



THE TERRESTRIAL BIODIVERSITY ASSESSMENT FOR THE PROPOSED COERNEY DAM PROJECT

Addo, Eastern Cape

February 2022

CLIENT



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Submitted to	 GA Environment
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Declaration	The Biodiversity Company and its associates operate as independent consultants under the auspice of the South African Council for Natural Scientific Professions. We declare that we have no affiliation with or vested financial interests in the proponent, other than for work performed under the Environmental Impact Assessment Regulations, 2017. We have no conflicting interests in the undertaking of this activity and have no interests in secondary developments resulting from the authorisation of this project. We have no vested interest in the project, other than to provide a professional service within the constraints of the project (timing, time and budget) based on the principals of science.

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1 Introduction

The Biodiversity Company was commissioned to conduct a terrestrial baseline and impact assessment for the Coerney dam project (Figure 1-1). The project is located between Kirkwood and Addo in the Sundays River Valley, about 75 km north of Port Elizabeth (Figure 1-2). The following project background is as per information provided by GA Environment as part of the Terms of Reference:

The existing Scheepersvlakte Dam was added to the Nelson Mandela Bay Municipality (NMBM) water supply when water requirements were exceeded. The capacity of this dam is however very low and additional water storage is required to limit the risk of failure to supply to NMBM. After geotechnical investigations the Coerney Dam location was recommended.

The infrastructure for the proposed project includes:

- *A new balancing dam with a capacity of 4.6 million m³ on the farm Scheepersvlakte. The capacity includes an allowance of 100 000m³ for the requirements of a new citrus development on the farm.*
- *The dam will comprise an earth fill embankment. A concrete side channel spillway and an outlet works.*
- *Connecting pipelines of 1300mm diameter and length of 940m and 2460m are required to supply water to the dam and connect to the existing pipeline supplying Nooitgedaght water treatment works.*
- *An access road with a length of about 1 km, following the route of an existing jeep track.*
- *An electricity supply will be required for lightning, etc. in the outlet works and around the dam wall”.*

The approach was informed by the Environmental Impact Assessment Regulations. 2014 (GNR 326, 7 April 2017) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). The approach has taken cognisance of the recently published Government Notices 320 (20 March 2020) in terms of NEMA, dated 20 March and 30 October 2020: “*Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation*” (Reporting Criteria). The National Web based Environmental Screening Tool has characterised the terrestrial sensitivity of the project area as “Very High”.

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

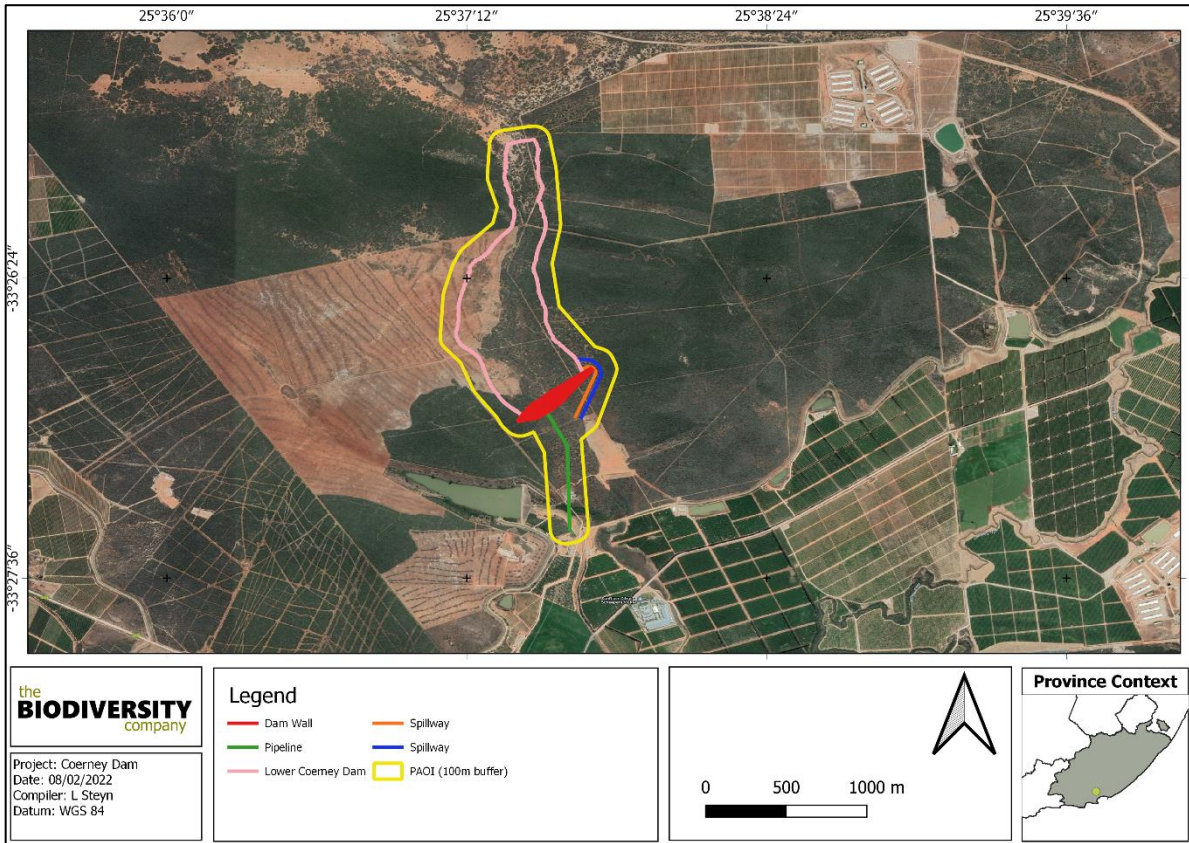


Figure 1-1 Proposed project area.

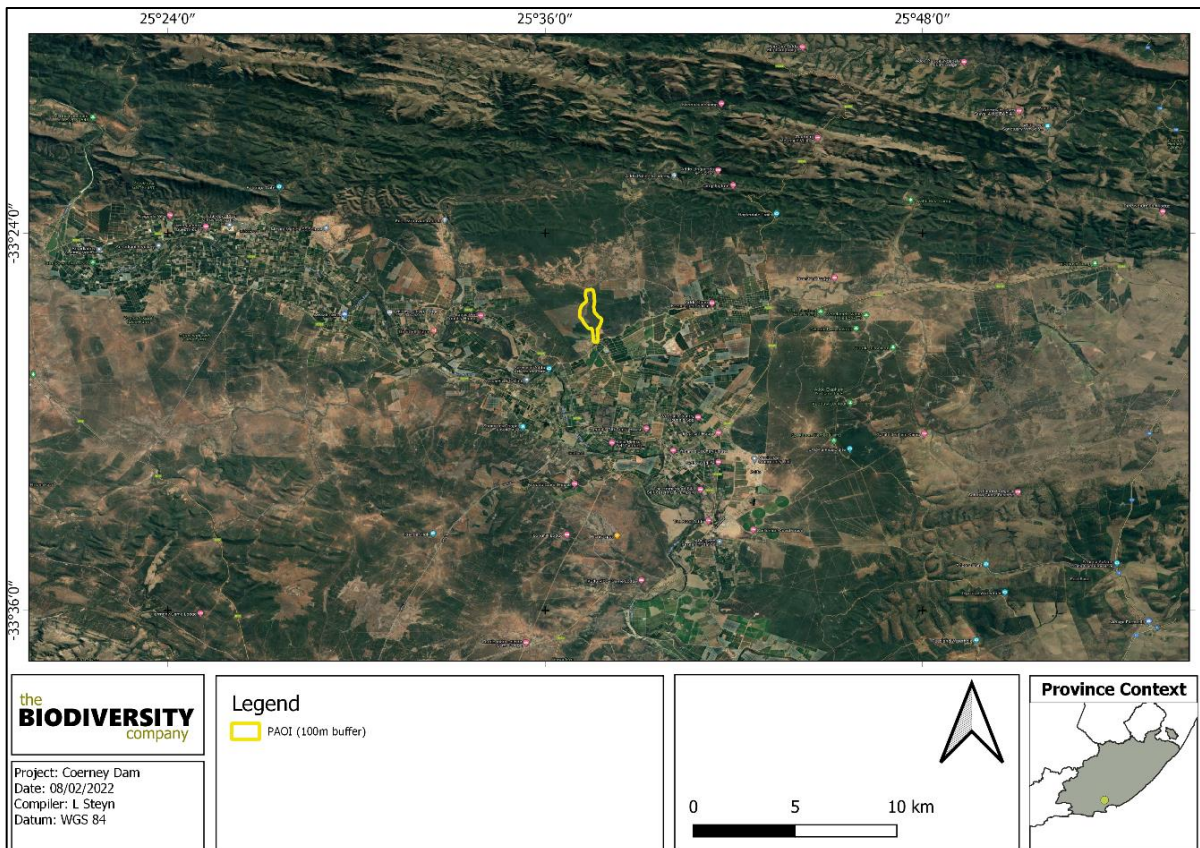


Figure 1-2 Location of the project area.

