BASELINE ECOLOGICAL HABITAT ASSESSMENT

FOR THE DEVELOPMENT OF VEHICLE DEALERSHIPS AND FACILITIES ON PORTION 59 OF THE FARM BULTFONTEIN 533 JQ

Proponent:
4 Wheel Drive Property Holdings (Pty) Ltd
Project Reference:
21860 – Portion 59 Bultfontein 533
Report Date:
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DECLARATION OF INDEPENDENCE

Specialist Name	Mr. A.E. van Wyk
Declaration of Independence	I declare, as a specialist appointed in terms of the National Environmental Management Act (Act No 108 of 1998) and the associated 2014 Environmental Impact Assessment (EIA) Regulations, that I: • I act as the independent specialist in this application; • I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant; • I declare that there are no circumstances that may compromise my objectivity in performing such work; • I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity; • I will comply with the Act, Regulations and all other applicable legislation; • I have no, and will not engage in, conflicting interests in the undertaking of the activity; • I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority; • All the particulars furnished by me in this form are true and correct; and • I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.
Signature	
Date	20201007

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EXECUTIVE SUMMARY

Prism Environmental Management Services was appointed by 4 Wheels Drive Property Holdings (Pty) Ltd to undertake an Ecological Habitat Assessment to determine the impacts of proposed development of Portion 59 Bultfontein 533 JQ and associated services and roads on surrounding properties on the terrestrial ecology of the area linked to the. This is to specifically inform the Basic Assessment (BA) process and Water Use License Application (WULA) for the mentioned development.

The proposed development is located at 25° 57'50.69" S: 27°55'25.12" E in Portion 59 Bultfontein within the City of Johannesburg, Gauteng Province.

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1 INTRODUCTION

Prism Environmental Management Services was appointed by 4 Wheel Drive Property Holdings (Pty) Ltd to undertake an Ecological Habitat Assessment to determine the impacts of proposed development of Portion 59 Bultfontein 533 JQ and associated services and roads on surrounding properties on the terrestrial ecology. This is to specifically inform the Basic Assessment (BA) process and Water Use License Application (WULA) for the mentioned development.

1.1 Project Description

4 Wheel Drive Property Holdings (Pty) Ltd is intending to develop a truck dealership and facilities on Part of 59 of the Farm Bultfontein No. 533 J.Q.

In addition, the proposed development also involves the provision of all necessary services to the development including water, sanitation, stormwater and internal roads.

1.2 Study Site Location

The proposed development is located at 25° 57’50.69” S: 27°55’25.12” E in Portion 59 of the Farm Bultfontein within the City of Johannesburg, Gauteng Province (*here after referred to as the study site/s*).

(*Figure 1-1: Locality Map of study area for the proposed development* and *Figure 1-2: Aerial Map of study area for the proposed development*.

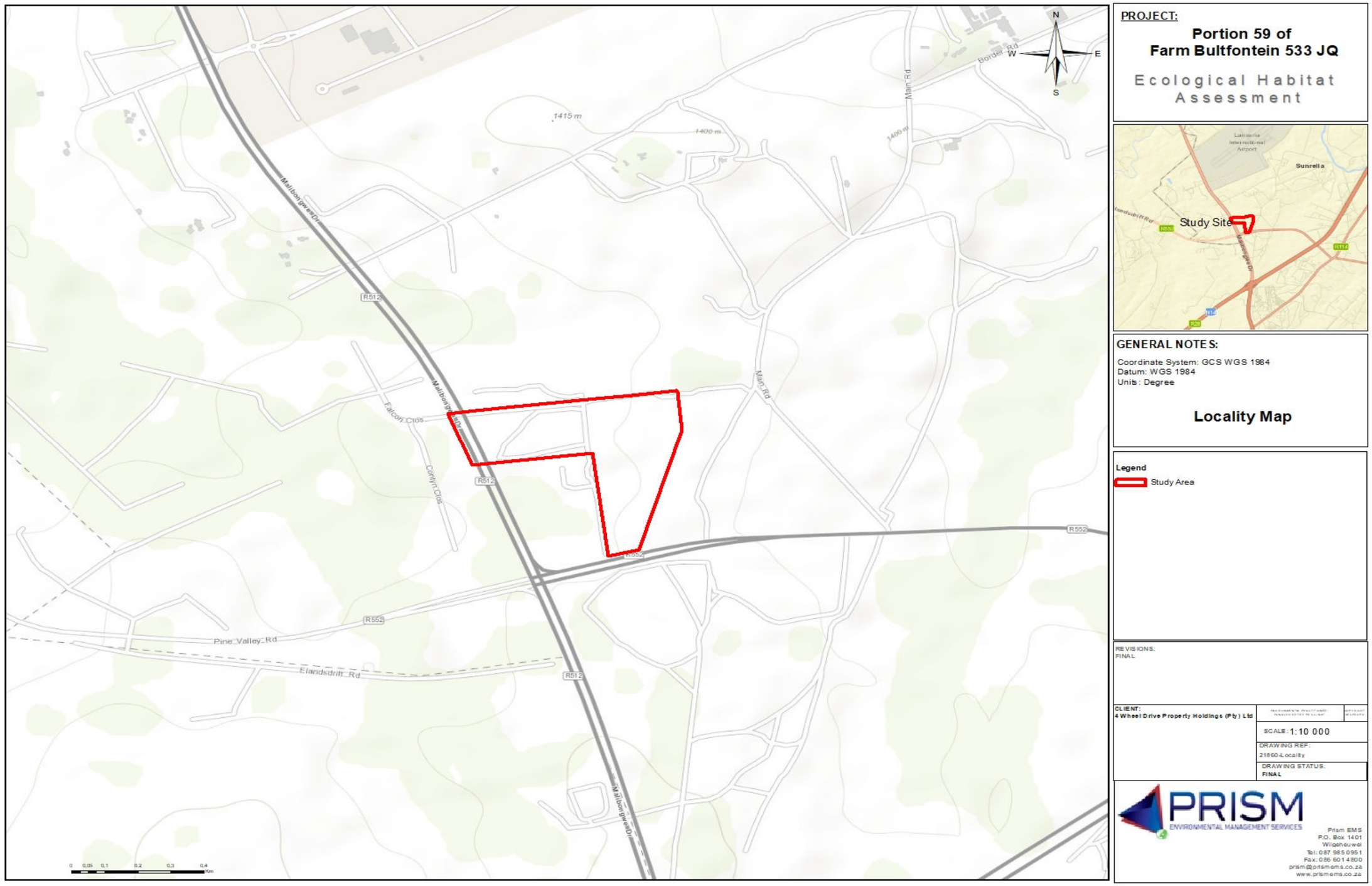

Figure 1-1: Locality Map of study area for the proposed development

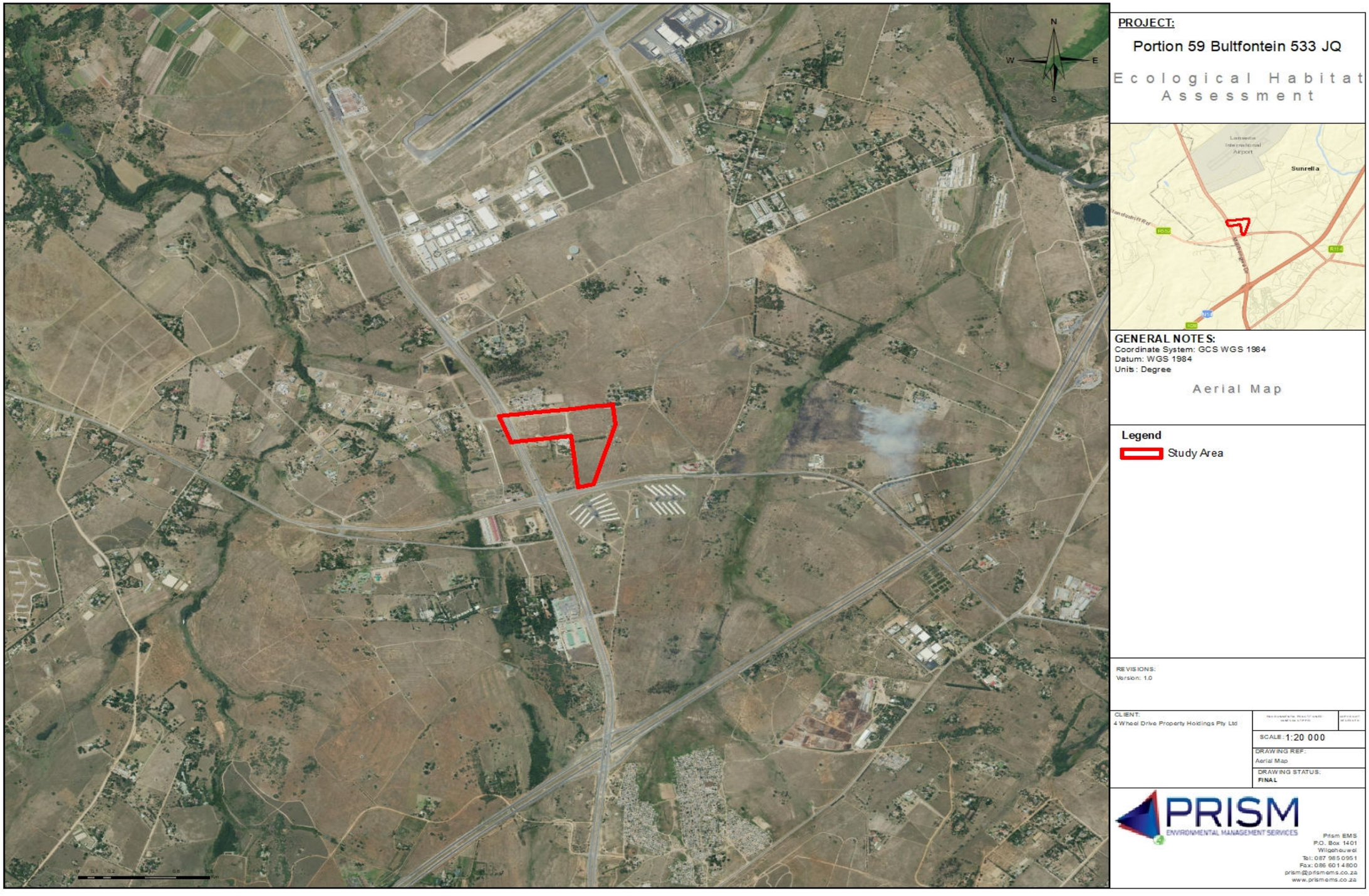

Figure 1-2: Aerial Map of study area for the proposed development

1.3 Study Limitations

All information acquired for the Ecological Habitat Assessment was assumed to be correct. This includes all GIS data and website information used to determine all previous recordings of Fauna and Flora species possible to be found on site. The study was limited to a snapshot view during one site visit and aimed only to confirm the desktop assessment. No detailed plant species lists, or faunal trapping was therefore undertaken as the site is disturbed, and alterations has impacted the site.

1.4 Scope and Purpose

The aim of this study was to undertake a desktop description of the baseline receiving environment to identify and potentially sensitive receptors from an ecological perspective. This was followed by a short site assessment to confirm desktop information. This, specifically to inform the BA process and Water Use Registration for the proposed activities.

1.5 Overview of Specialist

Prism EMS has conducted the required ecological habitat assessment report to inform the BA Process and Water Use Registration for the proposed activities. The team under lead of Mr D. Botha has conducted the assessment. The details of the team are tabularised in **Table 1-1**.

Table 1-1: Details of Specialist

Specialist Team				
Designation	**Name**	**Qualification**	**Professional Registration**	**Role**
Ecologist	Mr. A.E. van Wyk	B.Sc. Hons. Zoology (current) B.Sc. Environmental & Biological Sciences 5 Years' Experience	Cand.Sci.Nat.	Field Assessment and Reporting
Principle EAP and Biodiversity and Wetland Specialist	Mr. D. Botha	M.A. Environmental Management B.A. Hons. Geography & Environmental Management, B.A. Humanities Post Higher Education Diploma Wetland and Riparian Delineation (DWAF Accredited Short Course) Soil Classification and Wetland Delineation - Short Course – Terrasoil Science Tools for Wetland Assessment – Rhodes University SASS5 Aquatic Biomonitoring Training – *Department of Water Affairs, Ground Truth* Wetland Plant Taxonomy – *Water Research Commission* Hydropedology and Wetland Functioning – *Water Business Academy / Terra Soil Science* 17 Years' Experience	Pr.Sci.Nat. (119979)	Peer Review
Senior Environmental Practitioner	Ms. V Stippel	MSc. Animal, Plant and Environmental Sciences BSc. Honours. Ecology, Environment and Conservation BSc. Zoology and Archaeology South African Council for Natural Scientific Professions (SACNASP) registered Scientist | Pr.Sci.Nat. (116621) Registered Member of Environmental Assessment Practitioners Association of South Africa (EAPASA)(2019/175) Member of the International Association for Impact Assessors (IAIAsa) (1653) 9 years' experience	Pr.Sci.Nat. (116221)	Peer Reviewer

2 REPORT OUTLINE

Appendix 6 of GN 982 of 4 December 2014 provides the requirements for specialist reports undertaken as part of the environmental authorisation process. In line with this, Table 2-1 provides an overview of Appendix 6 together with information on how these requirements have been met.

Table 2-1: Specialist Report Requirements.

Requirement from Appendix 6 of GN 982 of 4 December 2014	Chapter
(a) Details of - (i) the specialist who prepared the report; and (ii) the expertise of that specialist to compile a specialist report	Section 1.5
(b) Declaration that the specialist is independent in a form as may be specified by the competent authority	*Declaration of Independence*
(c) Indication of the scope of, and the purpose for which, the report was prepared	*Executive Summary*
(d) Date and season of the site investigation and the relevance of the season to the outcome of the assessment	Section 4.3
(e) Description of the methodology adopted in preparing the report or carrying out the specialised process	Section 4
(f) Specific identified sensitivity of the site related to the activity and its associated structures and infrastructure	Section 9
(g) Identification of any areas to be avoided, including buffers	Section 9
(h) Map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers	Section 8
(I) Description of any assumptions made and any uncertainties or gaps in knowledge	Section 1.3
(j) Description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment	Section 8
(k) Mitigation measures for inclusion in the EMPr	Section 10
(I) Conditions for inclusion in the environmental authorisation	Section 10
(m) Monitoring requirements for inclusion in the EMPr or environmental authorisation	Section 10
(n) Reasoned opinion - (i) as to whether the proposed activity or portions thereof should be authorised; and	Section 11

Requirement from Appendix 6 of GN 982 of 4 December 2014	Chapter
(ii)if the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan	
(o) Description of any consultation process that was undertaken during the course of preparing the specialist report	Section 4.5
(p) A summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	(N/A)
(q) Any other information requested by the competent authority	(N/A)

3 LEGISLATION AND GUIDELINES

A summary of the applicable legislation and guidelines that have guided this ecological assessment are provided below. Please note that this list is not exhaustive but aims to provide a summary of the most pertinent legislative aspects.

- The National Environmental Management Act (NEMA) No. 107 of 1998): Environmental Impact Assessment Regulations, 2014.
- The National Environmental Management: Biodiversity Act (NEM:BA) No. 10 of 2004: specifically, the management and conservation of biological diversity within the RSA and of the components of such biological diversity;
- Alien and Invasive Species Regulations, 2014 (GN.R. 598 of 1 August 2014)
- Alien and Invasive Species Lists, 2016 (GN 864 of 29 July 2016)
- National Environmental Management: Protected Areas Act, 2003 (Act 57 of 2003);
- National Environmental Management: Waste Act, 2008 (Act 59 of 2008);
- National Water Act, 1998 (Act 36 of 1998);
- National Veld and Forest Fire Act (101 of 1998);
- Environmental Conservation Act, 1989 (ECA), (Act no. 73 of 1989);
- National Forests Act, 1998 (Act 84 of 1998), specifically with reference to Protected Tree species.
- National Protected Areas Expansion Strategy (NPAES)
- South Africa's National Biodiversity Strategy and Action Plan (NBSAP);
- National Spatial Biodiversity Assessment (NSBA); and
- National Biodiversity Assessment (NBA)
- GDARD Conservation Plan (C-Plan) Version 3.3.
- GDARD Requirements for Biodiversity Assessments (Version 3, 2014a)
- Gauteng Department of Agriculture and Rural Development (GDARD): Checklist for Biodiversity Assessments.

4 METHODOLOGY

4.1 Desktop Assessment

4.1.1 Geographic Information System

In order to determine the potential environmental sensitive's, a desktop GIS exercise was undertaken, and existing data layers were incorporated into a GIS for the study. All Mapping was performed using open source GIS software (Arc GIS).

4.1.2 Desktop Assessment of Species of Conservation Concern

The current literature was utilised to gain an understanding of the environmental influences presently affecting the site. General information on the veld type, climate, geology and soils and current activity on the site was acquired prior to the field assessment of the property.

A literature review on the habitat of red data listed species with a potential distribution on site was conducted prior to the field assessment to gain a thorough understanding of the habitat type occupied for these species. In addition, a list of potential sensitive species located on the site was requested by the GDARD Biodiversity section.

In addition, the National Screening Tool was also utilized to determine any potential sensitivities in the study site.

4.2 Literature Review

Flora Assessment

The South African National Biodiversity Institute (SANBI) provides a database, namely the Botanical Database of Southern Africa (BODATSA). The database was used to access distribution records on southern African plants. A list of flora species that could potentially occur within the study area was compiled using historically recorded data. The same method was used for any expected red data and species of conservation concern (SCC).

Relevant field guides were used for other required information with regards to the Flora found on the study site.

Mucina and Rutherford (2018) was used to provide information on the vegetation type and the SANBI website (SANBI, 2017) was consulted to provide the current conservation status of each South African plant species.

Avifauna Assessment

A desktop study was undertaken to determine which bird species could potentially occur in the proposed study area, using data from the South African Bird Atlas Project (SABAP2). SABAP 2 maps the distribution and relative abundance of birds in Southern Africa which includes South Africa and other neighboring countries. Data of bird species are recorded based on records per geographical pentad (5-minute X 5 minute). A list of bird species potentially occurring within specific pentad (2555_2755) in which the study area falls was obtained from SABAP 2 data. This approach was used to ensure that all species potentially occurring on site are identified, whether, resident, vagrant or migratory.

Mammal Assessment

A list of mammal species potentially occurring on site was created using their known distributions and habitat suitability, sourced from online, literature sources and the Gauteng Department of Agriculture and Rural development (GDARD) Biodiversity section. The species list was generated as per the Quarter Degree Grid Cell (QDGC- 2527DD) and obtained from the Virtual Museum website. This also includes the expectancy of red data and species of conservation concern (SCC).

Herpetofauna Assessment

The online FitzPatrick Institute of African Ornithology - Virtual Museum website was used to determine potential reptiles and amphibian observations within the 2527DD QDGC.

4.3 Site Investigation

The details of the site investigation undertaken are provided in Table 4-1.

Table 4-1: Site Investigation Details

	Site Investigation
Date	September 2020
Season	Summer

4.4 Impact Assessment Methodology

As standardized impact assessment methodology was utilized to determine the impacts associated with the proposed development. A summary of this methodology is provided below.

The **significance** of an impact is defined as the combination of the **consequence** of the impact occurring and the **probability** that the impact will occur. The nature and type of impact may be direct or indirect and may also be positive or negative, refer to w for the specific definitions.

Table 4-2: below for the specific definitions.

Table 4-2: Nature and type of impact.

IMPACT	**Nature and Type of Impact:**	
	Direct	Impacts that are caused directly by the activity and generally occur at the same time and place as the activity
	Indirect	Indirect or induced changes that may occur as a result of the activity. These include all impacts that do not manifest immediately when the activity is undertaken, or which occur at a different place as a result of the activity
	Cumulative	Those impacts associated with the activity which add to, or interact synergistically with existing impacts of past or existing activities, and include direct or indirect impacts which accumulate over time and space
	Positive	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes will benefit significantly, and includes neutral impacts (those that are not considered to be negative
	Negative	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes will be comprised

Table 4-3: presents the defined criteria used to determine the **consequence** of the impact occurring which incorporates the extent, duration and intensity (severity) of the impact.

Table 4-3: Consequence of the Impact occurring.

CONSEQUENCE	**Extent of Impact:**	
	Site	Impact is limited to the site and immediate surroundings, within the study site boundary or property (immobile impacts)
	Neighbouring	Impact extends across the site boundary to adjacent properties (mobile impacts)
	Local	Impact occurs within a 5km radius of the site
	Regional	Impact occurs within a provincial boundary
	National	Impact occurs across one or more provincial boundaries
	Duration of Impact:	
	Incidental	The impact will cease almost immediately (within weeks) if the activity is stopped, or may occur during isolated or sporadic incidences
	Short-term	The impact is limited to the construction phase, or the impact will cease within 1 - 2 years if the activity is stopped
	Medium-term	The impact will cease within 5 years if the activity is stopped
	Long-term	The impact will cease after the operational life of the activity, either by natural processes or by human intervention
	Permanent	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient
	Intensity or Severity of Impact:	
	Low	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes are not affected
	Low-Medium	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes are modified insignificantly
	Medium	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes are altered
	Medium-High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are severely altered
	High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes will permanently cease

The probability of the impact occurring is the likelihood of the impacts actually occurring, and is determined based on the classification provided in Table 4-4.

Table 4-4: Probability and confidence of impact prediction.

	Probability of Potential Impact Occurrence:	
PROBABILITY	**Improbable**	The possibility of the impact materialising is very low either because of design or historic experience
	Possible	The possibility of the impact materialising is low either because of design or historic experience
	Likely	There is a possibility that the impact will occur
	Highly Likely	There is a distinct possibility that the impact will occur
	Definite	The impact will occur regardless of any prevention measures

The **significance** of the impact is determined by considering the consequence and probability without taking into account any mitigation or management measures and is then ranked according to the ratings listed in Table 4-5:

Table 4-5: Significance rating of the impact.

	Significance Ratings:	
SIGNIFICANCE	**Low**	Neither environmental nor social and cultural receptors will be adversely affected by the impact. Management measures are usually not provided for low impacts
	Low-Medium	Management measures are usually encouraged to ensure that the impacts remain of Low-Medium significance. Management measures may be proposed to ensure that the significance ranking remains low-medium
	Medium	Natural, cultural and/or social functions and processes are altered by the activities, and management measures must be provided to reduce the significance rating
	Medium-High	Natural, cultural and/or social functions and processes are altered significantly by the activities, although management measures may still be feasible
	High	Natural, cultural, and/or social functions and processes are adversely affected by the activities. The precautionary approach will be adopted for all high significant impacts and all possible measures must be taken to reduce the impact

The level of confidence associated with the impact prediction is also considered as low, medium or high (Table 4-6:).

Table 4-6: Level of confidence of the impact prediction.

	Level of Confidence in the Impact Prediction:	
CONFIDENCE	**Low**	Less than 40% sure of impact prediction due to gaps in specialist knowledge and/or availability of information
	Medium	Between 40 and 70% sure of impact prediction due to limited specialist knowledge and/or availability of information
	High	Greater than 70% sure of impact prediction due to outcome of specialist knowledge and/or availability of information

Once significance rating has been determined for each impact, management and mitigation measures must be determined for all impacts that have a significance ranking of Medium and higher in order to attempt to reduce the level of significance that the impact may reflect.

The EIA Regulations, 2014 specifically require a description is provided of the degree to which these impacts:

- can be reversed;

- may cause irreplaceable loss of resources; and
- can be avoided, managed or mitigated.

Based on the proposed mitigation measures, the mitigation efficiency is also determined (Table 4-7:) whereby the initial significance is re-evaluated and ranked again to effect a significance that incorporates the mitigation based on its effectiveness. The overall significance is then re-ranked, and a final significance rating is determined.

Table 4-7: Mitigation efficiency.

	Mitigation Efficiency	
MITIGATION EFFICIENCY	**None**	Not applicable
	Very Low	Where the significance rating stays the same, but where mitigation will reduce the intensity of the impact. Positive impacts will remain the same
	Low	Where the significance rating reduces by one level, after mitigation
	Medium	Where the significance rating reduces by two levels, after mitigation
	High	Where the significance rating reduces by three levels, after mitigation
	Very High	Where the significance rating reduces by more than three levels, after mitigation

The reversibility is directly proportional the "Loss of Resource" where no loss of resource is experienced, the impact is completely reversible; where a substantial "Loss of resource" is experienced there is a medium degree of reversibility; and an irreversible impact relates to a complete loss of resources, i.e. irreplaceable (Table 4-8:).

Table 4-8: Degree of reversibility and loss of resources.

