved), or 'Important'.

Critical Biodiversity Areas (CBAs) are terrestrial and aquatic areas of the landscape that need to be maintained in a natural or near-natural state to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services. Thus, if these areas are not maintained in a natural or near natural state then biodiversity targets cannot be met.

- Gauteng Ridges

The quartzite ridges of Gauteng are one of the most important natural assets in the northern province of South Africa. This is because these ridges, and the area immediately surrounding the ridges, provide habitat for a wide variety of fauna and flora, some of which are Red List, rare or endemic species or, in the case of certain of the plant species, are found nowhere else in South Africa or the world.

4.2.2 Desktop Faunal Assessment

The avifaunal desktop assessment comprised of the following, compiling an expected:

- Avifauna list, generated from the Southern African Bird Atlas Project 2 (2600_2735; 2600_2740; 2600_2745; 2600_2735; 2600_2740_2600_2745; 2605_2735; 2605_2740; 2605_2745); and

Two field surveys was undertaken in October 2021 (a brief incidental survey and a second point count focussed survey), to determine the presence of Species of Conservation Concern (SCC). Effort was made to cover all the different habitat types, within the limits of time and access.

4.2.3 Fauna Survey

The faunal assessment within this report pertains to herpetofauna (amphibians and reptiles), avifauna and mammals. The faunal field survey comprised of the following techniques:

- Visual and auditory searches - This typically comprised of meandering and using binoculars to view species from a distance without them being disturbed; and listening to species calls;
- Utilization of local knowledge.

4.2.4 Avifauna Assessment

4.2.4.1 Desktop Assessment

The following resources were consulted for identification purposes included the following:

- Hockey *et al.* (2005), Roberts Birds of Southern Africa (seventh end.). The primary source for species identification, geographic range, and life history information;
- Sinclair and Ryan (2010), Birds of Africa. Secondary source for identification;
- South African Bird Atlas Project (SABAP 2). Full protocol atlassing data from relevant pentads used to construct expected species list; and
- Taylor *et al.* (2015), Eskom Red Data Book of Birds of South Africa, Lesotho, and Swaziland. Used for conservation status, nomenclature, and taxonomical ordering.

4.2.4.2 Field Assessment

Summer field surveys were undertaken on 6 and 13 October 2021 to determine the presence of Species of Conservation Concern (SCC). Effort was made to cover all the different habitat types within the limits of time and access. Areas surrounding the project area were also surveyed, this includes the areas identified as wetlands that could possibly have a different species composition (Figure 4-2).

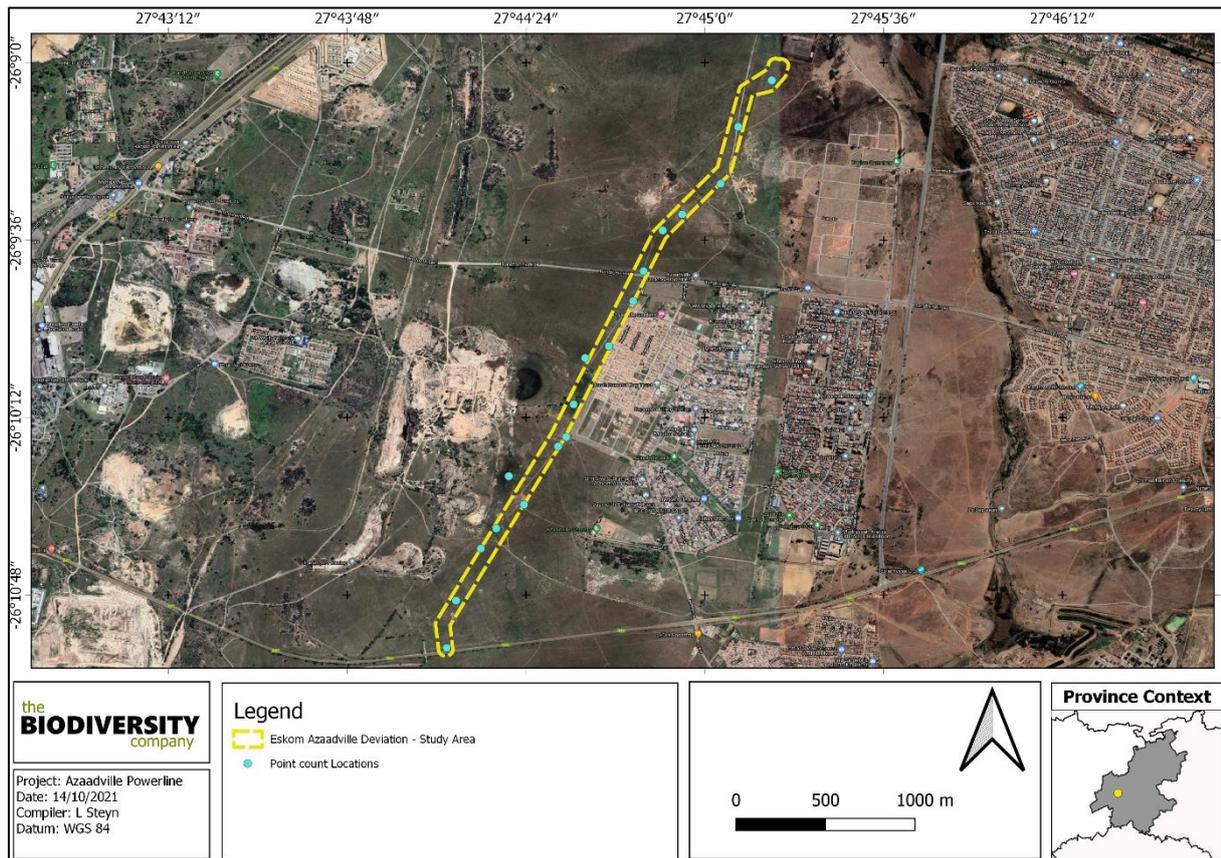


Figure 4-2 Map illustrating the field survey area

Sampling consisted of standardized point counts as well as random diurnal incidental surveys and vantage point surveys. Standardized point counts (following Buckland *et al.* 1993) were conducted to gather data on the species composition and relative abundance of species within the broad habitat types identified. Each point count was run over a 5 min period. The horizontal detection limit was set at 50 m. At each point the observer would document the date, start time, and end time, habitat, numbers of each species, detection method (seen or heard), behaviour (perched or flying) and general notes on habitat and nesting suitability for conservation important species. To supplement the species inventory with cryptic and illusive species that may not be detected during the rigid point count protocol, diurnal incidental searches were conducted. This involved the opportunistic sampling of species between point count periods, river scanning and road cruising.

4.2.5 Data analysis

Point count data was arranged into a matrix with point count samples in rows and species in columns. The table formed the basis of the various subsequent statistical analyses. This data was first used to distinguish similarities / differences in the species composition between the two identified avifaunal habitats, the matrix was converted into a Bray-Curtis dissimilarity matrix. The data was subject to fourth root transformation to downscale the contribution of very abundant species while upscaling the influence of less abundant species. However, the effect was negligible and ultimately the raw data proved more informative. Thirdly, raw count data was converted to relative abundance values and used to establish dominant species and calculate the diversity of each habitat. The Shannon Diversity Index (H') was the metric used to estimate diversity. Lastly, present, and potentially occurring species were assigned to 13 major trophic guilds loosely based on the classification system developed by González-Salazar *et al.* (2014). Species were first classified by their dominant diet (carnivore, herbivore, granivore, frugivore, nectarivore, omnivore), then by the medium upon / within which they most frequently forage (ground, water, foliage, air) and lastly by their activity period (nocturnal or diurnal).

4.3 Site Ecological Importance

The different habitat types within the project area were delineated and identified based on observations during the field assessment, and available satellite imagery. These habitat types were assigned Ecological Importance (EI) categories based on their ecological integrity, conservation value, the presence of species of conservation concern and their ecosystem processes.

Site Ecological Importance (SEI) is a function of the Biodiversity Importance (BI) of the receptor (e.g., SCC, the vegetation/fauna community or habitat type present on the site) and Receptor Resilience (RR) (its resilience to impacts) as follows.

BI is a function of Conservation Importance (CI) and the Functional Integrity (FI) of the receptor as follows. The criteria for the CI and FI ratings are provided in Table 4-1 and Table 4-2, respectively.

Table 4-1 Summary of Conservation Importance (CI) criteria

Conservation Importance	Fulfilling Criteria
Very High	Confirmed or highly likely occurrence of Critically Endangered (CR), Endangered (EN), Vulnerable (VU) or Extremely Rare or CR species that have a global extent of occurrence (EEO) 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 an 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 EEO 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 Near Threatened (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.

Table 4-2 Summary of Functional Integrity (FI) criteria

Functional Integrity	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.
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, with no signs of major past disturbance 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 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.

Very Low	Low rehabilitation potential. Several minor and major current negative ecological impacts. Very small (< 1 ha) area. No habitat connectivity except for flying species or flora with wind-dispersed seeds. Several major current negative ecological impacts.
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BI can be derived from a simple matrix of CI and FI as provided in Table 4-3.

Table 4-3 Matrix used to derive Biodiversity Importance (BI) from Functional Integrity (FI) and Conservation Importance (CI)

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

The fulfilling criteria to evaluate RR are based on the estimated recovery time required to restore an appreciable portion of functionality to the receptor, as summarised in Table 4-4.

Table 4-4 Summary of Resource Resilience (RR) criteria

Resilience	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: (i) remaining at a site even when a disturbance or impact is occurring, or (ii) 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: (i) remaining at a site even when a disturbance or impact is occurring, or (ii) 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: (i) remaining at a site even when a disturbance or impact is occurring, or (ii) 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: (i) remaining at a site even when a disturbance or impact is occurring, or (ii) 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: (i) remain at a site even when a disturbance or impact is occurring, or (ii) return to a site once the disturbance or impact has been removed.

Subsequent to the determination of the BI and RR, the SEI can be ascertained using the matrix as provided in Table 4-5.

Table 4-5 Matrix used to derive Site Ecological Importance from Receptor Resilience (RR) and Biodiversity Importance (BI)

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

Interpretation of the SEI in the context of the project is provided in Table 4-6.

Table 4-6 Guidelines for interpreting Site Ecological Importance in the context of the development activities

Site Ecological Importance	Interpretation in relation to 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.

The SEI evaluated for each taxon can be combined into a single multi-taxon evaluation of SEI for the assessment area. Either a combination of the maximum SEI for each receptor should be applied, or the SEI may be evaluated only once per receptor but for all necessary taxa simultaneously. For the latter, justification of the SEI for each receptor is based on the criteria that conforms to the highest CI and FI, and the lowest RR across all taxa.

4.4 Assumptions and Limitations

The following assumptions and limitations are applicable for this assessment:

- The area was only surveyed during one season visits and therefore, this assessment does not consider temporal trends;
- Only a single season survey was conducted and would constitute an early summer survey with its associated limitations;
- The GPS used in the assessment has an accuracy of 5 m and consequently any spatial features may be offset by 5 m;
- Security on site limited extensive meandering surveys due to the presence of illegal miners as well as vagrants; and
- No nocturnal avifauna assessment was conducted due to safety concerns.

5 Results & Discussion

5.1 Desktop Assessment

5.1.1 Ecologically Important Landscape Features

The GIS analysis pertaining to the relevance of the project to ecologically important landscape features are summarised in Table 5-1.

Table 5-1 Summary of relevance of the project to ecologically important landscape features.

Desktop Information Considered	Relevant/Irrelevant	Section
Ecosystem Threat Status	Relevant – Overlaps with a Vulnerable ecosystem	5.1.1.1
Ecosystem Protection Level	Relevant – Overlaps with a Not Protected Ecosystem	5.1.1.2
Protected Areas	Irrelevant – The project area falls 7.1 km from the Fossil Hominid Sites of SA project area is outside of the protected areas 5 km buffer zones	-
National Protected Areas Expansion Strategy	Irrelevant – The project area is 44 km from the closest NPAES area (Vaal Grassland)	-

Critical Biodiversity Area	Relevant – The project area overlaps with an ESA and CBA: Important area.	5.1.1.3
Important Bird and Biodiversity Areas	Irrelevant – Located 7.5 km from the Magaliesberg IBA	5.1.1.7
Gauteng Ridges	Relevant – The project area is adjacent to a class 4 Gauteng Ridge	5.1.1.4
South African Inventory of Inland Aquatic Ecosystems	Relevant - The project area does not overlap with an NBA River but does overlap with three unclassified NBA wetland.	5.1.1.5
National Freshwater Priority Area	Relevant – The project area does not overlap with a FEPA river, but does overlap with 3 unclassified FEPA wetlands	5.1.1.5
Strategic Water Source Areas	Irrelevant- The project area is 170km from the closest SWSA	-
Coordinated Waterbird count	Irrelevant – Approximately 23 km from the closest CWAC	-
Coordinated Road Count	Irrelevant – Approximately 13 km from the closest CAR	-

5.1.1.1 Ecosystem Threat Status

The Ecosystem Threat Status is an indicator of an ecosystem’s wellbeing, based on the level of change in structure, function or composition. Ecosystem types are categorised as Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT) or Least Concern (LC), based on the proportion of the original extent of each ecosystem type that remains in good ecological condition. According to the spatial dataset the project overlaps with a VU ecosystem (Figure 5-1).

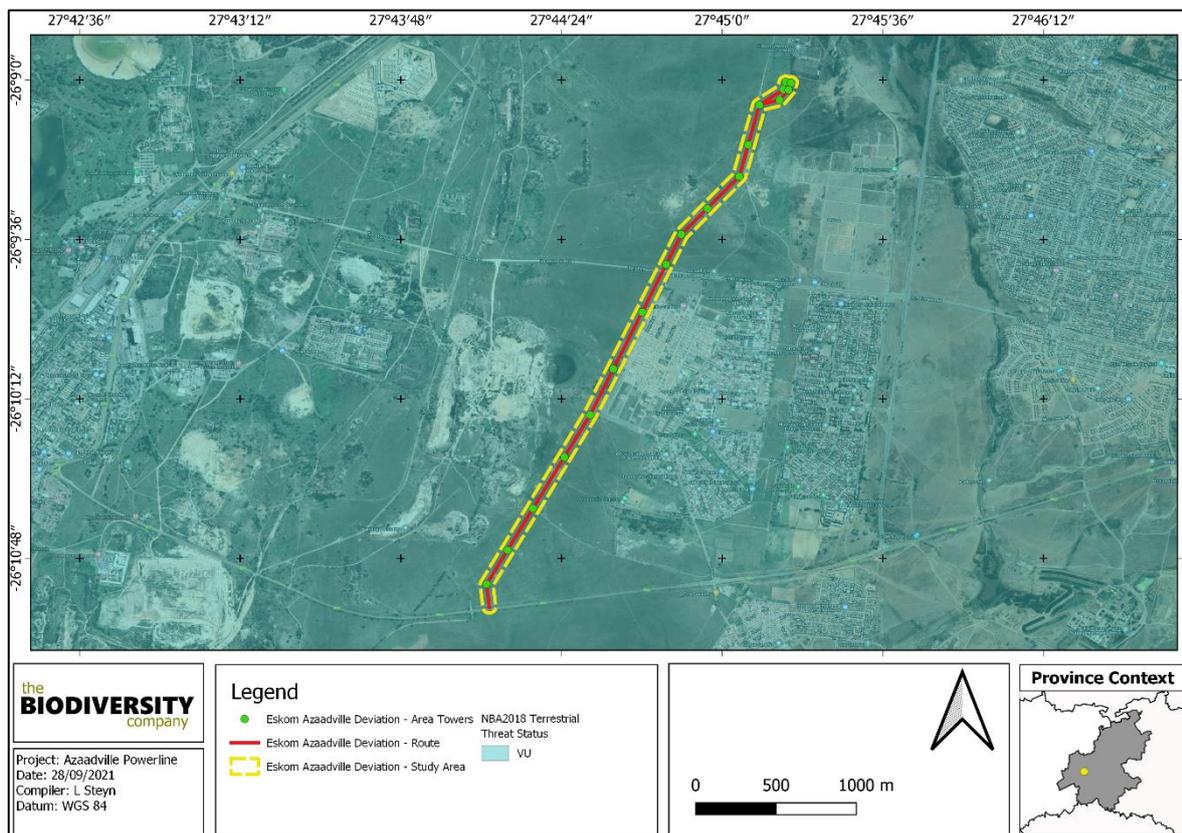


Figure 5-1 Map illustrating the ecosystem threat status associated with the project area.