2 Terms of Reference

The Terms of Reference (ToR) included the following:

- Description of the baseline receiving environment specific to the field of expertise (general surrounding area as well as site specific environment);
- Identification and description of any sensitive receptors in terms of relevant specialist disciplines (biodiversity and wetland) that occur in the project area, and the manner in which these sensitive receptors may be affected by the activity;
- Identify 'significant' ecological, botanical and faunal features within the proposed project areas;
- Identification of conservation significant habitats around the project area which might be impacted;
- Screening to identify any critical issues (potential fatal flaws) that may result in project delays or rejection of the application;
- Provide a map to identify sensitive receptors in the project area, based on available maps and database information;
- Conduct risk assessments relevant to the proposed activity; and
- Impact assessment, mitigation and rehabilitation measures to prevent or reduce the possible impacts.

3 Key Legislative Requirements

The legislation, policies and guidelines listed below are applicable to the current project in terms of biodiversity and ecological support systems. The list below, although extensive, is not exhaustive and other legislation, policies and guidelines may apply in addition to those listed below (Table 3-1).

Table 3-1 A list of key legislative requirements relevant to these studies in the Eastern Cape

Region	Legislation
International	Convention on Biological Diversity (CBD, 1993)
	The Convention on Wetlands (RAMSAR Convention, 1971)
	The United Nations Framework Convention on Climate Change (UNFCCC, 1994)
	The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES 1973)
	The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention, 1979)
National	Constitution of the Republic of South Africa (Act No. 108 of 2006)
	The National Environmental Management Act (NEMA) (Act No. 107 of 1998)
	The National Environmental Management Act (NEMA) (Act No. 107 of 1998) Section 24 , No 42946 (January 2020)
	The National Environmental Management Act (NEMA) (Act No. 107 of 1998) Section 24 , No 43110 (March 2020)
	The National Environmental Management Protected Areas Act (Act No. 57 of 2003)
	The National Environmental Management Biodiversity Act (Act No. 10 of 2004)

	The National Environmental Management: Waste Act, 2008 (Act 59 of 2008);
	The Environment Conservation Act (Act No. 73 of 1989) and associated EIA Regulations
	National Environmental Management Air Quality Act (No. 39 of 2004)
	National Protected Areas Expansion Strategy (NPAES)
	Environmental Conservation Act (Act No. 73 of 1983)
	Natural Scientific Professions Act (Act No. 27 of 2003)
	National Biodiversity Framework (NBF, 2009)
	National Forest Act (Act No. 84 of 1998)
	National Veld and Forest Fire Act (101 of 1998)
	National Spatial Biodiversity Assessment (NSBA)
	World Heritage Convention Act (Act No. 49 of 1999)
	National Heritage Resources Act, 1999 (Act 25 of 1999)
	Municipal Systems Act (Act No. 32 of 2000)
	Alien and Invasive Species Regulations, 2014
	South Africa's National Biodiversity Strategy and Action Plan (NBSAP)
	Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983)
	Sustainable Utilisation of Agricultural Resources (Draft Legislation).
	White Paper on Biodiversity
	National Water Act (NWA, 1998)
Provincial	Eastern Cape Environmental Management Bill, in terms of Rule 147 (2019)
	Transkei Environmental Conservation Decree 9 of 1992
	Eastern Cape Biodiversity Conservation Plan (2018)
	Nelson Mandela Bay Bioregional Plan (2015)

4 Limitations

The following limitations should be noted for the assessment:

- The assessment area was based on the area provided by the client and any alterations to the route and/or missing GIS information pertaining to the assessment area would have affected the area surveyed;
- The area was only surveyed during a single site visit and therefore, this assessment does not consider temporal trends;
- Only a single season survey will be conducted for the respective studies, this would constitute a late wet season survey with its limitations;
- Whilst every effort is made to cover as much of the site as possible, representative sampling is completed and by its nature, it is possible that some plant and animal species that are present on site were not recorded during the field investigations; and
- The GPS used in the assessment has an accuracy of 5 m and consequently any spatial features may be offset by 5 m.

5 Methodologies

5.1 Desktop Assessment

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

5.1.1 Ecologically Important Landscape Features

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

- National Biodiversity Assessment 2018 (Skowno *et al*, 2019) (NBA) - The purpose of the NBA is to assess the state of South Africa's biodiversity based on best available science, with a view to understanding trends over time and informing policy and decision-making across a range of sectors. The NBA deals with all three components of biodiversity: genes, species, and ecosystems; and assesses biodiversity and ecosystems across terrestrial, freshwater, estuarine and marine environments. The two headline indicators assessed in the NBA are:
 - *Ecosystem Threat Status* – indicator of an ecosystem's wellbeing, based on the level of change in structure, function or composition. Ecosystem types are categorised as Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT) or Least Concern (LC), based on the proportion of the original extent of each ecosystem type that remains in good ecological condition.
 - *Ecosystem Protection Level* – indicator of the extent to which ecosystems are adequately protected or under-protected. Ecosystem types are categorised as Well Protected (WP), Moderately Protected (MP), Poorly Protected (PP), or Not Protected (NP), based on the proportion of the biodiversity target for each ecosystem type that is included within one or more protected areas. NP, PP or MP ecosystem types are collectively referred to as under-protected ecosystems.
- Protected areas - South Africa Protected Areas Database (SAPAD) (DEA, 2021) – The SAPAD Database contains spatial data pertinent to the conservation of South African biodiversity. It includes spatial and attribute information for both formally protected areas and areas that have less formal protection. SAPAD is updated on a continuous basis and forms the basis for the Register of Protected Areas, which is a legislative requirement under the National Environmental Management: Protected Areas Act, Act 57 of 2003.
- National Protected Areas Expansion Strategy (NPAES) (SANBI, 2016) – The NPAES provides spatial information on areas that are suitable for terrestrial ecosystem protection. These focus areas are large, intact and unfragmented and therefore, of high importance for biodiversity, climate resilience and freshwater protection.

- Biodiversity Conservation Plan (2018):

The key output of a systematic biodiversity plan is a map of biodiversity priority areas. The CBA map delineates Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs), Other Natural Areas (ONAs), Protected Areas (PAs), and areas that have been irreversibly

modified from their natural state (ECBCP, 2018). The ECBCP uses the following terms to categorise the various land used types according to their biodiversity and environmental importance:

- Critical Biodiversity Area – 1;
- Critical Biodiversity Area –2;
- Critical Biodiversity Area –3;
- Other Natural Area (ONA);
- Protected Area (PA).

The Eastern Cape Biodiversity Conservation Plan specifies two different CBA areas, Irreplaceable CBA's and Optimal CBA's. Irreplaceable CBA's include: (1) areas required to meet targets and with irreplaceability biodiversity values of more than 80%; (2) critical linkages or pinch-points in the landscape that must remain natural; or (3) critically Endangered ecosystems.