	Loss of Resources:	
DEGREE REVERSABILITY & LOSS OF RESOURCES	**No Loss**	No loss of social, cultural and/or ecological resource(s) are experienced. Positive impacts will not experience resource loss
	Partial	The activity results in an insignificant or partial loss of social, cultural and/or ecological resource(s)
	Substantial	The activity results in a significant loss of social, cultural and/or ecological resource(s)
	Irreplaceable	The activity results in the complete and irreplaceable social, cultural and/or ecological loss of resource(s)
	Reversibility:	
	Irreversible	Impacts on natural, cultural and/or social functions and processes are irreversible to the pre-impacted state in such a way that the application of resources will not cause any degree of reversibility
	Medium Degree	Impacts on natural, cultural and/or social functions and processes are partially reversible to the pre-impacted state if less than 50% resources are applied
	High Degree	Impacts on natural, cultural and/or social functions and processes are partially reversible to the pre-impacted state if more than 50% resources are applied
	Reversible	Impacts on natural, cultural and/or social functions and processes are fully reversible to the pre-impacted state if adequate resources are applied

4.5 Consultation Process

Consultation is being undertaken by Prism EMS (EAP) as part of the overall environmental authorization process. In addition, as part of this study, the Ecological Specialist consulted with:

- The EAP;
- GDARD – Biodiversity Section; and

5 FIELD SURVEY METHODS

5.1 Flora

A site assessment was conducted on the 18th of September 2020 where the fauna and flora aspects were evaluated. As per GDARD minimum requirements for Biodiversity studies, survey was conducted during the summer.

A site reconnaissance was done, and photos were taken of the current status of the study area in terms of vegetation and type of habitat. During the site assessment, a focus was placed on the presence or observations of species of conservation concern, threatened and protected species.

5.2 Avifauna

During the site assessment in September 2020, bird species were identified and recorded using observation, sound and signs such as nests, eggs and fallen off feathers.

5.3 Mammals

The method used to record possible sighting or presence of mammal species on site, was done by visual and indirect observations, such as footprints, droppings, and sculls. Photographs were taken to identify any potential habitat suitable for certain mammal species.

5.4 Herpetofauna

As per the mammal survey, visual and indirect observations were used to determine potential species on site (such as shed skins). Photos were taken if anything was found. No species were caught and removed from the surveyed site. No trapping methods were used for reptile/amphibian records because of the limited timeframe for the specific survey.

6 SPECIES OF CONSERVATION CONCERN

Species of conservation concern are species that have a high conservation importance in terms of preserving South Africa's high floristic diversity and include not only threatened species, but also those classified in the categories Extinct (EX) Extinct in the Wild (EW), Regionally Extinct (RE), Near Threatened (NT), Critically Rare, Rare, Declining and Data Deficient - Insufficient Information (DDD).

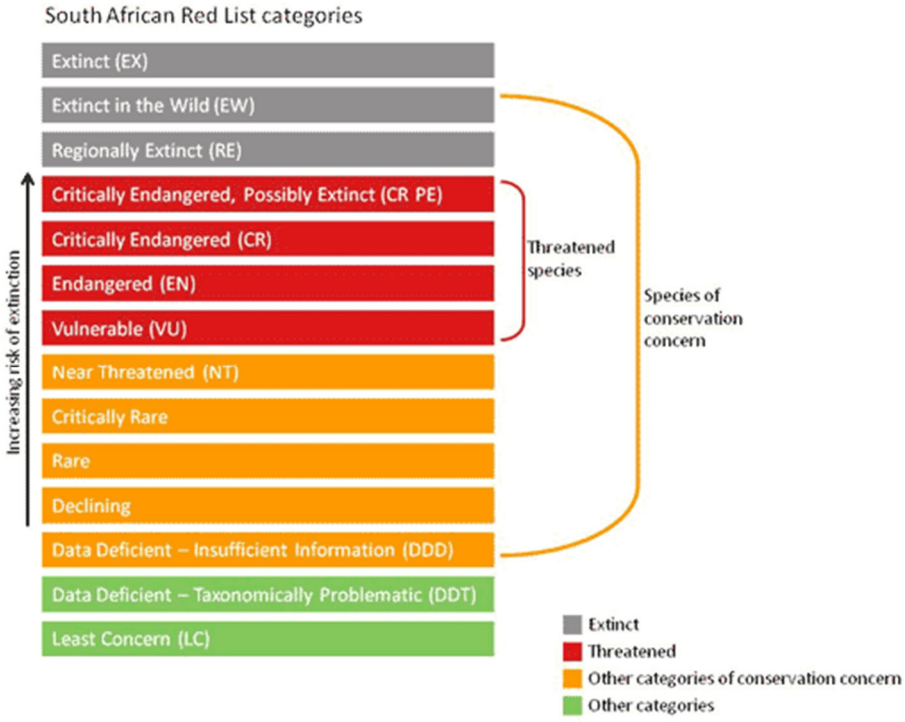

Figure 6-1: Species of Conservation Concern categories

The Red lists of threatened species are provided by the International Union for Conservation of Nature (IUCN), which provides the global conservation status of terrestrial fauna and flora. The regional conservation status is more recent than the global status; therefore, different sources were used for each group study.

The conservation status categories defined by the IUCN are the "threatened" and “near-threatened” categories defined as follows:

- **Threatened**
  - **Critically Endangered (CR)**:
    Critically Endangered refers to species facing an **extreme high** risk of extinction in the wild.

  - **Endangered (EN)**
    Endangered species facing a **very high** risk of extinction in the wild.

  - **Vulnerable (VU)**
    Vulnerable species facing a **high** risk of extinction in the wild.

- **Near Threatened**
  Near Threatened species close to qualify for or is likely to qualify for a threatened category in the near future.

7 RESULTS AND FINDINGS

7.1 Desktop Assessment

7.1.1 Geographical Information System and Literature

After determining the potential environmental sensitive's, using a desktop GIS exercise, and existing data layers, the following GIS Maps where compiled; Figure 7-1: Gauteng Conservation Plan and Hydrological Map, Figure 7-2: Important Bird and Protected Areas Map and lastly Figure 7-3: Vegetation Map.

a) Gauteng Conservation Plan and Hydrological features

The Gauteng Conservation Plan v3.3 (GDARD, 2011) was used to determine the conservation status the study site falls under. According to Figure 7-1: Gauteng Conservation Plan and Hydrological Map, Portion 59 of the Farm Bultfontein 533 JQ fall within an Important Area of the Gauteng C-Plan. The site is not situated within close proximity of a river, dam or any other watercourse. The closest river (Crocodile River) is situated about 3km north-west from the site.

b) Protected Areas & Important Bird Areas

Protected Areas are those areas included in the South African Protected Areas Database (SAPAD). This database is maintained by the Department of Environment, Forestry and Fisheries (DEFF) as required by the National Environmental Management: Protected Areas Act (Act 57 of 2003). Important Bird and Biodiversity Areas (IBAs), as defined by BirdLife International, constitute a global network of over 13 500 sites, of which 112 sites are found in South Africa. IBAs are sites of global significance for bird conservation, identified nationally through multi-stakeholder processes using globally standardised, quantitative, and scientifically agreed criteria. Essentially, these are the most important sites for conserving.

The study area does not fall within a Protected Area. However, it does fall within one of the Important Bird Area as seen in Figure 7-2: Important Bird and Protected Areas Map). The site falls within the Malgaliesberg IBA. The Protected Area and IBA found in and around the study site are as follows (Figure 7-2: Important Bird and Protected Areas Map)

Protected Areas

- The Fossil Hominid Sites of South Africa: Cradle of Humankind (Approximately 6km from the study site).
- The Diepsloot (Northern Farm) Nature Reserve (Approximately 3km from study site)

Important Bird Area

- Magaliesberg

Although the study area falls within the Important Area, the study area might not pose no threat linked to the IBA area itself. Mucina & Rutherford (2010:69) mentions that the most triggered bird species in this area is the globally threatened (Regional – Vulnerable) Cape Vulture (*Gyps coprotheres*), which relies on the Magaliesberg mountain range as nesting habitat. Species of conservation concern (SCC) also found in this IBA includes; Secretary Bird (*Sagittarius serpentarius*), Lanner Falcon (*Falco biarmicus*), Half-collared Kingfisher (*Alcedo semitorquata*), African Grass Owl (*Tyto capensis*), African Finfoot (*Podica senegalensis*) and the Verreauxs' Eagle (*Aquila verreauxii*).

c) Vegetation type

Figure 7-3: Vegetation Map, indicates that the study area in situated within an endangered vegetation type called the Egoli Granite Grassland (Mucina & Rutherford, 2010).

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The Egoli Granite Grassland is described as a moderate undulating landscape on the Highveld plateau supporting tall and usually dominated by species such as *Hyparrhenia hirta*. Some wood like species occurs on rocky outcrops areas which also includes a high diversity of other wood like species in the form of scattered shrubs and individual small trees (Musina & Rutherford, 2010).

Table 7-1: Attributes of the Egoli Granite Grassland regional vegetation unit

Name of vegetation type	**Egoli Granite Grassland**
Code as used in the Book (Mucina & Rutherford, 2010)	Gm10
Conservation Target (percent of area) from NSBA	24%
Protected/Conserved (percent of area) from NSBA	3%
Remaining Natural Area (percent of area) from NSBA	38%
Description of conservation status from NSBA	Endangered
Description of the Protection Status from NSBA	Hardly Protected
Area (km²) of the full extent of the Vegetation Type	1090
Name of the Biome	Grassland Biome

Table 7-2: Characteristic Plant Species of the Egoli Granite Grassland

Plant Form	**Species**
Graminoids	*Aristida canescens, A. congesta, Cynodon dactylon, Digitaria monodactyla, Eragrostis capensis, E. chloromelas, E. curvula, E. racemosa, Heteropogon contorus, Hyparrhenia hirta, Melinis repens* subsp*. repens, Monocymbium ceresiifrome, Setaria sphacelata, Themeda triandra, Tristachya leucothrix, Andropogon eucomus, Aristida aequiglumis, A.diffusa, A. scabrivalvis* subsp. *Borumensis, Bewsia biflora,*

	Brachiaria serrate, Bulbostylis burchellii, Cymbopogon caesius, Digitaria tricholaenoides, Diheteropogon amplectens, Eragrostis gummiflua, E. sclerantha, Panicum natalense, Schizachyrium sanguineum, Setaria nigrirostris, Tristachya rehmannii, Urelytrum agropyroides.
Herbs	*Acalypha angustata, A. peduncularis, Becium obovatum, Berkheya insignis, Crabbea hirsute, Cyanotis speciosa, Dicoma anomala, Helichrysum rugulosum, Justicia anagalloides, Kohautia amatymbica, Nidorella hottentotica, Pentanisia prunelloides* subsp. *latifolia, Pseudognaphallium luteo-album, Senecio venosus.*
Geophytic Herbs	*Cheilanthes deltoidea, C. hirta*
Small Tree	*Vangueria infausta*
Tall Shrub	*Rhus pyroides*
Low Shrub	*Anthospermum hispidulum, A. rigidum* subsp. *pumilum, Gnidia capitata, Helichrysum kraussii, Ziziphus zeyheriana*
Succulent Shrub	*Lopholaena coriifolia*

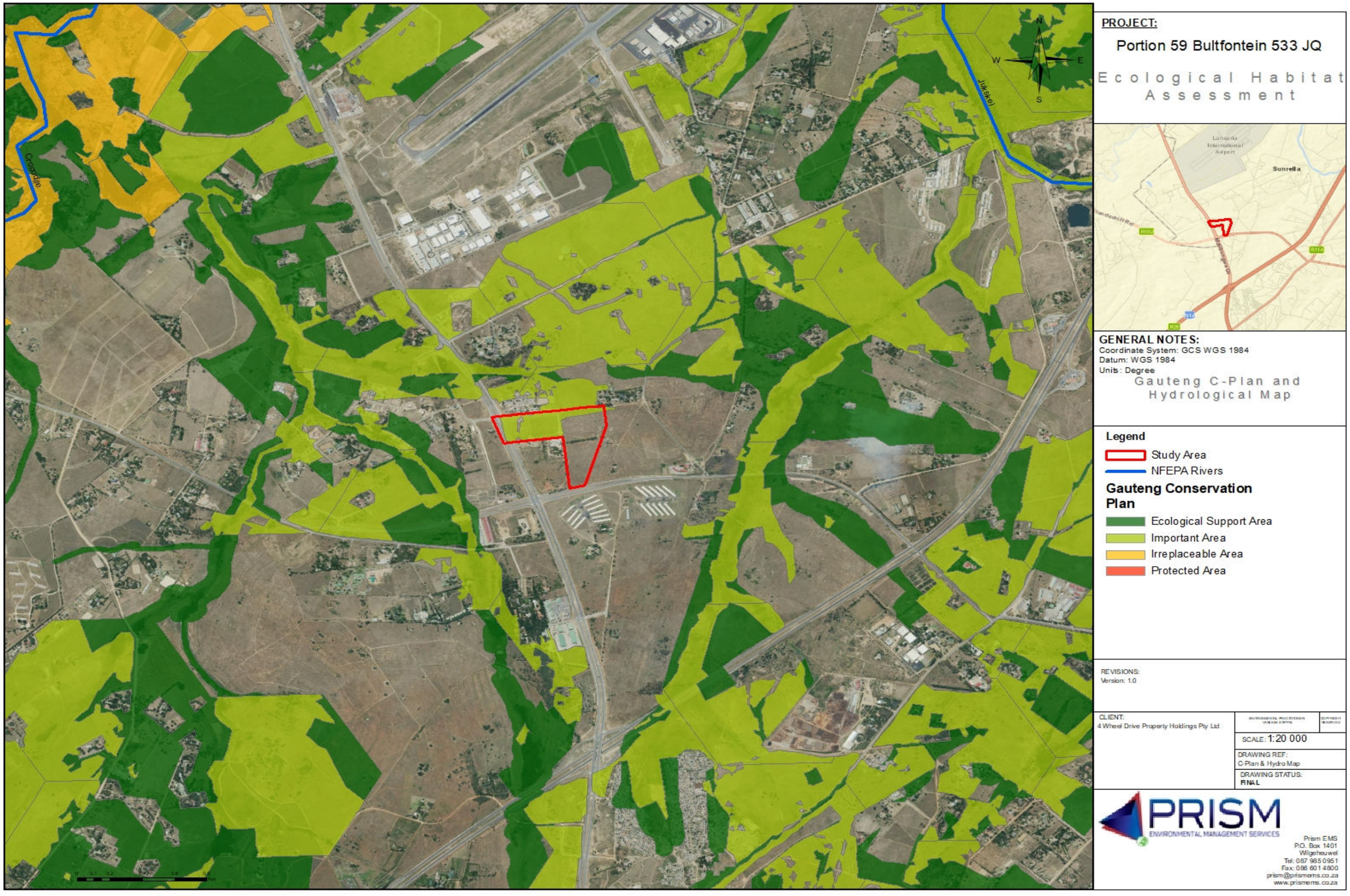

Figure 7-1: Gauteng Conservation Plan and Hydrological Map

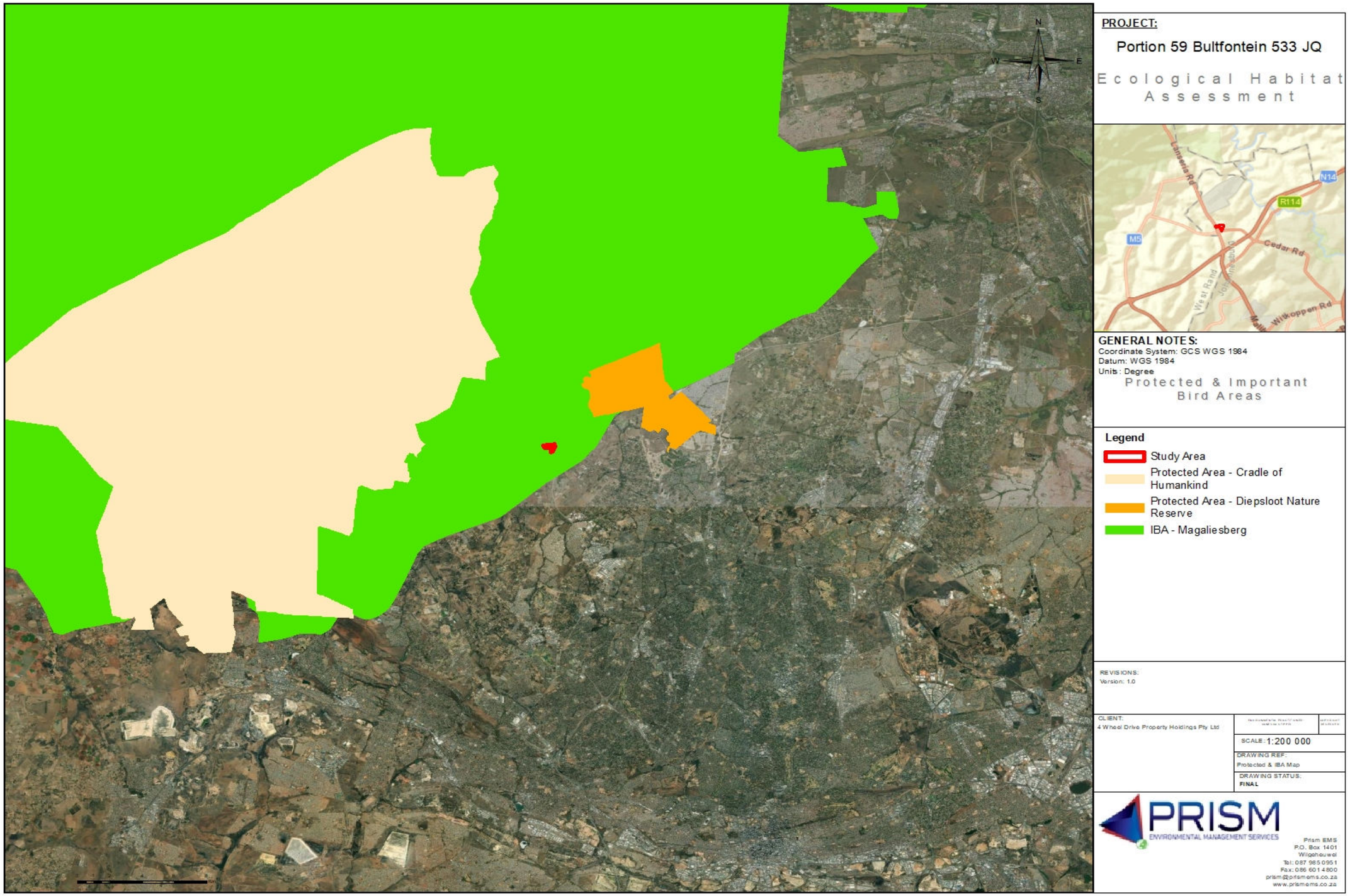

Figure 7-2: Important Bird and Protected Areas Map

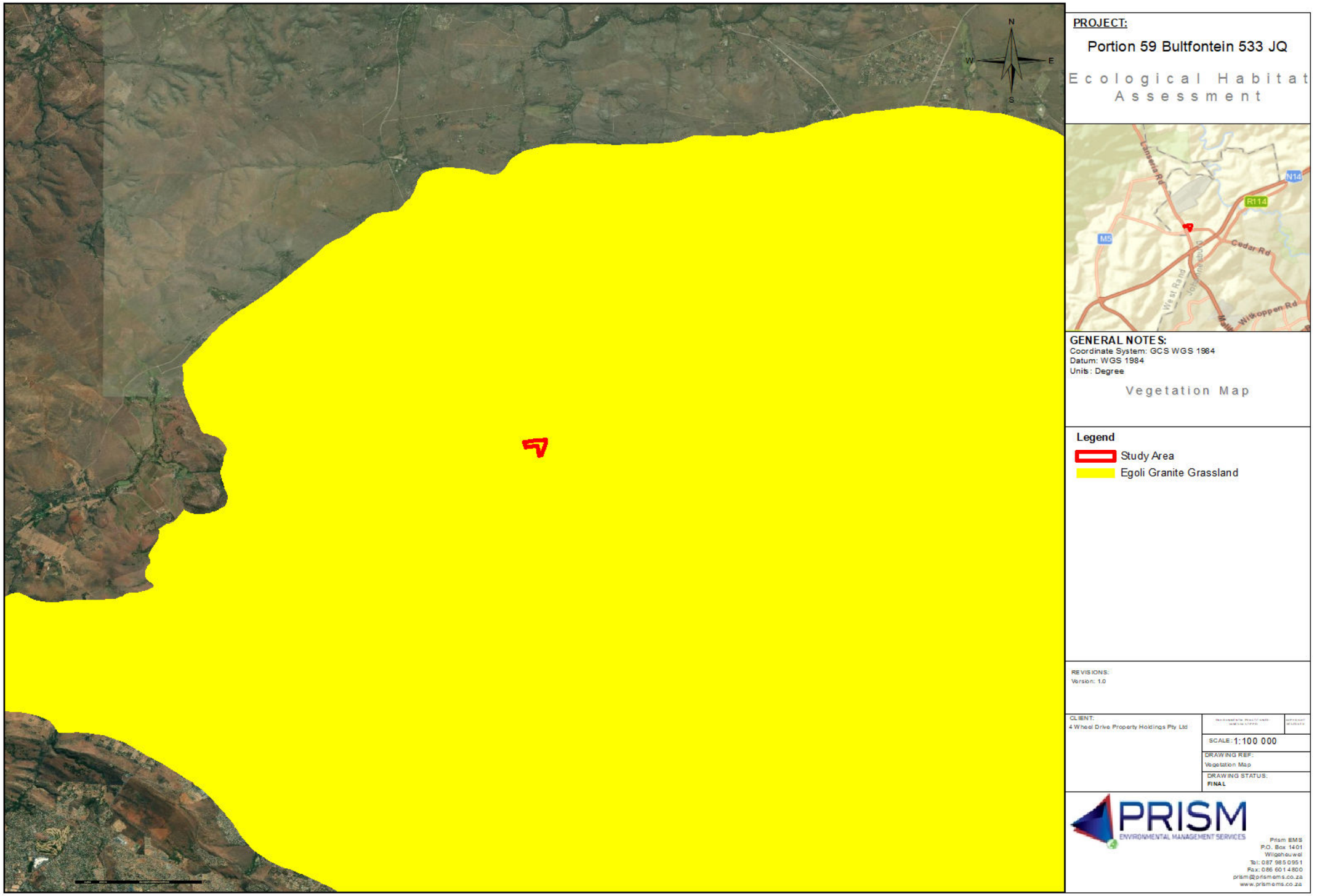

Figure 7-3: Vegetation Map

7.1.2 Desktop Assessment of Species of Conservation Concern (SCC)

7.1.2.1 Flora

Based on the listed of plant species obtained from the database of BODATSA, a total of 862 plants species are expected to occur in or around the study area. The expected plant species are listed in APPENDIX B: EXPECTED FLORA LIST. Only five (5) species from the expected flora list are listed as SCC. See Table below:

Table 7-3: Species of Conservation Concern included within Appendix B – Expected Flora List

Scientific Name	Conservation Status (Regional – SANBI, 2016)	Author	Habitat
Adromischus umbraticola subsp. umbraticola	NT	C.A.Sm.	Savanna, South-facing rock crevices on ridges
Cleome conrathii	NT	Burtt Davy	Stony quartzite slopes, usually in red sandy soil, grassland or woodlands.
Delosperma leendertziae	NT	N.E.Br.	Steep, south-facing slopes of quartzite in mountain grassland
Melolobium subspicatum	VU	Conrath	Grassland
Pearsonia bracteata	NT	(Benth.) Polhill	Plateau grassland

7.1.2.2 Avifauna

Based on the findings as per the database of the SABAP2, a total of 335 bird species are expected to occur in and around the study area (pentad 2555_2755). A full list of bird species to potentially occur in the pentad is provided in APPENDIX C: EXPECTED AVIFAUNA LIST:

Of the total bird species listed in Appendix B, 21 species (6.27%) are listed as SCC. The SCC are either listed on a global or regional scale

The SCC are listed as followed on a regional scale:

- 4 species listed as endangered
- 8 species listed as vulnerable
- 7 species listed as near threatened

Table 7-4: List of SCC that are expected to occur in the study area

Common Name	Species Name	Conservation Status (Regional – SANBI, 2016)	Preferred Habitat	Potential occurrence in the study area
Abdim's Stork	*Ciconia abdimii*	NT	Grassland, savanna woodland and cultivated lands.	Low, due to lack of habitat.
African Finfoot	*Podica senegalensis*	VU	Favours slow flowing streams with overhanging branches	Low, due to the lack of habitat
African Grass-owl	*Tyto capensis*	VU	Favours tall rank or dense short grassland.	Low, due to the lack of preferred habitat.
African Marsh-harrier	*Circus ranivorus*	EN	Inland and coastal wetlands, and adjacent moist grasslands.	Low, due to the lack of habitat
Black Stork	*Ciconia nigra*	VU	Usually associated with mountainous regions, but not restricted to them.	Low, due to lack of habitat

Cape Vulture	*Gyps coprotheres*	EN	Linked to cliff breeding sites in mountain areas but ranges widely in surrounding areas.	Low, due to lack of habitat. May be seen foraging
Caspian Tern	*Sterna caspia*	VU	Predominantly marine or estuarine species; also occurs inland	Low, due to the lack of habitat.
European Roller	*Coracias garrulus*	NT	Closed to very open savanna. Most common in open woodlands with grassy clearings; least common in areas with less-developed woody cover.	Moderate, due to the favourable habitat for foraging.
Greater Flamingo	*Phoenicopterus ruber*	NT	Favours saline or brackish shallow water bodies such as saltpans, large dams, and coastal mudflats.	Low, due to the lack of habitat.
Greater Painted-snipe	*Rostratula benghalensis*	NT	Favours vegetated waterside habitat with exposed mud	Low, due to the lack of habitat
Half-collared Kingfisher	*Alcedo semitorquata*	NT	Mostly found along clear and well vegetated fast flowing streams	Low, due to the lack of habitat
Lanner Flacon	*Falco biarmicus*	VU	Favours open grassland or woodland near cliff or electricity pylon breeding sites	Moderate, due to the favourable hunting habitat.
Martial Eagle	*Polemaetus bellicosus*	EN	Mostly open savanna and woodland, semi-arid shrublands and rare in mountainous areas.	Low, due to the lack of habitat.
Moccoa Duck	*Oxyura maccoa*	NT	Deep inland water bodies with emerged vegetation	Low, due to the lack of habitat.
Red-footed Falcon	*Falco vespertinus*	NT	Open semi- arid and savannas.	Moderate, due to the favourable foraging habitat.
Secretarybird	*Sagittarius serpentarius*	VU	Favours open grassland with scattered trees or shrubs.	Low, due to the lack of habitat
Southern Bald Ibis	*Geronticus calvus*	VU	Favours high-altitude short grassland; also cultivated areas.	Low, due to the lack of habitat.
Verreaux's Eagle	*Aquila verreauxii*	VU	Mountains and rocky areas with large cliffs	Low, due to lack of habitat
Yellow-billed Stork	*Mycteria ibis*	EN	Shoreline of most inland freshwater bodies, also occasionally in estuaries.	Low, due to the lack of preferred habitat

7.1.2.3 Mammals

As per the Spatial Red Data list of IUCN, a total of 80 mammal species has the probability of occurring in and around the study area. The list of mammal species is available in APPENDIX D: EXPECTED MAMMAL SPECIES LIST. Of the species listed in Appendix D, 11 are SCC.