5.1.1.2 Ecosystem Protection Level

This is an indicator of the extent to which ecosystems are adequately protected or under-protected. Ecosystem types are categorised as Well Protected (WP), Moderately Protected (MP), Poorly Protected (PP), or Not Protected (NP), based on the proportion of the biodiversity target for each ecosystem type that is included within one or more protected areas. NP, PP or MP ecosystem types are collectively referred to as under-protected ecosystems. The project overlaps with a NP ecosystem (Figure 5-2).

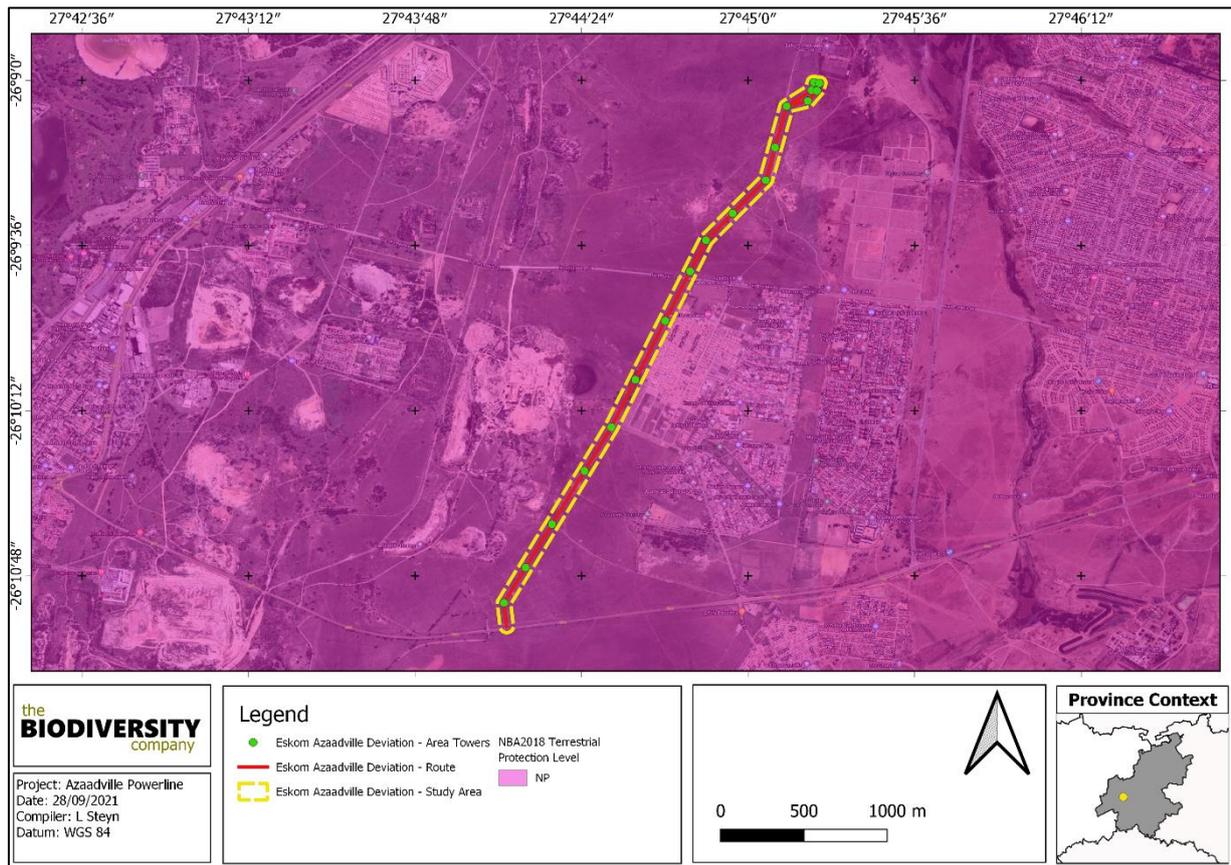


Figure 5-2 Map illustrating the ecosystem protection level associated with the project area

5.1.1.3 Critical Biodiversity Areas and Ecological Support Areas

It is important to note that the Critical Biodiversity Areas (CBA) map accounts for terrestrial fauna and flora only. The inclusion of the aquatic component was limited to the Freshwater Ecosystem Priority Areas (FEPA) catchments (included in the cost layer and for the identification of Ecological Support Areas (ESAs)) and wetland clusters (included in the ESAs only).

A CBA is considered a significant and ecologically sensitive area and needs to be kept in a pristine or near-natural state to ensure the continued functioning of ecosystems (SANBI, 2017). A CBA represents the best choice for achieving biodiversity targets. ESAs are not essential for achieving targets, but they play a vital role in the continued functioning of ecosystems and often are essential for proper functioning of adjacent CBAs.

Figure 5-3 shows the project area superimposed on the Terrestrial CBA map. The project area overlaps with an ESA and CBA: important area.

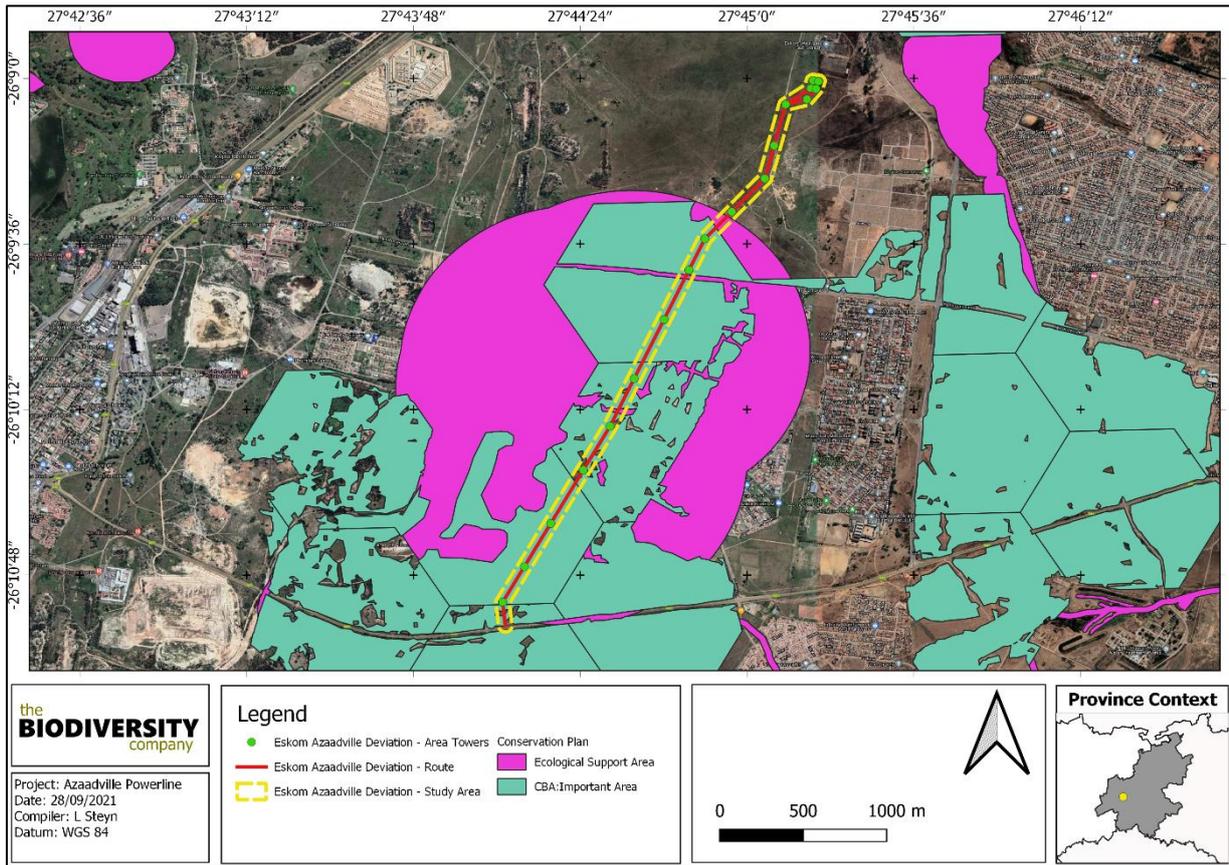


Figure 5-3 Map illustrating the locations of CBAs and ESAs in the project area

5.1.1.4 Gauteng Ridges

The quartzite ridges of Gauteng are one of the most important natural assets in the northern province of South Africa. This is because these ridges, and the area immediately surrounding the ridges, provide habitat for a wide variety of fauna and flora, some of which are Red List, rare or endemic species or, in the case of certain of the plant species, are found nowhere else in South Africa or the world. The project area is adjacent to a class 4 Gauteng Ridge (Figure 5-4).

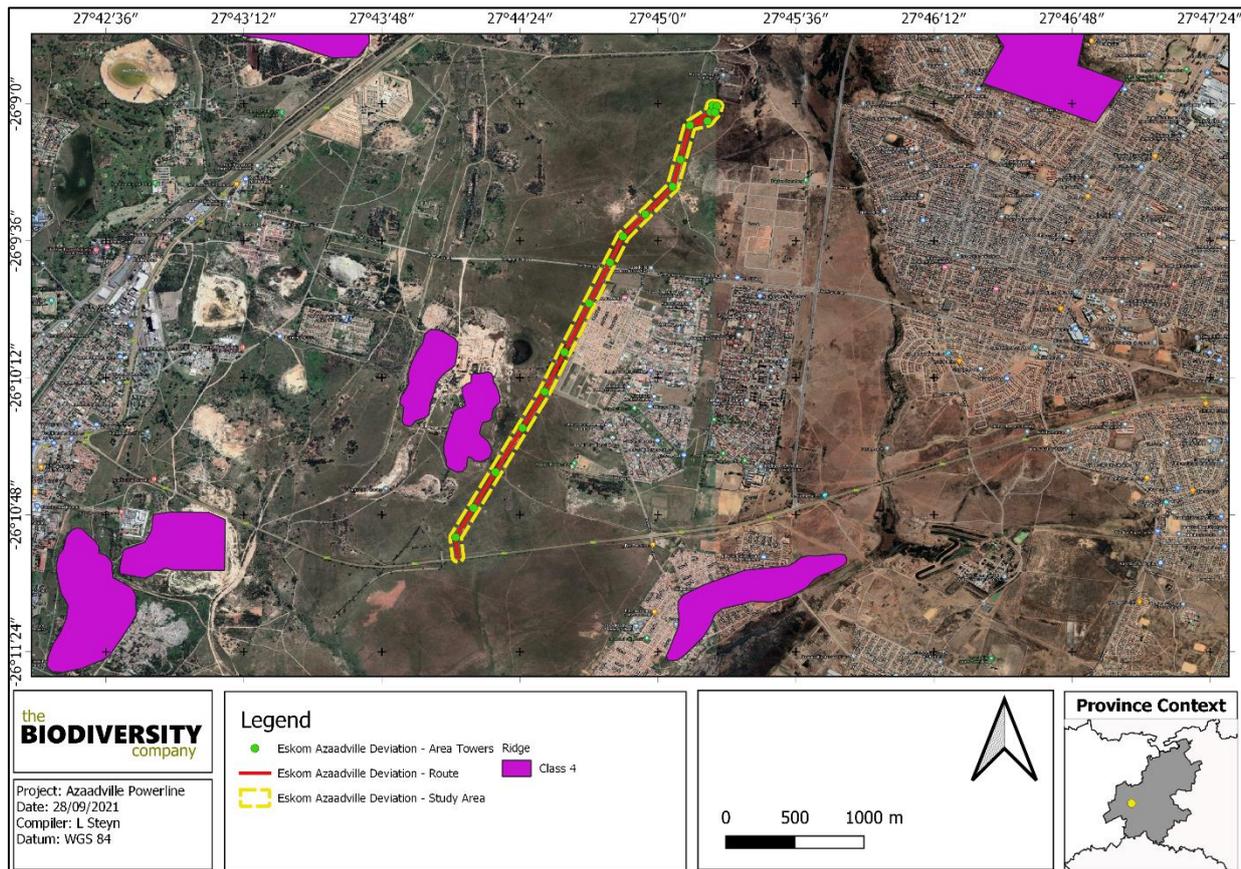


Figure 5-4 The project in relation to the Gauteng ridges

5.1.1.5 Hydrological Setting

The South African Inventory of Inland Aquatic Ecosystems (SAIIAE) was released with the NBA 2018. Ecosystem threat status (ETS) of river and wetland ecosystem types are based on the extent to which each river ecosystem type had been altered from its natural condition. Ecosystem types are categorised as CR, EN, VU or LT, with CR, EN and VU ecosystem types collectively referred to as 'threatened' (Van Deventer *et al.*, 2019; Skowno *et al.*, 2019). The project area does not overlap with a NBA River but does overlap with three NBA unclassified wetlands (Figure 5-5).

In an attempt to better conserve aquatic ecosystems, South Africa has categorised its river systems according to set ecological criteria (i.e., ecosystem representation, water yield, connectivity, unique features, and threatened taxa) to identify Freshwater Ecosystem Priority Areas (FEPAs) (Driver *et al.*, 2011). The FEPAs are intended to be conservation support tools and envisioned to guide the effective implementation of measures to achieve the National Environment Management Biodiversity Act's (NEM:BA) biodiversity goals (Nel *et al.*, 2011). The project area overlaps with three unclassified FEPA wetlands (Figure 5-6).