Ecological Support Areas (ESAs) are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of Critical Biodiversity Areas and/or in delivering ecosystem services. Critical Biodiversity Areas and Ecological Support Areas may be terrestrial or aquatic (SANBI-BGIS, 2017).

Other Natural Areas (ONAs) consist of all those areas in good or fair ecological condition that fall outside the protected area network and have not been identified as CBAs or ESAs. A biodiversity sector plan or bioregional plan must not specify the desired state/management objectives for ONAs or provide land-use guidelines for ONAs (SANBI-BGIS, 2017).

- Important Bird and Biodiversity Areas (IBAs) (BirdLife South Africa, 2015) – IBAs 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 through multi-stakeholder processes using globally standardised, quantitative and scientifically agreed criteria; and
- South African Inventory of Inland Aquatic Ecosystems (SAIIAE) (Van Deventer et al., 2018) – A SAIIAE was established during the NBA of 2018. It is a collection of data layers that represent the extent of river and inland wetland ecosystem types and pressures on these systems.

5.1.2 Desktop Flora Assessment

The Vegetation of South Africa, Lesotho and Swaziland (Mucina & Rutherford, 2006) and SANBI (2019) was used to identify the vegetation type that would have occurred under natural or pre-anthropogenically altered conditions. Furthermore, the Plants of Southern Africa (POSA) database was accessed to compile a list of expected flora species within the project area (Figure 5-1). The Red List of South African Plants (Raimondo *et al.*, 2009; SANBI, 2020) was utilized to provide the most current national conservation status of flora species.

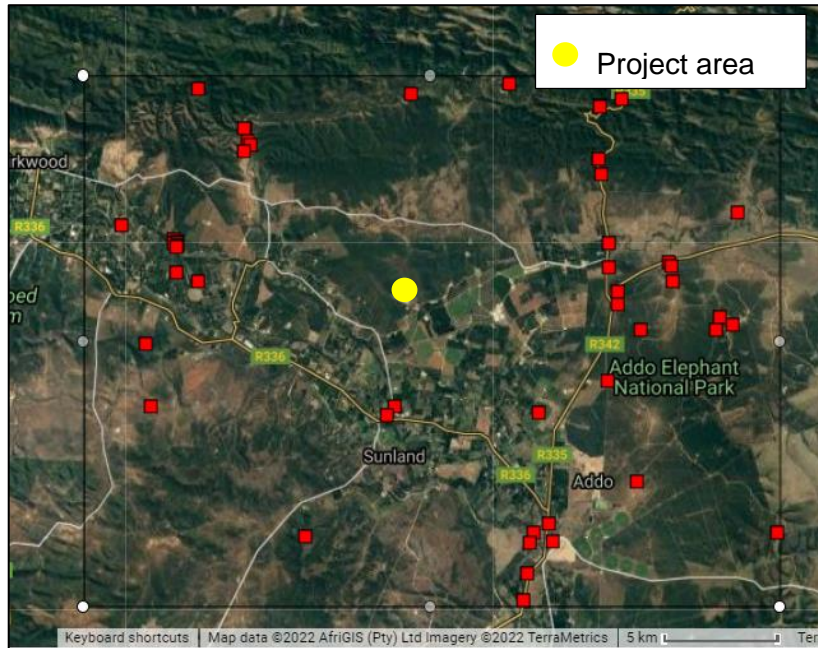


Figure 5-1 Map illustrating extent of area used to obtain the expected flora species list from the Plants of South Africa (POSA) database. Yellow dot indicates approximate location of the project area. The red squares are cluster markers of botanical records as per POSA data.

5.1.3 Desktop Faunal Assessment

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

- Amphibian list, generated from the IUCN spatial dataset (2017) and AmphibianMap database (Fitzpatrick Institute of African Ornithology, 2021a), using the 3325 quarter degree square;
- Reptile list, generated from the IUCN spatial dataset (2017) and ReptileMap database (Fitzpatrick Institute of African Ornithology, 2021b), using the 3325 quarter degree square;
- Avifauna list, generated from the SABAP2 dataset by looking at pentads 3325_2530; 3325_2535; 3325_2540); and
- Mammal list from the IUCN spatial dataset (2017).

5.1.4 Botanical Assessment

The botanical assessment encompassed an assessment of all the vegetation units and habitat types within the project area. The focus was on an ecological assessment of habitat types as well as identification of any Red Data species within the known distribution of the project area. The South African National Biodiversity Institute (SANBI) provides an electronic database system, namely the Botanical Database of Southern Africa (BODATSA), to access distribution records on southern African plants. This is a new database which replaces the old Plants of Southern Africa (POSA) database. The POSA database provided distribution data of flora at the quarter degree square (QDS) resolution. The Red List of South African Plants website (SANBI, 2017) was utilized to provide the most current account of the national status of flora. Relevant field guides and texts consulted for identification purposes in the field during the surveys included the following:

- Field Guide to the Wild Flowers of the Highveld (Van Wyk & Malan, 1997);

- A field guide to Wild flowers (Pooley, 1998);
- Guide to Grasses of Southern Africa (Van Oudtshoorn, 1999);
- Orchids of South Africa (Johnson & Bytebier, 2015);
- Guide to the Aloes of South Africa (Van Wyk & Smith, 2014);
- Mesembs of the World (Smith *et al.*, 1998);
- Medicinal Plants of South Africa (Van Wyk *et al.*, 2013);
- Freshwater Life: A field guide to the plants and animals of southern Africa (Griffiths & Day, 2016); and
- Identification guide to southern African grasses. An identification manual with keys, descriptions and distributions (Fish *et al.*, 2015).

Additional information regarding ecosystems, vegetation types, and Species of Conservation Concern (SCC) included the following sources:

- The Vegetation of South Africa, Lesotho and Swaziland (Mucina & Rutherford, 2012); and
- Red List of South African Plants (Raimondo *et al.*, 2009; SANBI, 2016).

The field work methodology included the following survey techniques:

- Timed meanders;
- Sensitivity analysis based on structural and species diversity; and
- Identification of floral red-data species.

5.1.5 Biodiversity Field Assessment

5.1.5.1 Floristic Analysis

The fieldwork and sample sites was placed within targeted areas (i.e., target sites) perceived as ecologically sensitive based on the preliminary interpretation of satellite imagery (Google Corporation) and GIS analysis (which included the latest applicable biodiversity datasets) available prior to the fieldwork. The focus of the fieldwork was therefore to maximise coverage and navigate to each target site in the field, to perform a rapid vegetation and ecological assessment at each sample site. Emphasis was placed on sensitive habitats, especially those overlapping with the proposed project area.

Homogenous vegetation units were subjectively identified using satellite imagery and existing land cover maps. The floristic diversity and search for flora SCC was conducted through timed meanders within representative habitat units delineated during the fieldwork. Emphasis was placed mostly on sensitive habitats overlapping with the proposed project areas.

The timed random meander method is highly efficient for conducting floristic analysis, specifically in detecting flora SCC and maximising floristic coverage. In addition, the method is time and cost effective and highly suited for compiling flora species lists and therefore gives a rapid indication of flora diversity. The timed meander search will be performed based on the original technique described by Goff *et al.* (1982). Suitable habitat for SCC were identified according to Raimondo *et al.* (2009) and targeted as part of the timed meanders.

At each sample site notes were made regarding current impacts (e.g., livestock grazing, erosion etc.), subjective recording of dominant vegetation species, and any sensitive features (e.g., wetlands, outcrops etc.). In addition, opportunistic observations will be made while navigating through the project area.

5.1.5.2 Faunal Assessment

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

- Visual and auditory searches - This typically comprises of meandering and using binoculars to view species from a distance without them being disturbed; and listening to species calls;
- Active hand-searches - Used for species that shelter in or under particular micro-habitats (typically rocks, exfoliating rock outcrops, fallen trees, leaf litter, bark etc.);
- Point counts for the avifauna; and
- Utilization of local knowledge.