- 2 species are listed as endangered
- 9 species are listed as Near Threatened

Table 7-5: List of SCC mammal species potentially occurring in and around the study area.

Common Name	Species Name	Conservation Status (Regional – SANBI, 2016)	Preferred Habitat	Potential occurrence in the study area
African Clawless Otter	*Aonyx capensis*	NT	Species of otter widely distributed and seldom found far from water	Low, due to the lack of preferred habitat
Southern African Hedgehog	*Atelerix frontalis*	NT	Occurs in wide variety of habitats, including semi-arid and sub-temperate.	Moderate, due to some suitable habitat.
Short-eared Trident Bat	*Cloeotis percivali*	EN	Roosts on caves and mine-shafts	Low, due to the lack of habitat.
Brown Hyena	*Parahyaena brunnea*	NT	Drier parts of South Africa, open scrub and open woodland savanna.	Low, due to lack of preferred foraging habitat.

Serval	*Leptailuris serval*	NT	Environments with water, adjacent tall grassland, and other vegetation.	Low, due to the lack of habitat.
Schreibers's Long-fingered Bat	*Miniopterus schreibersii*	NT	Roosts in caves, mine-shafts and sometimes trees	Low, due to the lack of roosting area
Southern African Vlei Rat	*Otomys auratus*	NT	Moist marshy habitat with grassy hillsides	Low, due to the lack of preferred habitat
African Striped Weasel	*Poecilogale albinucha*	NT	Wide habitat tolerance, mostly grassland areas.	Low, due to the lack of habitat
Mountain Reedbuck	*Redunca fulvorufula*	EN	Mountainous and rocky areas with scattered bush, trees or grassy slopes.	Low, due to the lack of preferred habitat.
Blasius's Horseshoe Bat	*Rhinolophus blasii*	NT	Mostly savanna	Low, due to the lack of roosting areas.
Hildebrandt's Horseshoe Bat	*Rhinolophus hildebrandtii*	NT	Mostly savanna	Low, due to the lack of roosting areas.

7.1.2.4 Herpetofauna (Reptiles and Amphibians)

Based on the ReptileMap database obtained from the Virtual Museum website, a total of 50 reptile species has the possibility to occur within and around the study area. The full list of reptile species is available in APPENDIX E: EXPECTED HERPETOFAUNA LIST. Only one (1) reptile SCC has the possibility to occur within or around the study area (Table 7-6: Herpetofauna SCC potentially to occur in the study area)

As per the database obtained from the Virtual Museum website, a total of 14 amphibian species has the possibility to occur within and around the study area. The full list of amphibian species is available in APPENDIX F: EXPECTED AMPHIBIAN LIST. As per the above-mentioned reference, no amphibians SCC were recorded within or around the study area.

Table 7-6: Herpetofauna SCC potentially to occur in the study area

Common Name	Scientific Name	Conservation Status (Regional – SANBI, 2016)	Preferred Habitat	Potential occurrence in the study area
Striped Harlequin Snake	*Homoroselaps dorsalis*	NT	Fossorial, and known to inhabit old termite nests in high altitude grassland habitat.	Low, due to the lack of preferred habitat

8 Site inspection Results and Findings

8.1 Flora

8.1.1 Flora Habitats

The vegetation assessment was conducted throughout the entire Project area as well as associated areas outside the study site and a habitat map was compiled based on the findings (Figure 8-6: Habitat Assessment Map). Several habitats were identified and are described in more detail in the subsections that follow. These include:

- Transformed;
- Degraded; and
- Grassland.

i. Transformed Areas

The transformed areas are areas where the previous habitat has been transformed in the past either through construction features, such as buildings and other infrastructure or through habitat loss by human activity such as road passes, vegetation clearing and dumping. The sensitivity of this area was identified as “low”.

Figure 8-1: Transformed areas identified on the study area

ii. Degraded Areas

The degraded areas on site are areas that have change due to disturbance in the past. The changed habitat is still within a recovering state and mainly consists of pioneer and alien invasive species. The sensitivity of this area was identified as “low”.

Figure 8-2: Degraded areas identified on the study area

iii. Grassland Areas

The Grassland area is an area were the current habitat is functioning naturally, and the vegetation itself is either in a natural state or in some areas semi-natural. Several flora species were recorded during the site visit including some individual *Hypoxis hemerocallidea* (Declining) were recorded during the site visit (Table 8-1: Some of the flora species found on site). The sensitivity of this area was identified as “low-medium”.

Figure 8-3: Grassland areas identified on the study area

Table 8-1: Some of the flora species found on site

Species Name	Common Name	Threat Status (SANBI, 2017)	Endemic to South Africa	Alien Category (NEMBA, 2016)
Agave americana	Spreading century plant			Category 3
Albuca setosa	Small white albuca	LC	Not Endemic	
Aloe greatheadii davyana	Spotted aloe	LC		
Argemone mexicana	Prickly Poppies			Category 1b
Aristida congesta subsp. barbicollis	Spreading Three-awn	LC	Not Endemic	
Campuloclinium macrocephalum	Pom Pom Weed			Category 1b
Combretum erythrophyllum	River bushwillow	LC	Not Endemic	
Conyza bonariensis	Hairy fleabane			Not indigenous
Datura ferox	Large Thorn Apple			Category 1b
Dimorphotheca spectabilis	Bietou	LC	Indigenous	
Diospyros lycioides	Bluebush, star-apple	LC	Indigenous	
Felicia muricata	Fine-leaved aster	LC	Not Endemic	
Gazania krebsiana serrulata		LC	Not Endemic	
Glandularia aristigera	Roadside Verbena			Not indigenous
Gnidia caffra	Gifbossie	LC	Not Endemic	
Gomphocarpus fruticosus	Milkweed, wild cotton	LC	Not Endemic	
Graderia subintegra	Wild penstemon	LC	Not Endemic	
Hermannia depressa	Rooiopslag	LC	Not Endemic	
Hilliardiella oligocephala	Bicoloured-leaved Vernonia	LC	Not Endemic	
Hypoxis hemerocallidea	Star-flower	LC - Protected	Not Endemic	
Hypoxis iridifolia	Star lily	LC	Not Endemic	
Ledebouria ovatifolia	Flat-leaved African hyacinth	LC	Not Endemic	
Melia azedarach	Syringa			Category 1b
Moraea stricta	Bloutulp	LC	Not Endemic	
Ocinum obovatum	Cat's whiskers	LC	Not Endemic	
Rhynchosia totta		LC	Not Endemic	
Searsia lancea	Karee	LC	Not Endemic	
Searsia pyroides	Common wild currant	LC	Not Endemic	
Senecio gregatus		LC	Not Endemic	
Solanum mauritianum	Bugweed			Category 1b
Vachellia robusta subsp. robusta	Broadpod robust thorn	LC	Not Endemic	
Vachellia sieberiana	Paperbark thorn	LC	Not Endemic	

Figure 8-4: Some of the flora species observed on the study area

Orange List Species

It should be noted however that one (1) medicinal plant species, were observed in this habitat type during the site visit, namely *Hypoxis hemerocallidea* (Figure 8-7: Sensitivity Map).

This species is classified as “Least Concern” (but with population trend “decreasing”) on the SANBI Red List of South African Plants. Species classified as having a national status of ‘Least Concern’ are considered at low risk of extinction, as they are widespread and abundant (SANBI, 2017). However, GDARD has indicated these species must remain classified as Orange List species. This is because Gauteng has a unique situation where habitats and species are being depleted rapidly due to urbanisation. Please refer to APPENDIX A: PROPOSED RESCUE AND RELOCATION PLAN FOR THE RED DATA LISTED PLANT SPECIES, HYPOXIS HEMEROCALLIDEA FOUND ON THE PROPOSED DEVELOPMENT SITE for the species relocation plan that is recommended.

8.1.2 Alien invasive species

The study area also had sections of scattered alien invasive species. These included species such as: *Agave americana* (Category 3), *Argemone Mexicana* (Category 1b), *Campuloclinium macrocephalum* (Category 1b), *Datura ferox* (Category 1b), *Melia azedarach* (Category 1b) and *Solanum mauritianum* (Category 1b).

Figure 8-5: Alien Invasive species observed on the study area

Alien invasive species has the ability to spread and eventually dominate and replace the existing vegetation of a natural ecosystem. It is very important that all alien invasive species found and observed on the study area should be controlled and a remediated by means of a monitoring plan.

An alien invasive species list was published by the National Environmental Management: Biodiversity Act (Act 10 of 2004) in August 2014. The Act clearly states the importance in terms of controlling and the removing of alien invasive species – Category 1: Declared weeds (Bromilow, 2010).

According to the National Water Act, 1998 (Act No. 36 of 1998), no Category 2 (Declared invader plants with a commercial or utility value) or Category 3 (Mostly ornamental plants) (Bromilow, 2010) alien

invasive species are allowed to grow within 30m of a 1:50 year flood line of river. This also includes other watercourses such as streams, springs, natural channels, lake, dam or wetland.

The National Environmental Management: Biodiversity Act (Act 10 of 2004) (NEMBA) provides a brief explanation of the three (3) Categories of listed invasive species below:

- **Category 1a:** Alien invasive species that needs to be removed from a specific area immediately.
- **Category 1b:** Alien invasive species that needs to be controlled.
- **Category 2:** Alien invasive species listed within the notice as species which require a permit to carry out a restricted activity within a specified area.
- **Category 3:** Alien invasive species that are listed in the notice, as species which are subject to exemptions and prohibitions.

Category 1b and 3 invasive species were recorded within the project area and must therefore be removed and controlled before and during the construction phase. This can be done by implementing an alien invasive plant management programme in compliance of section 75 of the Act as stated above.

8.1.3 Vegetation Type – Egoli Granite Grassland

The site assessment undertaken indicated that whilst from a desktop perspective, the site falls within this endangered vegetation type. The vegetation found on site is not representative of the Egoli Granite Grassland and therefore does not hold any conservational value for this vegetation type.

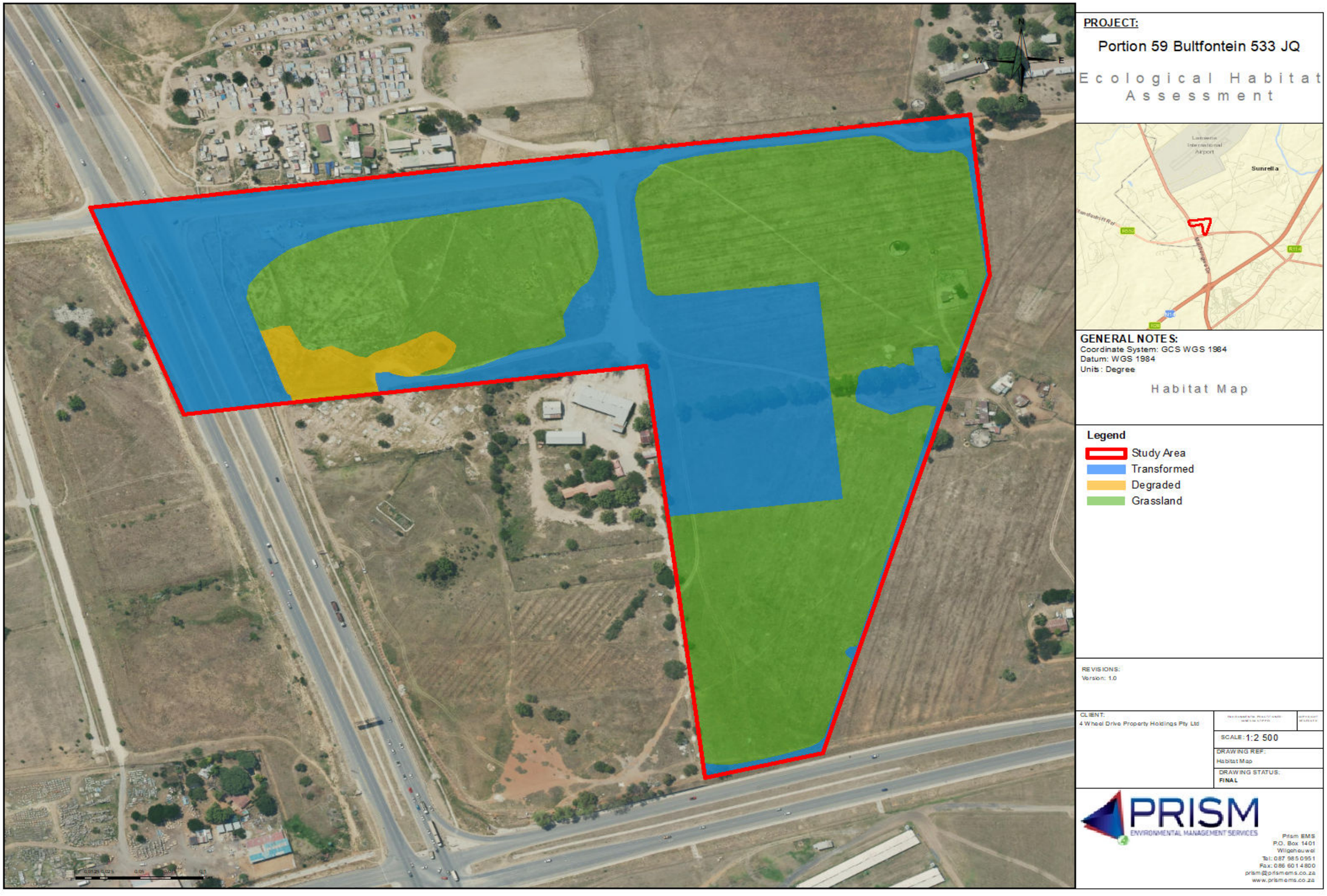

Figure 8-6: Habitat Assessment Map

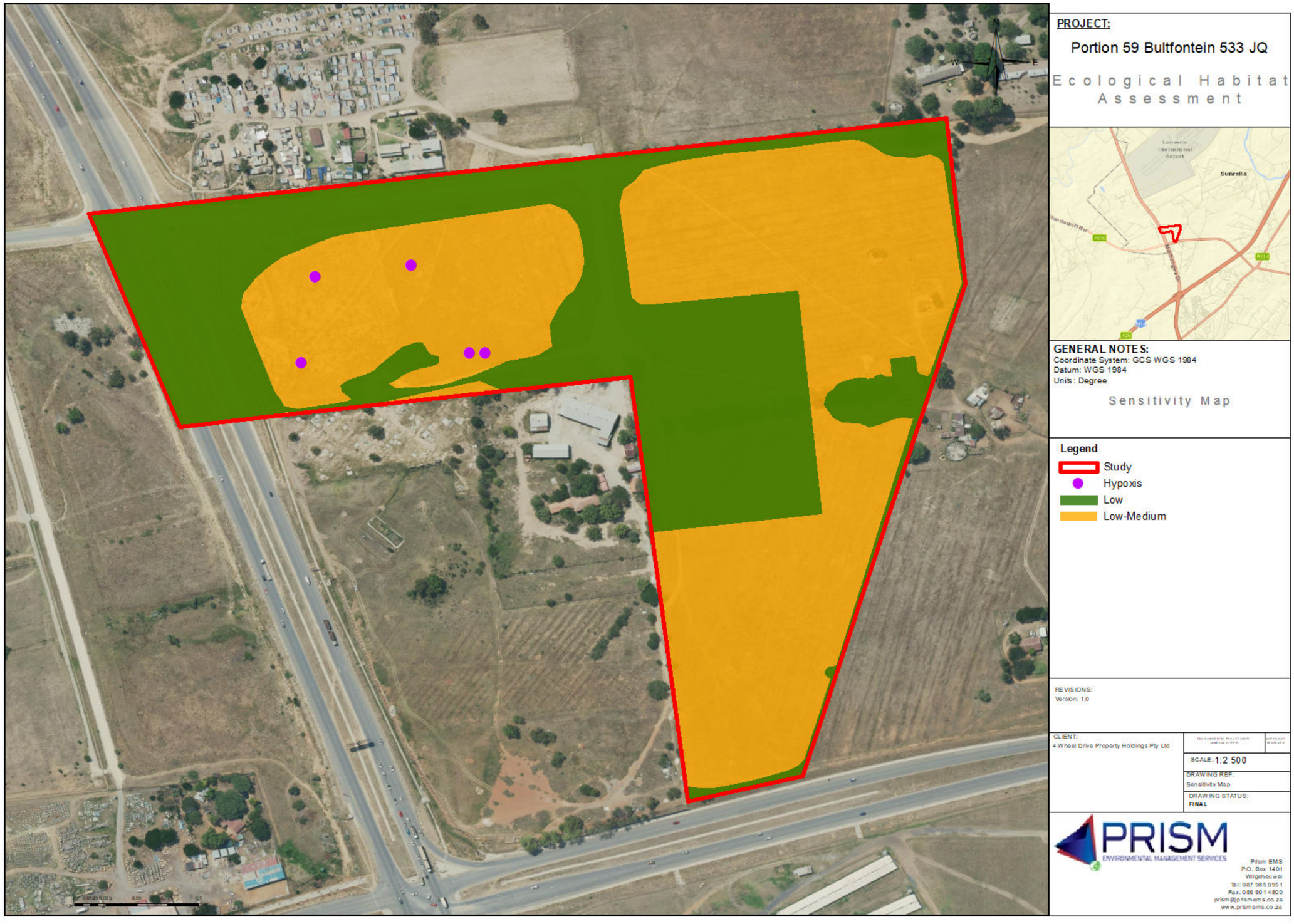

Figure 8-7: Sensitivity Map

8.2 Avifauna

A total of twenty-one (21) Species of Conservation Concern (SCC) formed part of the list that was previously recorded. None of these species was observed during the site visit. However, this does not exclude the possibility for them some of them to occur in the area. A total of 13 bird species were recorded during the site survey. This is a relatively low number and could be because of the human disturbance and lack of habitat diversity.

Table 8-2: Bird species observed during the site survey.

Species Name	Common Name	Conservation Status (SANBI, 2016)
Arcidotheres tristis	Common Myna	LC
Ardea melanocephala	Black-headed Heron	LC
Burhinus capensis	Spotted Thick-knee	LC
Columba livia	Rock Dove	LC
Lanius collaris	Southern Fiscal	LC
Passer domesticus	House Sparrow	LC
Phoeniculus purpureus	Green Wood-Hoopoe	LC
Ploceus velatus	Southern Masked Weaver	LC
Saxicola torquatus	African Stonechat	LC
Streptopelia semitorquata	Red-eyed Dove	LC
Streptopelia senegalensis	Laughing Dove	LC
Vanellus armatus	Blacksmith Lapwing	LC

Figure 8-8: Some of the bird species observed during the site survey

8.3 Mammals

There were no mammal recordings during the site survey. The entire site is fenced for security reasons. This makes it impossible for most mammal species to occurring within the study area. Only some of the smaller mammals and bat species might me seen inside the fenced of site.

8.4 Herpetofauna

No reptile or amphibian species were recorded during the site survey. With the site being fenced of and the surrounding human settlements, it limits the possibility for some species to occur within the study area.

8.5 Invertebrates

The invertebrate was not actively surveyed and were therefore recorded due to accidental sightings. They play a very important role in the ecosystem such as flora pollinators and food for other species. The two species observed during the site survey are *Aloeides trimeni trimeni* (Photo on the left) and *Pontia helice* (Photo on the right).

Figure 8-9: Invertebrate species observed during the site survey

9 SITE SENSITIVITY

A desktop assessment of the site sensitivity has been undertaken Figure 7-1: Gauteng Conservation Plan and Hydrological Map, Figure 7-2: Important Bird and Protected Areas Map, Figure 7-3: Vegetation Map, Figure 8-6: Habitat Assessment Map, Figure 8-7: Sensitivity Map together with site assessment and the following should be noted:

- The north west section of the site falls within a Gauteng Conservation Plan: Important area. As per the findings during the site survey, this section can not be classified as CBA due to a various amount of impacts.
- The site does not fall within a National Protected Area Expansion Strategy Focus Area nor Gauteng Protected Area Expansion Priority Area;
- The site is not protected in terms of any international convention.
- The site is not declared as a nature reserve.
- The site is not zoned for conservation or public open space.
- The site does fall within an Important Bird Area: Magaliesberg. The bird sightings during the site survey was very low due to the surrounding human settlements and lack habitat diversity. The most important bird species in the IBA is the globally threatened Cape Vulture which has a very low possibility of occurring within the study area due to the lack of preferred habitat. Other species might use the study area for foraging purposes

From a desktop perspective, the site falls within Egoli Granite Grassland and CBA area. However, the site visit confirmed that the site is not representative of the vegetation due to a variety of historic disturbance such as developments, infrastructure and occurrence of numerous alien invasive species.

The study area has been severely altered both historically and currently. Factors such as human presence, presence of alien invasive species and the compacting of soil. It is, however, recommended that all *Hypoxis hemerocallidea* on the study area should be removed from the study area and relocated.