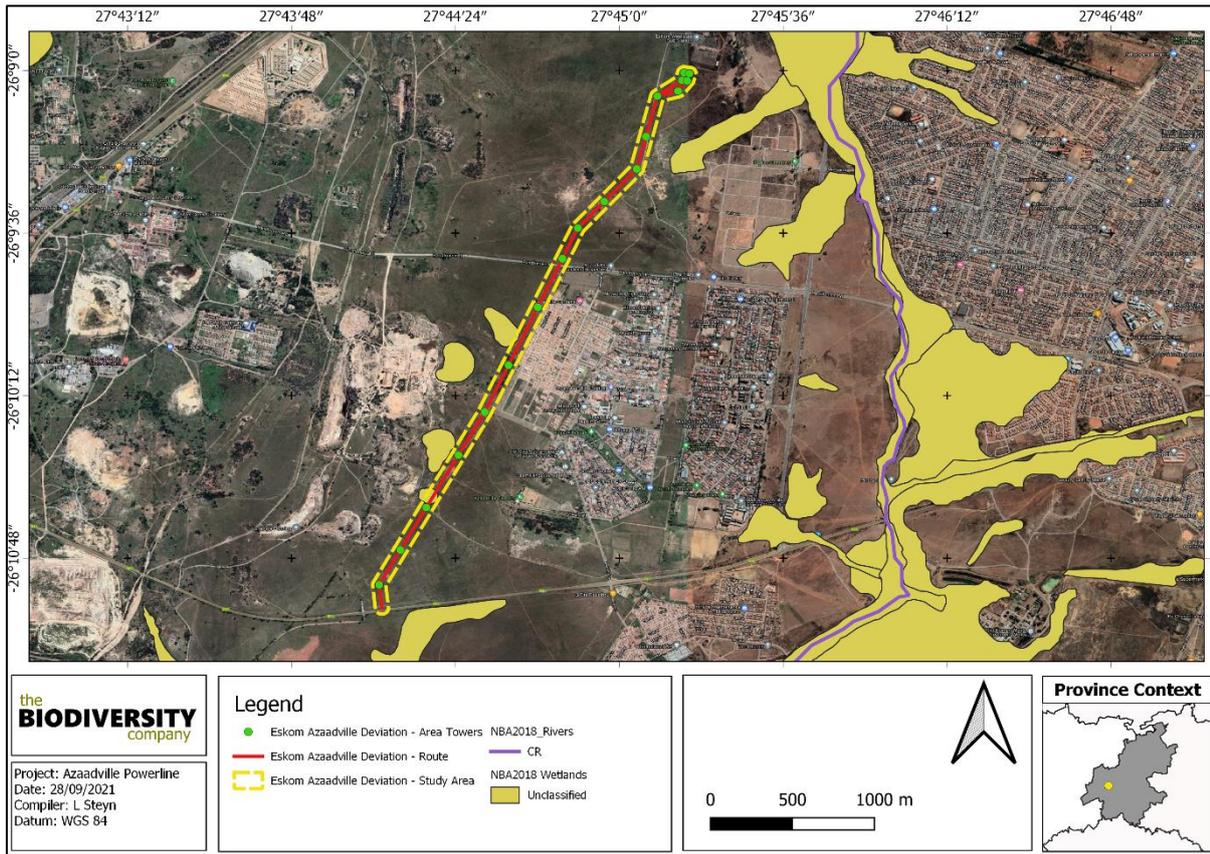


Figure 5-5 Map illustrating the NBAs associated with the project area

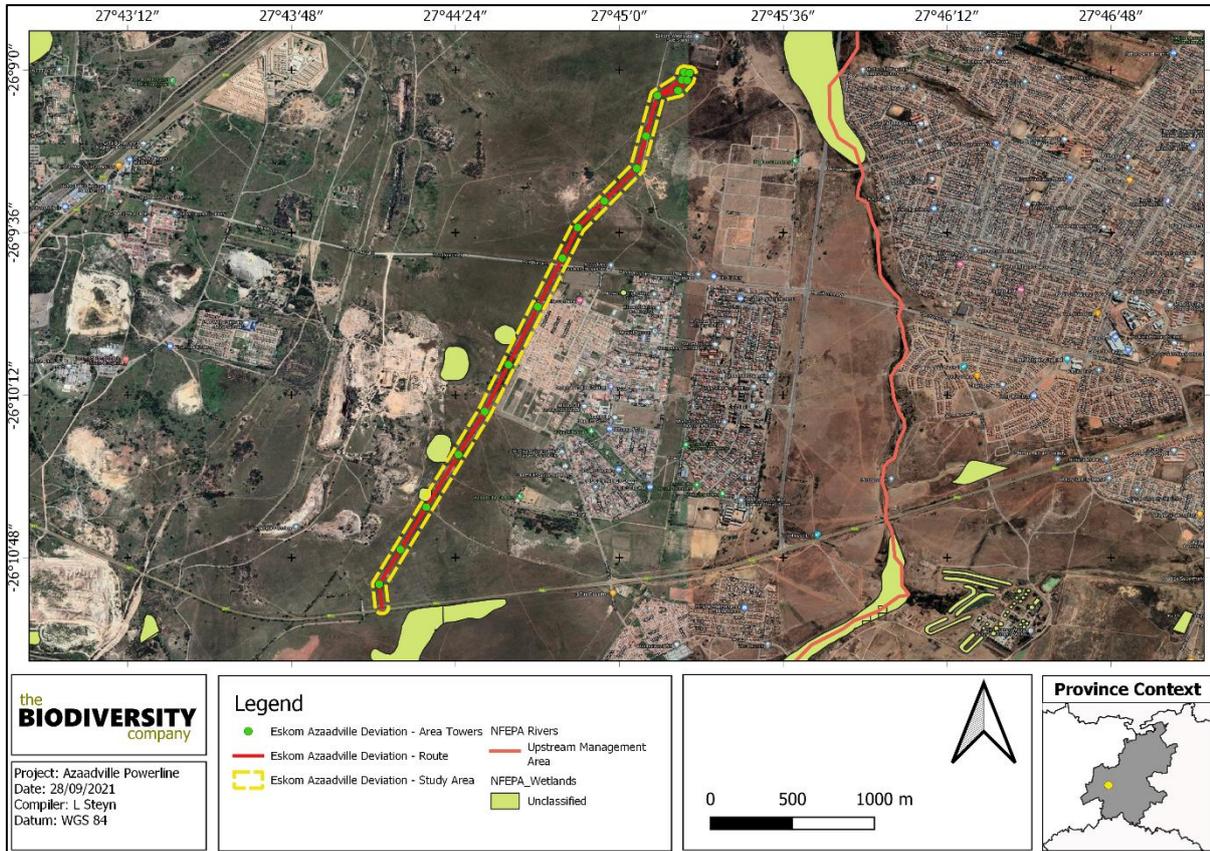


Figure 5-6 Map illustrating the FEPAs associated with the project area

5.1.1.6 Electricity Grid Infrastructure (EGI)

Electricity Grid Infrastructure (EGI) Power Corridors assessed as part of the 2016 EGI Strategic Environmental Assessment (SEA) were gazetted for implementation on 16 February 2018 in Government Gazette 41445, Government Notice 113. Developers proposing to submit applications for Environmental Authorisations for large scale electricity transmission infrastructure within any of the five Strategic Transmission Corridors, that trigger Listed Activity 9 of Listing Notice 2 of the 2014 Environmental Impact Assessment (EIA) Regulations (as amended), or any other listed and specified activities that are necessary for the realisation of such infrastructure and facilities, would need to follow a Basic Assessment (BA) Process in terms of the 2014 EIA Regulations (as amended), as opposed to a full Scoping and EIA Process, which is required for all activities listed in Listing Notice 2.

The project area falls within the central corridor (Figure 5-7).

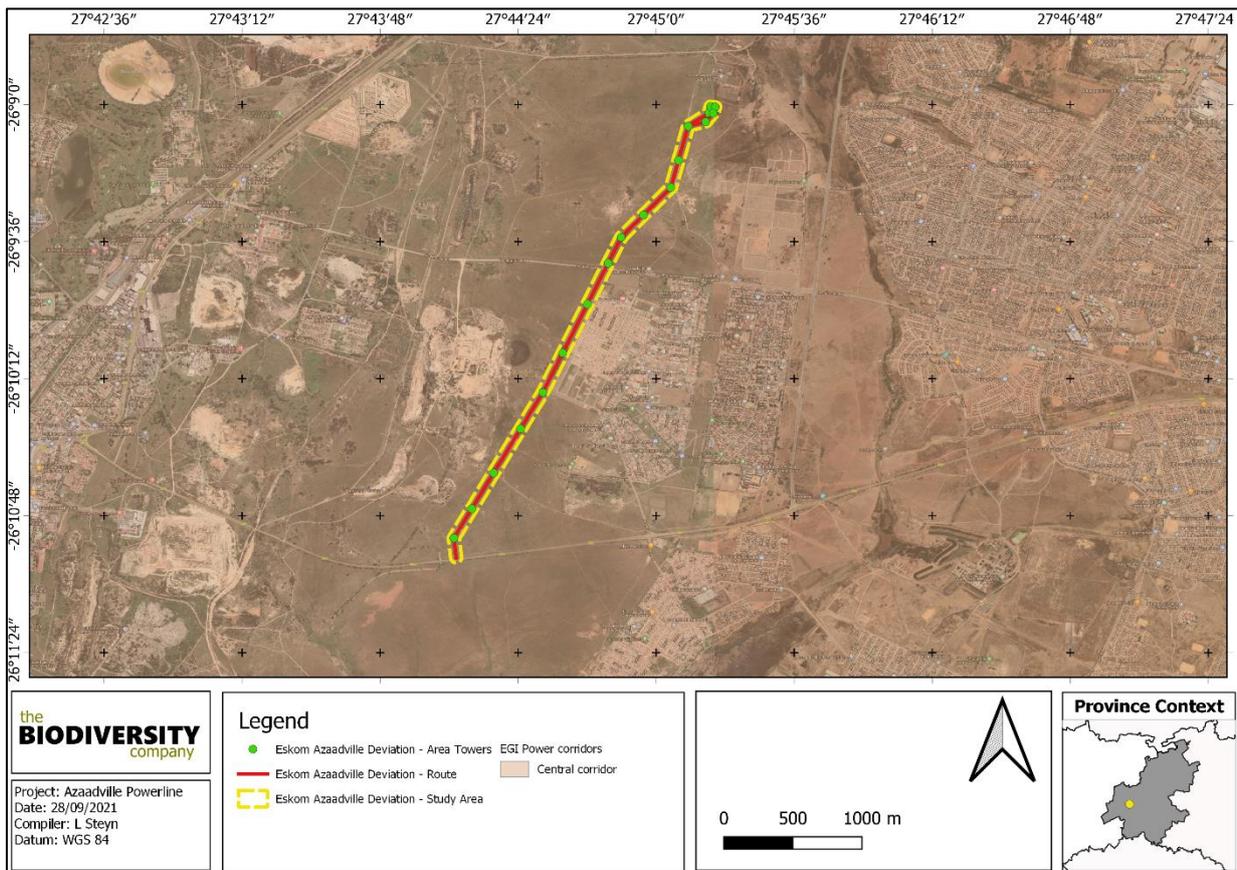


Figure 5-7 The project area in relation to the central EGI corridor

5.1.1.7 Important Bird Areas

No Important Bird and Biodiversity Areas (IBAs) are situated within the project area. The proposed project area is however located approximately 7 km from the Magaliesberg Important Biodiversity and Bird Area (IBA) (Figure 5-8). Previously known as the Magaliesberg and Witwatersberg IBA, this IBA consists mainly of the Magaliesberg mountain range, which extends in an arc from just north-west of Rustenburg in the west to the N1 in the east near Pretoria. To the south, the Witwatersberg mountain range runs parallel to the Magaliesberg, extending from the town of Magaliesburg in the west to Hartbeespoort Dam in the east.

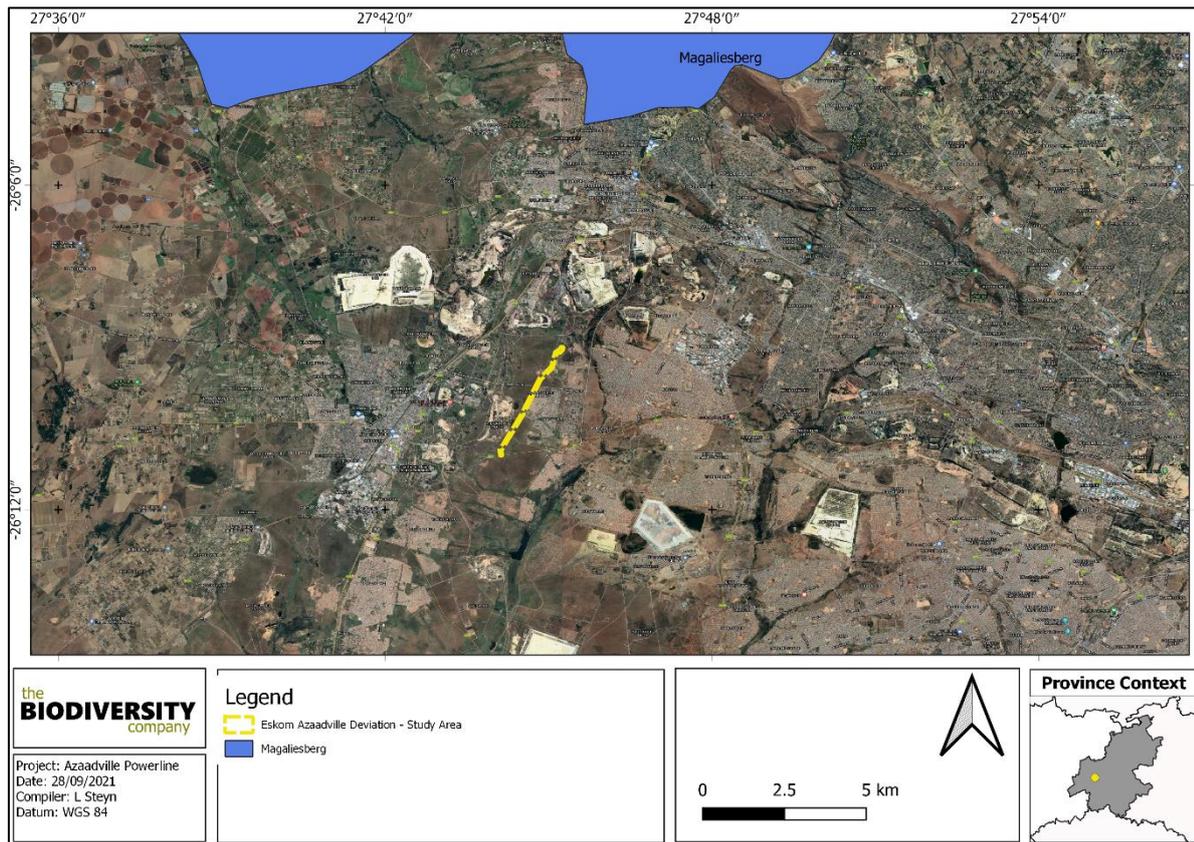


Figure 5-8 The Magaliesberg IBA in relation to the project area

5.1.1.7.1 IBA Trigger Species

Globally threatened species are Cape Vulture, Kori Bustard, Lappet-faced Vulture, Secretarybird, Melodious Lark and White-backed Vulture. Regionally threatened species are Lanner Falcon and Short-clawed Lark. Biome-restricted species commonly found are Barred Wren-Warbler, Kalahari Scrub-Robin, White-throated Robin-Chat and White-bellied Sunbird, while less common species are Burchell’s Starling and Sociable Weaver. Table 5-2 highlights some of the important species found in the IBA.

Table 5-2 Important birds found within the Magaliesberg IBA (Source: Marnewick et al. (2015))

Common Name	Scientific Name	Threat Status	Occurrence
Cape Vulture	<i>Gyps coprotheres</i>	EN	Breeds at Nooitgedacht and Skeerpoort, the larger of the two colonies. No breeding activity was recorded at a third colony, Roberts' Farm, in 2014
Verreauxs Eagle	<i>Aquila verreauxii</i>	VU	Breeds in the Magaliesberg
Lanner falcon	<i>Falco biarmicus</i>	VU	Throughout IBA
African Grass Owl	<i>Tyto capensis</i>	VU	Recorded regularly throughout the IBA
Secretary bird	<i>Sagittarius serpentarius</i>	VU	Recorded regularly throughout the IBA
Half-collared Kingfisher	<i>Alcedo semitorquata</i>	NT	Densely wooded valleys along overgrown, slow-flowing streams
Barred Wren Warbler	<i>Calamonastes fasciolatus</i>	LC	Occurs in woodland areas
White-bellied Sunbird	<i>Cinnyris talatala</i>	LC	Throughout IBA
Kurrichane Thrush	<i>Turdus libonyanus</i>	LC	Throughout IBA
White-throated Robin-chat	<i>Cossypha humeralis</i>	LC	Throughout IBA

Kalahari Scrub Robin	<i>Cercotrichas paena</i>	LC	Throughout IBA
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5.1.2 Faunal Assessment

5.1.2.1 Avifauna

The SABAP2 dataset lists 323 avifauna species that could be expected to occur within the area (Appendix A). Sixteen (16) of these expected species are regarded as threatened (Table 5-3), eleven of these have a low likelihood of occurrence based on the lack of suitable habitat and food sources in the project area.

Table 5-3 List of bird species of regional or global conservation importance that are expected to occur in the project area (SABAP2, 2021; ESKOM, 2015; IUCN, 2021).

Species	Common Name	Conservation Status		Likelihood of occurrence
		Regional (SANBI, 2016)	IUCN (2021)	
<i>Alcedo semitorquata</i>	Kingfisher, Half-collared	NT	LC	Low
<i>Aquila verreauxii</i>	Eagle, Verreaux's	VU	LC	Low
<i>Ciconia abdimii</i>	Stork, Abdim's	NT	LC	Low
<i>Circus ranivorus</i>	Marsh-harrier, African	EN	LC	Moderate
<i>Coracias garrulus</i>	Roller, European	NT	LC	Moderate
<i>Eupodotis senegalensis</i>	Korhaan, White-bellied	VU	LC	Low
<i>Falco biarmicus</i>	Falcon, Lanner	VU	LC	High
<i>Falco vespertinus</i>	Falcon, Red-footed	NT	NT	High
<i>Grus paradisea</i>	Crane, Blue	NT	VU	Low
<i>Gyps africanus</i>	Vulture, White-backed	CR	CR	Low
<i>Gyps coprotheres</i>	Vulture, Cape	EN	EN	Low
<i>Leptoptilos crumenifer</i>	Stork, Marabou	NT	LC	Low
<i>Polemaetus bellicosus</i>	Eagle, Martial	EN	VU	Low
<i>Rostratula benghalensis</i>	Painted-snipe, Greater	NT	LC	Low
<i>Sagittarius serpentarius</i>	Secretarybird	VU	VU	High
<i>Tyto capensis</i>	Grass-owl, African	VU	LC	Low

Circus ranivorus (African Marsh Harrier) is listed as EN in South Africa (ESKOM, 2014). This species has an extremely large distributional range in sub-equatorial Africa. South African populations of this species are declining due to the degradation of wetland habitats, loss of habitat through over-grazing and human disturbance and possibly, poisoning owing to over-use of pesticides (IUCN, 2017). This species breeds in wetlands and forages primarily over reeds and lake margins. There are some wetlands at the project area, however many of them are disturbed and thus the occurrence of *C. ranivorus* in the project area is therefore considered to be moderate.

Coracias garrulus (European Roller) is a winter migrant from most of South-central Europe and Asia occurring throughout sub-Saharan Africa (IUCN, 2017). The European Roller prefers bushy plains and dry savannah areas (IUCN, 2017). There is a moderate chance of this species occurring in the project area as they prefer to forage in open/disturbed agricultural areas.