Relevant field guides and texts that were consulted for identification purposes included the following:

- Field Guide to Snakes and other Reptiles of Southern Africa (Branch, 1998);
- A Complete Guide to the Snakes of Southern Africa (Marais, 2004);
- Atlas and Red List of the Reptiles of South Africa, Lesotho and Swaziland (Bates *et al.*, 2014);
- A Complete Guide to the Frogs of Southern Africa (du Preez and Carruthers, 2009);
- Smithers' Mammals of Southern Africa (Apps, 2000);
- A Field Guide to the Tracks and Signs of Southern and East African Wildlife (Stuart and Stuart, 2000);
- Book of birds of South Africa, Lesotho and Swaziland (Taylor *et al.*, 2015); and
- Roberts – Birds of Southern Africa (Hockey *et al.*, 2005).

5.2 Site Ecological Importance (SEI)

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

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

BI is a function of Conservation Importance (CI) and the Functional Integrity (FI) of the receptor as follows. The criteria for the CI and FI ratings are provided in Table 5-1 and Table 5-2, respectively.

Table 5-1 Summary of Conservation Importance (CI) criteria

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

Table 5-2 Summary of Functional Integrity (FI) criteria

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

BI can be derived from a simple matrix of CI and FI as provided in Table 5-3

Table 5-3 Matrix used to derive Biodiversity Importance (BI) from Functional Integrity (FI) and Conservation Importance (CI)

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

The fulfilling criteria to evaluate RR are based on the estimated recovery time required to restore an appreciable portion of functionality to the receptor as summarised in Table 5-4.

Table 5-4 Summary of Resource Resilience (RR) criteria

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

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

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

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

Interpretation of the SEI in the context of the proposed development activities is provided in Table 5-6.

Table 5-6 Guidelines for interpreting Site Ecological Importance (SEI) in the context of the proposed development activities

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

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

6 Results & Discussion

6.1 Desktop Assessment

6.1.1 Ecologically Important Landscape Features

The following features describes the general area and habitat, this assessment is based on spatial data that are provided by various sources such as the provincial environmental authority and SANBI. The desktop analysis and their relevance to this project are listed in Table 6-1.

Table 6-1 Summary of relevance of the proposed project to ecologically important landscape features.

Desktop Information Considered	Relevant/Irrelevant	Section
Ecosystem Threat Status	Relevant – Overlaps with an Endangered and a Least Concern ecosystem	6.1.1.1
Ecosystem Protection Level	Relevant – Overlaps with a Moderately Protected and Poorly Protected Ecosystem	6.1.1.2
Protected Areas	Relevant – The project area is within the 10km protected area buffer of the Addo Elephant National Park	6.1.1.4
National Protected Areas Expansion Strategy	Relevant – The project area is 1.9 km from a NPAES protected area	6.1.1.4
Critical Biodiversity Area	Relevant – The project area overlaps with an ESA1 classified areas	6.1.1.3
Important Bird and Biodiversity Areas	Irrelevant – Located 30km from the Woody Cape Section - Addo Elephant National Park IBA	-
South African Inventory of Inland Aquatic Ecosystems	Irrelevant - No NBA wetlands or rivers can be found in the project area	6.1.1.6
National Freshwater Priority Area	Irrelevant – No NFEPA wetlands or rivers can be found in the project area	6.1.1.7
Strategic Water Source Areas	Irrelevant- The project area is 31 km from the closest SWSA	-

6.1.1.1 Ecosystem Threat Status

The Ecosystem Threat Status is an indicator of an ecosystem’s wellbeing, based on the level of change in structure, function or composition. Ecosystem types are categorised as Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT) or Least Concern (LC), based on the proportion of the original extent of each ecosystem type that remains in good ecological condition. According to the spatial dataset the proposed project overlaps with an EN and LC ecosystem (Figure 6-1).

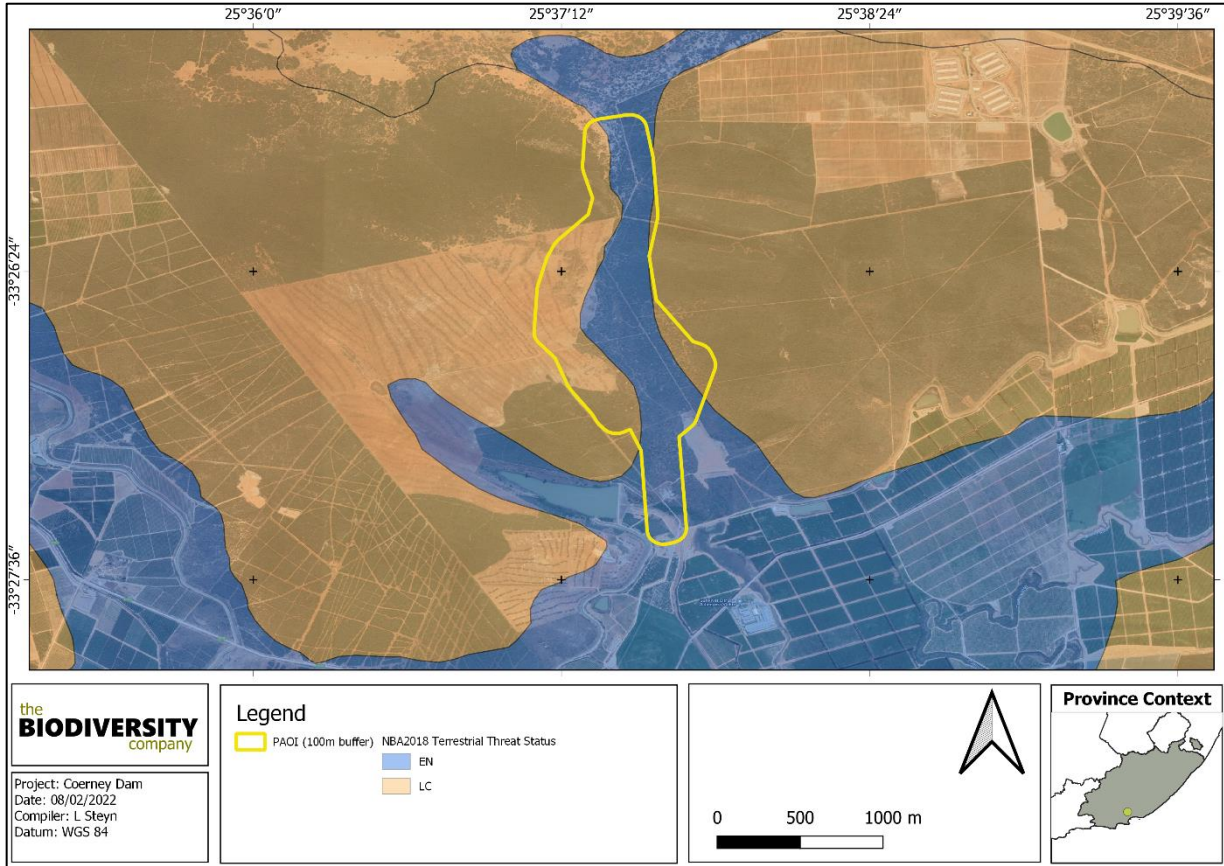


Figure 6-1 Map illustrating the ecosystem threat status associated with the project area.

6.1.1.2 Ecosystem Protection Level

This is an indicator of the extent to which ecosystems are adequately protected or under-protected. Ecosystem types are categorised as Well Protected (WP), Moderately Protected (MP), Poorly Protected (PP), or Not Protected (NP), based on the proportion of the biodiversity target for each ecosystem type that is included within one or more protected areas. NP, PP or MP ecosystem types are collectively referred to as under-protected ecosystems. The proposed project overlaps with a PP and a MP ecosystem (Figure 6-2).