10 IMPACT ASSESSMENT

Table 10-1: Impacts and Mitigation Measures during the Construction and Operational Phase

	IMPACTS				CONSEQUENCE			PROBABILITY	SIGNIFICANCE (WOM)	CONFIDENCE	MANAGEMENT & MITIGATION MEASURES	MITIGATION EFFICIENCY	SIGNIFICANCE (WM)	DEGREE	
	TYPE	DESCRIPTION	CUMULATIVE	NATURE	Extent (A)	Duration (B)	Intensity (C)	Probability (P)	Significance (A + B + C) X P					LOSS RESOURCE	REVERSABILITY
CONSTRUCTION PHASE															
Impacts to Biodiversity	**Loss of Habitat due to loss of vegetation**														
	Direct	Clearing due to digging and laying foundations	Yes	Negative	*Site*	*Permanent*	*Low-Medium*	*Definite*	*Medium*	*High*	It is recommended that all *Hypoxis hemerocallidea species* should be removed prior to construction activities and either relocated to a similar type of environment or implemented within the landscaping plan of the proposed development.	*High*	*Low*	*Partial*	*High Degree*
	Direct	Construction camps & lay down areas	Yes	Negative	*Site*	*Medium-term*	*Medium-High*	*Likely*	*Medium*	*Medium*	It is recommended that the construction camp should not be in the low-medium sensitivity area. If not possible, Hypoxis species should be removed prior to clearing of vegetation.	*High*	*Low*	*Partial*	*High Degree*
	Direct	Stochastic events such as fire	Yes	Negative	*Site*	*Incidental*	*Medium-High*	*Likely*	*Low*	*Medium*	Fires shall only be permitted in specially designated areas and under controlled circumstances.	*High*	*Low*	*Partial*	*High Degree*
	Direct mortality of fauna and flora														
	Direct	Staff or construction workers poaching and hunting	No	Negative	*Site*	*Short-term*	*Low-Medium*	*Possible*	*Low*	*Medium*	Snaring and hunting of fauna by construction workers on or adjacent to the study area are strictly prohibited.	*High*	*Low*	*Partial*	*High Degree*
	Direct	Intentional killing of fauna	No	Negative	*Site*	*Incidental*	*Low-Medium*	*Likely*	*Low*	*Medium*	Killing of fauna on or adjacent to the study area are strictly prohibited. Should any fauna species be found on site, the ECO should be conducted asap to provide recommendation or mitigation measures.	*High*	*Low*	*Partial*	*High Degree*
	Direct	Vegetation and ground clearing resulting in loss of sensitive species	Yes	Negative	*Site*	*Long-term*	*Medium-High*	*Definite*	*Medium*	*Medium*	It is recommended that all *Hypoxis hemerocallidea species* should be removed prior to construction activities and either relocated to a similar type of environment or implemented within the landscaping plan of the proposed development.	*High*	*Low*	*Partial*	*High Degree*
	Disruption of ecological life cycles due to the restriction of species movement														
	Direct	Open trenches and other linear barriers	Yes	Negative	*Site*	*Short-term*	*Low-Medium*	*Highly Likely*	*Low*	*Medium*	Trenches and other linear barriers should not be kept open for too long, especially not staying open overnight.	*High*	*Low*	*No Loss*	*Reversible*
	Direct	Infrastructure	Yes	Negative	*Site*	*Permanent*	*Low-Medium*	*Definite*	*Medium*	*Medium*	Stormwater, sewer and road infrastructure should be designed in such a way that it will have minimal impact on the environmental	*Medium*	*Low*	*No Loss*	*High Degree*
	Disruption of ecological life cycles due to noise and lighting														
	Direct	Noise during construction	No	Negative	*Site*	*Short-term*	*Low-Medium*	*Highly Likely*	*Low*	*Medium*	Construction must be restricted to hours of 07:00 and 17:00. Should construction activities need to continue over a weekend/pubic holiday or is expected to be excessively noisy, all Interested and Affected Parties and the ECO must be notified in advance.	*Medium*	*Low*	*No Loss*	*Reversible*

	Direct	Lighting during construction	Yes	Negative	*Site*	*Short-term*	*Medium-High*	*Highly Likely*	*Low-Medium*	*Medium*	Construction must be restricted to hours of 07:00 and 17:00. Should construction activities need to continue after hours is, all Interested and Affected Parties and the ECO must be notified in advance. Excessive lighting during construction should be avoided.	*Medium*	*Low*	*No Loss*	*Reversible*
	Introduction of alien flora affecting native faunal assemblages														
	Direct	Vehicles and machinery	Yes	Negative	*Site*	*Short-term*	*Medium*	*Likely*	*Low*	*Medium*	Alien, invasive species found within the construction area should be eradicated as far as possible and disposed of at a registered site.	*High*	*Low*	*No Loss*	*Reversible*
	Direct	Soil Disturbance	Yes	Negative	*Site*	*Short-term*	*Medium-High*	*Highly Likely*	*Low-Medium*	*Medium*	Soil disturbance should be kept to a minimum during the construction phase.	*High*	*Low*	*No Loss*	*Reversible*
OPERATIONAL PHASE															
Impacts to Biodiversity	**Loss of existing habitat due to loss of vegetation**														
	Direct	Stochastic events such as fire	No	Negative	*Site*	*Incidental*	*Medium*	*Possible*	*Low*	*Medium*	Fire extinguishers must be placed on the property.	*High*	*Low*	*No Loss*	*Reversible*
	Direct mortality of faun														
	Direct	Intentional killing of fauna	No	Negative	*Site*	*Incidental*	*Low*	*Improbable*	*Low*	*Medium*	It is not expected that any fauna will be found on site during operation. The Applicant must include the requirement that should any be found that the relevant organisation be called to safely remove the species.	*High*	*Low*	*No Loss*	*Reversible*
	Disruption of ecological life cycles due to the restriction of species movemen														
	Direct	Infrastructure	No	Negative	*Site*	*Permanent*	*Low*	*Highly Likely*	***Low-Medium***	*Medium*	Stormwater, sewer and road infrastructure should be designed in such a way that it will have minimal impact on the environmental features,	*High*	*Low*	*No Loss*	*Reversible*

11 REASONED OPINION AND RECOMMENDATIONS

From a desktop perspective, the proposed development occurs within the Egoli Granite Grassland (Endangered) vegetation type. According to the Gauteng Conservation Plan, the proposed development development footprint also occurs in a CBA area. As per the protected and conservation area map, the Cradle of Humankind is situated about 6 km northwest of the study area. The development also falls within the Magaliesberg IBA.

The site was actively surveyed to determine the current status of the habitats on site. Three main habitat types were identified within the study site, namely, transformed, degraded and grassland habitat. The Grassland area is an area were the current habitat is functioning naturally, and the vegetation itself is either in a natural state or in some areas semi-natural. It has however been impacted by historical use (including ploughing) and is no longer representative of the Egoli Granite Grassland and therefore does not hold any conservational value for this vegetation type. The sensitivity of the main habitat types were identified as “low” to “low-medium”.

One (1) SCC was identified on site, namely *Hypoxis hemerocallidea*. Whilst this species is classified as “Least Concern” in terms of Red Data List, GDARD has confirmed that they should be considered as “Orange List” species in Gauteng due to provincial level pressures. Therefore, in order to mitigate impacts to these species, a Search and Rescue and Relocation Plan has been devised and included in Appendix E. Impacts to these species are expected to be low with the implementation of the necessary mitigation.

Due to the ongoing anthropogenic activities in and around the study area, lack of habitat and breeding ground and presence of feral animals, the possibility for any of these species to be found on site is low.

Most of the impacts on flora and fauna are considered low to moderate. Most of the impacts on the fauna and flora can be mitigated, following the mitigation measures listed in the EMPr. These mitigation measures can lower the impacts to low and in some cases to very low. Direct impacts, such as habitat loss, cannot be fully mitigated.

11.1 MITIGATION AND MONITORING REQUIREMENTS

All mitigations and monitoring requirements must be adhered to as per the Impact Assessment in Section 10. All alien invasive species should be removed from site and disposed of at a registered landfill site. APPENDIX A: PROPOSED RESCUE AND RELOCATION PLAN FOR THE RED DATA LISTED PLANT SPECIES, HYPOXIS HEMEROCALLIDEA FOUND ON THE PROPOSED DEVELOPMENT SITE also provides a rescue and relocation plan for *Hypoxis* species on site and should be implemented prior to construction.

11.2 CONCLUSION

The proposed development is unlikely to have a high impact on the study site due to low to low-medium sensitivity on site. Aspects such as human activities in and around the study site, presence of alien invasive species on site, lack of habitat for most fauna species and the presence of feral animals in the area have impacted on the existing sensitivity. All recommendations and mitigation measures, with regards to the fauna and flora on site, should be well managed pre -, during and post of the construction activities.

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13 APPENDICES

13.1 APPENDIX A: PROPOSED RESCUE AND RELOCATION PLAN FOR THE RED DATA LISTED PLANT SPECIES, HYPOXIS HEMEROCALLIDEA FOUND ON THE PROPOSED DEVELOPMENT SITE

General information

Hypoxis hemerocallidea falls within the botanical family Hypoxidaceae. The members of this family are fairly small to medium-sized herbaceous plants, with grass-like leaves and an invisible stem which is modified into a corm or rhizome (a rounded underground storage organ resembling a bulb). The flowers are borne on leafless shoots known as scrapes and are trimerous (arranged in whorls of three) and radically symmetric. The plant is easily recognizable by its yellow star-shaped flowers and strap-like leaves. Hypoxis hemerocallidea favours grassland, preferring full sunlight, although it is known to occur in other habitat types. The leaves of Hypoxis hemerocallidea are distinctly three-ranked and arching and are densely covered with hairs.

Hypoxis hemerocallidea is one of the most commonly used species in the traditional medicinal plant trade and is currently also used in primary health care as an immune booster for patients with HIV/AIDS. The rootstock is used in the treatment of urinary infections, heart weakness, internal tumours and nervous disorders. The plant is also currently used to alleviate many immune related ailments, such as colds, flu, arthritis tumours and cancers (www.plantzafrica.com).

As Hypoxis hemerocallidea is a relatively hardy bulbous plant, with a shallow root structure, it is suitable for relocation to areas of similar habitat. A “rescue and relocation” plan is therefore proposed for these individuals. This is perceived to be a viable mitigation measure for ensuring the ongoing survival of this species in the area, as an area is already designated for conservation on the site.

The “rescue and relocation” plan must be undertaken prior to the onset of the construction phase of the development and must be completed by an appropriate service provider.

Proposed “Rescue and Relocation” Plan

Step 1:
An appropriate service provider must be appointed to conduct and manage the operation.

Step 2:

Each individual plant located outside the areas of medium ecological sensitivity needs to be located, correctly identified (Hypoxis hemerocallidea is sometimes confused with other species of Hypoxis, such as Hypoxis iridifolia) and marked, using a brightly coloured marker to ensure visual location later.

Step 3:
To safely remove each individual plant, minimal damage to the corm must be ensured. The hole must be dug approximately 30 cm from the base of the plant and at least 30 cm deep to ensure minimal damage. Removal of the plant from its site should be done with care, pushing the plant up from the corm/rootstock. The plant should not be pulled from the soil using the leaves.

Step 4:
Once removed, the plants must be placed in appropriately sized propagating bags (dependent on each individual plant), utilising soil directly from the site. Should the soil prove to be of poor quality, organic fertilizer or compost must be added to the soil. These plants must be cared for until completion of the construction phase of the development. As these plants can tolerate moderate bouts of water stress, caution must be taken not to over-water or drown the individuals. Over-watering would also cause leeching of the soil, reducing nutrients available to the plants.

Step 5:
Once the construction phase is complete, the plants must be relocated on the property. Plants can either be transferred to an existing Hypoxis hemerocallidea community or may be incorporated into the cultivated gardens of the development. Should plants be transferred to the existing community, caution must be taken not to damage other species of plant in the area. Holes must be dug prior to transfer of plants and must be large enough to ensure plants do not become dislodged during heavy rainfall.

13.2 APPENDIX B: EXPECTED FLORA LIST

Family	Species	Author	IUCN	Ecology
Cyperaceae	*Abildgaardia ovata*	(Burm.f.) Kral	LC	Indigenous
Malvaceae	*Abutilon piloso-cinereum*	A.Meeuse	LC	Indigenous
Malvaceae	*Abutilon pycnodon*	Hochr.	LC	Indigenous
Malvaceae	*Abutilon sonneratianum*	(Cav.) Sweet	LC	Indigenous
Fabaceae	*Acacia dealbata*	Link	NE	Not indigenous; Naturalised; Invasive
Euphorbiaceae	*Acalypha angustata*	Sond.	LC	Indigenous
Euphorbiaceae	*Acalypha glabrata*	Thunb.	LC	Indigenous
Euphorbiaceae	*Acalypha glabrata*	Thunb.	LC	Indigenous
Euphorbiaceae	*Acalypha villicaulis*	Hochst.	LC	Indigenous
Asteraceae	*Acanthospermum australe*	(Loefl.) Kuntze		Not indigenous; Naturalised
Asteraceae	*Acanthospermum hispidum*	DC.		Not indigenous; Naturalised
Amaranthaceae	*Achyranthes aspera*	L.		Not indigenous; Naturalised
Apocynaceae	*Acokanthera oppositifolia*	(Lam.) Codd	LC	Indigenous
Lamiaceae	*Acrotome hispida*	Benth.	LC	Indigenous
Asteraceae	*Adenostemma caffrum*	DC.	LC	Indigenous
Pteridaceae	*Adiantum capillus-veneris*	L.	LC	Indigenous
Crassulaceae	*Adromischus umbraticola*	C.A.Sm.	NT	Indigenous; Endemic
Asteraceae	*Afroaster serrulatus*	(Harv.) J.C.Manning & Goldblatt	LC	Indigenous
Rubiaceae	*Afrocanthium gilfillanii*	(N.E.Br.) Lantz	LC	Indigenous
Apiaceae	*Afrosciadium magalismontanum*	(Sond.) P.J.D.Winter	LC	Indigenous
Loranthaceae	*Agelanthus natalitius*	(Meisn.) Polhill & Wiens	LC	Indigenous
Asteraceae	*Ageratina adenophora*	(Spreng.) R.M.King & H.Rob.		Not indigenous; Naturalised; Invasive
Rosaceae	*Agrimonia procera*	Wallr.	LC	Not indigenous; Naturalised; Invasive
Poaceae	*Agrostis lachnantha*	Nees	LC	Indigenous
Hyacinthaceae	*Albuca setosa*	Jacq.	LC	Indigenous
Hyacinthaceae	*Albuca sp.*			
Hyacinthaceae	*Albuca virens*	(Ker Gawl.) J.C.Manning & Goldblatt	LC	Indigenous
Orobanchaceae	*Alectra orobanchoides*	Benth.	LC	Indigenous
Apiaceae	*Alepidea setifera*	N.E.Br.	LC	Indigenous
Poaceae	*Alloteropsis semialata*	(R.Br.) Hitchc.	LC	Indigenous
Poaceae	*Alloteropsis semialata*	(R.Br.) Hitchc.	LC	Indigenous
Asphodelaceae	*Aloe davyana*	Schonland		Indigenous; Endemic

Asphodelaceae	*Aloe marlothii*	A.Berger	LC	Indigenous
Amaranthaceae	*Alternanthera pungens*	Kunth		Not indigenous; Naturalised
Fabaceae	*Alysicarpus zeyheri*	Harv.	LC	Indigenous
Asteraceae	*Ambrosia artemisiifolia*	L.		Not indigenous; Naturalised; Invasive
Amaryllidaceae	*Ammocharis coranica*	(Ker Gawl.) Herb.	LC	Indigenous
Anacampserotaceae	*Anacampseros subnuda*	Poelln.	LC	Indigenous
Apocynaceae	*Ancylobotrys capensis*	(Oliv.) Pichon	LC	Indigenous
Poaceae	*Andropogon schirensis*	Hochst. ex A.Rich.	LC	Indigenous
Apiaceae	*Annesorhiza flagellifolia*	Burtt Davy	LC	Indigenous; Endemic
Poaceae	*Anthephora pubescens*	Nees	LC	Indigenous
Rubiaceae	*Anthospermum hispidulum*	E.Mey. ex Sond.	LC	Indigenous
Rubiaceae	*Anthospermum rigidum*	Eckl. & Zeyh.	LC	Indigenous
Rubiaceae	*Anthospermum rigidum*	Eckl. & Zeyh.	LC	Indigenous
Menispermaceae	*Antizoma angustifolia*	(Burch.) Miers ex Harv.	LC	Indigenous
Icacinaceae	*Apodytes dimidiata*	E.Mey. ex Arn.	LC	Indigenous
Poaceae	*Aristida aequiglumis*	Hack.	LC	Indigenous
Poaceae	*Aristida bipartita*	(Nees) Trin. & Rupr.	LC	Indigenous
Poaceae	*Aristida canescens*	Henrard	LC	Indigenous
Poaceae	*Aristida congesta*	Roem. & Schult.	LC	Indigenous
Poaceae	*Aristida congesta*	Roem. & Schult.	LC	Indigenous
Poaceae	*Aristida diffusa*	Trin.	LC	Indigenous
Poaceae	*Aristida junciformis*	Trin. & Rupr.	LC	Indigenous
Poaceae	*Aristida scabrivalvis*	Hack.	LC	Indigenous
Poaceae	*Aristida spectabilis*	Hack.	LC	Indigenous
Poaceae	*Aristida stipitata*	Hack.	LC	Indigenous
Poaceae	*Aristida transvaalensis*	Henrard	LC	Indigenous
Asteraceae	*Artemisia afra*	Jacq. ex Willd.	LC	Indigenous
Asteraceae	*Artemisia vulgaris*	L.		Not indigenous; Naturalised
Apocynaceae	*Asclepias albens*	(E.Mey.) Schltr.	LC	Indigenous
Apocynaceae	*Asclepias brevipes*	(Schltr.) Schltr.	LC	Indigenous; Endemic
Apocynaceae	*Asclepias crispa*	P.J.Bergius	LC	Indigenous; Endemic
Apocynaceae	*Asclepias eminens*	(Harv.) Schltr.	LC	Indigenous
Asparagaceae	*Asparagus angusticladus*	(Jessop) J.-P.Lebrun & Stork	LC	Indigenous
Asparagaceae	*Asparagus asparagoides*	(L.) Druce	LC	Indigenous
Asparagaceae	*Asparagus cooperi*	Baker	LC	Indigenous

Asparagaceae	*Asparagus flavicaulis*	(Oberm.) Fellingham & N.L.Mey.	LC	Indigenous
Asparagaceae	*Asparagus setaceus*	(Kunth) Jessop	LC	Indigenous
Asparagaceae	*Asparagus suaveolens*	Burch.	LC	Indigenous
Asparagaceae	*Asparagus transvaalensis*	(Oberm.) Fellingham & N.L.Mey.	LC	Indigenous
Asparagaceae	*Asparagus virgatus*	Baker	LC	Indigenous
Apocynaceae	*Aspidoglossum biflorum*	E.Mey.	LC	Indigenous
Aspleniaceae	*Asplenium aethiopicum*	(Burm.f.) Bech.	LC	Indigenous
Aspleniaceae	*Asplenium capense*	(Kunze) Bir, Fraser-Jenk. & Lovis	LC	Indigenous
Aspleniaceae	*Asplenium varians*	Wall. ex Hook. & Grev.	LC	Indigenous
Asteraceae	*Athrixia elata*	Sond.	LC	Indigenous
Erpodiaceae	*Aulacopilum trichophyllum*	Angstr.		Indigenous
Pottiaceae	*Barbula bolleana*	(Mull.Hal.) Broth.		Indigenous
Acanthaceae	*Barleria macrostegia*	Nees	LC	Indigenous
Acanthaceae	*Barleria obtusa*	Nees	LC	Indigenous
Acanthaceae	*Barleria pretoriensis*	C.B.Clarke	LC	Indigenous
Rhamnaceae	*Berchemia zeyheri*	(Sond.) Grubov	LC	Indigenous
Asteraceae	*Berkheya carlinopsis*	Welw. ex O.Hoffm.	LC	Indigenous; Endemic
Asteraceae	*Berkheya zeyheri*	Oliv. & Hiern	LC	Indigenous
Apiaceae	*Berula repanda*	(Hiern) Spalik & S.R.Downie	LC	Indigenous
Apiaceae	*Berula thunbergii*	(DC.) H.Wolff	LC	Indigenous
Poaceae	*Bewsia biflora*	(Hack. ex Schinz) Gooss.	LC	Indigenous
Asteraceae	*Bidens bipinnata*	L.		Not indigenous; Naturalised
Asteraceae	*Bidens pilosa*	L.		Not indigenous; Naturalised
Acanthaceae	*Blepharis innocua*	C.B.Clarke	LC	Indigenous; Endemic
Acanthaceae	*Blepharis squarrosa*	(Nees) T.Anderson	LC	Indigenous; Endemic
Orchidaceae	*Bonatea antennifera*	Rolfe	LC	Indigenous
Orchidaceae	*Bonatea polypodantha*	(Rchb.f.) L.Bolus	LC	Indigenous
Capparaceae	*Boscia albitrunca*	(Burch.) Gilg & Gilg-Ben.	LC	Indigenous
Poaceae	*Bothriochloa bladhii*	(Retz.) S.T.Blake	LC	Indigenous
Poaceae	*Bothriochloa insculpta*	(Hochst. ex A.Rich.) A.Camus	LC	Indigenous
Poaceae	*Brachiaria brizantha*	(A.Rich.) Stapf	LC	Indigenous

Poaceae	*Brachiaria nigropedata*	(Ficalho & Hiern) Stapf	LC	Indigenous
Poaceae	*Brachiaria serrata*	(Thunb.) Stapf	LC	Indigenous
Asteraceae	*Brachylaena rotundata*	S.Moore	LC	Indigenous
Apocynaceae	*Brachystelma oianthum*	Schltr.	LC	Indigenous; Endemic
Brachytheciaceae	*Brachythecium ruderale*	(Brid.) W.R.Buck		Indigenous
Phyllanthaceae	*Bridelia mollis*	Hutch.	LC	Indigenous
Poaceae	*Briza minor*	L.	NE	Not indigenous; Naturalised; Invasive
Poaceae	*Bromus sp.*			
Amaryllidaceae	*Brunsvigia natalensis*	Baker	LC	Indigenous
Amaryllidaceae	*Brunsvigia radulosa*	Herb.	LC	Indigenous
Bryaceae	*Bryum argenteum*	Hedw.		Indigenous
Bryaceae	*Bryum pycnophyllum*	(Dixon) Mohamed		Indigenous
Scrophulariaceae	*Buddleja saligna*	Willd.	LC	Indigenous
Scrophulariaceae	*Buddleja salviifolia*	(L.) Lam.	LC	Indigenous
Asphodelaceae	*Bulbine capitata*	Poelln.	LC	Indigenous
Asphodelaceae	*Bulbine lagopus*	(Thunb.) N.E.Br.	LC	Indigenous
Cyperaceae	*Bulbostylis burchellii*	(Ficalho & Hiern) C.B.Clarke	LC	Indigenous
Cyperaceae	*Bulbostylis humilis*	(Kunth) C.B.Clarke	LC	Indigenous
Cyperaceae	*Bulbostylis oritrephes*	(Ridl.) C.B.Clarke	LC	Indigenous
Fabaceae	*Burkea africana*	Hook.	LC	Indigenous
Asteraceae	*Callilepis leptophylla*	Harv.	LC	Indigenous
Asteraceae	*Callilepis salicifolia*	Oliv.	LC	Indigenous
Rutaceae	*Calodendrum capense*	(L.f.) Thunb.	LC	Indigenous
Leucobryaceae	*Campylopus robillardei*	Besch.		Indigenous
Cannabaceae	*Cannabis sativa*	L.	NE	Not indigenous; Naturalised
Cyperaceae	*Carex acutiformis*	Ehrh.		Not indigenous; Naturalised
Cyperaceae	*Carex cognata*	Kunth	LC	Indigenous
Cyperaceae	*Carex rhodesiaca*	Nelmes	LC	Indigenous
Cyperaceae	*Carex spartea*	Wahlenb.		Indigenous
Cyperaceae	*Carex uhligii*	K.Schum. ex C.B.Clarke		Indigenous
Apocynaceae	*Carissa bispinosa*	(L.) Desf. ex Brenan	LC	Indigenous
Icacinaceae	*Cassinopsis ilicifolia*	(Hochst.) Kuntze	LC	Indigenous
Cannabaceae	*Celtis africana*	Burm.f.	LC	Indigenous
Apiaceae	*Centella asiatica*	(L.) Urb.	LC	Indigenous
Dipsacaceae	*Cephalaria zeyheriana*	Szabo	LC	Indigenous
Apocynaceae	*Ceropegia multiflora*	Baker	LC	Indigenous
Scrophulariaceae	*Chaenostoma floribundum*	Benth.	LC	Indigenous

Scrophulariaceae	*Chaenostoma leve*	(Hiern) Kornhall	LC	Indigenous
Fabaceae	*Chamaecrista biensis*	(Steyaert) Lock	LC	Indigenous
Fabaceae	*Chamaecrista mimosoides*	(L.) Greene	LC	Indigenous
Fabaceae	*Chamaecrista stricta*	E.Mey.	LC	Indigenous
Verbenaceae	*Chascanum hederaceum*	(Sond.) Moldenke	LC	Indigenous
Verbenaceae	*Chascanum pinnatifidum*	(L.f.) E.Mey.	LC	Indigenous
Pteridaceae	*Cheilanthes dolomiticola*	(Schelpe) Schelpe & N.C.Anthony	LC	Indigenous; Endemic
Pteridaceae	*Cheilanthes eckloniana*	(Kunze) Mett.	LC	Indigenous
Pteridaceae	*Cheilanthes hirta*	Sw.	LC	Indigenous
Pteridaceae	*Cheilanthes inaequalis*	(Kunze) Mett.	LC	Indigenous
Pteridaceae	*Cheilanthes involuta*	(Sw.) Schelpe & N.C.Anthony	LC	Indigenous
Pteridaceae	*Cheilanthes marlothii*	(Hieron.) Domin	LC	Indigenous
Pteridaceae	*Cheilanthes pentagona*	Schelpe & N.C.Anthony	LC	Indigenous
Pteridaceae	*Cheilanthes viridis*	(Forssk.) Sw.		Indigenous
Pteridaceae	*Cheilanthes viridis*	(Forssk.) Sw.	LC	Indigenous
Pteridaceae	*Cheilanthes viridis*	(Forssk.) Sw.	LC	Indigenous
Gentianaceae	*Chironia palustris*	Burch.	LC	Indigenous
Gentianaceae	*Chironia palustris*	Burch.	LC	Indigenous
Agavaceae	*Chlorophytum bowkeri*	Baker	LC	Indigenous
Agavaceae	*Chlorophytum cooperi*	(Baker) Nordal	LC	Indigenous
Agavaceae	*Chlorophytum fasciculatum*	(Baker) Kativu	LC	Indigenous
Agavaceae	*Chlorophytum trichophlebium*	(Baker) Nordal	LC	Indigenous; Endemic
Thelypteridaceae	*Christella dentata*	(Forssk.) Brownsey & Jermy	LC	Indigenous
Asteraceae	*Chrysocoma sp.*			
Poaceae	*Chrysopogon serrulatus*	Trin.	LC	Indigenous
Asteraceae	*Cineraria aspera*	Thunb.	LC	Indigenous
Asteraceae	*Cineraria sp.*			
Vitaceae	*Cissus sp.*			
Cyperaceae	*Cladium mariscus*	(L.) Pohl	LC	Indigenous
Ranunculaceae	*Clematis brachiata*	Thunb.	LC	Indigenous
Ranunculaceae	*Clematis sp.*			
Cleomaceae	*Cleome conrathii*	Burtt Davy	NT	Indigenous
Cleomaceae	*Cleome gynandra*	L.	LC	Indigenous
Cleomaceae	*Cleome maculata*	(Sond.) Szyszyl.	LC	Indigenous
Cleomaceae	*Cleome monophylla*	L.	LC	Indigenous
Peraceae	*Clutia pulchella*	L.	LC	Indigenous
Combretaceae	*Combretum apiculatum*	Sond.	LC	Indigenous