Falco biarmicus (Lanner Falcon) is native to South Africa and inhabits a wide variety of habitats, from lowland deserts to forested mountains (IUCN, 2017). They may occur in groups up to 20 individuals, but have also been observed solitary. Their diet is mainly composed of small birds such as pigeons and francolins. The likelihood of incidental records of this species in the project area is rated as high due to the natural veld condition and the presence of many bird species on which Lanner Falcons may predate.

Falco vespertinus (Red-footed Falcon) is known to breed from eastern Europe and northern Asia to north-western China, heading south in the non-breeding season to southern Angola and southern Africa. Within

southern Africa it is locally uncommon to common in Botswana, northern Namibia, central Zimbabwe and the area in and around Gauteng, South Africa (Hockey *et al*, 2005). The habitat it generally prefers is open habitats with scattered trees, such as open grassy woodland, wetlands, forest fringes and croplands. Some of these habitats are present in the project area and thus the likelihood of occurrence is rated as high.

Sagittarius serpentarius (Secretarybird) occurs in sub-Saharan Africa and inhabits grasslands, open plains, and lightly wooded savanna. It is also found in agricultural areas and sub-desert (IUCN, 2017). The likelihood of occurrence is rated as high due to the extensive grasslands and wetland areas present in the project area, as well as the agricultural areas present in which this species may forage.

5.2 Field Assessment

Thirty Four (34) bird species were recorded in the summer survey. The full list of species recorded, their threat status, guild and location observed is shown in Appendix F and some of the birds recorded is shown in Figure 5-9. None of the species recorded were species of conservation concern.

Table 5-4 provide lists of the dominant species for the summer surveys together with the frequency with which each species appeared in the point count samples. The data shows the Southern Masked Weaver, House Sparrow, Crowned Lapwing and Red-capped Larks were the most abundant species.

Table 5-4 *Dominant avifaunal species within the project area during the winter survey as defined as those species whose relative abundances cumulatively account for more than 78% of the overall abundance shown alongside the frequency with which a species was detected among point counts.*

Species	Common Name	Guild code	Relative Abundance	Frequency (%)
<i>Ploceus velatus</i>	Masked-weaver, Southern	GGD	0,11875	25
<i>Passer domesticus</i>	Sparrow, House	GGD	0,0875	25
<i>Vanellus coronatus</i>	Lapwing, Crowned	IGD	0,0625	43,75
<i>Calandrella cinerea</i>	Lark, Red-capped	GGD	0,0625	25
<i>Oenanthe pileata</i>	Wheatear, Capped	IGD	0,05625	37,5
<i>Streptopelia capicola</i>	Turtle-dove, Cape	GGD	0,05	43,75
<i>Acridotheres tristis</i>	Myna, Common	OMD	0,05	31,25
<i>Myrmecocichla formicivora</i>	Chat, Anteating	IGD	0,04375	12,5
<i>Spreo bicolor</i>	Starling, Pied	OMD	0,04375	12,5
<i>Cecropis cucullata</i>	Swallow, Greater Striped	IAD	0,04375	18,75
<i>Prinia subflava</i>	Prinia, Tawny-flanked	IGD	0,0375	18,75
<i>Corvus albus</i>	Crow, Pied	OMD	0,03125	18,75
<i>Columba livia</i>	Dove, Rock	FFD	0,03125	12,5
<i>Bostrychia hagedash</i>	Ibis, Hadedda	OMD	0,03125	25
<i>Riparia paludicola</i>	Martin, Brown-throated	IAD	0,03125	6,25

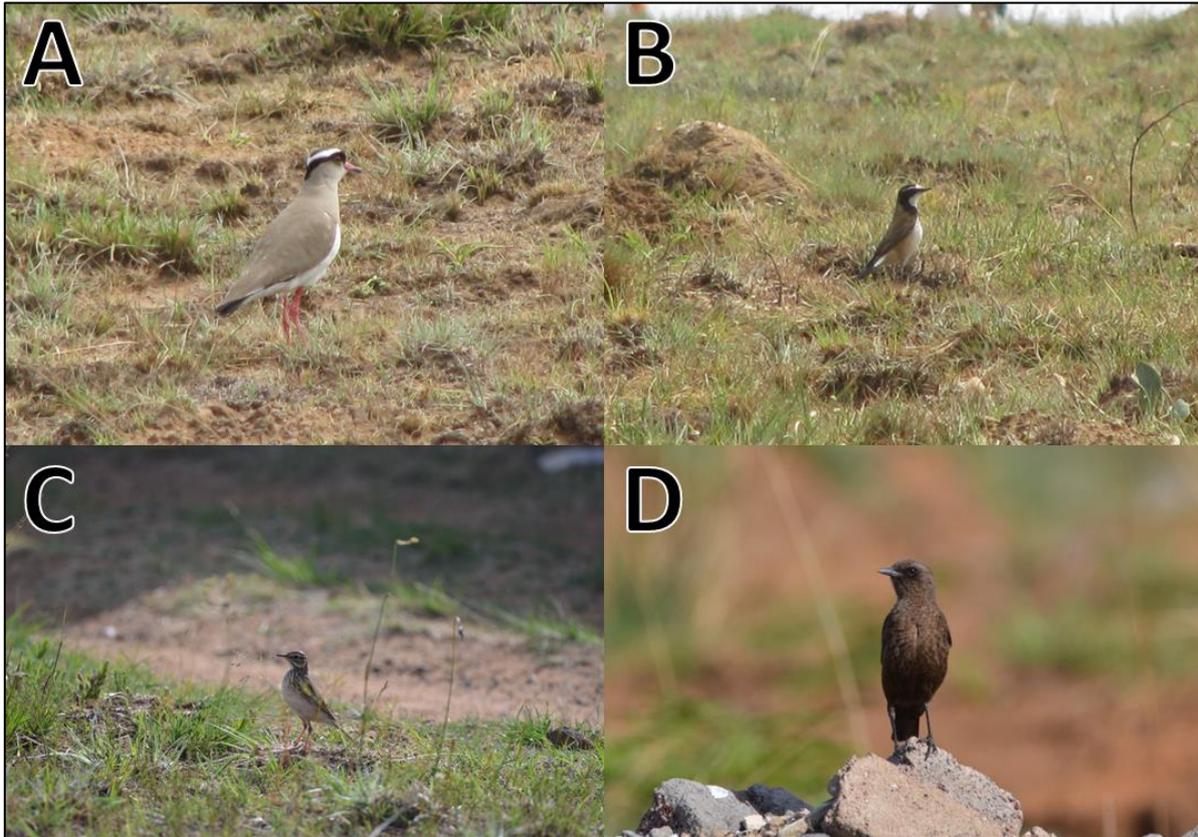


Figure 5-9 Some of the avifauna species recorded in the project area: A) Crowned Lapwing, B) Capped Wheatear, C) African Pipit, and D) Anteating Chat

5.2.1 Trophic Guilds

Trophic guilds are defined as a group of species that exploit the same class of environmental resources in a similar way (González-Salazar *et al*, 2014). The guild classification used in this assessment is as per González-Salazar *et al* (2014); they divided avifauna into 13 major groups based on their diet, habitat, and main area of activity. The analysis of the major avifaunal guilds reveals that the species composition during the summer survey was dominated by granivores and Insectivores that feed on the ground (GGD and IGD) (Figure 5-10). Diurnal ground feeding omnivores (OMD) were the third most prevalent group of species. The dominant feeding groups is attributed to the grassveld habitat as well as the areas where dumping is taking place drawing a number of insects and subsequently insectivores.

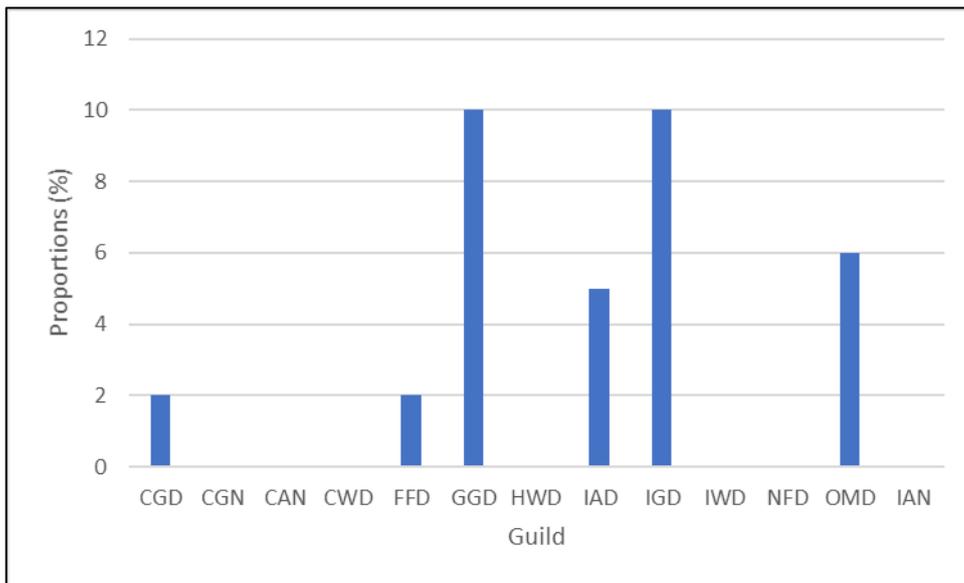


Figure 5-10 Avifaunal trophic guilds. CGD, carnivore ground diurnal; CGN, carnivore ground nocturnal, CAN, carnivore air nocturnal, CWD, carnivore water diurnal; FFD, frugivore foliage diurnal; GCD, granivore ground diurnal; HWD, herbivore water diurnal; IAD, insectivore air diurnal; IGD, insectivore ground diurnal; IWD, insectivore water diurnal; NFD, nectivore foliage diurnal; OMD, omnivore multiple diurnal; IAN, Insectivore air nocturnal.

The principle impacts of the power lines are electrocution and collisions. Birds prone to collisions can be divided into five categories; 1) large species with high body weight ratio to wing span resulting in low manoeuvrability, 2) species that are distracted in flight this include predatory birds and smaller species with areal displays, 3) species flying at high speeds, 4) crepuscular species that are active in low light conditions, and 5) species with limited narrow forward vision (Jenkins *et al.*, 2010; Noguera *et al.*, 2010). Species that tend to fly in flocks also may be influenced more by collisions as the birds flying in the rear will not be able to detect the power lines. Large passerines are particularly susceptible to electrocution because owing to their relatively large bodies, they are able to touch conductors and ground/earth wires or earthed devices are simultaneously. The chances of electrocution are increased when feathers are wet, during periods of high humidity or during defecation. Prevailing wind direction also influences the rate of electrocution casualties. Winds parallel or diagonal to cross-arms are the most detrimental, due to exacerbating the difficulty in manoeuvrability during landing or take-off.

Species with a risk for collisions and electrocutions that were recorded in the project area is shown in Table 5-5.

Table 5-5 Avifauna species recorded within the assessment area that are prone to impacts by the energy production and distribution

Species	Common Name	Collisions	Electrocution
<i>Bostrychia hagedash</i>	Ibis, Hadedda	X	X
<i>Corvus albus</i>	Crow, Pied		X
<i>Afrotis afrooides</i>	Korhaan, Northern Black	X	
<i>Numida meleagris</i>	Guineafowl, Helmeted		X

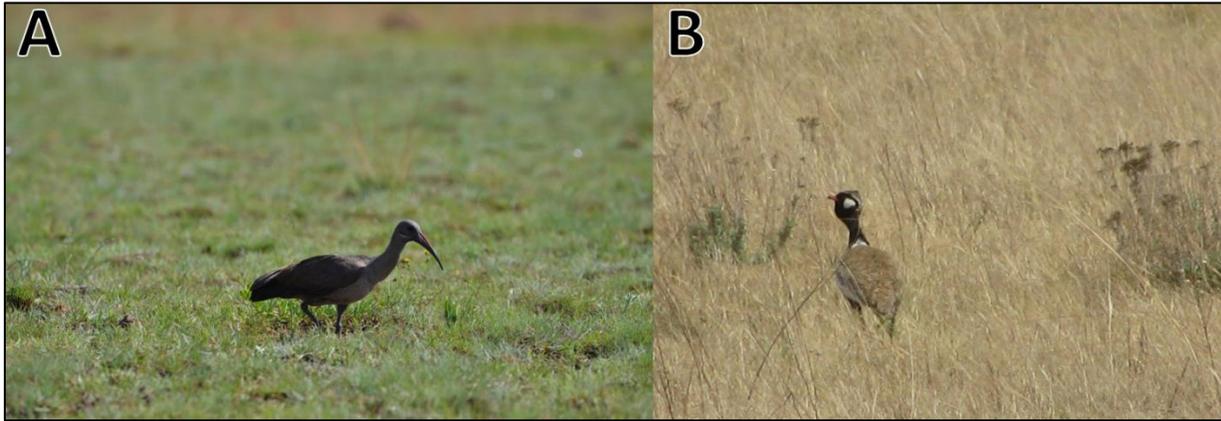


Figure 5-11 Two of the species recorded that are at risk for collisions: A) Hadeda Ibis and B) Northern Black Korhaan

6 Habitat Assessment and Site Ecological Importance

6.1 Fine-Scale Avifauna Habitat Use

Fine-scale habitats within the landscape are important in supporting a diverse avifauna community as they provide differing nesting, foraging and reproductive opportunities. The assessment area overlaps with two avifaunal habitat types namely grasslands (this includes disturbed, transformed and degraded areas) and Alien tree clumps (Figure 6-1 and Figure 6-2).

The grasslands habitat are areas where grass species are still present, or degraded, or even completely transformed. These areas were combined as they had a similar avifauna species composition. Species found here included Capped Wheatear, Red-capped Larks, House Sparrows, Crowned Lapwings, Common Myna and Hadeda Ibis. This area constituted 34.2 Ha of the total assessment area.

The alien tree clumps consisted of mainly two tree species, Black Wattle and Red River Gum trees. Some of the grassland avifauna species were also found here, but a few species were exclusively observed here. They were, Southern Masked Weavers, Common Fiscal and the only predatory bird recorded the Black Shouldered Kite. 0.86 Ha of the project area is made up of this habitat. The Southern Masked Weavers were utilizing the alien tree clumps for their nests.

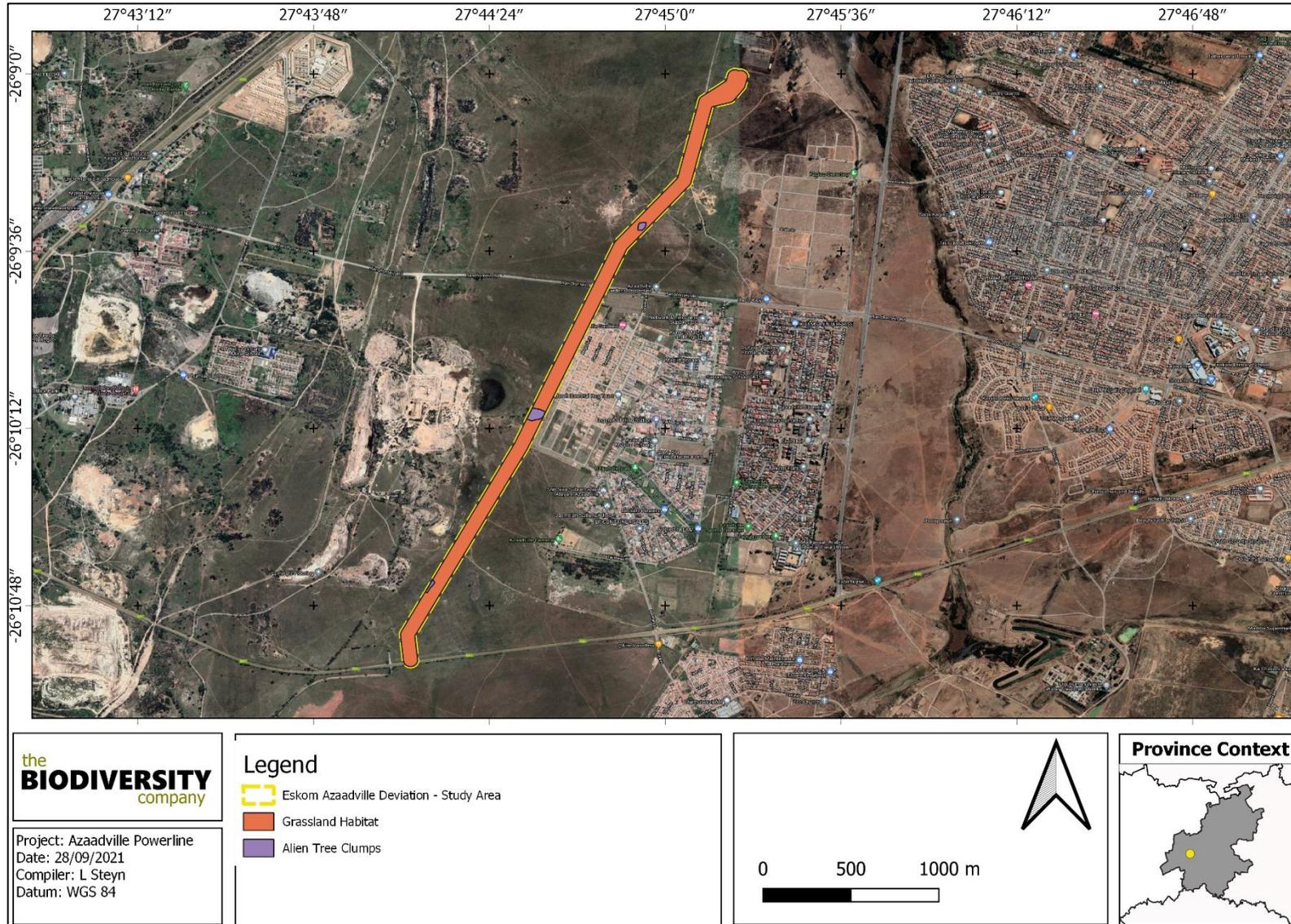


Figure 6-1 The avifauna habitats found in the project area.