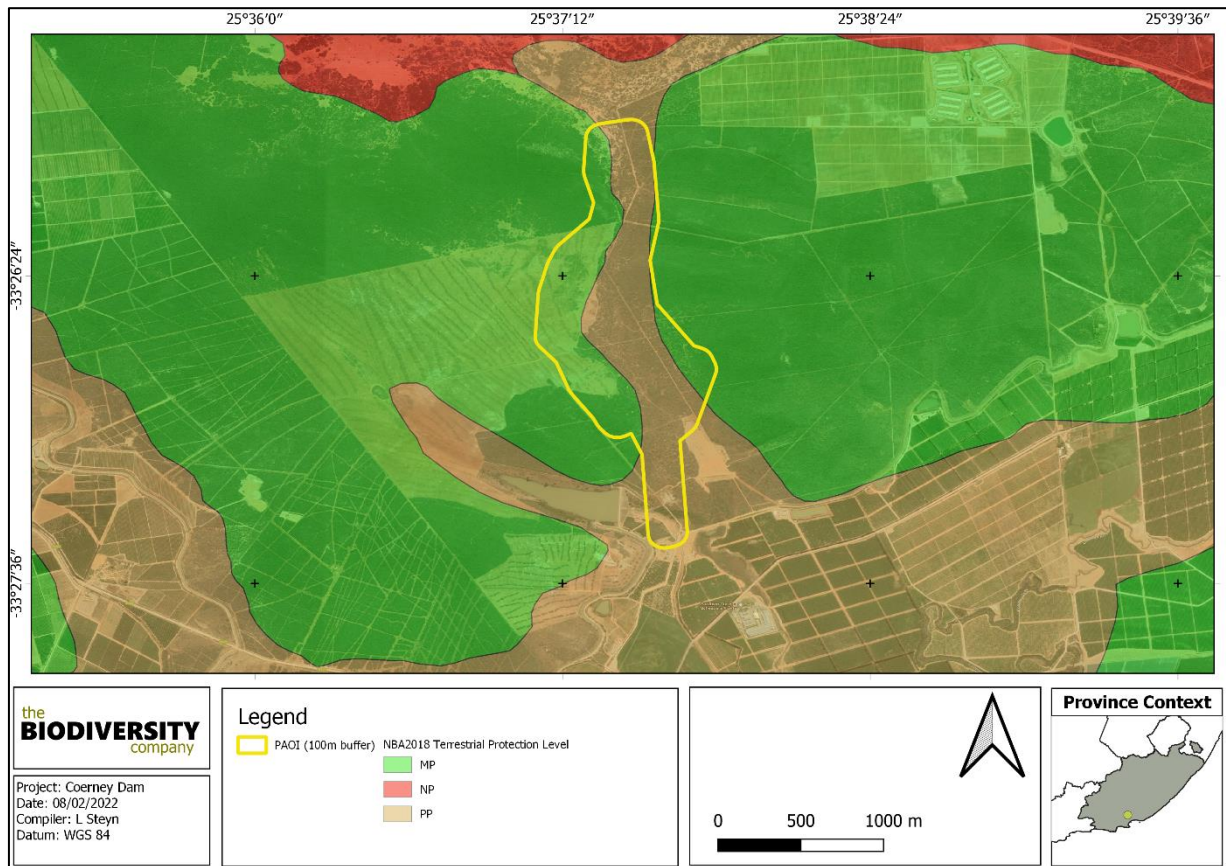


Figure 6-2 Map illustrating the ecosystem protection level associated with the project area

6.1.1.3 Critical Biodiversity Areas and Ecological Support Areas

The key output of a systematic biodiversity plan is a map of biodiversity priority areas. The CBA map delineates Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs), Other Natural Areas (ONAs), Protected Areas (PAs), and areas that have been irreversibly modified from their natural state (ECBCP, 2018). The conservation of CBAs is crucial, in that if these areas are not maintained in a natural or near-natural state, biodiversity conservation targets cannot be met. Maintaining an area in a natural state can include a variety of biodiversity compatible land uses and resource uses (SANBI-BGIS, 2017).

Figure 6-3 shows the project area superimposed on the Terrestrial CBA maps. The project area overlaps with an ESA1 classified area.

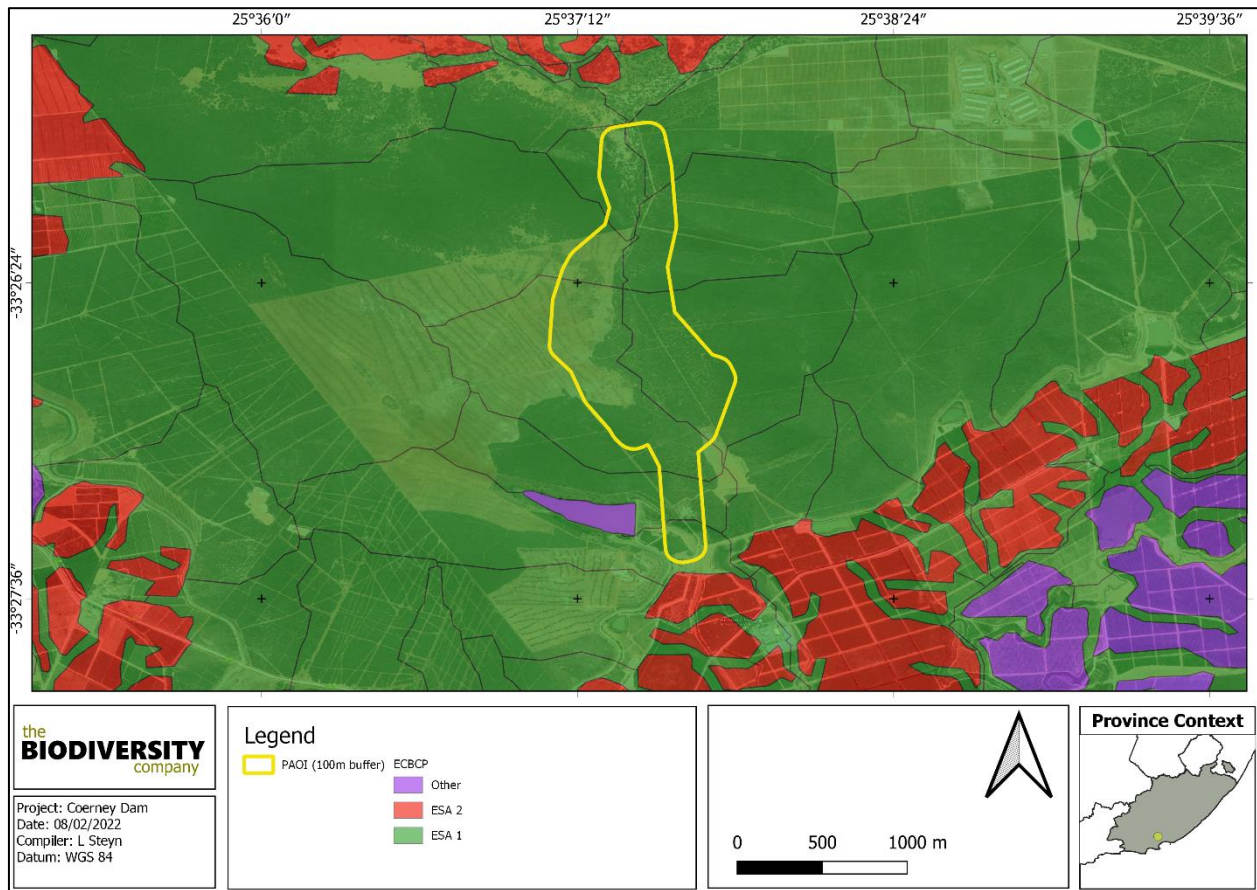


Figure 6-3 Map illustrating the locations of ESAs in the project area

6.1.1.4 Protected areas

According to the protected area spatial datasets from SAPAD (2021), the project area does not overlap with any protected area, it is however 8.2 km from the Addo Elephant National park, which means it is in the 10km buffer zone of the park (Figure 6-4).