Combretaceae	*Combretum erythrophyllum*	(Burch.) Sond.	LC	Indigenous
Combretaceae	*Combretum molle*	R.Br. ex G.Don	LC	Indigenous
Combretaceae	*Combretum sp.*			
Combretaceae	*Combretum zeyheri*	Sond.	LC	Indigenous
Commelinaceae	*Commelina africana*	L.	LC	Indigenous
Commelinaceae	*Commelina africana*	L.	LC	Indigenous
Commelinaceae	*Commelina modesta*	Oberm.	LC	Indigenous
Convolvulaceae	*Convolvulus ocellatus*	Hook.	LC	Indigenous
Convolvulaceae	*Convolvulus sagittatus*	Thunb.	LC	Indigenous
Convolvulaceae	*Convolvulus thunbergii*	Roem. & Schult.	LC	Indigenous
Asteraceae	*Conyza podocephala*	DC.		Indigenous
Asteraceae	*Conyza scabrida*	DC.		Indigenous
Malvaceae	*Corchorus asplenifolius*	Burch.	LC	Indigenous
Malvaceae	*Corchorus confusus*	Wild	LC	Indigenous
Malvaceae	*Corchorus trilocularis*	L.	NE	Not indigenous; Cultivated; Naturalised
Boraginaceae	*Cordia caffra*	Sond.	LC	Indigenous
Rubiaceae	*Cordylostigma virgata*	(Willd.) Groeninckx & Dessein		Indigenous
Asteraceae	*Cotula anthemoides*	L.	LC	Indigenous
Asteraceae	*Cotula nigellifolia*	(DC.) K.Bremer & Humphries	LC	Indigenous; Endemic
Acanthaceae	*Crabbea angustifolia*	Nees	LC	Indigenous; Endemic
Crassulaceae	*Crassula lanceolata*	(Eckl. & Zeyh.) Endl. ex Walp.	LC	Indigenous
Crassulaceae	*Crassula setulosa*	Harv.	NE	Indigenous
Crassulaceae	*Crassula setulosa*	Harv.	NE	Indigenous; Endemic
Fabaceae	*Crotalaria barkae*	Schweinf.	LC	Indigenous
Fabaceae	*Crotalaria lotoides*	Benth.	LC	Indigenous
Fabaceae	*Crotalaria magaliesbergensis*	A.S.Flores & Sch.Rodr.	LC	Indigenous; Endemic
Fabaceae	*Crotalaria sphaerocarpa*	Perr. ex DC.	LC	Indigenous
Euphorbiaceae	*Croton gratissimus*	Burch.	LC	Indigenous
Apocynaceae	*Cryptolepis cryptolepioides*	(Schltr.) Bullock	LC	Indigenous
Apocynaceae	*Cryptolepis oblongifolia*	(Meisn.) Schltr.	LC	Indigenous
Cucurbitaceae	*Cucumis africanus*	L.f.	LC	Indigenous
Cucurbitaceae	*Cucumis anguria*	L.	LC	Indigenous
Cucurbitaceae	*Cucumis myriocarpus*	Naudin	LC	Indigenous
Cucurbitaceae	*Cucumis sp.*			
Cucurbitaceae	*Cucumis zeyheri*	Sond.	LC	Indigenous
Convolvulaceae	*Cuscuta campestris*	Yunck.		Not indigenous; Naturalised; Invasive
Araliaceae	*Cussonia paniculata*	Eckl. & Zeyh.	LC	Indigenous

Commelinaceae	*Cyanotis speciosa*	(L.f.) Hassk.	LC	Indigenous
Apiaceae	*Cyclospermum leptophyllum*	(Pers.) Sprague ex Britton & P.Wilson		Not indigenous; Naturalised
Orobanchaceae	*Cycnium adonense*	E.Mey. ex Benth.	LC	Indigenous
Orobanchaceae	*Cycnium tubulosum*	(L.f.) Engl.	LC	Indigenous
Poaceae	*Cymbopogon caesius*	(Hook. & Arn.) Stapf	LC	Indigenous
Poaceae	*Cymbopogon nardus*	(L.) Rendle	LC	Indigenous
Apocynaceae	*Cynanchum ellipticum*	(Harv.) R.A.Dyer	LC	Indigenous
Poaceae	*Cynodon dactylon*	(L.) Pers.	LC	Indigenous
Cyperaceae	*Cyperus albostriatus*	Schrad.	LC	Indigenous
Cyperaceae	*Cyperus austro-africanus*	C.Archer & Goetgh.	LC	Indigenous
Cyperaceae	*Cyperus congestus*	Vahl	LC	Indigenous
Cyperaceae	*Cyperus denudatus*	L.f.	LC	Indigenous
Cyperaceae	*Cyperus esculentus*	L.	LC	Indigenous
Cyperaceae	*Cyperus fastigiatus*	Rottb.	LC	Indigenous
Cyperaceae	*Cyperus leptocladus*	Kunth	LC	Indigenous
Cyperaceae	*Cyperus longus*	L.	NE	Indigenous
Cyperaceae	*Cyperus margaritaceus*	Vahl	LC	Indigenous
Cyperaceae	*Cyperus marginatus*	Thunb.	LC	Indigenous
Cyperaceae	*Cyperus obtusiflorus*	Vahl	LC	Indigenous
Cyperaceae	*Cyperus rupestris*	Kunth	LC	Indigenous
Cyperaceae	*Cyperus sexangularis*	Nees	LC	Indigenous
Cyperaceae	*Cyperus sp.*			
Cyperaceae	*Cyperus uitenhagensis*	(Steud.) C.Archer & Goetgh.	LC	Indigenous
Lobeliaceae	*Cyphia persicifolia*	C.Presl	LC	Indigenous; Endemic
Lobeliaceae	*Cyphia stenopetala*	Diels	LC	Indigenous
Vitaceae	*Cyphostemma lanigerum*	(Harv.) Desc. ex Wild & R.B.Drumm.	LC	Indigenous
Vitaceae	*Cyphostemma sandersonii*	(Harv.) Desc.	LC	Indigenous
Vitaceae	*Cyphostemma sulcatum*	(C.A.Sm.) J.J.M.van der Merwe	LC	Indigenous; Endemic
Amaryllidaceae	*Cyrtanthus tuckii*	Baker	LC	Indigenous; Endemic
Solanaceae	*Datura sp.*			
Aizoaceae	*Delosperma leendertziae*	N.E.Br.	NT	Indigenous; Endemic
Asteraceae	*Denekia capensis*	Thunb.	LC	Indigenous
Caryophyllaceae	*Dianthus mooiensis*	F.N.Williams	NE	Indigenous; Endemic
Convolvulaceae	*Dichondra micrantha*	Urb.		Not indigenous; Naturalised
Acanthaceae	*Dicliptera eenii*	S.Moore	LC	Indigenous
Scrophulariaceae	*Diclis petiolaris*	Benth.	LC	Indigenous

Asteraceae	*Dicoma anomala*	Sond.	LC	Indigenous
Pottiaceae	*Didymodon tophaceus*	(Brid.) Lisa		Indigenous
Poaceae	*Digitaria brazzae*	(Franch.) Stapf	LC	Indigenous
Poaceae	*Digitaria diagonalis*	(Nees) Stapf	LC	Indigenous
Poaceae	*Digitaria eriantha*	Steud.	LC	Indigenous
Poaceae	*Digitaria longiflora*	(Retz.) Pers.	LC	Indigenous
Poaceae	*Digitaria monodactyla*	(Nees) Stapf	LC	Indigenous
Poaceae	*Digitaria sp.*			
Poaceae	*Digitaria ternata*	(A.Rich.) Stapf	LC	Indigenous
Poaceae	*Digitaria tricholaenoides*	Stapf	LC	Indigenous
Poaceae	*Diheteropogon amplectens*	(Nees) Clayton	LC	Indigenous
Asteraceae	*Dimorphotheca spectabilis*	Schltr.	LC	Indigenous; Endemic
Ebenaceae	*Diospyros lycioides*	Desf.	LC	Indigenous
Ebenaceae	*Diospyros lycioides*	Desf.	LC	Indigenous
Ebenaceae	*Diospyros whyteana*	(Hiern) F.White	LC	Indigenous
Hyacinthaceae	*Dipcadi marlothii*	Engl.	LC	Indigenous
Hyacinthaceae	*Dipcadi viride*	(L.) Moench	LC	Indigenous
Brassicaceae	*Diplotaxis muralis*	(L.) DC.		Not indigenous; Naturalised; Invasive
Orchidaceae	*Disa aconitoides*	Sond.	LC	Indigenous
Sapindaceae	*Dodonaea viscosa*	Jacq.	LC	Indigenous
Fabaceae	*Dolichos angustifolius*	Eckl. & Zeyh.	LC	Indigenous
Malvaceae	*Dombeya rotundifolia*	(Hochst.) Planch.	LC	Indigenous
Pteridaceae	*Doryopteris concolor*	(Langsd. & Fisch.) Kuhn	LC	Indigenous
Salicaceae	*Dovyalis zeyheri*	(Sond.) Warb.	LC	Indigenous
Hyacinthaceae	*Drimia calcarata*	(Baker) Stedje	LC	Indigenous
Hyacinthaceae	*Drimia elata*	Jacq.	DD	Indigenous
Dryopteridaceae	*Dryopteris athamantica*	(Kunze) Kuntze	LC	Indigenous
Dryopteridaceae	*Dryopteris inaequalis*	(Schltdl.) Kuntze	LC	Indigenous
Verbenaceae	*Duranta erecta*	L.		Not indigenous; Naturalised; Invasive
Acanthaceae	*Dyschoriste burchellii*	(Nees) Kuntze	LC	Indigenous
Acanthaceae	*Dyschoriste costata*	(Nees) Kuntze	LC	Indigenous; Endemic
Acanthaceae	*Dyschoriste setigera*	(Pers.) J.C.Manning & Goldblatt	LC	Indigenous
Amaranthaceae	*Dysphania carinata*	(R.Br.) Mosyakin & Clemants		Not indigenous; Naturalised; Invasive
Poaceae	*Echinochloa colona*	(L.) Link	LC	Indigenous
Poaceae	*Echinochloa jubata*	Stapf	LC	Indigenous
Boraginaceae	*Ehretia rigida*	(Thunb.) Druce	LC	Indigenous

Poaceae	*Ehrharta erecta*	Lam.	LC	Indigenous
Fabaceae	*Elephantorrhiza elephantina*	(Burch.) Skeels	LC	Indigenous
Poaceae	*Elionurus muticus*	(Spreng.) Kunth	LC	Indigenous
Rubiaceae	*Empogona lanceolata*	(Sond.) Tosh & Robbr.		Indigenous
Sapotaceae	*Englerophytum magalismontanum*	(Sond.) T.D.Penn.	LC	Indigenous
Poaceae	*Enneapogon pretoriensis*	Stent	LC	Indigenous
Poaceae	*Enneapogon scoparius*	Stapf	LC	Indigenous
Entodontaceae	*Entodon cymbifolius*	Wager & Dixon		Indigenous
Entodontaceae	*Entodon macropodus*	(Hedw.) Mull.Hal.		Indigenous
Onagraceae	*Epilobium hirsutum*	L.	LC	Indigenous
Equisetaceae	*Equisetum ramosissimum*	Desf.	LC	Indigenous
Poaceae	*Eragrostis barbinodis*	Hack.	LC	Indigenous
Poaceae	*Eragrostis capensis*	(Thunb.) Trin.	LC	Indigenous
Poaceae	*Eragrostis chloromelas*	Steud.	LC	Indigenous
Poaceae	*Eragrostis curvula*	(Schrad.) Nees	LC	Indigenous
Poaceae	*Eragrostis gummiflua*	Nees	LC	Indigenous
Poaceae	*Eragrostis heteromera*	Stapf	LC	Indigenous
Poaceae	*Eragrostis lehmanniana*	Nees	LC	Indigenous
Poaceae	*Eragrostis nindensis*	Ficalho & Hiern	LC	Indigenous
Poaceae	*Eragrostis patentipilosa*	Hack.	LC	Indigenous
Poaceae	*Eragrostis planiculmis*	Nees	LC	Indigenous
Poaceae	*Eragrostis racemosa*	(Thunb.) Steud.	LC	Indigenous
Poaceae	*Eragrostis rigidior*	Pilg.	LC	Indigenous
Poaceae	*Eragrostis sclerantha*	Nees	LC	Indigenous
Poaceae	*Eragrostis sp.*			
Poaceae	*Eragrostis superba*	Peyr.	LC	Indigenous
Ericaceae	*Erica woodii*	Bolus	LC	Indigenous
Poaceae	*Eriochloa fatmensis*	(Hochst. & Steud.) Clayton	LC	Indigenous
Fabaceae	*Eriosema burkei*	Benth. ex Harv.	LC	Indigenous
Fabaceae	*Eriosema cordatum*	E.Mey.	LC	Indigenous
Ruscaceae	*Eriospermum cooperi*	Baker	LC	Indigenous
Ruscaceae	*Eriospermum flagelliforme*	(Baker) J.C.Manning	LC	Indigenous
Erpodiaceae	*Erpodium coronatum*	(Hook.f. & Wilson) Mitt.		Indigenous
Fabaceae	*Erythrina lysistemon*	Hutch.	LC	Indigenous
Ebenaceae	*Euclea crispa*	(Thunb.) Gurke	LC	Indigenous
Ebenaceae	*Euclea natalensis*	A.DC.	LC	Indigenous
Ebenaceae	*Euclea sp.*			

Hyacinthaceae	*Eucomis autumnalis*	(Mill.) Chitt.	NE	Indigenous
Orchidaceae	*Eulophia ovalis*	Lindl.	LC	Indigenous
Orchidaceae	*Eulophia streptopetala*	Lindl.	LC	Indigenous
Euphorbiaceae	*Euphorbia cooperi*	N.E.Br. ex A.Berger		Indigenous
Euphorbiaceae	*Euphorbia hirsuta*	L.		Not indigenous; Naturalised; Invasive
Euphorbiaceae	*Euphorbia inaequilatera*	Sond.	LC	Indigenous
Euphorbiaceae	*Euphorbia inaequilatera*	Sond.	NE	Indigenous
Euphorbiaceae	*Euphorbia indica*	Lam.	NE	Not indigenous; Naturalised
Euphorbiaceae	*Euphorbia natalensis*	Bernh. ex Krauss	LC	Indigenous
Euphorbiaceae	*Euphorbia pseudotuberosa*	Pax	LC	Indigenous
Euphorbiaceae	*Euphorbia schinzii*	Pax	LC	Indigenous
Euphorbiaceae	*Euphorbia spartaria*	N.E.Br.	LC	Indigenous
Poaceae	*Eustachys paspaloides*	(Vahl) Lanza & Mattei	LC	Indigenous
Convolvulaceae	*Evolvulus alsinoides*	(L.) L.	LC	Indigenous
Gentianaceae	*Exochaenium grande*	(E.Mey.) Griseb.	LC	Indigenous
Exormothecaceae	*Exormotheca holstii*	Steph.		Indigenous
Fabroniaceae	*Fabronia pilifera*	Hornsch.		Indigenous
Fabroniaceae	*Fabronia sp.*			
Proteaceae	*Faurea saligna*	Harv.	LC	Indigenous
Asteraceae	*Felicia fascicularis*	DC.	LC	Indigenous
Asteraceae	*Felicia muricata*	(Thunb.) Nees	LC	Indigenous
Moraceae	*Ficus abutilifolia*	(Miq.) Miq.	LC	Indigenous
Moraceae	*Ficus ingens*	(Miq.) Miq.	LC	Indigenous
Moraceae	*Ficus ingens*	(Miq.) Miq.		Indigenous
Moraceae	*Ficus salicifolia*	Vahl	LC	Indigenous
Moraceae	*Ficus thonningii*	Blume		Indigenous
Cyperaceae	*Fimbristylis dichotoma*	(L.) Vahl	LC	Indigenous
Poaceae	*Fingerhuthia africana*	Lehm.	LC	Indigenous
Fissidentaceae	*Fissidens bogosicus*	Mull.Hal.		Indigenous
Fissidentaceae	*Fissidens palmifolius*	(P.Beauv.) Broth.		Indigenous
Fissidentaceae	*Fissidens rufescens*	Hornsch.		Indigenous
Fissidentaceae	*Fissidens sp.*			
Fissidentaceae	*Fissidens submarginatus*	Bruch		Indigenous
Asteraceae	*Flaveria bidentis*	(L.) Kuntze		Not indigenous; Naturalised; Invasive
Fossombroniaceae	*Fossombronia gemmifera*	Perold		Indigenous
Iridaceae	*Freesia grandiflora*	(Baker) Klatt	LC	Indigenous
Frullaniaceae	*Frullania ericoides*	(Nees) Mont.		Indigenous
Cyperaceae	*Fuirena pubescens*	(Poir.) Kunth	LC	Indigenous
Cyperaceae	*Fuirena stricta*	Steud.	LC	Indigenous
Funariaceae	*Funaria hygrometrica*	Hedw.		Indigenous

Asteraceae	*Galinsoga parviflora*	Cav.		Not indigenous; Naturalised
Asteraceae	*Garuleum woodii*	Schinz	LC	Indigenous
Asteraceae	*Gazania krebsiana*	Less.	LC	Indigenous
Asteraceae	*Geigeria burkei*	Harv.	NE	Indigenous
Asteraceae	*Geigeria burkei*	Harv.	NE	Indigenous
Asteraceae	*Geigeria sp.*			
Asteraceae	*Gerbera ambigua*	(Cass.) Sch.Bip.	LC	Indigenous
Asteraceae	*Gerbera piloselloides*	(L.) Cass.	LC	Indigenous
Gisekiaceae	*Gisekia pharnaceoides*	L.	LC	Indigenous
Iridaceae	*Gladiolus permeabilis*	D.Delaroche	LC	Indigenous
Iridaceae	*Gladiolus pretoriensis*	Kuntze	LC	Indigenous; Endemic
Iridaceae	*Gladiolus sericeovillosus*	Hook.f.	LC	Indigenous
Verbenaceae	*Glandularia aristigera*	(S.Moore) Tronc.		Not indigenous; Naturalised; Invasive
Colchicaceae	*Gloriosa modesta*	(Hook.) J.C.Manning & Vinn.	LC	Indigenous
Thymelaeaceae	*Gnidia nodiflora*	Meisn.	LC	Indigenous; Endemic
Apocynaceae	*Gomphocarpus fruticosus*	(L.) W.T.Aiton	LC	Indigenous
Apocynaceae	*Gomphocarpus glaucophyllus*	Schltr.	LC	Indigenous
Scrophulariaceae	*Gomphostigma virgatum*	(L.f.) Baill.	LC	Indigenous
Amaranthaceae	*Gomphrena celosioides*	Mart.		Not indigenous; Naturalised
Orobanchaceae	*Graderia subintegra*	Mast.	LC	Indigenous
Malvaceae	*Grewia flava*	DC.	LC	Indigenous
Malvaceae	*Grewia monticola*	Sond.	LC	Indigenous
Malvaceae	*Grewia occidentalis*	L.	LC	Indigenous
Celastraceae	*Gymnosporia buxifolia*	(L.) Szyszyl.	LC	Indigenous
Celastraceae	*Gymnosporia polyacantha*	(Sond.) Szyszyl.	LC	Indigenous; Endemic
Celastraceae	*Gymnosporia sp.*			
Celastraceae	*Gymnosporia tenuispina*	(Sond.) Szyszyl.	LC	Indigenous
Orchidaceae	*Habenaria nyikana*	Rchb.f.	LC	Indigenous
Orchidaceae	*Habenaria schimperiana*	Hochst. ex A.Rich.	LC	Indigenous
Orchidaceae	*Habenaria tridens*	Lindl.	LC	Indigenous
Amaryllidaceae	*Haemanthus humilis*	Jacq.	LC	Indigenous
Stilbaceae	*Halleria lucida*	L.	LC	Indigenous
Pedaliaceae	*Harpagophytum zeyheri*	Decne.	LC	Indigenous
Orobanchaceae	*Harveya pumila*	Schltr.	LC	Indigenous
Lythraceae	*Heimia myrtifolia*	Cham. & Schltdl.		Not indigenous; Naturalised; Invasive
Asteraceae	*Helichrysum caespititium*	(DC.) Harv.	LC	Indigenous
Asteraceae	*Helichrysum callicomum*	Harv.	LC	Indigenous
Asteraceae	*Helichrysum cerastioides*	DC.	LC	Indigenous

Asteraceae	*Helichrysum chionosphaerum*	DC.	LC	Indigenous
Asteraceae	*Helichrysum harveyanum*	Wild	LC	Indigenous
Asteraceae	*Helichrysum nudifolium*	(L.) Less.	LC	Indigenous
Asteraceae	*Helichrysum nudifolium*	(L.) Less.	LC	Indigenous
Asteraceae	*Helichrysum rugulosum*	Less.	LC	Indigenous
Asteraceae	*Helichrysum setosum*	Harv.	LC	Indigenous
Asteraceae	*Helichrysum stenopterum*	DC.	LC	Indigenous
Rhamnaceae	*Helinus integrifolius*	(Lam.) Kuntze	LC	Indigenous
Boraginaceae	*Heliotropium amplexicaule*	Vahl		Not indigenous; Naturalised; Invasive
Boraginaceae	*Heliotropium ciliatum*	Kaplan	LC	Indigenous
Poaceae	*Hemarthria altissima*	(Poir.) Stapf & C.E.Hubb.	LC	Indigenous
Malvaceae	*Hermannia boraginiflora*	Hook.	LC	Indigenous
Malvaceae	*Hermannia burkei*	Burtt Davy	LC	Indigenous
Malvaceae	*Hermannia cordata*	(E.Mey. ex E.Phillips) De Winter	LC	Indigenous; Endemic
Malvaceae	*Hermannia depressa*	N.E.Br.	LC	Indigenous
Malvaceae	*Hermannia floribunda*	Harv.	LC	Indigenous
Malvaceae	*Hermannia grandifolia*	N.E.Br.	LC	Indigenous
Malvaceae	*Hermannia lancifolia*	Szyszyl.	LC	Indigenous; Endemic
Iridaceae	*Hesperantha longicollis*	Baker	LC	Indigenous
Apiaceae	*Heteromorpha arborescens*	(Spreng.) Cham. & Schltdl.	LC	Indigenous
Poaceae	*Heteropogon contortus*	(L.) Roem. & Schult.	LC	Indigenous
Malvaceae	*Hibiscus aethiopicus*	L.	LC	Indigenous
Malvaceae	*Hibiscus calyphyllus*	Cav.	LC	Indigenous
Malvaceae	*Hibiscus engleri*	K.Schum.	LC	Indigenous
Malvaceae	*Hibiscus microcarpus*	Garcke	LC	Indigenous
Malvaceae	*Hibiscus subreniformis*	Burtt Davy	LC	Indigenous
Malvaceae	*Hibiscus trionum*	L.		Not indigenous; Naturalised
Asteraceae	*Hilliardiella aristata*	(DC.) H.Rob.	LC	Indigenous
Asteraceae	*Hilliardiella elaeagnoides*	(DC.) Swelank. & J.C.Manning		Indigenous
Asteraceae	*Hilliardiella sutherlandii*	(Harv.) H.Rob.		Indigenous
Poaceae	*Hyparrhenia hirta*	(L.) Stapf	LC	Indigenous
Poaceae	*Hyparrhenia tamba*	(Steud.) Stapf	LC	Indigenous
Hypericaceae	*Hypericum aethiopicum*	Thunb.	LC	Indigenous
Hypoxidaceae	*Hypoxis argentea*	Harv. ex Baker	LC	Indigenous
Hypoxidaceae	*Hypoxis hemerocallidea*	Fisch., C.A.Mey. & Ave-Lall.	LC	Indigenous
Hypoxidaceae	*Hypoxis iridifolia*	Baker	LC	Indigenous