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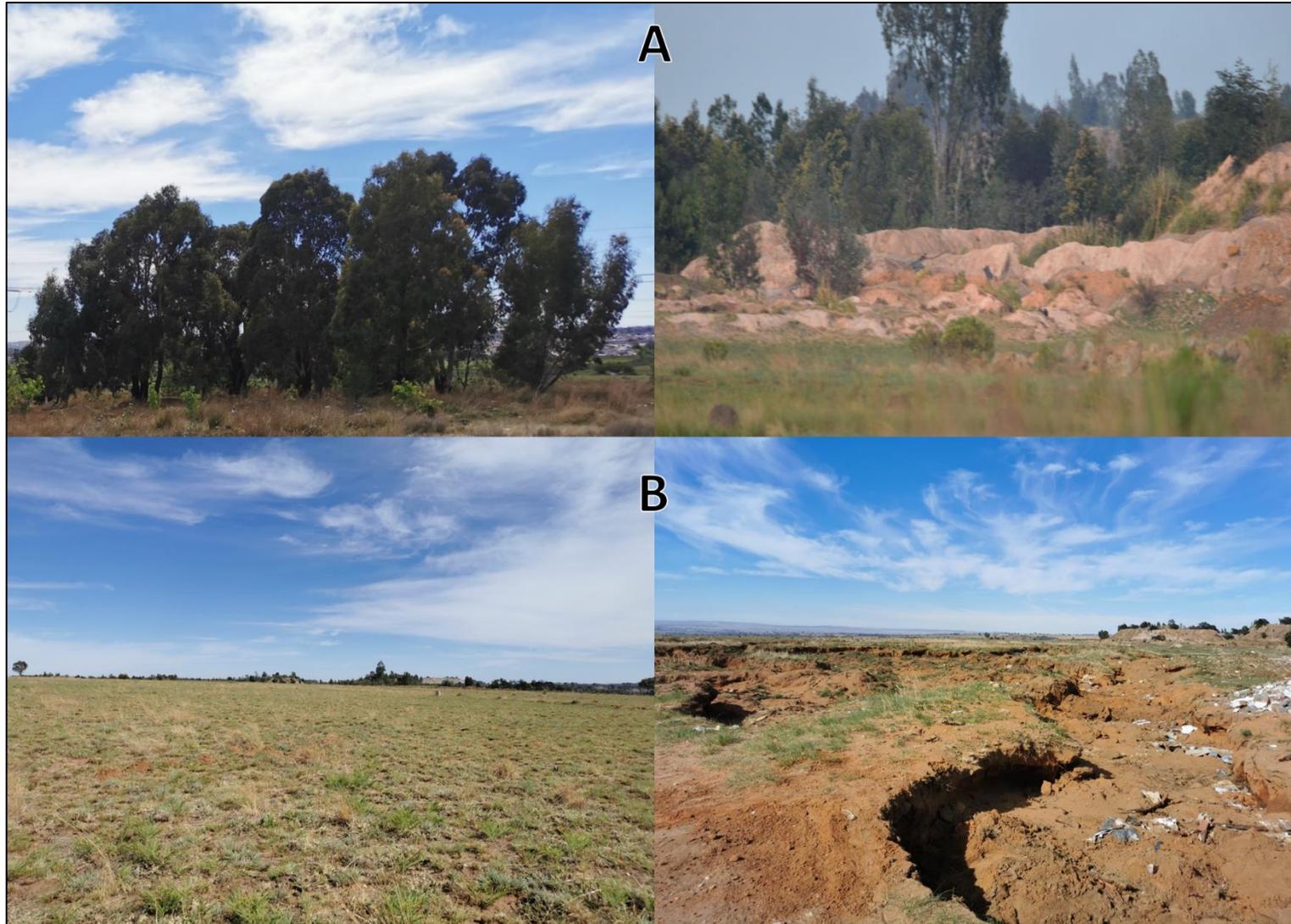


Figure 6-2 *Photographs illustrating examples of the habitat types delineated within the assessment area associated with the assessment area of the project A) Alien Tree Clumps, B) Grasslands (Degraded and transformed)*

6.2 Terrestrial Site Ecological Importance

6.2.1 Avifauna Sensitivity

The animal species sensitivity theme is classified as medium sensitivity according to the National Environmental Screening Tool (Figure 6-3).

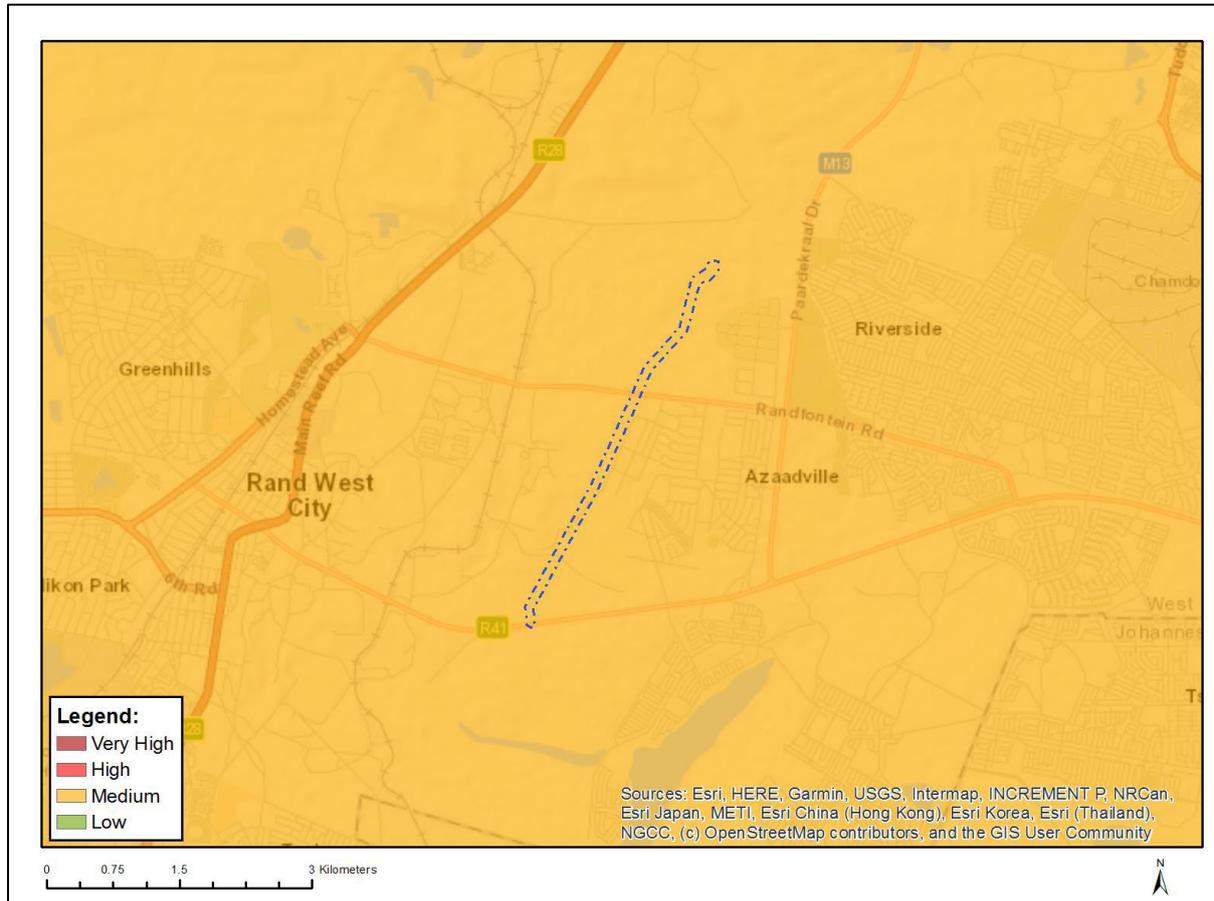


Figure 6-3 Map depicting relative animal theme sensitivity of the project (National Environmental Screening Tool, 2021)

The two (2) avifauna habitat types were subjected to the SEI methods as described in section 4.3 and allocated a sensitivity category (Table 6-1). The sensitivities of the habitat types delineated are illustrated in Figure 6-4.

Table 6-1 Summary of habitat types delineated within the field assessment area of the project.

Habitat	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance
Grassland	Low	Low	Low	Medium	Low
Alien Tree Clumps	Low	Very Low	Very Low	High	Very Low

Interpretation of the SEI in the context of the proposed development activities is provided in Table 6-2.

Table 6-2 Guidelines for interpreting Site Ecological Importance (SEI) in the context of the proposed development activities

Site Ecological Importance (SEI)	Interpretation in relation to proposed development 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.

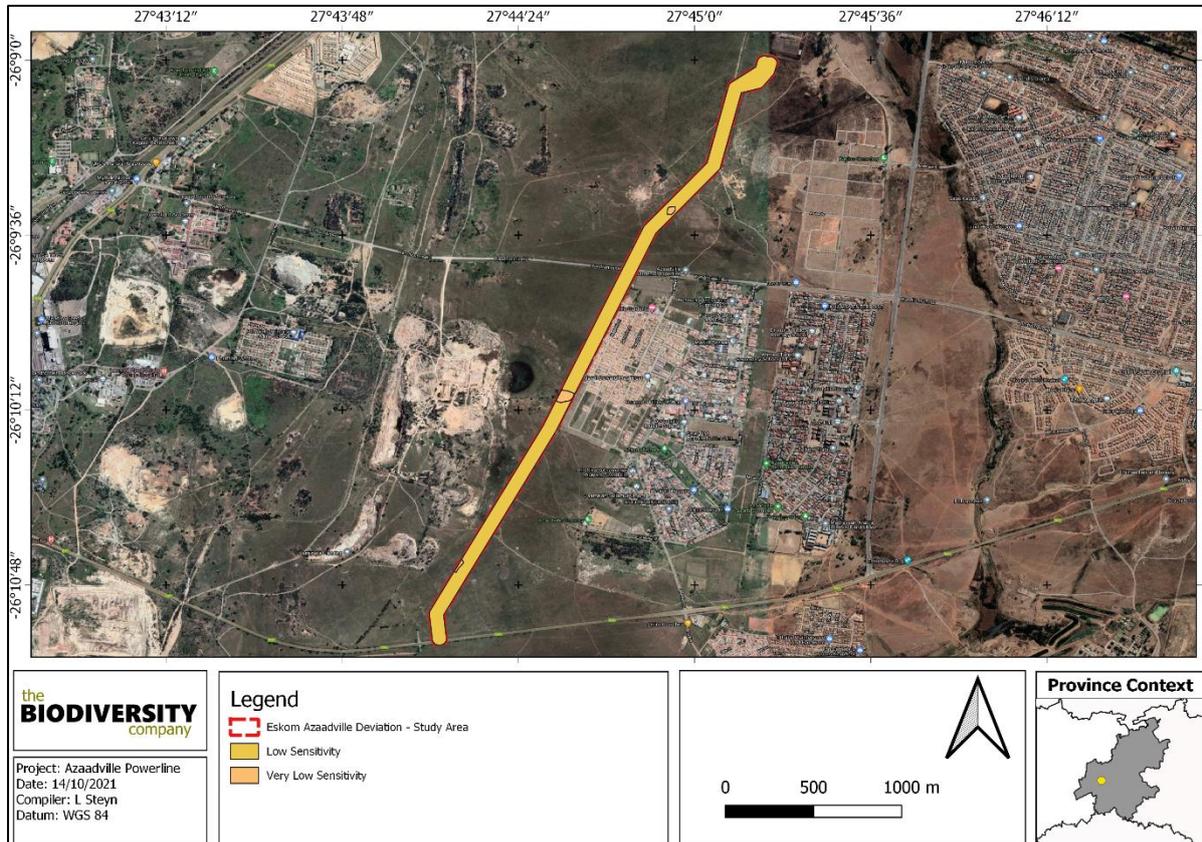


Figure 6-4 Site Ecological Importance of the avifauna in the project area

7 Impact Risk Assessment

The section below and associated tables serve to indicate and summarise the significance of perceived impacts on the terrestrial habitat and avifauna of the project area. Potential impacts were evaluated against the data captured during the desktop and field assessment to identify relevance to the project area. The relevant impacts associated with the agricultural development were then subjected to a prescribed impact assessment methodology which is available on request.

7.1 Present Impacts to Biodiversity and Avifauna

Considering the anthropogenic activities and influences within the landscape, several negative impacts to the habitat and avifauna were observed within the project area. These include:

- Historic and recent land modification in the form of sand mining;
- Clearance of vegetation;
- Un-planned burning;
- Illegal dumping;

- Informal roads and main roads (and associated traffic and road mortalities);
- Alien and/or Invasive Plants (AIP); and
- Overgrazing.

7.2 Avifauna Impact Assessment

This section describes the potential impacts on avifauna associated with the construction and operational phases of the proposed development. During the construction phase vegetation clearing and brush cutting of vegetation for the associated infrastructure will lead to direct habitat loss. Vegetation clearing will create a disturbance and will therefore potentially lead to the displacement of avifaunal species. The operation of construction machinery on site will generate noise and cause dust pollution. Increased human presence can lead to poaching and the increase in vehicle traffic will potentially lead to roadkill.

The decommissioning phase was assessed for avifauna in the event that the line be replaced or decommissioned. It is very important that the line be removed should it not be in use anymore as the collision risk persist.

7.2.1 Alternatives considered

No alternatives were provided.

7.2.2 Loss of Irreplaceable Resources

SCCs may be lost

7.2.3 Identification of Potential Impacts

The assessment of impact significance considers pre-mitigation as well as implemented of post-mitigation scenarios. Although different species and groups will react differently to the development, the risk assessment was undertaken bearing in mind the potential impacts to the priority species listed in section 5.1 of this report.

7.2.3.1 Pre-construction Phase

The pre-construction phase activities are considered a low risk as they typically involve desktop assessments and initial site inspections. The site comprises areas that has already been altered mainly by agriculture. This phase of the assessment would include, amongst others, site visits of various contractors, environmental and social impact assessment and compiling of management plans. Only one minor impact was assessed regarding the planning phase:

- Temporary disturbance of avifauna due to increased human presence and possible use of machinery and/or vehicles.

7.2.3.2 Construction Phase

The following potential impacts were considered:

- Habitat Loss (Destroy, fragment, and degrade habitat, ultimately displacing avifauna);
- Sensory disturbances (e.g. noise, dust, vibrations);
- Collection of eggs and poaching;
- Roadkill.

7.2.3.3 Operational Phase

The following potential impacts were considered:

- Habitat Loss (Destroy, fragment, and degrade habitat, ultimately displacing avifauna);
- Sensory disturbances (e.g. noise, dust, vibrations);
- Collection of eggs and poaching;
- Roadkill;
- Collisions with power lines and associated infrastructure;
- Electrocution by infrastructure and connections to PV.

7.2.3.4 Decommissioning Phase

The following potential impacts were considered:

- Habitat Loss (Destroy, fragment, and degrade habitat, ultimately displacing avifauna);
- Collisions with power lines and associated infrastructure.