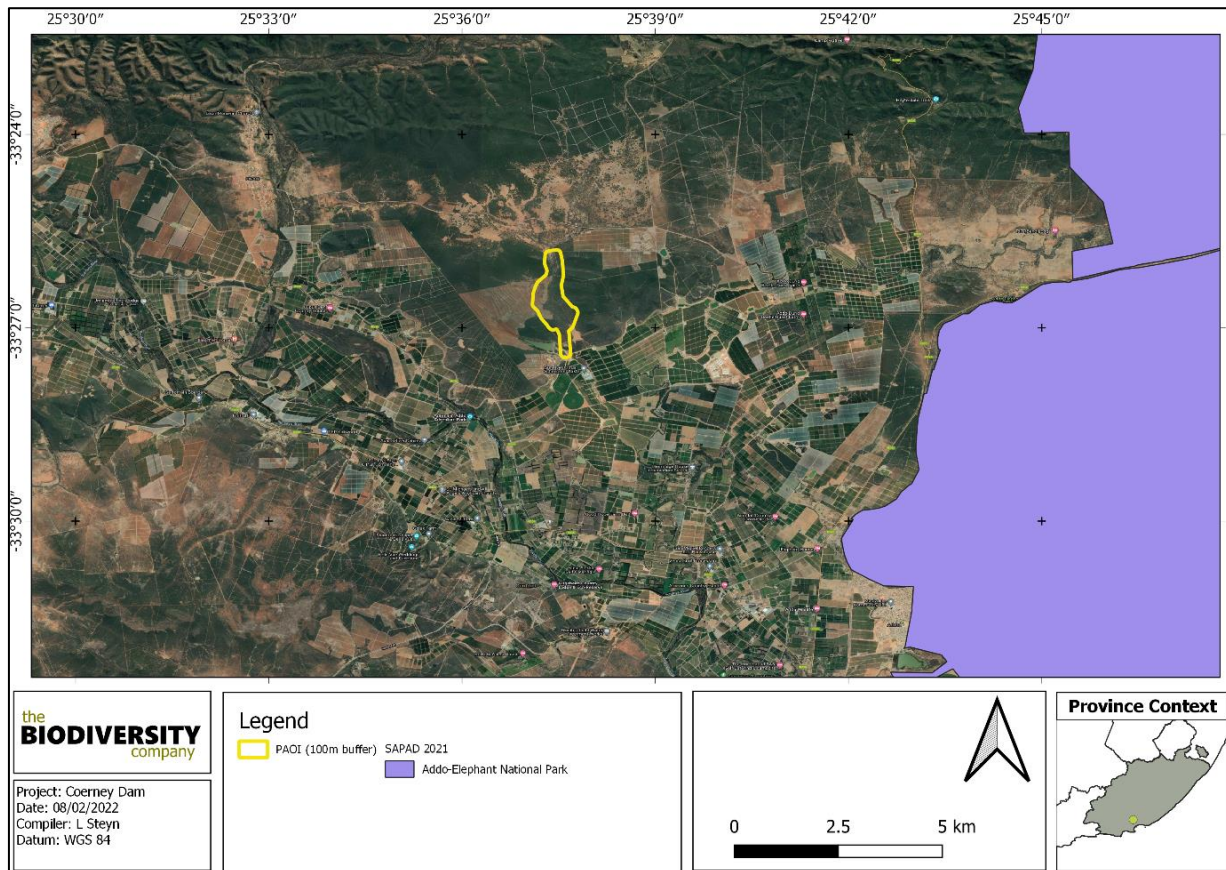


Figure 6-4 The project area in relation to the protected areas

6.1.1.5 National Protected Area Expansion Strategy

National Protected Area Expansion Strategy 2016 (NPAES) areas were identified through a systematic biodiversity planning process. They present the best opportunities for meeting the ecosystem-specific protected area targets set in the NPAES and were designed with a strong emphasis on climate change resilience and requirements for protecting freshwater ecosystems. These areas should not be seen as future boundaries of protected areas, as in many cases only a portion of a particular focus area would be required to meet the protected area targets set in the NPAES. They are also not a replacement for finescale planning which may identify a range of different priority sites based on local requirements, constraints and opportunities (NPAES, 2016).

The project area does not overlap with an NPAES area, it is however only 1.9 km from a priority focus area as can be seen in Figure 6-5.

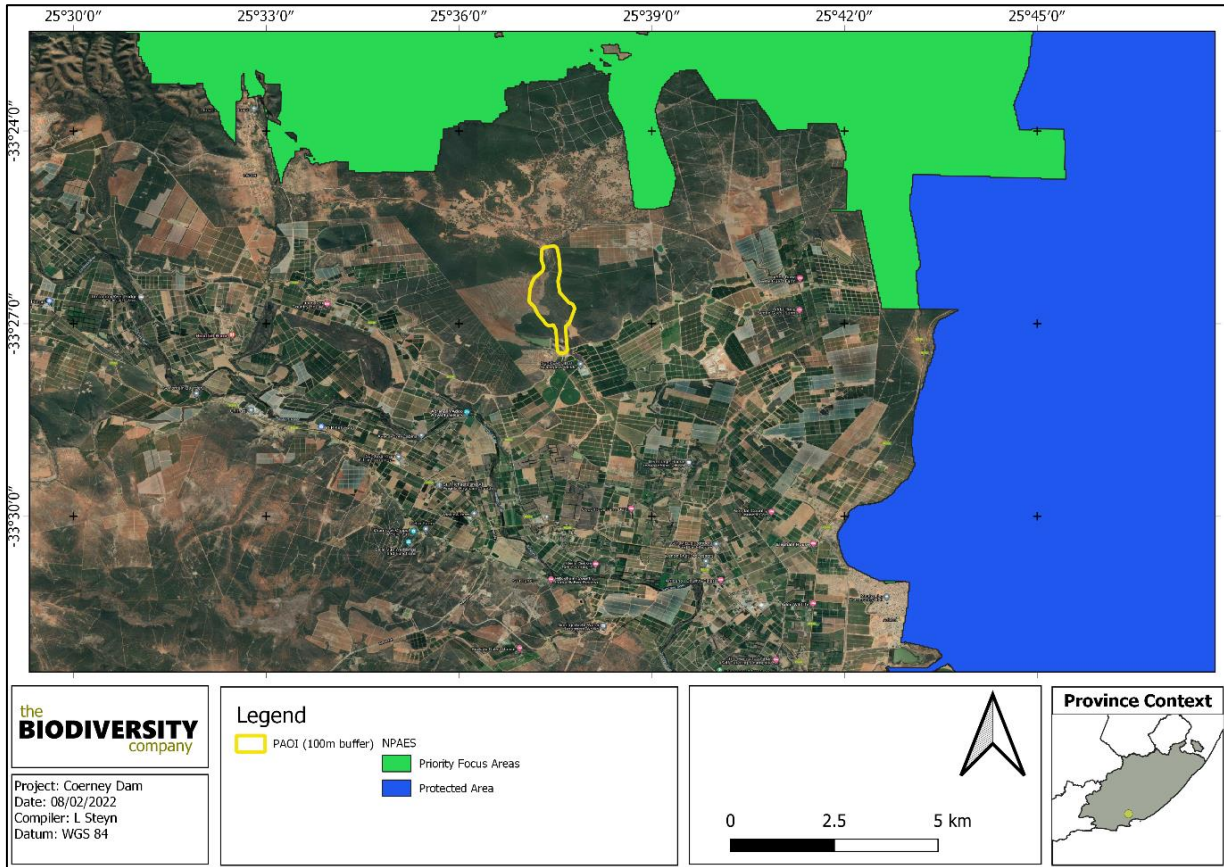


Figure 6-5 The project area in relation to the National Protected Area Expansion Strategy

6.1.1.6 Hydrological Setting

The South African Inventory of Inland Aquatic Ecosystems (SAIIAE) was released with the NBA 2018. Ecosystem threat status (ETS) of river and wetland ecosystem types are based on the extent to which each river ecosystem type had been altered from its natural condition. Ecosystem types are categorised as CR, EN, VU or LT, with CR, EN and VU ecosystem types collectively referred to as ‘threatened’ (Van Deventer *et al.*, 2019; Skowno *et al.*, 2019). No NBA wetlands or rivers can be found in the project area, the closest river is 3.4 km from the project area, while the closest wetland is approximately 84 m from the project area (Figure 6-6).