Hypoxidaceae	*Hypoxis rigidula*	Baker	LC	Indigenous
Hypoxidaceae	*Hypoxis rigidula*	Baker	LC	Indigenous
Poaceae	*Imperata cylindrica*	(L.) P.Beauv.		Indigenous
Fabaceae	*Indigastrum burkeanum*	(Benth. ex Harv.) Schrire	LC	Indigenous
Fabaceae	*Indigofera comosa*	N.E.Br.	LC	Indigenous
Fabaceae	*Indigofera confusa*	Prain & Baker f.	LC	Indigenous
Fabaceae	*Indigofera frondosa*	N.E.Br.	LC	Indigenous
Fabaceae	*Indigofera hedyantha*	Eckl. & Zeyh.	LC	Indigenous
Fabaceae	*Indigofera heterotricha*	DC.	LC	Indigenous
Fabaceae	*Indigofera hilaris*	Eckl. & Zeyh.	LC	Indigenous
Fabaceae	*Indigofera hilaris*	Eckl. & Zeyh.		Indigenous
Fabaceae	*Indigofera melanadenia*	Benth. ex Harv.	LC	Indigenous
Fabaceae	*Indigofera oxalidea*	Welw. ex Baker	LC	Indigenous
Fabaceae	*Indigofera sp.*			
Convolvulaceae	*Ipomoea bathycolpos*	Hallier f.	LC	Indigenous; Endemic
Convolvulaceae	*Ipomoea bolusiana*	Schinz	LC	Indigenous
Convolvulaceae	*Ipomoea crassipes*	Hook.	LC	Indigenous
Convolvulaceae	*Ipomoea gracilisepala*	Rendle	LC	Indigenous
Convolvulaceae	*Ipomoea oblongata*	E.Mey. ex Choisy	LC	Indigenous
Convolvulaceae	*Ipomoea obscura*	(L.) Ker Gawl.	LC	Indigenous
Convolvulaceae	*Ipomoea ommanneyi*	Rendle	LC	Indigenous
Convolvulaceae	*Ipomoea transvaalensis*	A.Meeuse	LC	Indigenous
Iridaceae	*Iris pseudacorus*	L.		Not indigenous; Cultivated; Naturalised; Invasive
Acanthaceae	*Isoglossa woodii*	C.B.Clarke	LC	Indigenous; Endemic
Cyperaceae	*Isolepis cernua*	(Vahl) Roem. & Schult.	LC	Indigenous
Scrophulariaceae	*Jamesbrittenia atropurpurea*	(Benth.) Hilliard	LC	Indigenous
Scrophulariaceae	*Jamesbrittenia sp.*			
Oleaceae	*Jasminum quinatum*	Schinz	LC	Indigenous; Endemic
Juncaceae	*Juncus effusus*	L.	LC	Indigenous
Juncaceae	*Juncus exsertus*	Buchenau	LC	Indigenous
Juncaceae	*Juncus punctorius*	L.f.	LC	Indigenous
Acanthaceae	*Justicia sp.*			
Crassulaceae	*Kalanchoe paniculata*	Harv.	LC	Indigenous
Crassulaceae	*Kalanchoe rotundifolia*	(Haw.) Haw.	LC	Indigenous
Crassulaceae	*Kalanchoe thyrsiflora*	Harv.	LC	Indigenous
Achariaceae	*Kiggelaria africana*	L.	LC	Indigenous
Poaceae	*Koeleria capensis*	(Steud.) Nees	LC	Indigenous
Rubiaceae	*Kohautia amatymbica*	Eckl. & Zeyh.	LC	Indigenous
Rubiaceae	*Kohautia caespitosa*	Schnizl.	LC	Indigenous
Rubiaceae	*Kohautia cynanchica*	DC.	LC	Indigenous

Cyperaceae	*Kyllinga alba*	Nees	LC	Indigenous
Cyperaceae	*Kyllinga melanosperma*	Nees	LC	Indigenous
Fabaceae	*Lablab purpureus*	(L.) Sweet	LC	Indigenous
Asteraceae	*Lactuca inermis*	Forssk.	LC	Indigenous
Asteraceae	*Laggera decurrens*	(Vahl) Hepper & J.R.I.Wood	LC	Indigenous
Anacardiaceae	*Lannea discolor*	(Sond.) Engl.	LC	Indigenous
Anacardiaceae	*Lannea edulis*	(Sond.) Engl.	LC	Indigenous
Verbenaceae	*Lantana rugosa*	Thunb.	LC	Indigenous
Thymelaeaceae	*Lasiosiphon capitatus*	(L.f.) Burtt Davy	LC	Indigenous
Thymelaeaceae	*Lasiosiphon microcephalus*	(Meisn.) J.C.Manning & Magee		Indigenous
Thymelaeaceae	*Lasiosiphon sericocephalus*	(Meisn.) J.C.Manning & Boatwr.	LC	Indigenous
Hyacinthaceae	*Ledebouria confusa*	S.Venter	LC	Indigenous
Hyacinthaceae	*Ledebouria cooperi*	(Hook.f.) Jessop	LC	Indigenous
Hyacinthaceae	*Ledebouria inquinata*	(C.A.Sm.) Jessop	LC	Indigenous
Hyacinthaceae	*Ledebouria luteola*	Jessop	LC	Indigenous
Hyacinthaceae	*Ledebouria marginata*	(Baker) Jessop	LC	Indigenous
Hyacinthaceae	*Ledebouria ovatifolia*	(Baker) Jessop		Indigenous
Poaceae	*Leersia hexandra*	Sw.	LC	Indigenous
Araceae	*Lemna gibba*	L.	LC	Indigenous
Fabaceae	*Leobordea divaricata*	Eckl. & Zeyh.	LC	Indigenous
Fabaceae	*Leobordea eriantha*	(Benth.) B.-E.van Wyk & Boatwr.	LC	Indigenous
Fabaceae	*Leobordea pulchra*	(Dummer) B.-E.van Wyk & Boatwr.	LC	Indigenous
Lamiaceae	*Leonotis martinicensis*	(Jacq.) J.C.Manning & Goldblatt	LC	Indigenous
Brassicaceae	*Lepidium africanum*	(Burm.f.) DC.	LC	Indigenous
Brassicaceae	*Lepidium bonariense*	L.		Not indigenous; Naturalised
Brassicaceae	*Lepidium transvaalense*	Marais	LC	Indigenous
Fabaceae	*Lessertia frutescens*	(L.) Goldblatt & J.C.Manning	LC	Indigenous
Scrophulariaceae	*Limosella sp.*			
Linaceae	*Linum thunbergii*	Eckl. & Zeyh.	LC	Indigenous
Verbenaceae	*Lippia javanica*	(Burm.f.) Spreng.	LC	Indigenous
Fabaceae	*Listia heterophylla*	E.Mey.	LC	Indigenous
Lobeliaceae	*Lobelia erinus*	L.	LC	Indigenous
Lobeliaceae	*Lobelia thermalis*	Thunb.	LC	Indigenous

Fabaceae	*Lotononis sp.*			
Fabaceae	*Lotononis tenella*	(E.Mey.) Eckl. & Zeyh.	LC	Indigenous; Endemic
Poaceae	*Loudetia flavida*	(Stapf) C.E.Hubb.	LC	Indigenous
Poaceae	*Loudetia simplex*	(Nees) C.E.Hubb.	LC	Indigenous
Solanaceae	*Lycium cinereum*	Thunb.	LC	Indigenous
Asteraceae	*Macledium zeyheri*	(Sond.) S.Ortiz	LC	Indigenous
Capparaceae	*Maerua cafra*	(DC.) Pax	LC	Indigenous
Capparaceae	*Maerua juncea*	Pax	LC	Indigenous
Aytoniaceae	*Mannia capensis*	(Steph.) S.W.Arnell		Indigenous
Marchantiaceae	*Marchantia debilis*	K.I.Goebel		Indigenous
Celastraceae	*Maytenus undata*	(Thunb.) Blakelock	LC	Indigenous
Malvaceae	*Melhania transvaalensis*	Szyszyl.	LC	Indigenous; Endemic
Poaceae	*Melica racemosa*	Thunb.	LC	Indigenous
Poaceae	*Melinis nerviglumis*	(Franch.) Zizka	LC	Indigenous
Poaceae	*Melinis repens*	(Willd.) Zizka	LC	Indigenous
Fabaceae	*Melolobium subspicatum*	Conrath	VU	Indigenous; Endemic
Oleaceae	*Menodora africana*	Hook.	LC	Indigenous
Convolvulaceae	*Merremia verecunda*	Rendle	LC	Indigenous
Aizoaceae	*Mesembryanthemum cordifolium*	L.f.		Indigenous; Endemic
Poaceae	*Microchloa caffra*	Nees	LC	Indigenous
Sapotaceae	*Mimusops zeyheri*	Sond.	LC	Indigenous
Anemiaceae	*Mohria vestita*	Baker	LC	Indigenous
Geraniaceae	*Monsonia angustifolia*	E.Mey. ex A.Rich.	LC	Indigenous
Geraniaceae	*Monsonia burkeana*	Planch. ex Harv.	LC	Indigenous
Geraniaceae	*Monsonia grandifolia*	R.Knuth	LC	Indigenous; Endemic
Iridaceae	*Moraea stricta*	Baker	LC	Indigenous
Myricaceae	*Morella serrata*	(Lam.) Killick	LC	Indigenous
Moraceae	*Morus sp.*			
Fabaceae	*Mundulea sericea*	(Willd.) A.Chev.	LC	Indigenous
Myrothamnaceae	*Myrothamnus flabellifolius*	Welw.	DD	Indigenous
Myrsinaceae	*Myrsine africana*	L.	LC	Indigenous
Celastraceae	*Mystroxylon aethiopicum*	(Thunb.) Loes.	LC	Indigenous; Endemic
Hydrocharitaceae	*Najas horrida*	A.Braun ex Rendle		Indigenous
Brassicaceae	*Nasturtium officinale*	W.T.Aiton		Not indigenous; Naturalised; Invasive
Scrophulariaceae	*Nemesia rupicola*	Hilliard	LC	Indigenous
Scrophulariaceae	*Nemesia sp.*			

Fabaceae	*Neonotonia wightii*	(Wight ex Arn.) J.A.Lackey	LC	Indigenous
Fabaceae	*Neorautanenia ficifolia*	(Benth.) C.A.Sm.	LC	Indigenous
Amaryllidaceae	*Nerine sp.*			
Solanaceae	*Nicotiana glauca*	Graham		Not indigenous; Naturalised; Invasive
Asteraceae	*Nidorella hottentotica*	DC.	LC	Indigenous
Asteraceae	*Nolletia rarifolia*	(Turcz.) Steetz	LC	Indigenous; Endemic
Stilbaceae	*Nuxia congesta*	R.Br. ex Fresen.	LC	Indigenous
Stilbaceae	*Nuxia glomerulata*	(C.A.Sm.) I.Verd.	LC	Indigenous; Endemic
Urticaceae	*Obetia tenax*	(N.E.Br.) Friis	LC	Indigenous
Ochnaceae	*Ochna pulchra*	Hook.f.	LC	Indigenous
Lamiaceae	*Ocimum angustifolium*	Benth.	LC	Indigenous
Lamiaceae	*Ocimum obovatum*	E.Mey. ex Benth.	NE	Indigenous
Onagraceae	*Oenothera affinis*	Cambess.		Not indigenous; Naturalised; Invasive
Onagraceae	*Oenothera rosea*	L'Her. ex Aiton		Not indigenous; Naturalised; Invasive
Onagraceae	*Oenothera tetraptera*	Cav.		Not indigenous; Naturalised; Invasive
Rubiaceae	*Oldenlandia herbacea*	(L.) Roxb.	LC	Indigenous
Oleaceae	*Olea europaea*	L.		Indigenous
Oleandraceae	*Oleandra distenta*	Kunze	LC	Indigenous
Oliniaceae	*Olinia emarginata*	Burtt Davy	LC	Indigenous
Asteraceae	*Oocephala staehelinoides*	(Harv.) H.Rob. & Skvarla		Indigenous; Endemic
Ophioglossaceae	*Ophioglossum polyphyllum*	A.Braun	LC	Indigenous
Fabaceae	*Ophrestia oblongifolia*	(E.Mey.) H.M.L.Forbes	LC	Indigenous
Apocynaceae	*Orbea lutea*	(N.E.Br.) Bruyns	LC	Indigenous
Colchicaceae	*Ornithoglossum viride*	(L.f.) Aiton	LC	Indigenous; Endemic
Colchicaceae	*Ornithoglossum vulgare*	B.Nord.	LC	Indigenous
Asteraceae	*Osteospermum muricatum*	E.Mey. ex DC.	LC	Indigenous
Asteraceae	*Osteospermum scariosum*	DC.	NE	Indigenous
Santalaceae	*Osyris lanceolata*	Hochst. & Steud.	LC	Indigenous
Rubiaceae	*Otiophora calycophylla*	(Sond.) Schltr. & K.Schum.	LC	Indigenous; Endemic
Oxalidaceae	*Oxalis corniculata*	L.		Not indigenous; Naturalised; Invasive
Oxalidaceae	*Oxalis depressa*	Eckl. & Zeyh.	LC	Indigenous
Oxalidaceae	*Oxalis latifolia*	Kunth		Not indigenous; Naturalised; Invasive
Oxalidaceae	*Oxalis obliquifolia*	Steud. ex A.Rich.	LC	Indigenous

Polygonaceae	*Oxygonum dregeanum*	Meisn.	NE	Indigenous
Anacardiaceae	*Ozoroa paniculosa*	(Sond.) R.Fern. & A.Fern.	LC	Indigenous
Anacardiaceae	*Ozoroa paniculosa*	(Sond.) R.Fern. & A.Fern.	LC	Indigenous
Anacardiaceae	*Ozoroa sphaerocarpa*	R.Fern. & A.Fern.	LC	Indigenous
Apocynaceae	*Pachycarpus schinzianus*	(Schltr.) N.E.Br.	LC	Indigenous
Poaceae	*Panicum coloratum*	L.	LC	Indigenous
Poaceae	*Panicum maximum*	Jacq.	LC	Indigenous
Poaceae	*Panicum natalense*	Hochst.	LC	Indigenous
Poaceae	*Panicum schinzii*	Hack.	LC	Indigenous
Papaveraceae	*Papaver aculeatum*	Thunb.	LC	Indigenous
Sapindaceae	*Pappea capensis*	Eckl. & Zeyh.	LC	Indigenous
Chrysobalanaceae	*Parinari capensis*	Harv.	LC	Indigenous
Poaceae	*Paspalum distichum*	L.	LC	Not indigenous; Naturalised; Invasive
Poaceae	*Paspalum scrobiculatum*	L.	LC	Indigenous
Poaceae	*Paspalum urvillei*	Steud.	NE	Not indigenous; Naturalised; Invasive
Apiaceae	*Pastinaca sativa*	L.		Not indigenous; Naturalised
Rubiaceae	*Pavetta gardeniifolia*	A.Rich.	LC	Indigenous
Rubiaceae	*Pavetta gardeniifolia*	A.Rich.	LC	Indigenous
Rubiaceae	*Pavetta zeyheri*	Sond.	LC	Indigenous
Malvaceae	*Pavonia burchellii*	(DC.) R.A.Dyer	LC	Indigenous
Fabaceae	*Pearsonia bracteata*	(Benth.) Polhill	NT	Indigenous; Endemic
Fabaceae	*Pearsonia cajanifolia*	(Harv.) Polhill	LC	Indigenous; Endemic
Fabaceae	*Pearsonia sessilifolia*	(Harv.) Dummer	LC	Indigenous
Fabaceae	*Pearsonia uniflora*	(Kensit) Polhill	LC	Indigenous
Geraniaceae	*Pelargonium luridum*	(Andrews) Sweet	LC	Indigenous
Thuidiaceae	*Pelekium versicolor*	(Hornsch. ex Mull.Hal.) Touw		Indigenous
Pteridaceae	*Pellaea calomelanos*	(Sw.) Link	LC	Indigenous
Rubiaceae	*Pentanisia angustifolia*	(Hochst.) Hochst.	LC	Indigenous
Apocynaceae	*Pentarrhinum insipidum*	E.Mey.	LC	Indigenous
Asteraceae	*Pentzia monocephala*	S.Moore	LC	Indigenous
Bartramiaceae	*Philonotis dregeana*	(Mull.Hal.) A.Jaeger		Indigenous
Bartramiaceae	*Philonotis falcata*	(Hook.) Mitt.		Indigenous
Bartramiaceae	*Philonotis hastata*	(Duby) Wijk & Margad.		Indigenous
Poaceae	*Phragmites australis*	(Cav.) Steud.	LC	Indigenous
Phyllanthaceae	*Phyllanthus incurvus*	Thunb.	LC	Indigenous

Phyllanthaceae	*Phyllanthus parvulus*	Sond.	LC	Indigenous
Phyllanthaceae	*Phyllanthus parvulus*	Sond.	LC	Indigenous
Asteraceae	*Phymaspermum athanasioides*	(S.Moore) Kallersjo	LC	Indigenous
Phytolaccaceae	*Phytolacca heptandra*	Retz.	LC	Indigenous
Pittosporaceae	*Pittosporum viridiflorum*	Sims	LC	Indigenous
Aytoniaceae	*Plagiochasma appendiculatum*	Lehm. & Lindenb.		Indigenous
Aytoniaceae	*Plagiochasma microcephalum*	(Steph.) Steph.		Indigenous
Aytoniaceae	*Plagiochasma rupestre*	(J.R.Forst. & G.Forst.) Steph.		Indigenous
Aytoniaceae	*Plagiochasma rupestre*	(J.R.Forst. & G.Forst.) Steph.		Indigenous
Plantaginaceae	*Plantago major*	L.		Not indigenous; Naturalised
Plantaginaceae	*Plantago sp.*			
Lamiaceae	*Plectranthus grallatus*	Briq.	LC	Indigenous
Lamiaceae	*Plectranthus hereroensis*	Engl.	LC	Indigenous
Lamiaceae	*Plectranthus montanus*	Benth.		Indigenous
Lamiaceae	*Plectranthus ramosior*	(Benth.) Van Jaarsv.	LC	Indigenous; Endemic
Plumbaginaceae	*Plumbago zeylanica*	L.		Not indigenous; Naturalised
Poaceae	*Pogonarthria squarrosa*	(Roem. & Schult.) Pilg.	LC	Indigenous
Polygalaceae	*Polygala albida*	Schinz	LC	Indigenous
Polygalaceae	*Polygala hottentotta*	C.Presl	LC	Indigenous
Polygalaceae	*Polygala krumanina*	Burch. ex Ficalho & Hiern	LC	Indigenous; Endemic
Polygalaceae	*Polygala producta*	N.E.Br.	LC	Indigenous
Polygalaceae	*Polygala serpentaria*	Eckl. & Zeyh.	LC	Indigenous
Polygalaceae	*Polygala transvaalensis*	Chodat	LC	Indigenous
Pontederiaceae	*Pontederia cordata*	L.		Not indigenous; Naturalised
Portulacaceae	*Portulaca pilosa*	L.	LC	Indigenous
Potamogetonaceae	*Potamogeton pusillus*	L.	LC	Indigenous
Potamogetonaceae	*Potamogeton schweinfurthii*	A.Benn.	LC	Indigenous
Rosaceae	*Potentilla indica*	(Andrews) Th.Wolf		Not indigenous; Cultivated; Naturalised; Invasive
Urticaceae	*Pouzolzia mixta*	Solms	LC	Indigenous
Verbenaceae	*Priva meyeri*	Jaub. & Spach	LC	Indigenous
Proteaceae	*Protea gaguedi*	J.F.Gmel.	LC	Indigenous
Molluginaceae	*Psammotropha mucronata*	(Thunb.) Fenzl	LC	Indigenous
Molluginaceae	*Psammotropha myriantha*	Sond.	LC	Indigenous

Asteraceae	*Pseudognaphalium oligandrum*	(DC.) Hilliard & B.L.Burtt	LC	Indigenous
Leskeaceae	*Pseudoleskea leskeoides*	(Paris) Mull.Hal.		Indigenous
Asteraceae	*Pseudopegolettia tenella*	(DC.) H.Rob., Skvarla & V.A.Funk		Indigenous
Asteraceae	*Psiadia punctulata*	(DC.) Vatke	LC	Indigenous
Pteridaceae	*Pteris cretica*	L.	LC	Indigenous
Pteridaceae	*Pteris vittata*	L.	LC	Indigenous
Celastraceae	*Pterocelastrus echinatus*	N.E.Br.	LC	Indigenous
Cyperaceae	*Pycreus unioloides*	(R.Br.) Urb.	LC	Indigenous
Rubiaceae	*Pygmaeothamnus zeyheri*	(Sond.) Robyns	LC	Indigenous
Racopilaceae	*Racopilum capense*	Mull.Hal. ex Broth.		Indigenous
Ranunculaceae	*Ranunculus multifidus*	Forssk.	LC	Indigenous
Apocynaceae	*Raphionacme galpinii*	Schltr.	LC	Indigenous
Apocynaceae	*Raphionacme hirsuta*	(E.Mey.) R.A.Dyer	LC	Indigenous
Apocynaceae	*Raphionacme sp.*			
Apocynaceae	*Rauvolfia caffra*	Sond.	LC	Indigenous
Rhamnaceae	*Rhamnus prinoides*	L'Her.	LC	Indigenous
Vitaceae	*Rhoicissus tridentata*	(L.f.) Wild & R.B.Drumm.	NE	Indigenous
Fabaceae	*Rhynchosia caribaea*	(Jacq.) DC.	LC	Indigenous
Fabaceae	*Rhynchosia minima*	(L.) DC.	NE	Indigenous
Fabaceae	*Rhynchosia nervosa*	Benth. ex Harv.	LC	Indigenous
Fabaceae	*Rhynchosia nitens*	Benth. ex Harv.	LC	Indigenous
Fabaceae	*Rhynchosia totta*	(Thunb.) DC.		Indigenous
Fabaceae	*Rhynchosia totta*	(Thunb.) DC.	LC	Indigenous
Ricciaceae	*Riccia albolimbata*	S.W.Arnell		Indigenous
Ricciaceae	*Riccia atropurpurea*	Sim		Indigenous
Ricciaceae	*Riccia congoana*	Steph.		Indigenous
Ricciaceae	*Riccia okahandjana*	S.W.Arnell		Indigenous
Ricciaceae	*Riccia simii*	Perold		Indigenous
Rubiaceae	*Richardia brasiliensis*	Gomes	NE	Not indigenous; Naturalised
Euphorbiaceae	*Ricinus communis*	L.	NE	Not indigenous; Cultivated; Naturalised; Invasive
Apocynaceae	*Riocreuxia polyantha*	Schltr.	LC	Indigenous
Lamiaceae	*Rotheca hirsuta*	(Hochst.) R.Fern.	LC	Indigenous
Lamiaceae	*Rotheca louwalbertsii*	(P.P.J.Herman) P.P.J.Herman & Retief	LC	Indigenous
Rubiaceae	*Rubia horrida*	(Thunb.) Puff	LC	Indigenous
Rubiaceae	*Rubia petiolaris*	DC.	LC	Indigenous

Rosaceae	*Rubus rigidus*	Sm.	LC	Indigenous
Acanthaceae	*Ruellia cordata*	Thunb.	LC	Indigenous
Acanthaceae	*Ruellia patula*	Jacq.	LC	Indigenous
Celastraceae	*Salacia rehmannii*	Schinz	LC	Indigenous; Endemic
Salicaceae	*Salix babylonica*	L.		Not indigenous; Naturalised
Salicaceae	*Salix mucronata*	Thunb.	LC	Indigenous
Lamiaceae	*Salvia reflexa*	Hornem.		Not indigenous; Naturalised; Invasive
Lamiaceae	*Salvia repens*	Burch. ex Benth.	LC	Indigenous
Lamiaceae	*Salvia runcinata*	L.f.	LC	Indigenous
Lamiaceae	*Satureja biflora*	(Buch.-Ham. ex D.Don) Briq.	LC	Indigenous
Dipsacaceae	*Scabiosa columbaria*	L.	LC	Indigenous
Amaryllidaceae	*Scadoxus puniceus*	(L.) Friis & Nordal	LC	Indigenous
Asteraceae	*Schistostephium crataegifolium*	(DC.) Fenzl ex Harv.	LC	Indigenous
Poaceae	*Schizachyrium sanguineum*	(Retz.) Alston	LC	Indigenous
Hyacinthaceae	*Schizocarphus nervosus*	(Burch.) Van der Merwe	LC	Indigenous
Apocynaceae	*Schizoglossum nitidum*	Schltr.	LC	Indigenous
Asteraceae	*Schkuhria pinnata*	(Lam.) Kuntze ex Thell.		Not indigenous; Naturalised
Cyperaceae	*Schoenoplectus brachyceras*	(Hochst. ex A.Rich.) Lye	LC	Indigenous
Cyperaceae	*Schoenoplectus muricinux*	(C.B.Clarke) J.Raynal	LC	Indigenous
Cyperaceae	*Scleria bulbifera*	Hochst. ex A.Rich.	LC	Indigenous
Cyperaceae	*Scleria dregeana*	Kunth	LC	Indigenous
Salicaceae	*Scolopia zeyheri*	(Nees) Harv.	LC	Indigenous
Lamiaceae	*Scutellaria racemosa*	Pers.		Not indigenous; Naturalised
Anacardiaceae	*Searsia dentata*	(Thunb.) F.A.Barkley	LC	Indigenous
Anacardiaceae	*Searsia discolor*	(E.Mey. ex Sond.) Moffett	LC	Indigenous
Anacardiaceae	*Searsia lancea*	(L.f.) F.A.Barkley	LC	Indigenous
Anacardiaceae	*Searsia leptodictya*	(Diels) T.S.Yi, A.J.Mill. & J.Wen	NE	Indigenous
Anacardiaceae	*Searsia magalismontana*	(Sond.) Moffett	LC	Indigenous
Anacardiaceae	*Searsia pallens*	(Eckl. & Zeyh.) Moffett	LC	Indigenous
Anacardiaceae	*Searsia pyroides*	(Burch.) Moffett	LC	Indigenous
Anacardiaceae	*Searsia pyroides*	(Burch.) Moffett	LC	Indigenous
Anacardiaceae	*Searsia rigida*	(Mill.) F.A.Barkley	LC	Indigenous; Endemic