7.2.4 Assessment of Impact Significance

The assessment of impact significance considers pre-mitigation as well as implemented of post-mitigation scenarios. The mitigation actions required to lower the risk of the impact are provided in Section 9 of this report.

7.2.4.1 Preconstruction phase

Table 7-1 shows the rating of the impact pre- and post-mitigation. The impact of this disturbance were rated as low prior to the mitigation and were absent post mitigation.

7.2.4.2 Construction Phase

Table 7-2 summarises the significance of potential impacts associated with the power line on avifauna before and after implementation of mitigation measures. Grassland habitat does still occur on site, although somewhat disturbed. The loss of habitat was thus rated as Moderately High pre-mitigations, by implementing mitigations such as using existing roads and reducing the footprint the impact can be reduced to low. By installing signs and including it in the site meetings, speeding (road kills) and poaching can successfully be mitigated. These impacts were then reduced from 'Moderate' to 'Low'.

7.2.4.3 Operational Phase

Table 7-3 summarises the significance of the operational phase impacts on avifauna before and after implementation of mitigation measures. The impact significance of electrocution and collisions were rated as 'High' prior to mitigations. Implementation of mitigation measures as specified by Birdlife South Africa (2015) reduced the significance of these impacts to a 'Low' and 'Moderate' level respectively. Even with the implementation of all these mitigations there is still a likelihood that the species would be impacted.

7.2.4.4 Decommissioning

The power line continues to pose a risk for bird collisions even if there is no current running in it. It is therefore imperative that the lines be removed should they not be in use anymore. This impact was rated as high pre mitigation and absent post mitigation (Table 7-4).

Table 7-1 Assessment of significance of potential impacts on avifauna associated with the pre-construction phase of the project

Impact	Prior to mitigation					Post mitigation						
	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance
Temporary disturbance of avifauna due to increased human presence and possible use of machinery and/or vehicles.	2	3	3	3	3		2	2	2	2	2	
	One month to one year: Short Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Likely	Low	One month to one year: Short Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Possible	Absent

Table 7-2 Assessment of significance of potential impacts on avifauna associated with the construction phase of the project

Impact	Prior to mitigation						Post mitigation					
	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance
Habitat Loss (Destroy, fragment and degrade habitat, ultimately displacing avifauna)	4	3	3	3	5	Moderately High	3	2	2	2	2	Low
	Life of operation or less than 20 years: Long Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Definite		One year to five years: Medium Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Possible	
Sensory disturbances (e.g. noise, dust, vibrations)	4	3	3	3	3	Moderate	3	2	2	2	2	Low
	Life of operation or less than 20 years: Long Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Likely		One year to five years: Medium Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Possible	
Collection of eggs and poaching	3	3	3	3	4	Moderate	2	2	2	2	3	Low
	One year to five years: Medium Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Highly likely		One month to one year: Short Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Likely	

	3	3	3	3	4		2	affected < 100m 2	2	2	3	
Roadkill	One year to five years: Medium Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Highly likely	Moderate	One month to one year: Short Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Likely	Low

Table 7-3 Assessment of significance of potential impacts on avifauna associated with the operational phase of the project

Impact	Prior to mitigation						Post mitigation					
	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance
Habitat Loss (Destroy, fragment and degrade habitat, ultimately displacing avifauna)	4	3	3	3	5	Moderately High	3	2	2	2	2	Low
	Life of operation or less than 20 years: Long Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Definite		One year to five years: Medium Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Possible	
Sensory disturbances (e.g. noise, dust, vibrations)	4	3	3	3	3	Moderate	2	2	2	2	3	Low
	Life of operation or less than 20 years: Long Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Likely		One month to one year: Short Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Likely	
Collection of eggs and poaching	4	3	3	3	3	Moderate	3	2	2	2	2	Low
	Life of operation or less than 20 years: Long Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Likely		One year to five years: Medium Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Possible	

								affected < 100m				
	4	3	3	3	3		2	2	2	2	3	
Roadkill	Life of operation or less than 20 years: Long Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Likely	Moderate	One month to one year: Short Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Likely	Low
	5	4	4	4	4		3	3	3	3	3	
Collisions with Power line and associated infrastructure	Permanent	Regional within 5 km of the site boundary / < 2000ha impacted / Linear features affected < 3000m	Great / harmful/ ecosystem structure and function largely altered	Ecology highly sensitive /important	Highly likely	High	One year to five years: Medium Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Likely	Moderate
	5	4	4	4	4		3	3	3	2	2	
Electrocution by infrastructure and connections to PV	Permanent	Regional within 5 km of the site boundary / < 2000ha impacted / Linear features affected < 3000m	Great / harmful/ ecosystem structure and function largely altered	Ecology highly sensitive /important	Highly likely	High	One year to five years: Medium Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology with limited sensitivity/importance	Possible	Low

Table 7-4 Assessment of significance of potential impacts on avifauna associated with the decommissioning phase of the project

Impact	Prior to mitigation						Post mitigation					
	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance
Habitat Loss (Destroy, fragment, and degrade habitat, ultimately displacing avifauna)	2	3	3	3	4		2	2	2	2	2	
	One month to one year: Short Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Highly likely	Moderate	One month to one year: Short Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Possible	Absent
	4	4	4	4	5		1	1	1	1	1	
Collisions with power lines and associated infrastructure	Life of operation or less than 20 years: Long Term	Regional within 5 km of the site boundary / < 2000ha impacted / Linear features affected < 3000m	Great / harmful/ ecosystem structure and function largely altered	Ecology highly sensitive /important	Definite	High	One day to one month: Temporary	Activity specific/ < 5 ha impacted / Linear features affected < 100m	Insignificant / ecosystem structure and function unchanged	Ecology not sensitive/importance	Highly unlikely	Absent

8 Specialist Management Plan

The aim of the management outcomes is to present the mitigations in such a way that they can be incorporated into the Environmental Management Programme (EMPr), allowing for more successful implementation and auditing of the mitigations and monitoring guidelines. Table 8-1 presents the recommended mitigation measures and the respective timeframes, targets and performance indicators for the terrestrial study.

The focus of mitigation measures is to reduce the significance of potential impacts associated with the development and thereby to:

- Prevent the further loss and fragmentation of vegetation communities and the ESA areas in the vicinity of the project area;
- As far as possible, reduce the negative fragmentation effects of the development and enable safe movement of avifaunal species;
- Prevent the direct and indirect loss and disturbance of avifaunal species and community (including occurring and potentially occurring species of conservation concern); and
- Follow the guidelines for interpreting SEI.

Table 8-1 Mitigation measures including requirements for timeframes, roles and responsibilities for the terrestrial study

Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
Management outcome: Vegetation and Habitats				
Areas of indigenous vegetation, even secondary, should under no circumstances be fragmented or disturbed further. Clearing of vegetation should be minimized and avoided where possible. All activities must be restricted too within the very low/low sensitivity areas. It is recommended that areas to be developed be specifically demarcated so that during the construction phase, only the demarcated areas be impacted upon.	Life of operation	Project manager, Environmental Officer	Areas of indigenous vegetation	Ongoing
Existing access routes, especially roads must be made use of.	Construction/Operational Phase	Project manager & Farmer	Roads and paths used	Ongoing
All laydown etc. should be restricted to very low/low sensitivity areas. Any materials may not be stored for extended periods of time and must be removed from the project area once the construction phase has been concluded. No permanent construction structures should be permitted. No storage of vehicles or equipment will be allowed in high sensitivity areas or undeveloped medium sensitivity areas	Construction/Operational Phase	Environmental Officer & Design Engineer	Development footprint	Ongoing
Areas that are denuded during construction need to be re-vegetated with indigenous vegetation to prevent erosion during flood and wind events. This will also reduce the likelihood of encroachment by alien invasive plant species.	Operational phase	Environmental Officer & Contractor	Assess the state of rehabilitation and encroachment of alien vegetation	Quarterly for up to two years after the closure
A hydrocarbon spill management plan must be put in place to ensure that should there be any chemical spill out or over that it does not run into the surrounding areas. The Contractor shall be in possession of an emergency spill kit that must always be complete and available on site. Drip trays or any form of oil absorbent material must be placed underneath vehicles/machinery and equipment when not in use. No servicing of equipment on site unless necessary. All contaminated soil / yard stone shall be treated in situ or removed and be placed in containers. Appropriately contain any generator diesel storage tanks, machinery spills (e.g. accidental spills of hydrocarbons oils, diesel etc.) in such a way as to prevent them leaking and entering the environment. Construction activities and vehicles could cause spillages of lubricants, fuels and waste material potentially negatively affecting the functioning of the ecosystem. All vehicles and equipment must be maintained, and all re-fuelling and servicing of equipment is to take place in demarcated areas outside of the project area.	Life of operation	Environmental Officer & Contractor	Spill events, Vehicles dripping.	Ongoing

A fire management plan needs to be complied and implemented to restrict the impact fire might have on the surrounding areas.	Life of operation	Environmental Officer & Contractor	Fire Management	During Phase
Any woody material removed can be shredded and used in conjunction with the topsoil to augment soil moisture and prevent further erosion.	Operational and Decommissioning phase	Environmental Officer & Contractor	Woody material under power line and in SS footprint	During Phase
Management outcome: avifauna				
Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
The areas to be developed must be specifically demarcated to prevent movement of staff or any individual into the surrounding environments, <ul style="list-style-type: none"> Signs must be put up to enforce this 	Construction/Operational Phase	Project manager, Environmental Officer	Infringement into these areas	Ongoing
The duration of any further approved construction should be minimized to as short term as possible, to reduce the period of disturbance on avifauna.	Construction	Project manager, Environmental Officer & Design Engineer	Construction/Closure Phase	Ongoing
Noise must be kept to an absolute minimum during the evenings and at night to minimize all possible disturbances and nocturnal species No trapping, killing, or poisoning of any wildlife is to be allowed <ul style="list-style-type: none"> Signs must be put up to enforce this; 	Construction/Operational Phase	Environmental Officer	Noise levels	Ongoing
Outside lighting should be designed and limited to minimize impacts on avifauna. Fluorescent and mercury vapor lighting should be avoided and sodium vapor (green/red) lights should be used wherever possible.	Life of operation	Environmental Officer	Evidence of trapping etc	Ongoing
All construction and maintenance motor vehicle operators should undergo an environmental induction that includes instruction on the need to comply with speed limits, to respect all forms of wildlife. Speed limits must still be enforced to ensure that road killings and erosion is limited.	Construction/Operational Phase	Project manager, Environmental Officer & Design Engineer	Light pollution and period of light.	Ongoing
Schedule activities and operations during least sensitive periods, to avoid migration, nesting and breeding seasons.	Life of operation	Health and Safety Officer	Compliance to the training.	Ongoing
All personnel should undergo environmental induction with regards to avifauna and in particular awareness about not harming, collecting, or hunting terrestrial species (e.g., guineafowl and francolin), and owls, which are often persecuted out of superstition. Signs must be put up to enforce this.	Life of operation	Project manager, Environmental Officer & Design Engineer	Activities should take place during the day in the case.	Ongoing
All construction and maintenance motor vehicle operators should undergo an environmental induction that includes instruction on the need to comply with speed limit (40km/h), to respect all forms of	Life of operation	Environmental Officer	Evidence of trapping etc	Ongoing
	Life of operation	Health and Safety Officer	Compliance to the training.	Ongoing

wildlife. Speed limits must still be enforced to ensure that road killings and erosion is limited.				
Schedule or limit (where feasible) activities and operations during least sensitive periods, to avoid migration, nesting and breeding seasons (June – August)	Construction/Operational Phase	Project manager, Environmental Officer & Design Engineer	Activities should take place during the day in winter.	During Phase
All project activities must be undertaken with appropriate noise mitigation measures to avoid disturbance to avifauna population in the region	Construction/Operational Phase	Project manager, Environmental Officer	Noise	During Phase
All areas to be developed must be walked through prior to any activity to ensure no nests or avifauna species are found in the area. Should any SCC be found and not move out of the area or their nest be found in the area a suitably qualified specialist must be consulted to advise on the correct actions to be taken.	Planning, Construction and Decommissioning	Project manager, Environmental Officer	Presence of Nests and faunal species	During Phase
The design of the proposed power line must be of a type or similar structure as endorsed by the Eskom-EWT Strategic Partnership on Birds and Energy, considering the mitigation guidelines recommended by Birdlife South Africa (Jenkins <i>et al.</i> , 2015).	Planning and construction	Environmental Officer & Contractor, Engineer	Presence of electrocuted birds or bird strikes	During Phase
Infrastructure should be consolidated where possible in order to minimise the amount of ground and air space used.	Planning and construction	Environmental Officer & Contractor, Engineer	Presence of bird collisions	During phase
All the parts of the infrastructure must be nest proofed and anti-perch devices placed on areas that can lead to electrocution	Planning and construction	Environmental Officer & Contractor, Engineer	Presence of electrocuted birds	During phase
All areas to be developed must be walked through prior to any activity to ensure no nests or avifauna species are found in the area. Should any SCC not move out of the area or their nest be found in the area a suitably qualified specialist must be consulted to advise on the correct actions to be taken.	Construction and Operational phase	Project manager, Environmental Officer	Presence of Nests and faunal species	Planning, Construction and Rehabilitation

Management outcome: Dust

Impact Management Actions	Implementation			Monitoring
	Phase	Responsible Party	Aspect	Frequency
Dust-reducing mitigation measures must be put in place and must be strictly adhered to. This includes wetting of exposed soft soil surfaces. <ul style="list-style-type: none"> No non environmentally friendly suppressants may be used as this could result in pollution of water sources 	Life of operation	Contractor	Dustfall	Dust monitoring program.

Management outcome: Waste management

Impact Management Actions	Implementation			Monitoring
	Phase	Responsible Party	Aspect	Frequency
Waste management must be a priority and all waste must be collected and stored effectively.	Life of operation	Environmental Officer & Contractor	Waste Removal	Weekly

Litter, spills, fuels, chemicals and human waste in and around the project area.	Construction/Closure Phase	Environmental Officer & Health and Safety Officer	Presence of Waste	Daily
A minimum of one toilet must be provided per 10 persons. Portable toilets must be pumped dry to ensure the system does not degrade over time and spill into the surrounding area.	Life of operation	Environmental Officer & Health and Safety Officer	Number of toilets per staff member. Waste levels	Daily
The Contractor should supply sealable and properly marked domestic waste collection bins and all solid waste collected shall be disposed of at a licensed disposal facility	Life of operation	Environmental Officer & Health and Safety Officer	Availability of bins and the collection of the waste.	Ongoing
Where a registered disposal facility is not available close to the project area, the Contractor shall provide a method statement with regard to waste management. Under no circumstances may domestic waste be burned on site	Life of operation	Environmental Officer, Contractor & Health and Safety Officer	Collection/handling of the waste.	Ongoing
Refuse bins will be emptied and secured Temporary storage of domestic waste shall be in covered waste skips. Maximum domestic waste storage period will be 10 days.	Life of operation	Environmental Officer, Contractor & Health and Safety Officer	Management of bins and collection of waste	Ongoing, every 10 days

Management outcome: Environmental awareness training

Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
All personnel and contractors to undergo Environmental Awareness Training. A signed register of attendance must be kept for proof. Discussions are required on sensitive environmental receptors within the project area to inform contractors and site staff of the presence of Red / Orange List species, their identification, conservation status and importance, biology, habitat requirements and management requirements the Environmental Authorisation and within the EMP. The avoidance and protection of the wetland areas must be included into a site induction. Contractors and employees must all undergo the induction and made aware of the areas to be avoided.	Life of operation	Health and Safety Officer	Compliance to the training.	Ongoing

Management outcome: Erosion

Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
Speed limits must be put in place to reduce erosion. <ul style="list-style-type: none"> Reducing the dust generated by the listed activities above, especially the earth moving machinery, through wetting the soil surface and putting up signs to enforce speed limit as well as speed bumps built to force slow speeds; Signs must be put up to enforce this. 	Life of operation	Project manager, Environmental Officer	Water Runoff from road surfaces	Ongoing
Where possible, existing access routes and walking paths must be made use of.	Life of operation	Project manager, Environmental Officer	Routes used within the area	Ongoing

Areas that are denuded during construction need to be re-vegetated with indigenous vegetation to prevent erosion during flood events and strong winds.	Life of operation	Project manager, Environmental Officer	Re-establishment of indigenous vegetation	Progressively
A stormwater management plan must be compiled and implemented.	Life of operation	Project manager, Environmental Officer	Management plan	Before construction phase: Ongoing

9 Conclusion and Impact Statement

9.1 Avifauna

The habitat has been altered and disturbed, currently three power lines does run adjacent to the proposed line and a main road separates the northern and southern portions. The species diversity in the area were found to be low, however four species were observed that would be at risk for power line collisions and electrocutions. It is therefore imperative that the mitigations be followed. The moderate screening tool sensitivity was not corroborated during the field assessment, and it is the opinion of the specialist that the area has an overall low avifauna sensitivity.