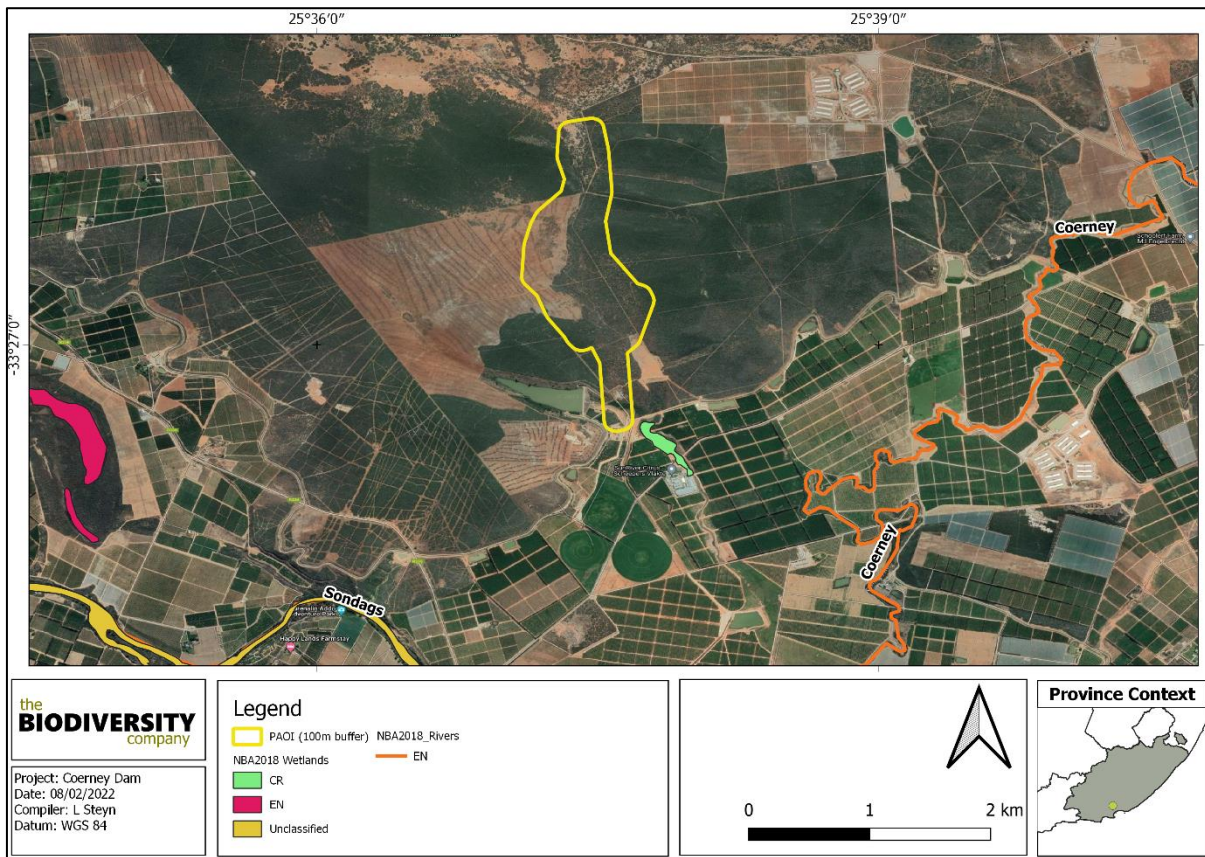


Figure 6-6 Map illustrating ecosystem threat status of rivers and wetland ecosystems in the project area

6.1.1.7 National Freshwater Ecosystem Priority Area Status

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

Figure 6-7 shows the project area does not overlap with FEPA rivers or wetlands, the closest wetland is 56 m from the project area, this is the Scheepersvlakte Dam.

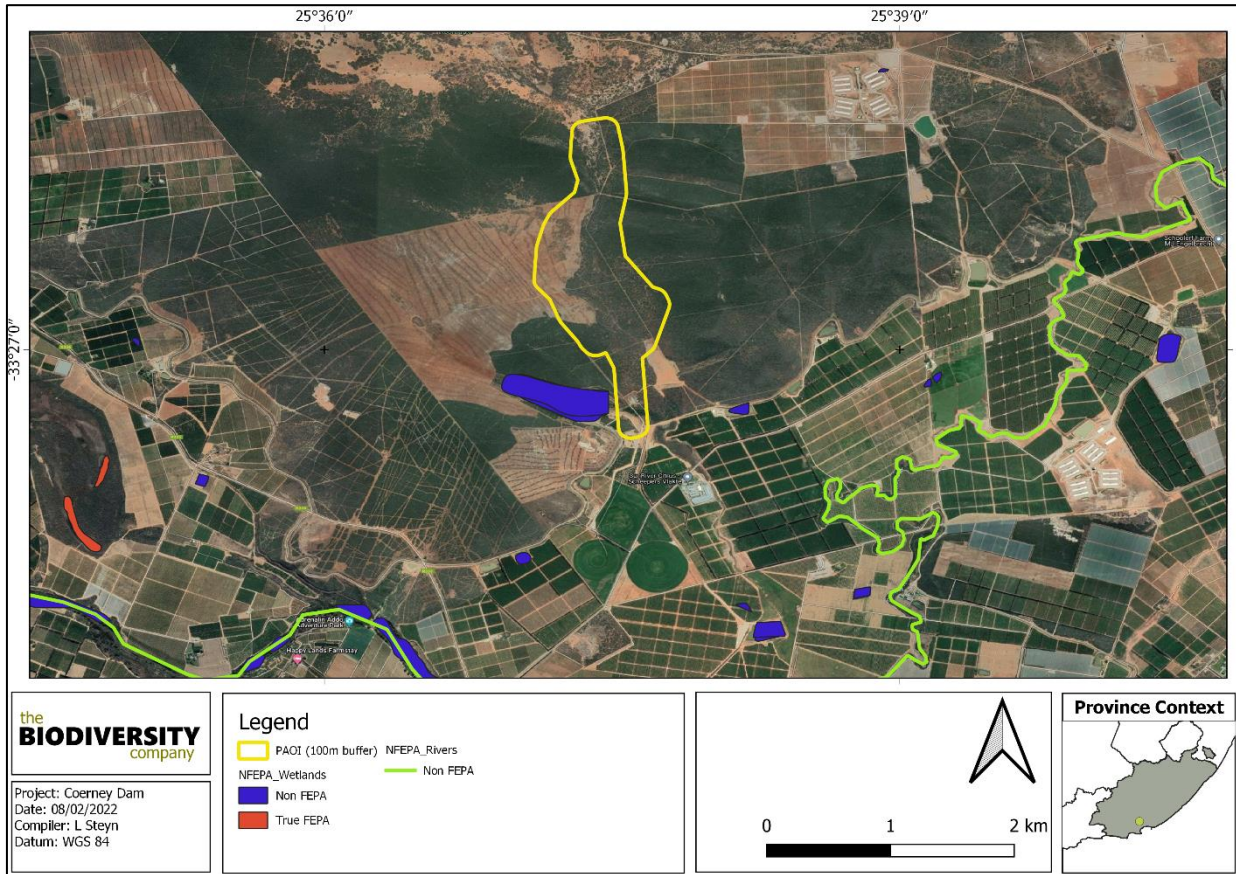


Figure 6-7 The project area in relation to the National Freshwater Ecosystem Priority Areas.

6.1.2 Flora Assessment

This section is divided into a description of the vegetation type expected to occur under natural conditions and the expected flora species.

6.1.2.1 Vegetation Type

The project area is situated in the Azonal vegetation and Albany Thicket biomes.

Azonal vegetation

This habitat is formed in and around flowing and stagnant freshwater bodies. Habitats with high levels of salt concentration form a highly stressed environment for most plants and often markedly affect the composition of plant communities. Invariably, both waterlogged and salt-laden habitats appear as ‘special’, deviating strongly from the typical surrounding zonal vegetation. They are considered to be of azonal character.