Anacardiaceae	*Searsia rigida*	(Mill.) F.A.Barkley	LC	Indigenous; Endemic
Anacardiaceae	*Searsia rigida*	(Mill.) F.A.Barkley	LC	Indigenous; Endemic
Anacardiaceae	*Searsia undulata*	(Jacq.) T.S.Yi, A.J.Mill. & J.Wen	LC	Indigenous
Anacardiaceae	*Searsia zeyheri*	(Sond.) Moffett	LC	Indigenous; Endemic
Gentianaceae	*Sebaea sedoides*	Gilg	LC	Indigenous
Apocynaceae	*Secamone alpini*	Schult.	LC	Indigenous
Selaginellaceae	*Selaginella caffrorum*	(Milde) Hieron.	LC	Indigenous
Selaginellaceae	*Selaginella mittenii*	Baker	LC	Indigenous
Scrophulariaceae	*Selago densiflora*	Rolfe	LC	Indigenous
Scrophulariaceae	*Selago sp.*			
Asteraceae	*Senecio affinis*	DC.	LC	Indigenous
Asteraceae	*Senecio albanensis*	DC.	LC	Indigenous
Asteraceae	*Senecio barbertonicus*	Klatt	LC	Indigenous
Asteraceae	*Senecio coronatus*	(Thunb.) Harv.	LC	Indigenous
Asteraceae	*Senecio erubescens*	Aiton	NE	Indigenous; Endemic
Asteraceae	*Senecio hieracioides*	DC.	LC	Indigenous
Asteraceae	*Senecio lydenburgensis*	Hutch. & Burtt Davy	LC	Indigenous
Asteraceae	*Senecio oxyriifolius*	DC.	LC	Indigenous
Asteraceae	*Senecio pentactinus*	Klatt	LC	Indigenous
Asteraceae	*Senecio sp.*			
Asteraceae	*Senecio striatifolius*	DC.	LC	Indigenous
Asteraceae	*Senecio venosus*	Harv.	LC	Indigenous
Fabaceae	*Senegalia ataxacantha*	(DC.) Kyal. & Boatwr.	LC	Indigenous
Fabaceae	*Senegalia caffra*	(Thunb.) P.J.H.Hurter & Mabb.	LC	Indigenous
Fabaceae	*Senna italica*	Mill.	LC	Indigenous
Asteraceae	*Seriphium plumosum*	L.		Indigenous
Pedaliaceae	*Sesamum triphyllum*	Welw. ex Asch.	LC	Indigenous
Fabaceae	*Sesbania punicea*	(Cav.) Benth.	NE	Not indigenous; Naturalised; Invasive
Poaceae	*Setaria incrassata*	(Hochst.) Hack.	LC	Indigenous
Poaceae	*Setaria lindenbergiana*	(Nees) Stapf	LC	Indigenous
Poaceae	*Setaria megaphylla*	(Steud.) T.Durand & Schinz	LC	Indigenous
Poaceae	*Setaria plicatilis*	(Hochst.) Hack. ex Engl.	LC	Indigenous
Poaceae	*Setaria pumila*	(Poir.) Roem. & Schult.	LC	Indigenous

Poaceae	*Setaria sphacelata*	(Schumach.) Stapf & C.E.Hubb. ex M.B.Moss	LC	Indigenous
Malvaceae	*Sida chrysantha*	Ulbr.	LC	Indigenous
Malvaceae	*Sida dregei*	Burtt Davy	LC	Indigenous
Malvaceae	*Sida rhombifolia*	L.	LC	Indigenous
Malvaceae	*Sida spinosa*	L.	LC	Indigenous
Malvaceae	*Sida ternata*	L.f.	LC	Indigenous
Brassicaceae	*Sisymbrium officinale*	(L.) Scop.		Not indigenous; Naturalised
Solanaceae	*Solanum campylacanthum*	Hochst. ex A.Rich.		Indigenous
Solanaceae	*Solanum chenopodioides*	Lam.		Not indigenous; Naturalised; Invasive
Solanaceae	*Solanum humile*	Lam.		Indigenous
Solanaceae	*Solanum lichtensteinii*	Willd.	LC	Indigenous
Solanaceae	*Solanum retroflexum*	Dunal	LC	Indigenous
Solanaceae	*Solanum sisymbriifolium*	Lam.		Not indigenous; Naturalised; Invasive
Asteraceae	*Sonchus dregeanus*	DC.	LC	Indigenous
Poaceae	*Sorghum versicolor*	Andersson	LC	Indigenous
Rubiaceae	*Spermacoce senensis*	(Klotzsch) Hiern	LC	Indigenous
Malpighiaceae	*Sphedamnocarpus pruriens*	(A.Juss.) Szyszyl.	LC	Indigenous
Malpighiaceae	*Sphedamnocarpus pruriens*	(A.Juss.) Szyszyl.	LC	Indigenous
Fabaceae	*Sphenostylis angustifolia*	Sond.	LC	Indigenous
Araceae	*Spirodela punctata*	(G.Mey.) C.H.Thomps.	LC	Indigenous
Poaceae	*Sporobolus discosporus*	Nees	LC	Indigenous
Poaceae	*Sporobolus fimbriatus*	(Trin.) Nees	LC	Indigenous
Poaceae	*Sporobolus nitens*	Stent	LC	Indigenous
Poaceae	*Sporobolus sp.*			
Poaceae	*Sporobolus stapfianus*	Gand.	LC	Indigenous
Lamiaceae	*Stachys natalensis*	Hochst.	LC	Indigenous
Lamiaceae	*Stachys natalensis*	Hochst.	LC	Indigenous
Apocynaceae	*Stapelia gigantea*	N.E.Br.	LC	Indigenous
Poaceae	*Stipa dregeana*	Steud.	LC	Indigenous
Poaceae	*Stipagrostis uniplumis*	(Licht.) De Winter	LC	Indigenous
Poaceae	*Stipagrostis zeyheri*	(Nees) De Winter	LC	Indigenous
Orobanchaceae	*Striga asiatica*	(L.) Kuntze	LC	Indigenous
Orobanchaceae	*Striga elegans*	Benth.	LC	Indigenous
Orobanchaceae	*Striga gesnerioides*	(Willd.) Vatke	LC	Indigenous
Loganiaceae	*Strychnos pungens*	Soler.	LC	Indigenous
Loganiaceae	*Strychnos usambarensis*	Gilg	LC	Indigenous
Fabaceae	*Stylosanthes fruticosa*	(Retz.) Alston	LC	Indigenous

Myrtaceae	*Syzygium sp.*			
Asteraceae	*Tagetes minuta*	L.		Not indigenous; Naturalised; Invasive
Loranthaceae	*Tapinanthus quequensis*	(Weim.) Polhill & Wiens	LC	Indigenous
Loranthaceae	*Tapinanthus rubromarginatus*	(Engl.) Danser	LC	Indigenous
Asteraceae	*Tarchonanthus camphoratus*	L.	LC	Indigenous
Asteraceae	*Tarchonanthus parvicapitulatus*	P.P.J.Herman	LC	Indigenous
Targioniaceae	*Targionia hypophylla*	L.		Indigenous
Fabaceae	*Tephrosia elongata*	E.Mey.	LC	Indigenous
Fabaceae	*Tephrosia multijuga*	R.G.N.Young	LC	Indigenous
Fabaceae	*Tephrosia rhodesica*	Baker f.	LC	Indigenous
Fabaceae	*Tephrosia rhodesica*	Baker f.	LC	Indigenous
Fabaceae	*Tephrosia semiglabra*	Sond.	LC	Indigenous
Fabaceae	*Teramnus labialis*	(L.f.) Spreng.	LC	Indigenous
Combretaceae	*Terminalia sericea*	Burch. ex DC.	LC	Indigenous
Lamiaceae	*Tetradenia brevispicata*	(N.E.Br.) Codd	LC	Indigenous
Lamiaceae	*Teucrium trifidum*	Retz.	LC	Indigenous
Thelypteridaceae	*Thelypteris confluens*	(Thunb.) C.V.Morton	LC	Indigenous
Poaceae	*Themeda triandra*	Forssk.	LC	Indigenous
Santalaceae	*Thesium costatum*	A.W.Hill	LC	Indigenous
Santalaceae	*Thesium sp.*			
Santalaceae	*Thesium transvaalense*	Schltr.	LC	Indigenous; Endemic
Santalaceae	*Thesium utile*	A.W.Hill	LC	Indigenous
Acanthaceae	*Thunbergia atriplicifolia*	E.Mey. ex Nees	LC	Indigenous
Timmiellaceae	*Timmiella pelindaba*	Magill		Indigenous
Asteraceae	*Tolpis capensis*	(L.) Sch.Bip.	LC	Indigenous
Pottiaceae	*Tortella humilis*	(Hedw.) Jenn.		Indigenous
Pottiaceae	*Tortella xanthocarpa*	(Schimp. ex Mull.Hal.) Broth.		Indigenous
Asphodelaceae	*Trachyandra asperata*	Kunth	LC	Indigenous
Asphodelaceae	*Trachyandra saltii*	(Baker) Oberm.	LC	Indigenous
Poaceae	*Trachypogon spicatus*	(L.f.) Kuntze	LC	Indigenous
Euphorbiaceae	*Tragia rupestris*	Sond.	LC	Indigenous
Poaceae	*Tragus berteronianus*	Schult.	LC	Indigenous
Zygophyllaceae	*Tribulus terrestris*	L.	LC	Indigenous
Poaceae	*Trichoneura grandiglumis*	(Nees) Ekman	LC	Indigenous
Pottiaceae	*Trichostomum brachydontium*	Bruch		Indigenous
Fabaceae	*Trifolium repens*	L.	NE	Not indigenous; Naturalised

Poaceae	*Tripogon minimus*	(A.Rich.) Steud.	LC	Indigenous
Poaceae	*Triraphis andropogonoides*	(Steud.) E.Phillips	LC	Indigenous
Poaceae	*Tristachya rehmannii*	Hack.	LC	Indigenous
Iridaceae	*Tritonia nelsonii*	Baker	LC	Indigenous
Malvaceae	*Triumfetta sonderi*	Ficalho & Hiern	LC	Indigenous; Endemic
Meliaceae	*Turraea obtusifolia*	Hochst.	LC	Indigenous
Typhaceae	*Typha capensis*	(Rohrb.) N.E.Br.	LC	Indigenous
Poaceae	*Urelytrum agropyroides*	(Hack.) Hack.	LC	Indigenous
Poaceae	*Urochloa panicoides*	P.Beauv.	LC	Indigenous
Fabaceae	*Vachellia hebeclada*	(DC.) Kyal. & Boatwr.	LC	Indigenous
Fabaceae	*Vachellia karroo*	(Hayne) Banfi & Galasso	LC	Indigenous
Fabaceae	*Vachellia tortilis*	(Forssk.) Galasso & Banfi	LC	Indigenous
Valerianaceae	*Valeriana capensis*	Thunb.	LC	Indigenous
Rubiaceae	*Vangueria infausta*	Burch.	LC	Indigenous
Rutaceae	*Vepris lanceolata*	(Lam.) G.Don	LC	Indigenous
Verbenaceae	*Verbena officinalis*	L.		Not indigenous; Naturalised
Plantaginaceae	*Veronica anagallis-aquatica*	L.	LC	Indigenous
Fabaceae	*Vigna unguiculata*	(L.) Walp.	LC	Indigenous
Fabaceae	*Vigna vexillata*	(L.) A.Rich.	LC	Indigenous
Santalaceae	*Viscum combreticola*	Engl.	LC	Indigenous
Santalaceae	*Viscum rotundifolium*	L.f.	LC	Indigenous
Santalaceae	*Viscum verrucosum*	Harv.	LC	Indigenous
Lamiaceae	*Vitex zeyheri*	Sond.	LC	Indigenous
Lamiaceae	*Volkameria glabra*	(E.Mey.) Mabb. & Y.W.Yuan	LC	Indigenous
Campanulaceae	*Wahlenbergia banksiana*	A.DC.	LC	Indigenous
Campanulaceae	*Wahlenbergia magaliesbergensis*	Lammers	LC	Indigenous; Endemic
Campanulaceae	*Wahlenbergia sp.*			
Campanulaceae	*Wahlenbergia undulata*	(L.f.) A.DC.	LC	Indigenous
Tecophilaeaceae	*Walleria nutans*	J.Kirk	LC	Indigenous
Tecophilaeaceae	*Walleria sp.*			
Pottiaceae	*Weissia sp.*			
Solanaceae	*Withania somnifera*	(L.) Dunal	LC	Indigenous
Convolvulaceae	*Xenostegia tridentata*	(L.) D.F.Austin & Staples	LC	Indigenous
Velloziaceae	*Xerophyta humilis*	(Baker) T.Durand & Schinz	LC	Indigenous
Velloziaceae	*Xerophyta retinervis*	Baker	LC	Indigenous

Velloziaceae	*Xerophyta viscosa*	Baker	LC	Indigenous
Olacaceae	*Ximenia caffra*	Sond.	LC	Indigenous
Scrophulariaceae	*Zaluzianskya elongata*	Hilliard & B.L.Burtt	LC	Indigenous
Rutaceae	*Zanthoxylum capense*	(Thunb.) Harv.	LC	Indigenous
Cucurbitaceae	*Zehneria marlothii*	(Cogn.) R.Fern. & A.Fern.		Indigenous
Asteraceae	*Zinnia peruviana*	(L.) L.		Not indigenous; Naturalised; Invasive
Asteraceae	*Zinnia sp.*			
Rhamnaceae	*Ziziphus mucronata*	Willd.	LC	Indigenous
Rhamnaceae	*Ziziphus zeyheriana*	Sond.	LC	Indigenous
Fabaceae	*Zornia linearis*	E.Mey.	LC	Indigenous
Fabaceae	*Zornia milneana*	Mohlenbr.	LC	Indigenous

13.3 APPENDIX C: EXPECTED AVIFAUNA LIST

A list of avifauna species to potentially occur on the study area based on SABAP2 records. SCC has been highlighted in red and species observed during the site visit are highlighted in green.

	Common group	Common species	Genus	Species	Conservation Status SANBI,) (2016
1	Apalis	Bar-throated	Apalis	thoracica	LC
2	Avocet	Pied	Recurvirostra	avosetta	LC
3	Babbler	Arrow-marked	Turdoides	jardineii	LC
4	Barbet	Acacia Pied	Tricholaema	leucomelas	LC
5	Barbet	Black-collared	Lybius	torquatus	LC
6	Barbet	Crested	Trachyphonus	vaillantii	LC
7	Batis	Chinspot	Batis	molitor	LC
8	Bee-eater	European	Merops	apiaster	LC
9	Bee-eater	Little	Merops	pusillus	LC
10	Bee-eater	White-fronted	Merops	bullockoides	LC
11	Bishop	Southern Red	Euplectes	orix	LC
12	Bishop	Yellow	Euplectes	capensis	LC
13	Bishop	Yellow-crowned	Euplectes	afer	LC
14	Bittern	Dwarf	Ixobrychus	sturmii	LC
15	Bittern	Little	Ixobrychus	minutus	LC
16	Bokmakierie	Bokmakierie	Telophorus	zeylonus	LC
17	Boubou	Southern	Laniarius	ferrugineus	LC

18	Brubru	Brubru	Nilaus	afer	LC
19	Bulbul	African Red-eyed	Pycnonotus	nigricans	LC
20	Bulbul	Dark-capped	Pycnonotus	tricolor	LC
21	Bunting	Cinnamon-breasted	Emberiza	tahapisi	LC
22	Bunting	Golden-breasted	Emberiza	flaviventris	LC
23	Bunting	Lark-like	Emberiza	impetuani	LC
24	Bush-shrike	Orange-breasted	Telophorus	sulfureopectus	LC
25	Buttonquail	Kurrichane	Turnix	sylvaticus	LC
26	Buzzard	Jackal	Buteo	rufofuscus	LC
27	Buzzard	Lizard	Kaupifalco	monogrammicus	LC
28	Buzzard	Steppe	Buteo	vulpinus	LC
29	Camaroptera	Grey-backed	Camaroptera	brevicaudata	LC
30	Canary	Black-throated	Crithagra	atrogularis	LC
31	Canary	Cape	Serinus	canicollis	LC
32	Canary	Yellow	Crithagra	flaviventris	LC
33	Canary	Yellow-fronted	Crithagra	mozambicus	LC
34	Chat	Anteating	Myrmecocichla	formicivora	LC
35	Chat	Familiar	Cercomela	familiaris	LC
36	Cisticola	Cloud	Cisticola	textrix	LC
37	Cisticola	Desert	Cisticola	aridulus	LC
38	Cisticola	Lazy	Cisticola	aberrans	LC
39	Cisticola	Levaillant's	Cisticola	tinniens	LC
40	Cisticola	Rattling	Cisticola	chiniana	LC
41	Cisticola	Wing-snapping	Cisticola	ayresii	LC
42	Cisticola	Zitting	Cisticola	juncidis	LC
43	Cliff-swallow	South African	Hirundo	spilodera	LC
44	Coot	Red-knobbed	Fulica	cristata	LC
45	Cormorant	Reed	Phalacrocorax	africanus	LC
46	Cormorant	White-breasted	Phalacrocorax	carbo	LC
47	Coucal	Burchell's	Centropus	burchellii	LC
48	Courser	Temminck's	Cursorius	temminckii	LC
49	Crake	African	Crecopsis	egregia	LC
50	Crake	Black	Amaurornis	flavirostris	LC
51	Crake	Corn	Crex	crex	LC
52	Crombec	Long-billed	Sylvietta	rufescens	LC
53	Crow	Cape	Corvus	capensis	LC
54	Crow	Pied	Corvus	albus	LC
55	Cuckoo	African	Cuculus	gularis	LC
56	Cuckoo	Black	Cuculus	clamosus	LC
57	Cuckoo	Common	Cuculus	canorus	LC
58	Cuckoo	Diderick	Chrysococcyx	caprius	LC
59	Cuckoo	Great Spotted	Clamator	glandarius	LC
60	Cuckoo	Jacobin	Clamator	jacobinus	LC

61	Cuckoo	Klaas's	Chrysococcyx	klaas	LC
62	Cuckoo	Levaillant's	Clamator	levaillantii	LC
63	Cuckoo	Red-chested	Cuculus	solitarius	LC
64	Cuckoo-shrike	Black	Campephaga	flava	LC
65	Darter	African	Anhinga	rufa	LC
66	Dove	Laughing	Streptopelia	senegalensis	LC
67	Dove	Namaqua	Oena	capensis	LC
68	Dove	Red-eyed	Streptopelia	semitorquata	LC
69	Dove	Rock	Columba	livia	LC
70	Drongo	Fork-tailed	Dicrurus	adsimilis	LC
71	Duck	African Black	Anas	sparsa	LC
72	Duck	Fulvous	Dendrocygna	bicolor	LC
73	Duck	Knob-billed	Sarkidiornis	melanotos	LC
74	Duck	Maccoa	Oxyura	maccoa	NT
75	Duck	Mallard	Anas	platyrhynchos	LC
76	Duck	Mandarin	Aix	galericulata	LC
77	Duck	White-backed	Thalassornis	leuconotus	LC
78	Duck	White-faced	Dendrocygna	viduata	LC
79	Duck	Wood	Aix	sponsa	LC
80	Duck	Yellow-billed	Anas	undulata	LC
81	Eagle	Booted	Aquila	pennatus	LC
82	Eagle	Long-crested	Lophaetus	occipitalis	LC
83	Eagle	Martial	Polemaetus	bellicosus	EN
84	Eagle	Verreaux's	Aquila	verreauxii	LC
85	Eagle-owl	Spotted	Bubo	africanus	LC
86	Egret	Cattle	Bubulcus	ibis	LC
87	Egret	Great	Egretta	alba	LC
88	Egret	Little	Egretta	garzetta	LC
89	Egret	Slaty	Egretta	vinaceigula	LC
90	Egret	Yellow-billed	Egretta	intermedia	LC
91	Eremomela	Burnt-necked	Eremomela	usticollis	LC
92	Falcon	Amur	Falco	amurensis	LC
93	Falcon	Lanner	Falco	biarmicus	VU
94	Falcon	Peregrine	Falco	peregrinus	LC
95	Falcon	Red-footed	Falco	vespertinus	NT
96	Finch	Cuckoo	Anomalospiza	imberbis	LC
97	Finch	Cut-throat	Amadina	fasciata	LC
98	Finch	Red-headed	Amadina	erythrocephala	LC
99	Finch	Scaly-feathered	Sporopipes	squamifrons	LC
100	Finfoot	African	Podica	senegalensis	VU
101	Firefinch	African	Lagonosticta	rubricata	LC
102	Firefinch	Jameson's	Lagonosticta	rhodopareia	LC
103	Firefinch	Red-billed	Lagonosticta	senegala	LC

104	Fiscal	Common (Southern)	Lanius	collaris	LC
105	Fish-eagle	African	Haliaeetus	vocifer	LC
106	Flamingo	Greater	Phoenicopterus	ruber	NT
107	Flufftail	Red-chested	Sarothrura	rufa	LC
108	Flycatcher	Fairy	Stenostira	scita	LC
109	Flycatcher	Fiscal	Sigelus	silens	LC
110	Flycatcher	Marico	Bradornis	mariquensis	LC
111	Flycatcher	Spotted	Muscicapa	striata	LC
112	Francolin	Coqui	Peliperdix	coqui	LC
113	Francolin	Crested	Dendroperdix	sephaena	LC
114	Francolin	Orange River	Scleroptila	levaillantoides	LC
115	Francolin	Red-winged	Scleroptila	levaillantii	LC
116	Go-away-bird	Grey	Corythaixoides	concolor	LC
117	Goose	Egyptian	Alopochen	aegyptiacus	LC
118	Goose	Spur-winged	Plectropterus	gambensis	LC
119	Goshawk	Gabar	Melierax	gabar	LC
120	Grass-owl	African	Tyto	capensis	VU
121	Grassbird	Cape	Sphenoeacus	afer	LC
122	Grebe	Black-necked	Podiceps	nigricollis	LC
123	Grebe	Great Crested	Podiceps	cristatus	LC
124	Grebe	Little	Tachybaptus	ruficollis	LC
125	Green-pigeon	African	Treron	calvus	LC
126	Greenshank	Common	Tringa	nebularia	LC
127	Guineafowl	Helmeted	Numida	meleagris	LC
128	Gull	Grey-headed	Larus	cirrocephalus	LC
129	Hamerkop	Hamerkop	Scopus	umbretta	LC
130	Harrier-Hawk	African	Polyboroides	typus	LC
131	Hawk	African Cuckoo	Aviceda	cuculoides	LC
132	Hawk-eagle	African	Aquila	spilogaster	LC
133	Helmet-shrike	White-crested	Prionops	plumatus	LC
134	Heron	Black	Egretta	ardesiaca	LC
135	Heron	Black-headed	Ardea	melanocephala	LC
136	Heron	Goliath	Ardea	goliath	LC
137	Heron	Green-backed	Butorides	striata	LC
138	Heron	Grey	Ardea	cinerea	LC
139	Heron	Purple	Ardea	purpurea	LC
140	Heron	Squacco	Ardeola	ralloides	LC
141	Hobby	Eurasian	Falco	subbuteo	LC
142	Honey-buzzard	European	Pernis	apivorus	LC
143	Honeybird	Brown-backed	Prodotiscus	regulus	LC
144	Honeyguide	Greater	Indicator	indicator	LC
145	Honeyguide	Lesser	Indicator	minor	LC