The development in question may be favourably considered, and no fatal flaws are expected. The future development must adhere to the prescribed mitigation measures.

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11 Appendix Items

11.1 Appendix A –Avifauna species expected to occur within the project area

Species	Common Name	Conservation Status	
		Regional (SANBI, 2016)	IUCN (2021)
<i>Accipiter badius</i>	Shikra	Unlisted	LC
<i>Accipiter melanoleucus</i>	Sparrowhawk, Black	Unlisted	LC
<i>Accipiter minullus</i>	Sparrowhawk, Little	Unlisted	LC
<i>Accipiter ovampensis</i>	Sparrowhawk, Ovambo	Unlisted	LC
<i>Acridotheres tristis</i>	Myna, Common	Unlisted	LC
<i>Acrocephalus arundinaceus</i>	Reed-warbler, Great	Unlisted	LC
<i>Acrocephalus baeticatus</i>	Reed-warbler, African	Unlisted	Unlisted
<i>Acrocephalus gracilirostris</i>	Swamp-warbler, Lesser	Unlisted	LC
<i>Acrocephalus palustris</i>	Warbler, Marsh	Unlisted	LC
<i>Actitis hypoleucos</i>	Sandpiper, Common	Unlisted	LC
<i>Actophilornis africanus</i>	Jacana, African	Unlisted	LC
<i>Afrotis afraoides</i>	Korhaan, Northern Black	Unlisted	LC
<i>Alcedo semitorquata</i>	Kingfisher, Half-collared	NT	LC
<i>Alopochen aegyptiaca</i>	Goose, Egyptian	LC	LC
<i>Amadina erythrocephala</i>	Finch, Red-headed	Unlisted	LC
<i>Amadina fasciata</i>	Finch, Cut-throat	Unlisted	Unlisted
<i>Amandava subflava</i>	Waxbill, Orange-breasted	Unlisted	Unlisted
<i>Amblyospiza albifrons</i>	Weaver, Thick-billed	Unlisted	LC
<i>Anas capensis</i>	Teal, Cape	Unlisted	LC
<i>Anas erythrorhyncha</i>	Teal, Red-billed	Unlisted	LC
<i>Anas platyrhynchos</i>	Duck, Mallard	Unlisted	LC
<i>Anas sparsa</i>	Duck, African Black	Unlisted	LC
<i>Anas undulata</i>	Duck, Yellow-billed	Unlisted	LC
<i>Anhinga rufa</i>	Darter, African	Unlisted	LC
<i>Anomalospiza imberbis</i>	Finch, Cuckoo	Unlisted	LC
<i>Anser anser</i>	Goose, Domestic	Unlisted	LC
<i>Anthus cinnamomeus</i>	Pipit, African	Unlisted	LC
<i>Anthus leucophrys</i>	Pipit, Plain-backed	Unlisted	LC
<i>Anthus lineiventris</i>	Pipit, Striped	Unlisted	LC
<i>Anthus nicholsoni</i>	Nicholson's pipit	Unlisted	Unlisted
<i>Anthus vaalensis</i>	Pipit, Buffy	Unlisted	LC
<i>Apalis thoracica</i>	Apalis, Bar-throated	Unlisted	LC
<i>Apus affinis</i>	Swift, Little	Unlisted	LC
<i>Apus apus</i>	Swift, Common	Unlisted	LC
<i>Apus barbatus</i>	Swift, African Black	Unlisted	LC

<i>Apus caffer</i>	Swift, White-rumped	Unlisted	LC
<i>Apus horus</i>	Swift, Horus	Unlisted	LC
<i>Aquila spilogaster</i>	Hawk-eagle, African	Unlisted	LC
<i>Aquila verreauxii</i>	Eagle, Verreaux's	VU	LC
<i>Ardea alba</i>	Egret, Great	Unlisted	LC
<i>Ardea cinerea</i>	Heron, Grey	Unlisted	LC
<i>Ardea goliath</i>	Heron, Goliath	Unlisted	LC
<i>Ardea intermedia</i>	Egret, Yellow-billed (Intermediate)	Unlisted	LC
<i>Ardea melanocephala</i>	Heron, Black-headed	Unlisted	LC
<i>Ardea purpurea</i>	Heron, Purple	Unlisted	LC
<i>Ardeola ralloides</i>	Heron, Squacco	Unlisted	LC
<i>Asio capensis</i>	Owl, Marsh	Unlisted	LC
<i>Aviceda cuculoides</i>	Hawk, African Cuckoo	Unlisted	LC
<i>Batis molitor</i>	Batis, Chinspot	Unlisted	LC
<i>Bostrychia hagedash</i>	Ibis, Hadedash	Unlisted	LC
<i>Bradypterus baboecala</i>	Rush-warbler, Little	Unlisted	LC
<i>Bubo africanus</i>	Eagle-owl, Spotted	Unlisted	LC
<i>Bubulcus ibis</i>	Egret, Cattle	Unlisted	LC
<i>Burhinus capensis</i>	Thick-knee, Spotted	Unlisted	LC
<i>Buteo buteo</i>	Buzzard, Common (Steppe)	Unlisted	LC
<i>Buteo rufofuscus</i>	Buzzard, Jackal	Unlisted	LC
<i>Butorides striata</i>	Heron, Green-backed	Unlisted	LC
<i>Calandrella cinerea</i>	Lark, Red-capped	Unlisted	LC
<i>Calendulauda sabota</i>	Lark, Sabota	Unlisted	LC
<i>Calidris minuta</i>	Stint, Little	LC	LC
<i>Calidris pugnax</i>	Ruff	Unlisted	LC
<i>Camaroptera brevicaudata</i>	Camaroptera, Grey-backed	Unlisted	Unlisted
<i>Campephaga flava</i>	Cuckoo-shrike, Black	Unlisted	LC
<i>Campethera abingoni</i>	Woodpecker, Golden-tailed	Unlisted	LC
<i>Caprimulgus europaeus</i>	Nightjar, European	Unlisted	LC
<i>Caprimulgus pectoralis</i>	Nightjar, Fiery-necked	Unlisted	LC
<i>Caprimulgus rufigena</i>	Nightjar, Rufous-cheeked	Unlisted	LC
<i>Caprimulgus tristigma</i>	Nightjar, Freckled	Unlisted	LC
<i>Cecropis abyssinica</i>	Swallow, Lesser Striped	Unlisted	LC
<i>Cecropis cucullata</i>	Swallow, Greater Striped	Unlisted	LC
<i>Cecropis semirufa</i>	Swallow, Red-breasted	Unlisted	LC
<i>Centropus burchellii</i>	Coucal, Burchell's	Unlisted	Unlisted
<i>Cercotrichas leucophrys</i>	Scrub-robin, White-browed	Unlisted	LC
<i>Cercotrichas paena</i>	Scrub-robin, Kalahari	Unlisted	LC
<i>Certhilauda semitorquata</i>	Lark, Eastern Long-billed	Unlisted	LC

<i>Ceryle rudis</i>	Kingfisher, Pied	Unlisted	LC
<i>Chalcomitra amethystina</i>	Sunbird, Amethyst	Unlisted	LC
<i>Charadrius tricollaris</i>	Plover, Three-banded	Unlisted	LC
<i>Chersomanes albofasciata</i>	Lark, Spike-heeled	Unlisted	LC
<i>Chlidonias hybrida</i>	Tern, Whiskered	Unlisted	LC
<i>Chlidonias leucopterus</i>	Tern, White-winged	Unlisted	LC
<i>Chlorophoneus sulfureopectus</i>	Bush-Shrike, Orange-breasted	Unlisted	LC
<i>Chloropicus namaquus</i>	Woodpecker, Bearded	Unlisted	LC
<i>Chroicocephalus cirrocephalus</i>	Gull, Grey-headed	Unlisted	LC
<i>Chrysococcyx caprius</i>	Cuckoo, Diderick	Unlisted	LC
<i>Chrysococcyx klaas</i>	Cuckoo, Klaas's	Unlisted	LC
<i>Ciconia abdimii</i>	Stork, Abdim's	NT	LC
<i>Ciconia ciconia</i>	Stork, White	Unlisted	LC
<i>Cinnyricinclus leucogaster</i>	Starling, Violet-backed	Unlisted	LC
<i>Cinnyris afer</i>	Sunbird, Greater Double-collared	Unlisted	LC
<i>Cinnyris mariquensis</i>	Sunbird, Marico	Unlisted	LC
<i>Cinnyris talatala</i>	Sunbird, White-bellied	Unlisted	LC
<i>Circaetus cinereus</i>	Snake-eagle, Brown	Unlisted	LC
<i>Circaetus pectoralis</i>	Snake-eagle, Black-chested	Unlisted	LC
<i>Circus ranivorus</i>	Marsh-harrier, African	EN	LC
<i>Cisticola aberrans</i>	Cisticola, Lazy	Unlisted	LC
<i>Cisticola aridulus</i>	Cisticola, Desert	Unlisted	LC
<i>Cisticola ayresii</i>	Cisticola, Wing-snapping	Unlisted	LC
<i>Cisticola chiniana</i>	Cisticola, Rattling	Unlisted	LC
<i>Cisticola fulvicapilla</i>	Neddicky, Neddicky	Unlisted	LC
<i>Cisticola juncidis</i>	Cisticola, Zitting	Unlisted	LC
<i>Cisticola lais</i>	Cisticola, Wailing	Unlisted	LC
<i>Cisticola textrix</i>	Cisticola, Cloud	Unlisted	LC
<i>Cisticola tinniens</i>	Cisticola, Levallant's	Unlisted	LC
<i>Clamator glandarius</i>	Cuckoo, Great Spotted	Unlisted	LC
<i>Clamator jacobinus</i>	Cuckoo, Jacobin	Unlisted	LC
<i>Clamator levallantii</i>	Cuckoo, Levallant's	Unlisted	LC
<i>Colius colius</i>	Mousebird, White-backed	Unlisted	LC
<i>Colius striatus</i>	Mousebird, Speckled	Unlisted	LC
<i>Columba arquatrix</i>	Olive-pigeon, African	Unlisted	LC
<i>Columba guinea</i>	Pigeon, Speckled	Unlisted	LC
<i>Columba livia</i>	Dove, Rock	Unlisted	LC
<i>Coracias caudatus</i>	Roller, Lilac-breasted	Unlisted	LC
<i>Coracias garrulus</i>	Roller, European	NT	LC
<i>Corvus albus</i>	Crow, Pied	Unlisted	LC

<i>Corythornis cristatus</i>	Kingfisher, Malachite	Unlisted	Unlisted
<i>Cossypha caffra</i>	Robin-chat, Cape	Unlisted	LC
<i>Coturnix coturnix</i>	Quail, Common	Unlisted	LC
<i>Creatophora cinerea</i>	Starling, Wattled	Unlisted	LC
<i>Crecopsis egregia</i>	Crake, African	Unlisted	LC
<i>Crinifer concolor</i>	Go-away-bird, Grey	Unlisted	LC
<i>Crithagra atrogularis</i>	Canary, Black-throated	Unlisted	LC
<i>Crithagra flaviventris</i>	Canary, Yellow	Unlisted	LC
<i>Crithagra gularis</i>	Seedeater, Streaky-headed	Unlisted	LC
<i>Crithagra mozambica</i>	Canary, Yellow-fronted	Unlisted	LC
<i>Cuculus clamosus</i>	Cuckoo, Black	Unlisted	LC
<i>Cuculus gularis</i>	Cuckoo, African	Unlisted	LC
<i>Cuculus solitarius</i>	Cuckoo, Red-chested	Unlisted	LC
<i>Curruca subcoerulea</i>	Tit-babbler, Chestnut-vented	Unlisted	Unlisted
<i>Cursorius temminckii</i>	Cursorer, Temminck's	Unlisted	LC
<i>Cypsiurus parvus</i>	Palm-swift, African	Unlisted	LC
<i>Delichon urbicum</i>	House-martin, Common	Unlisted	LC
<i>Dendrocygna bicolor</i>	Duck, Fulvous	Unlisted	LC
<i>Dendrocygna viduata</i>	Duck, White-faced Whistling	Unlisted	LC
<i>Dendroperdix sephaena</i>	Francolin, Crested	Unlisted	LC
<i>Dendropicops fuscescens</i>	Woodpecker, Cardinal	Unlisted	LC
<i>Dicrurus adsimilis</i>	Drongo, Fork-tailed	Unlisted	LC
<i>Dryoscopus cubla</i>	Puffback, Black-backed	Unlisted	LC
<i>Egretta ardesiaca</i>	Heron, Black	Unlisted	LC
<i>Egretta garzetta</i>	Egret, Little	Unlisted	LC
<i>Elanus caeruleus</i>	Kite, Black-shouldered	Unlisted	LC
<i>Emberiza capensis</i>	Bunting, Cape	Unlisted	LC
<i>Emberiza flaviventris</i>	Bunting, Golden-breasted	Unlisted	LC
<i>Emberiza tahapisi</i>	Bunting, Cinnamon-breasted	Unlisted	LC
<i>Eremopterix leucotis</i>	Sparrowlark, Chestnut-backed	Unlisted	LC
<i>Estrilda astrild</i>	Waxbill, Common	Unlisted	LC
<i>Euplectes afer</i>	Bishop, Yellow-crowned	Unlisted	LC
<i>Euplectes albonotatus</i>	Widowbird, White-winged	Unlisted	LC
<i>Euplectes ardens</i>	Widowbird, Red-collared	Unlisted	LC
<i>Euplectes orix</i>	Bishop, Southern Red	Unlisted	LC
<i>Euplectes progne</i>	Widowbird, Long-tailed	Unlisted	LC
<i>Eupodotis senegalensis</i>	Korhaan, White-bellied	VU	LC
<i>Eurystomus glaucurus</i>	Roller, Broad-billed	Unlisted	LC
<i>Falco amurensis</i>	Falcon, Amur	Unlisted	LC
<i>Falco biarmicus</i>	Falcon, Lanner	VU	LC

<i>Falco naumanni</i>	Kestrel, Lesser	Unlisted	LC
<i>Falco peregrinus</i>	Falcon, Peregrine	Unlisted	LC
<i>Falco rupicoloides</i>	Kestrel, Greater	Unlisted	LC
<i>Falco rupicolus</i>	Kestrel, Rock	Unlisted	LC
<i>Falco vespertinus</i>	Falcon, Red-footed	NT	NT
<i>Fulica cristata</i>	Coot, Red-knobbed	Unlisted	LC
<i>Gallinago nigripennis</i>	Snipe, African	Unlisted	LC
<i>Gallinula chloropus</i>	Moorhen, Common	Unlisted	LC
<i>Glaucidium perlatum</i>	Owlet, Pearl-spotted	Unlisted	LC
<i>Grus paradisea</i>	Crane, Blue	NT	VU
<i>Gymnoris superciliaris</i>	Petronia, Yellow-throated	Unlisted	LC
<i>Gyps africanus</i>	Vulture, White-backed	CR	CR
<i>Gyps coprotheres</i>	Vulture, Cape	EN	EN
<i>Halcyon albiventris</i>	Kingfisher, Brown-hooded	Unlisted	LC
<i>Halcyon senegalensis</i>	Kingfisher, Woodland	Unlisted	LC
<i>Haliaeetus vocifer</i>	Fish-eagle, African	Unlisted	LC
<i>Hieraaetus wahlbergi</i>	Eagle, Wahlberg's	Unlisted	LC
<i>Himantopus himantopus</i>	Stilt, Black-winged	Unlisted	LC
<i>Hirundo albigularis</i>	Swallow, White-throated	Unlisted	LC
<i>Hirundo dimidiata</i>	Swallow, Pearl-breasted	Unlisted	LC
<i>Hirundo rustica</i>	Swallow, Barn	Unlisted	LC
<i>Indicator indicator</i>	Honeyguide, Greater	Unlisted	LC
<i>Indicator minor</i>	Honeyguide, Lesser	Unlisted	LC
<i>Ispidina picta</i>	Pygmy-Kingfisher, African	Unlisted	LC
<i>Ixobrychus minutus</i>	Bittern, Little	Unlisted	LC
<i>Jynx ruficollis</i>	Wryneck, Red-throated	Unlisted	LC
<i>Lagonosticta rhodopareia</i>	Firefinch, Jameson's	Unlisted	LC
<i>Lagonosticta rubricata</i>	Firefinch, African	Unlisted	LC
<i>Lagonosticta senegala</i>	Firefinch, Red-billed	Unlisted	LC
<i>Lamprotornis bicolor</i>	Starling, Pied	Unlisted	LC
<i>Lamprotornis nitens</i>	Starling, Cape Glossy	Unlisted	LC
<i>Laniarius atrococcineus</i>	Shrike, Crimson-breasted	Unlisted	LC
<i>Laniarius ferrugineus</i>	Boubou, Southern	Unlisted	LC
<i>Lanius collaris</i>	Fiscal, Common (Southern)	Unlisted	LC
<i>Lanius collurio</i>	Shrike, Red-backed	Unlisted	LC
<i>Lanius minor</i>	Shrike, Lesser Grey	Unlisted	LC
<i>Leptoptilos crumenifer</i>	Stork, Marabou	NT	LC
<i>Lophaetus occipitalis</i>	Eagle, Long-crested	Unlisted	LC
<i>Lophoceros nasutus</i>	Hornbill, African Grey	Unlisted	LC
<i>Lybius torquatus</i>	Barbet, Black-collared	Unlisted	LC