146	Hoopoe	African	Upupa	africana	LC
147	Hornbill	African Grey	Tockus	nasutus	LC
148	House-martin	Common	Delichon	urbicum	LC
149	Ibis	African Sacred	Threskiornis	aethiopicus	LC
150	Ibis	Glossy	Plegadis	falcinellus	LC
151	Ibis	Hadeda	Bostrychia	hagedash	LC
152	Ibis	Southern Bald	Geronticus	calvus	VU
153	Indigobird	Purple	Vidua	purpurascens	LC
154	Jacana	African	Actophilornis	africanus	LC
155	Kestrel	Greater	Falco	rupicoloides	LC
156	Kestrel	Lesser	Falco	naumanni	LC
157	Kestrel	Rock	Falco	rupicolus	LC
158	Kingfisher	Brown-hooded	Halcyon	albiventris	LC
159	Kingfisher	Giant	Megaceryle	maximus	LC
160	Kingfisher	Half-collared	Alcedo	semitorquata	NT
161	Kingfisher	Malachite	Alcedo	cristata	LC
162	Kingfisher	Pied	Ceryle	rudis	LC
163	Kingfisher	Woodland	Halcyon	senegalensis	LC
164	Kite	Black	Milvus	migrans	LC
165	Kite	Black-shouldered	Elanus	caeruleus	LC
166	Kite	Yellow-billed	Milvus	aegyptius	LC
167	Korhaan	Northern Black	Afrotis	afraoides	LC
168	Lapwing	African Wattled	Vanellus	senegallus	LC
169	Lapwing	Blacksmith	Vanellus	armatus	LC
170	Lapwing	Crowned	Vanellus	coronatus	LC
171	Lark	Eastern Clapper	Mirafra	fasciolata	LC
172	Lark	Melodious	Mirafra	cheniana	LC
173	Lark	Pink-billed	Spizocorys	conirostris	LC
174	Lark	Red-capped	Calandrella	cinerea	LC
175	Lark	Rufous-naped	Mirafra	africana	LC
176	Lark	Sabota	Calendulauda	sabota	LC
177	Longclaw	Cape	Macronyx	capensis	LC
178	Mannikin	Bronze	Spermestes	cucullatus	LC
179	Marsh-harrier	African	Circus	ranivorus	EN
180	Martin	Banded	Riparia	cincta	LC
181	Martin	Brown-throated	Riparia	paludicola	LC
182	Martin	Rock	Hirundo	fuligula	LC
183	Martin	Sand	Riparia	riparia	LC
184	Masked-weaver	Lesser	Ploceus	intermedius	LC
185	Masked-weaver	Southern	Ploceus	velatus	LC
186	Moorhen	Common	Gallinula	chloropus	LC
187	Mousebird	Red-faced	Urocolius	indicus	LC

188	Mousebird	Speckled	Colius	striatus	LC
189	Myna	Common	Acridotheres	tristis	LC
190	Neddicky	Neddicky	Cisticola	fulvicapilla	LC
191	Night-Heron	Black-crowned	Nycticorax	nycticorax	LC
192	Olive-pigeon	African	Columba	arquatrix	LC
193	Openbill	African	Anastomus	lamelligerus	LC
194	Oriole	Black-headed	Oriolus	larvatus	LC
195	Ostrich	Common	Struthio	camelus	LC
196	Owl	Barn	Tyto	alba	LC
197	Owl	Marsh	Asio	capensis	LC
198	Painted-snipe	Greater	Rostratula	benghalensis	NT
199	Palm-swift	African	Cypsiurus	parvus	LC
200	Paradise-flycatcher	African	Terpsiphone	viridis	LC
201	Parakeet	Rose-ringed	Psittacula	krameri	LC
202	Peacock	Common	Pavo	cristatus	LC
203	Pigeon	Speckled	Columba	guinea	LC
204	Pintail	Northern	Anas	acuta	LC
205	Pipit	African	Anthus	cinnamomeus	LC
206	Pipit	Buffy	Anthus	vaalensis	LC
207	Pipit	Nicholson's	Anthus	nicholsoni	LC
208	Pipit	Plain-backed	Anthus	leucophrys	LC
209	Plover	Three-banded	Charadrius	tricollaris	LC
210	Pochard	Red-crested	Netta	rufina	LC
211	Pochard	Southern	Netta	erythrophthalma	LC
212	Prinia	Black-chested	Prinia	flavicans	LC
213	Prinia	Tawny-flanked	Prinia	subflava	LC
214	Puffback	Black-backed	Dryoscopus	cubla	LC
215	Pytilia	Green-winged	Pytilia	melba	LC
216	Quail	Common	Coturnix	coturnix	LC
217	Quailfinch	African	Ortygospiza	atricollis	LC
218	Quelea	Red-billed	Quelea	quelea	LC
219	Rail	African	Rallus	caerulescens	LC
220	Reed-warbler	African	Acrocephalus	baeticatus	LC
221	Reed-warbler	Great	Acrocephalus	arundinaceus	LC
222	Robin-chat	Cape	Cossypha	caffra	LC
223	Roller	European	Coracias	garrulus	NT
224	Roller	Lilac-breasted	Coracias	caudatus	LC
225	Roller	Purple	Coracias	naevius	LC
226	Ruff	Ruff	Philomachus	pugnax	LC
227	Rush-warbler	Little	Bradypterus	baboecala	LC
228	Sandpiper	Common	Actitis	hypoleucos	LC
229	Sandpiper	Curlew	Calidris	ferruginea	LC

230	Sandpiper	Green	Tringa	ochropus	LC
231	Sandpiper	Marsh	Tringa	stagnatilis	LC
232	Sandpiper	Wood	Tringa	glareola	LC
233	Scimitarbill	Common	Rhinopomastus	cyanomelas	LC
234	Scops-owl	Southern White-faced	Ptilopsis	granti	LC
235	Scrub-robin	White-browed	Cercotrichas	leucophrys	LC
236	Secretarybird	Secretarybird	Sagittarius	serpentarius	VU
237	Seedeater	Streaky-headed	Crithagra	gularis	LC
238	Shelduck	Ruddy	Tadorna	ferruginea	LC
239	Shelduck	South African	Tadorna	cana	LC
240	Shoveler	Cape	Anas	smithii	LC
241	Shrike	Crimson-breasted	Laniarius	atrococcineus	LC
242	Shrike	Lesser Grey	Lanius	minor	LC
243	Shrike	Magpie	Urolestes	melanoleucus	LC
244	Shrike	Red-backed	Lanius	collurio	LC
245	Snake-eagle	Black-chested	Circaetus	pectoralis	LC
246	Snake-eagle	Brown	Circaetus	cinereus	LC
247	Snipe	African	Gallinago	nigripennis	LC
248	Sparrow	Cape	Passer	melanurus	LC
249	Sparrow	Great	Passer	motitensis	LC
250	Sparrow	House	Passer	domesticus	LC
251	Sparrow	Southern Grey-headed	Passer	diffusus	LC
252	Sparrow-weaver	White-browed	Plocepasser	mahali	LC
253	Sparrowhawk	Black	Accipiter	melanoleucus	LC
254	Sparrowhawk	Little	Accipiter	minullus	LC
255	Sparrowhawk	Ovambo	Accipiter	ovampensis	LC
256	Sparrowlark	Chestnut-backed	Eremopterix	leucotis	LC
257	Spoonbill	African	Platalea	alba	LC
258	Spurfowl	Natal	Pternistis	natalensis	LC
259	Spurfowl	Swainson's	Pternistis	swainsonii	LC
260	Starling	Cape Glossy	Lamprotornis	nitens	LC
261	Starling	Common	Sturnus	vulgaris	LC
262	Starling	Pied	Spreo	bicolor	LC
263	Starling	Red-winged	Onychognathus	morio	LC
264	Starling	Wattled	Creatophora	cinerea	LC
265	Stilt	Black-winged	Himantopus	himantopus	LC
266	Stint	Little	Calidris	minuta	LC
267	Stonechat	African	Saxicola	torquatus	LC
268	Stork	Abdim's	Ciconia	abdimii	NT
269	Stork	Black	Ciconia	nigra	VU
270	Stork	White	Ciconia	ciconia	LC

271	Stork	Yellow-billed	Mycteria	ibis	EN
272	Sunbird	Amethyst	Chalcomitra	amethystina	LC
273	Sunbird	Marico	Cinnyris	mariquensis	LC
274	Sunbird	White-bellied	Cinnyris	talatala	LC
275	Swallow	Barn	Hirundo	rustica	LC
276	Swallow	Greater Striped	Hirundo	cucullata	LC
277	Swallow	Lesser Striped	Hirundo	abyssinica	LC
278	Swallow	Pearl-breasted	Hirundo	dimidiata	LC
279	Swallow	Red-breasted	Hirundo	semirufa	LC
280	Swallow	White-throated	Hirundo	albigularis	LC
281	Swamp-warbler	Lesser	Acrocephalus	gracilirostris	LC
282	Swamphen	African Purple	Porphyrio	madagascariensis	LC
283	Swift	African Black	Apus	barbatus	LC
284	Swift	Alpine	Tachymarptis	melba	LC
285	Swift	Common	Apus	apus	LC
286	Swift	Horus	Apus	horus	LC
287	Swift	Little	Apus	affinis	LC
288	Swift	White-rumped	Apus	caffer	LC
289	Tchagra	Black-crowned	Tchagra	senegalus	LC
290	Tchagra	Brown-crowned	Tchagra	australis	LC
291	Teal	Cape	Anas	capensis	LC
292	Teal	Hottentot	Anas	hottentota	LC
293	Teal	Red-billed	Anas	erythrorhyncha	LC
294	Tern	Caspian	Sterna	caspia	VU
295	Tern	Whiskered	Chlidonias	hybrida	LC
296	Tern	White-winged	Chlidonias	leucopterus	LC
297	Thick-knee	Spotted	Burhinus	capensis	LC
298	Thick-knee	Water	Burhinus	vermiculatus	LC
299	Thrush	Groundscraper	Psophocichla	litsipsirupa	LC
300	Thrush	Karoo	Turdus	smithi	LC
301	Thrush	Kurrichane	Turdus	libonyanus	LC
302	Tinkerbird	Yellow-fronted	Pogoniulus	chrysoconus	LC
303	Tit-babbler	Chestnut-vented	Parisoma	subcaeruleum	LC
304	Turtle-dove	Cape	Streptopelia	capicola	LC
305	Vulture	Cape	Gyps	coprotheres	EN
306	Wagtail	Cape	Motacilla	capensis	LC
307	Wagtail	Yellow	Motacilla	flava	LC
308	Warbler	Dark-capped Yellow	Chloropeta	natalensis	LC
309	Warbler	Garden	Sylvia	borin	LC
310	Warbler	Icterine	Hippolais	icterina	LC
311	Warbler	Marsh	Acrocephalus	palustris	LC
312	Warbler	Sedge	Acrocephalus	schoenobaenus	LC

313	Warbler	Willow	Phylloscopus	trochilus	LC
314	Waxbill	Blue	Uraeginthus	angolensis	LC
315	Waxbill	Common	Estrilda	astrild	LC
316	Waxbill	Orange-breasted	Amandava	subflava	LC
317	Waxbill	Violet-eared	Granatina	granatina	LC
318	Weaver	Cape	Ploceus	capensis	LC
319	Weaver	Thick-billed	Amblyospiza	albifrons	LC
320	Weaver	Village	Ploceus	cucullatus	LC
321	Wheatear	Capped	Oenanthe	pileata	LC
322	Wheatear	Mountain	Oenanthe	monticola	LC
323	White-eye	Cape	Zosterops	virens	LC
324	Whitethroat	Common	Sylvia	communis	LC
325	Whydah	Pin-tailed	Vidua	macroura	LC
326	Whydah	Shaft-tailed	Vidua	regia	LC
327	Widowbird	Fan-tailed	Euplectes	axillaris	LC
328	Widowbird	Long-tailed	Euplectes	progne	LC
329	Widowbird	Red-collared	Euplectes	ardens	LC
330	Widowbird	White-winged	Euplectes	albonotatus	LC
331	Wood-hoopoe	Green	Phoeniculus	purpureus	LC
332	Woodpecker	Bearded	Dendropicos	namaquus	LC
333	Woodpecker	Cardinal	Dendropicos	fuscescens	LC
334	Woodpecker	Golden-tailed	Campethera	abingoni	LC
335	Wryneck	Red-throated	Jynx	ruficollis	LC

13.4 APPENDIX D: EXPECTED MAMMAL SPECIES LIST

Mammal species to potentially occur within the study area based on Virtual Museum Mammal Map records. Please note that the list of mammal species is only based on previous recordings and do not include any other non-recording mammal species that might occur on sight. Species of conservation concern is highlighted in red.

#	Scientific name	Common name	Red list Category (SANBI, 2016)
1	*Aepyceros melampus*	Impala	Least Concern
2	*Aethomys ineptus*	Tete Veld Rat	Least Concern
3	*Aethomys namaquensis*	Namaqua Rock rat	Least Concern
4	*Alcelaphus buselaphus*	Hartebeest	Least Concern
5	*Antidorcas marsupialis*	Sclater's Shrew	Least Concern
6	*Aonyx capensis*	African Clawless Otter	Near Threatened
7	*Atelerix frontalis*	Southern African Hedgehog	Near Threatened
8	*Atilax paludinosus*	Marsh Mongoose	Least Concern
9	*Canis mesomelas*	Black-backed Jackal	Least Concern
10	*Caracal caracal*	Caracal	Least Concern
11	*Chlorocebus pygerythrus*	Vervet Monkey	Least Concern
12	*Cloeotis percivali*	Percival's Short-eared Trident Bat	Endangered
13	*Connochaetes gnou*	Black Wildebeest	Least Concern
14	*Connochaetes taurinus*	Blue Wildebeest	Least Concern
15	*Cryptomys hottentotus*	Southern African Mole-rat	Least Concern
16	*Cynictis penicillata*	Yellow Mongoose	Least Concern
17	*Damaliscus pygargus phillipsi*	Blesbok	Least Concern
18	*Elephantulus myurus*	Eastern Rock Elephant Shrew	Least Concern
19	*Equus quagga*	Plains Zebra	Least Concern
20	*Felis catus*	Domestic Cat	Introduced
21	*Galago senegalensis*	Senegal Bushbaby	Least Concern
22	*Genetta genetta*	Common Genet	Least Concern
23	*Genetta tigrina*	Cape Genet (Cape Large-spotted Genet)	Least Concern
24	*Giraffa giraffa giraffa*	South African Giraffe	Least Concern
25	*Graphiurus (Graphiurus) murinus*	Forest African Dormouse	Least Concern
26	*Herpestes sanguineus*	Slender Mongoose	Least Concern
27	*Hippopotamus amphibius*	Common Hippopotamus	Least Concern
28	*Hippotragus niger*	Sable Antelope	Least Concern
29	*Hyaena brunnea*	Brown Hyena	Near Threatened
30	*Hystrix africaeaustralis*	Cape Porcupine	Least Concern
31	*Ko ellipsiprymnus*	Waterbuck	Least Concern
32	*Lemniscomys rosalia*	Single-Striped Lemniscomys	Least Concern
33	*Leptailuris serval*	Serval	Near Threatened
34	*Lepus saxatilis*	Scrub Hare	Least Concern
35	*Mastomys natalensis*	Natal Mastomys	Least Concern
36	*Miniopterus fraterculus*	Lesser Long-fingered Bat	Least Concern

37	*Miniopterus natalensis*	Natal Long-fingered Bat	Least Concern
38	*Miniopterus schreibersii*	Schreibers's Long-fingered Bat	Near Threatened
39	*Mops (Mops) condylurus*	Angolan Free-tailed Bat	Least Concern
40	*Mops (Mops) midas*	Midas' Free-tailed Bat	Least Concern
41	*Mus (Nannomys) minutoides*	Southern African Pygmy Mouse	Least Concern
42	*Myosorex varius*	Forest Shrew	Least Concern
43	*Myotis tricolor*	Temminck's Myotis	Least Concern
44	*Neoromicia capensis*	Cape Serotine	Least Concern
45	*Nycteris thebaica*	Egyptian Slit-faced Bat	Least Concern
46	*Oryx gazella*	Gemsbok	Least Concern
47	*Otocyon megalotis*	Bat-eared Fox	Least Concern
48	*Otomys angoniensis*	Angoni Vlei Rat	Least Concern
49	*Otomys auratus*	Southern African Vlei Rat	Near Threatened
50	*Panthera leo*	Lion	Least Concern
51	*Papio ursinus*	Baboon	Least Concern
52	*Phacochoerus africanus*	Common Warthog	Least Concern
53	*Poecilogale albinucha*	African Striped Weasel	Near Threatened
54	*Potamochoerus porcus*	Red River Hog	Least Concern
55	*Procavia capensis*	Cape Rock Hyrax	Least Concern
56	*Pronolagus randensis*	Jameson's Red Rock Hare	Least Concern
57	*Proteles cristata*	Aardwolf	Least Concern
58	*Raphicerus campestris*	Steenbok	Least Concern
59	*Rattus rattus*	Roof Rat	Least Concern
60	*Redunca fulvorufula*	Mountain Reedbuck	Endangered
61	*Rhabdomys pumilio*	Xeric Four-striped Grass Rat	Least Concern
62	*Rhinolophus blasii*	Blasius's Horseshoe Bat	Near Threatened
63	*Rhinolophus capensis*	Cape Horseshoe Bat	Least Concern
64	*Rhinolophus clivosus*	Geoffroy's Horseshoe Bat	Least Concern
65	*Rhinolophus darlingi*	Darling's Horseshoe Bat	Least Concern
66	*Rhinolophus hildebrandtii*	Hildebrandt's Horseshoe Bat	Near Threatened
67	*Rhinolophus simulator*	Bushveld Horseshoe Bat	Least Concern
68	*Sauromys petrophilus*	Roberts's Flat-headed Bat	Least Concern
69	*Scotophilus dinganii*	Yellow-bellied House Bat	Least Concern
70	*Sylvicapra grimmia*	Bush Duiker	Least Concern
71	*Syncerus caffer*	African Buffalo	Least Concern
72	*Tadarida aegyptiaca*	Egyptian Free-tailed Bat	Least Concern
73	*Taurotragus oryx*	Common Eland	Least Concern
74	*Taurotragus oryx oryx*	Cape eland	Least Concern
75	*Thallomys paedulcus*	Acacia Thallomys	Least Concern
76	*Tragelaphus angasii*	Nyala	Least Concern
77	*Tragelaphus scriptus*	Bushbuck	Least Concern
78	*Tragelaphus strepsiceros*	Greater Kudu	Least Concern
79	*Vulpes chama*	Cape Fox	Least Concern
80	*Xerus inauris*	South African Ground Squirrel	Least Concern

13.5 APPENDIX E: EXPECTED HERPETOFAUNA LIST

Herpetofauna species to potentially occur within the study area based on Virtual Museum ReptileMap and FrogMap records. Please note that the list of reptile and amphibian species is only based on previous recordings and do not include any other non-recording reptile and amphibian species that might occur on sight. Species of conservation concern is highlighted in red.

#	Family	Scientific name	Common name	Red list Category (SARCA, 2014)
1	Agamidae	*Agama atra*	Southern Rock Agama	Least Concern
2	Chamaeleonidae	*Chamaeleo dilepis*	Common Flap-neck Chameleon	Least Concern
3	Colubridae	*Crotaphopeltis hotamboeia*	Red-lipped Snake	Least Concern
4	Colubridae	*Dasypeltis scabra*	Rhombic Egg-eater	Least Concern
5	Colubridae	*Dispholidus typus*	Boomslang	Least Concern
6	Colubridae	*Philothamnus hoplogaster*	Green Water Snake	Least Concern
7	Colubridae	*Philothamnus occidentalis*	Western Natal Green Snake	Least Concern
8	Colubridae	*Philothamnus semivariegatus*	Spotted Bush Snake	Least Concern
9	Colubridae	*Telescopus semiannulatus semiannulatus*	Eastern Tiger Snake	Least Concern
10	Cordylidae	*Cordylus vittifer*	Common Girdled Lizard	Least Concern
11	Elapidae	*Elapsoidea sundevallii media*	Highveld Garter Snake	Least Concern
12	Elapidae	*Hemachatus haemachatus*	Rinkhals	Least Concern
13	Elapidae	*Naja annulifera*	Snouted Cobra	Least Concern
14	Elapidae	*Naja mossambica*	Mozambique Spitting Cobra	Least Concern
15	Gekkonidae	*Hemidactylus mabouia*	Common Tropical House Gecko	Least Concern
16	Gekkonidae	*Lygodactylus capensis*	Common Dwarf Gecko	Least Concern
17	Gekkonidae	*Pachydactylus affinis*	Transvaal Gecko	Least Concern
18	Gekkonidae	*Pachydactylus capensis*	Cape Gecko	Least Concern
19	Gerrhosauridae	*Gerrhosaurus flavigularis*	Yellow-throated Plated Lizard	Least Concern
20	Lacertidae	*Nucras ornata*	Ornate Sandveld Lizard	Least Concern
21	Lamprophiidae	*Aparallactus capensis*	Black-headed Centipede-eater	Least Concern
22	Lamprophiidae	*Atractaspis bibronii*	Bibron's Stiletto Snake	Least Concern
23	Lamprophiidae	*Boaedon capensis*	Brown House Snake	Least Concern
24	Lamprophiidae	*Duberria lutrix lutrix*	South African Slug-eater	Least Concern
25	Lamprophiidae	*Homoroselaps dorsalis*	Striped Harlequin Snake	Near Threatened
26	Lamprophiidae	*Lycophidion capense capense*	Cape Wolf Snake	Least Concern
27	Lamprophiidae	*Prosymna sundevallii*	Sundevall's Shovel-snout	Least Concern
28	Lamprophiidae	*Psammophis brevirostris*	Short-snouted Grass Snake	Least Concern
29	Lamprophiidae	*Psammophis crucifer*	Cross-marked Grass Snake	Least Concern
30	Lamprophiidae	*Psammophylax rhombeatus*	Spotted Skaapsteker	Least Concern
31	Lamprophiidae	*Psammophylax tritaeniatus*	Striped Skaapsteker	Least Concern

32	Lamprophiidae	*Pseudaspis cana*	Mole Snake	Least Concern
33	Leptotyphlopidae	*Leptotyphlops distanti*	Distant's Thread Snake	Least Concern
34	Leptotyphlopidae	*Leptotyphlops scutifrons scutifrons*	Peters' Worm Snake	Least Concern
35	Pelomedusidae	*Pelomedusa galeata*	South African Helmeted Terrapin	Least Concern
36	Pythonidae	*Python natalensis*	Southern African Python	Least Concern
37	Scincidae	*Mochlus sundevallii*	Sundevall's Writhing Skink	Least Concern
38	Scincidae	*Panaspis wahlbergi*	Wahlberg's Snake-eyed Skink	Least Concern
39	Scincidae	*Trachylepis capensis*	Cape Skink	Least Concern
40	Scincidae	*Trachylepis punctatissima*	Speckled Rock Skink	Least Concern
41	Scincidae	*Trachylepis varia sensu lato*	Common Variable Skink Complex	Least Concern
42	Testudinidae	*Kinixys lobatsiana*	Lobatse Hinged Tortoise	Least Concern
43	Testudinidae	*Kinixys spekii*	Speke's Hinged Tortoise	Least Concern
44	Testudinidae	*Stigmochelys pardalis*	Leopard Tortoise	Least Concern
45	Typhlopidae	*Afrotyphlops bibronii*	Bibron's Blind Snake	Least Concern
46	Typhlopidae	*Rhinotyphlops lalandei*	Delalande's Beaked Blind Snake	Least Concern
47	Varanidae	*Varanus albigularis albigularis*	Rock Monitor	Least Concern
48	Varanidae	*Varanus niloticus*	Water Monitor	Least Concern
49	Viperidae	*Bitis arietans arietans*	Puff Adder	Least Concern
50	Viperidae	*Causus rhombeatus*	Rhombic Night Adder	Least Concern

13.6 APPENDIX F: EXPECTED AMPHIBIAN LIST

#	Family	Scientific name	Common name	Red list Category (IUCN,2016)
1	Bufonidae	*Schismaderma carens*	Red Toad	Least Concern
2	Bufonidae	*Sclerophrys capensis*	Raucous Toad	Least Concern
3	Bufonidae	*Sclerophrys garmani*	Olive Toad	Least Concern
4	Bufonidae	*Sclerophrys gutturalis*	Guttural Toad	Least Concern
5	Hyperoliidae	*Hyperolius marmoratus*	Painted Reed Frog	Least Concern
6	Hyperoliidae	*Kassina senegalensis*	Bubbling Kassina	Least Concern
7	Microhylidae	*Phrynomantis bifasciatus*	Banded Rubber Frog	Least Concern
8	Pipidae	*Xenopus laevis*	Common Platanna	Least Concern
9	Pyxicephalidae	*Amietia delalandii*	Delalande's River Frog	Least Concern
10	Pyxicephalidae	*Amietia fuscigula*	Cape River Frog	Least Concern
11	Pyxicephalidae	*Cacosternum boettgeri*	Common Caco	Least Concern
12	Pyxicephalidae	*Pyxicephalus adspersus*	Giant Bull Frog	Least Concern
13	Pyxicephalidae	*Tomopterna cryptotis*	Tremelo Sand Frog	Least Concern
14	Pyxicephalidae	*Tomopterna natalensis*	Natal Sand Frog	Least Concern