<i>Macronyx capensis</i>	Longclaw, Cape	Unlisted	LC
<i>Malaconotus blanchoti</i>	Bush-shrike, Grey-headed	Unlisted	LC
<i>Megaceryle maxima</i>	Kingfisher, Giant	Unlisted	Unlisted
<i>Melaenornis mariquensis</i>	Flycatcher, Marico	Unlisted	LC
<i>Melaenornis pammelaina</i>	Flycatcher, Southern Black	Unlisted	LC
<i>Melaenornis silens</i>	Flycatcher, Fiscal	Unlisted	LC
<i>Merops apiaster</i>	Bee-eater, European	Unlisted	LC
<i>Merops bullockoides</i>	Bee-eater, White-fronted	Unlisted	LC
<i>Merops hirundineus</i>	Bee-eater, Swallow-tailed	Unlisted	LC
<i>Merops pusillus</i>	Bee-eater, Little	Unlisted	LC
<i>Microcarbo africanus</i>	Cormorant, Reed	Unlisted	LC
<i>Micronisus gabar</i>	Goshawk, Gabar	Unlisted	LC
<i>Milvus aegyptius</i>	Kite, Yellow-billed	Unlisted	Unlisted
<i>Milvus migrans</i>	Kite, Black	Unlisted	LC
<i>Mirafra africana</i>	Lark, Rufous-naped	Unlisted	LC
<i>Mirafra cheniana</i>	Lark, Melodious	LC	LC
<i>Mirafra fasciolata</i>	Lark, Eastern Clapper	Unlisted	LC
<i>Monticola brevipes</i>	Rock-thrush, Short-toed	Unlisted	LC
<i>Monticola rupestris</i>	Rock-thrush, Cape	Unlisted	LC
<i>Motacilla capensis</i>	Wagtail, Cape	Unlisted	LC
<i>Motacilla flava</i>	Wagtail, Western Yellow	Unlisted	LC
<i>Muscicapa striata</i>	Flycatcher, Spotted	Unlisted	LC
<i>Myrmecocichla formicivora</i>	Chat, Anteating	Unlisted	LC
<i>Myrmecocichla monticola</i>	Wheatear, Mountain	Unlisted	LC
<i>Nectarinia famosa</i>	Sunbird, Malachite	Unlisted	LC
<i>Netta erythrophthalma</i>	Pochard, Southern	Unlisted	LC
<i>Nilaus afer</i>	Brubru	Unlisted	LC
<i>Numida meleagris</i>	Guineafowl, Helmeted	Unlisted	LC
<i>Oena capensis</i>	Dove, Namaqua	Unlisted	LC
<i>Oenanthe familiaris</i>	Chat, Familiar	Unlisted	LC
<i>Oenanthe pileata</i>	Wheatear, Capped	Unlisted	LC
<i>Onychognathus morio</i>	Starling, Red-winged	Unlisted	LC
<i>Oriolus larvatus</i>	Oriole, Black-headed	Unlisted	LC
<i>Ortygospiza atricollis</i>	Quailfinch, African	Unlisted	LC
<i>Passer diffusus</i>	Sparrow, Southern Grey-headed	Unlisted	LC
<i>Passer domesticus</i>	Sparrow, House	Unlisted	LC
<i>Passer griseus</i>	Sparrow, Northern Grey-headed	Unlisted	LC
<i>Passer melanurus</i>	Sparrow, Cape	Unlisted	LC
<i>Pavo cristatus</i>	Peacock, Common	Unlisted	LC
<i>Peliperdix coqui</i>	Francolin, Coqui	Unlisted	LC

<i>Pernis apivorus</i>	Honey-buzzard, European	Unlisted	LC
<i>Petrochelidon spilodera</i>	Cliff-swallow, South African	Unlisted	LC
<i>Phalacrocorax lucidus</i>	Cormorant, White-breasted	Unlisted	LC
<i>Phoeniculus purpureus</i>	Wood-hoopoe, Green	Unlisted	LC
<i>Phylloscopus trochilus</i>	Warbler, Willow	Unlisted	LC
<i>Platalea alba</i>	Spoonbill, African	Unlisted	LC
<i>Plectropterus gambensis</i>	Goose, Spur-winged	Unlisted	LC
<i>Plegadis falcinellus</i>	Ibis, Glossy	Unlisted	LC
<i>Plocepasser mahali</i>	Sparrow-weaver, White-browed	Unlisted	LC
<i>Ploceus capensis</i>	Weaver, Cape	Unlisted	LC
<i>Ploceus cucullatus</i>	Weaver, Village	Unlisted	LC
<i>Ploceus intermedius</i>	Masked-weaver, Lesser	Unlisted	LC
<i>Ploceus velatus</i>	Masked-weaver, Southern	Unlisted	LC
<i>Pogoniulus chrysoconus</i>	Tinkerbird, Yellow-fronted	Unlisted	LC
<i>Polemaetus bellicosus</i>	Eagle, Martial	EN	VU
<i>Polyboroides typus</i>	Harrier-Hawk, African	Unlisted	LC
<i>Porphyrio madagascariensis</i>	Swamphen, African Purple	Unlisted	Unlisted
<i>Prinia flavicans</i>	Prinia, Black-chested	Unlisted	LC
<i>Prinia subflava</i>	Prinia, Tawny-flanked	Unlisted	LC
<i>Prionops plumatus</i>	Helmet-shrike, White-crested	Unlisted	LC
<i>Prodotiscus regulus</i>	Honeybird, Brown-backed	Unlisted	LC
<i>Psittacula krameri</i>	Parakeet, Rose-ringed	Unlisted	LC
<i>Pternistis natalensis</i>	Spurfowl, Natal	Unlisted	LC
<i>Pternistis swainsonii</i>	Spurfowl, Swainson's	Unlisted	LC
<i>Ptyonoprogne fuligula</i>	Martin, Rock	LC	LC
<i>Pycnonotus nigricans</i>	Bulbul, African Red-eyed	Unlisted	LC
<i>Pycnonotus tricolor</i>	Bulbul, Dark-capped	Unlisted	Unlisted
<i>Pytilia melba</i>	Pytilia, Green-winged	Unlisted	LC
<i>Quelea quelea</i>	Quelea, Red-billed	Unlisted	LC
<i>Rallus caerulescens</i>	Rail, African	Unlisted	LC
<i>Recurvirostra avosetta</i>	Avocet, Pied	Unlisted	LC
<i>Rhinopomastus cyanomelas</i>	Scimitarbill, Common	Unlisted	LC
<i>Riparia cincta</i>	Martin, Banded	Unlisted	LC
<i>Riparia paludicola</i>	Martin, Brown-throated	Unlisted	LC
<i>Rostratula benghalensis</i>	Painted-snipe, Greater	NT	LC
<i>Sagittarius serpentarius</i>	Secretarybird	VU	VU
<i>Sarkidiornis melanotos</i>	Duck, Comb	Unlisted	LC
<i>Sarothrura rufa</i>	Flufftail, Red-chested	Unlisted	LC
<i>Saxicola torquatus</i>	Stonechat, African	Unlisted	LC
<i>Scleroptila gutturalis</i>	Francolin, Orange River	Unlisted	LC

<i>Scleroptila levaillantii</i>	Francolin, Red-winged	Unlisted	LC
<i>Scopus umbretta</i>	Hamerkop	Unlisted	LC
<i>Serinus canicollis</i>	Canary, Cape	Unlisted	LC
<i>Spatula hottentota</i>	Teal, Hottentot	Unlisted	LC
<i>Spatula smithii</i>	Shoveler, Cape	LC	LC
<i>Spermestes cucullata</i>	Mannikin, Bronze	Unlisted	LC
<i>Sphenoeacus afer</i>	Grassbird, Cape	Unlisted	LC
<i>Spilopelia senegalensis</i>	Dove, Laughing	Unlisted	LC
<i>Sporopipes squamifrons</i>	Finch, Scaly-feathered	Unlisted	LC
<i>Stenostira scita</i>	Flycatcher, Fairy	Unlisted	LC
<i>Streptopelia capicola</i>	Turtle-dove, Cape	Unlisted	LC
<i>Streptopelia semitorquata</i>	Dove, Red-eyed	Unlisted	LC
<i>Struthio camelus</i>	Ostrich, Common	Unlisted	LC
<i>Sylvia borin</i>	Warbler, Garden	Unlisted	LC
<i>Sylvietta rufescens</i>	Crombec, Long-billed	Unlisted	LC
<i>Tachybaptus ruficollis</i>	Grebe, Little	Unlisted	LC
<i>Tachymartia melba</i>	Swift, Alpine	Unlisted	LC
<i>Tadorna cana</i>	Shelduck, South African	Unlisted	LC
<i>Tchagra australis</i>	Tchagra, Brown-crowned	Unlisted	LC
<i>Tchagra senegalus</i>	Tchagra, Black-crowned	Unlisted	LC
<i>Telophorus zeylonus</i>	Bokmakierie, Bokmakierie	Unlisted	LC
<i>Terpsiphone viridis</i>	Paradise-flycatcher, African	Unlisted	LC
<i>Thalassornis leuconotus</i>	Duck, White-backed	Unlisted	LC
<i>Thamnotula cinnamomeiventris</i>	Cliff-chat, Mocking	Unlisted	LC
<i>Threskiornis aethiopicus</i>	Ibis, African Sacred	Unlisted	LC
<i>Tockus rufirostris</i>	Hornbill, Southern Red-billed	Unlisted	Unlisted
<i>Trachyphonus vaillantii</i>	Barbet, Crested	Unlisted	LC
<i>Treron calvus</i>	Green-pigeon, African	Unlisted	LC
<i>Tricholaema leucomelas</i>	Barbet, Acacia Pied	Unlisted	LC
<i>Tringa glareola</i>	Sandpiper, Wood	Unlisted	LC
<i>Tringa nebularia</i>	Greenshank, Common	Unlisted	LC
<i>Turdoides jardineii</i>	Babbler, Arrow-marked	Unlisted	LC
<i>Turdus libonyana</i>	Thrush, Kurrichane	Unlisted	Unlisted
<i>Turdus litsitsirupa</i>	Thrush, Groundscraper	Unlisted	Unlisted
<i>Turdus smithi</i>	Thrush, Karoo	Unlisted	LC
<i>Tyto alba</i>	Owl, Barn	Unlisted	LC
<i>Tyto capensis</i>	Grass-owl, African	VU	LC
<i>Upupa africana</i>	Hoopoe, African	Unlisted	LC
<i>Uraeginthus angolensis</i>	Waxbill, Blue	Unlisted	LC
<i>Urocolius indicus</i>	Mousebird, Red-faced	Unlisted	LC

<i>Vanellus armatus</i>	Lapwing, Blacksmith	Unlisted	LC
<i>Vanellus coronatus</i>	Lapwing, Crowned	Unlisted	LC
<i>Vanellus senegallus</i>	Lapwing, African Wattled	Unlisted	LC
<i>Vidua macroura</i>	Whydah, Pin-tailed	Unlisted	LC
<i>Vidua paradisaea</i>	Paradise-whydah, Long-tailed	Unlisted	LC
<i>Vidua purpurascens</i>	Indigobird, Purple	Unlisted	LC
<i>Zapornia flavirostra</i>	Crake, Black	Unlisted	LC
<i>Zosterops virens</i>	White-eye, Cape	Unlisted	LC

11.2 Appendix B – Avifauna recorded

Species	Common Name	Conservation Status		Guild code	Relative abundance	Frequency (%)
		Regional (SANBI, 2016)	IUCN (2017)			
<i>Ploceus velatus</i>	Masked-weaver, Southern	Unlisted	LC	GGD	0,11875	25
<i>Passer domesticus</i>	Sparrow, House	Unlisted	LC	GGD	0,0875	25
<i>Vanellus coronatus</i>	Lapwing, Crowned	Unlisted	LC	IGD	0,0625	43,75
<i>Calandrella cinerea</i>	Lark, Red-capped	Unlisted	LC	GGD	0,0625	25
<i>Oenanthe pileata</i>	Wheatear, Capped	Unlisted	LC	IGD	0,05625	37,5
<i>Streptopelia capicola</i>	Turtle-dove, Cape	Unlisted	LC	GGD	0,05	43,75
<i>Acridotheres tristis</i>	Myna, Common	Unlisted	LC	OMD	0,05	31,25
<i>Myrmecocichla formicivora</i>	Chat, Anteating	Unlisted	LC	IGD	0,04375	12,5
<i>Spreo bicolor</i>	Starling, Pied	Unlisted	LC	OMD	0,04375	12,5
<i>Cecropis cucullata</i>	Swallow, Greater Striped	Unlisted	LC	IAD	0,04375	18,75
<i>Prinia subflava</i>	Prinia, Tawny-flanked	Unlisted	LC	IGD	0,0375	18,75
<i>Corvus albus</i>	Crow, Pied	Unlisted	LC	OMD	0,03125	18,75
<i>Columba livia</i>	Dove, Rock	Unlisted	LC	FFD	0,03125	12,5
<i>Bostrychia hagedash</i>	Ibis, Hadeda	Unlisted	LC	OMD	0,03125	25
<i>Riparia paludicola</i>	Martin, Brown-throated	Unlisted	LC	IAD	0,03125	6,25
<i>Cisticola juncidis</i>	Cisticola, Zitting	Unlisted	LC	IGD	0,025	25
<i>Streptopelia senegalensis</i>	Dove, Laughing	Unlisted	LC	GGD	0,025	25
<i>Passer melanurus</i>	Sparrow, Cape	Unlisted	LC	GGD	0,025	6,25
<i>Columba guinea</i>	Pigeon, Speckled	Unlisted	LC	FFD	0,01875	12,5
<i>Cisticola lais</i>	Cisticola, Wailing	Unlisted	LC	IGD	0,0125	12,5
<i>Streptopelia semitorquata</i>	Dove, Red-eyed	Unlisted	LC	GGD	0,0125	12,5
<i>Dicrurus adsimilis</i>	Drongo, Fork-tailed	Unlisted	LC	IAD	0,0125	6,25
<i>Calendulauda africanoides</i>	Lark, Fawn-coloured	Unlisted	LC	GGD	0,0125	6,25
<i>Pternistis swainsonii</i>	Spurfowl, Swainson's	Unlisted	LC	OMD	0,0125	12,5
<i>Cisticola tinniens</i>	Cisticola, Levallant's	Unlisted	LC	IGD	0,00625	6,25
<i>Lanius collaris</i>	Fiscal, Common (Southern)	Unlisted	LC	IAD	0,00625	6,25
<i>Scleroptila gutturalis</i>	Francolin, Orange River	Unlisted	LC	GGD	0,00625	6,25
<i>Numida meleagris</i>	Guineafowl, Helmeted	Unlisted	LC	OMD	0,00625	6,25
<i>Elanus caeruleus</i>	Kite, Black-shouldered	Unlisted	LC	CGD	0,00625	6,25
<i>Afrotis afroides</i>	Korhaan, Northern Black	Unlisted	LC	IGD	0,00625	6,25
<i>Macronyx capensis</i>	Longclaw, Cape	Unlisted	LC	IGD	0,00625	6,25
<i>Delichon urbicum</i>	House-martin, Common	Unlisted	LC	IAD	0,00625	6,25
<i>Anthus cinnamomeus</i>	Pipit, African	Unlisted	LC	IGD	0,00625	6,25

<i>Euplectes progne</i>	Widowbird, Long-tailed	Unlisted	LC	GGD	0,00625	6,25
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