Albany thicket

This biome is a closed shrubland dominated by evergreen, sclerophyllous or succulent trees, shrubs and vines. This biome is found in the Eastern Cape, in parts where the climate is dry with hot summers and cool winters. The thickets grow in well-drained sandy soils in valleys and is vulnerable to fire and grazing. Albany thicket is easily distinguished from the complex mosaic of surrounding ecoregions as a dense, spiny shrubland rising about 2 to 2.5 m, dominated by succulents (mainly of Karroid affinity). Thickets contain a high number of endemic species including *Euphorbia* sp. and Karroid species.

On a fine-scale vegetation type, the project area overlaps with the Albany Alluvial vegetation type and the Sundays Valley Thicket vegetation type (Figure 6-8).

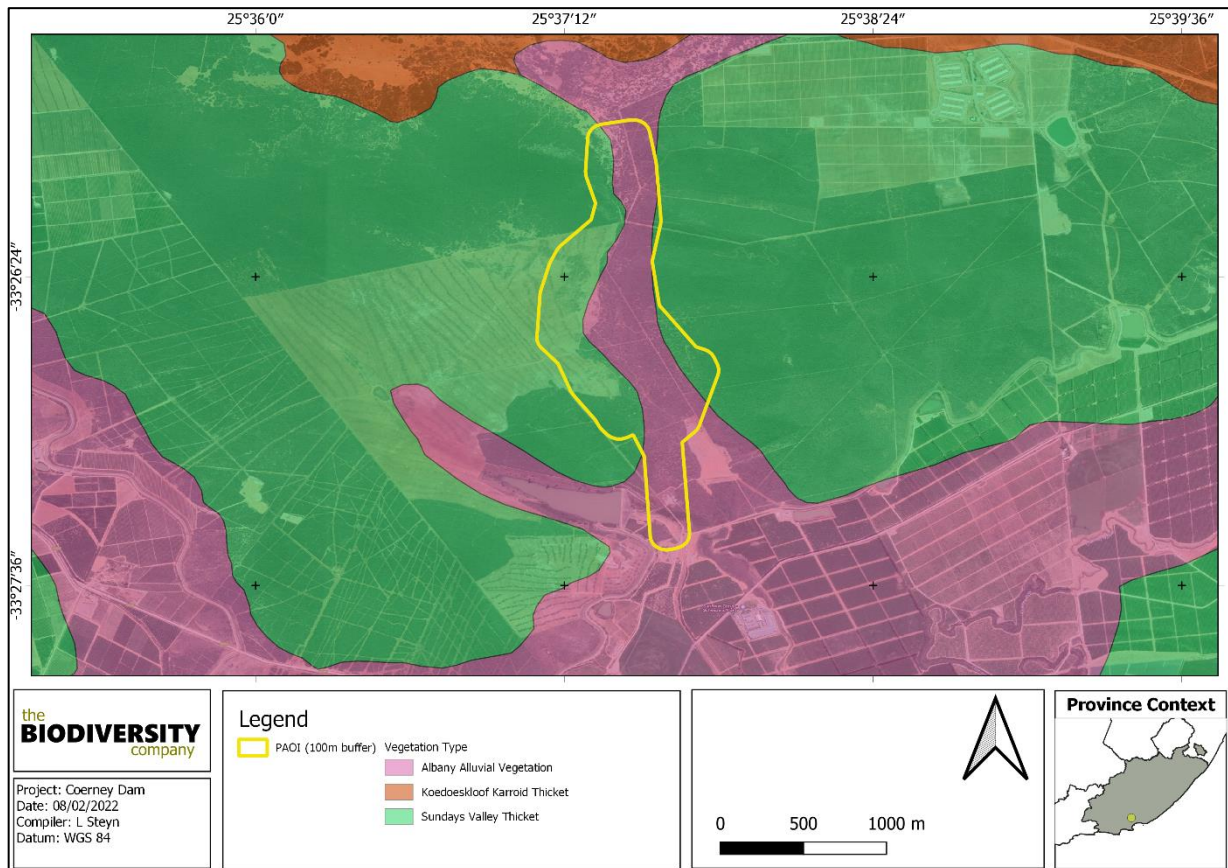


Figure 6-8 Map illustrating the vegetation type associated with the project area

6.1.2.1.1 Albany Alluvial Vegetation

This vegetation type is found in the Eastern Cape between East London and Cape St Fransis. This alluvial unit is embedded within the Albany Thicket Biome. It is made up of two major vegetation patterns: riverine thicket and thornveld (*Vachellia natalitia*). The riverine thicket tends to occur in the narrow floodplain zones in regions close to the coast or further inland, whereas the thornveld occurs on the wide floodplains further inland.

Important Plant Taxa

Important plant taxa are those species that have a high abundance, a frequent occurrence or are prominent in the landscape within a particular vegetation type (Mucina & Rutherford, 2006).

The following species are important in the **Albany Alluvial Vegetation** type (d=dominant, b=brackish habitat):

Riparian thickets

Small Trees: *Vachellia natalitia* (d), *Salix mucronata* subsp. *mucronata* (d), *Schotia afra* var. *afra* (d), *Senegalia caffra*, *Searsia longispina*.

Succulent Trees: *Aloe africana*, *A. ferox*.

Tall Shrubs: *Azima tetraacantha*, *Cadaba aphylla*.

Low Shrubs: *Pentzia incana* (d), *Asparagus striatus*, *A. suaveolens*, *Carissa haematocarpa*.

Succulent Shrubs: *Amphiglossa callunoides*, *Lycium cinereum*.

Graminoids: *Sporobolus nitens* (d), *Digitaria eriantha*, *Eragrostis curvula*, *E. obtusa*.

Reed beds

Megagraminoids: *Cyperus papyrus* (d), *Phragmites australis* (d).

Flooded grasslands & herblands

Succulent Shrubs: *Cotyledon campanulata*^B, *Glottiphyllum longum*^B, *Malephora lutea*^B, *M. uitenhagensis*^B.

Semiparasitic Shrub: *Thesium junceum*^B.

Succulent Herbs: *Haworthia sordida* var. *sordida*^B, *Orbea pulchella*^B.

Herb: *Rorippa fluviatilis* var. *fluviatilis*.

Graminoid: *Cynodon dactylon*^B (d).

Conservation Status

This vegetation is classified as EN by Mucina and Rutherford (2006). The conservation target is 30% of which only 6 % is Greater Addo Elephant National Park, Baviaanskloof Wilderness Area, Loerie Dam, Springs, Swartkops Valley and Yellowwoods Nature Reserves and the Double Drift Reserve Complex.

6.1.2.1.2 Sundays Valley Thicket

This vegetation type is found in the Eastern Cape, at an altitude of 0-800m. It is characterised by undulating plains and low mountains and foothills covered with tall, dense thicket, where trees, shrubs and succulents are common, with many spinescent species.

Important Plant Taxa

Important plant taxa are those species that have a high abundance, a frequent occurrence or are prominent in the landscape within a particular vegetation type (Mucina & Rutherford, 2006). The following species are important in the Sundays Valley Thicket (d=dominant):

Succulent Trees: *Aloe africana* (d), *A. ferox*, *Euphorbia grandidens*.

Small Trees: *Pappea capensis* (d), *Schotia afra* var. *afra* (d), *Vachellia natalitia*, *Boscia albitrunca*, *Brachylaena ilicifolia*, *Cussonia spicata*, *Encephalartos lehmannii*, *Ptaeroxylon obliquum*, *Sideroxylon inerme*.

Tall Shrubs: *Euclea undulata* (d), *Olea europaea* subsp. *africana* (d), *Azima tetracantha*, *Cadaba aphylla*, *Carissa bispinosa* subsp. *bispinosa*, *Diospyros pallens*, *Ehretia rigida*, *Grewia occidentalis*, *G. robusta*, *Gymnosporia buxifolia*, *G. capitata*, *G. polyacantha*, *Maerua cafra*, *Mystroxydon aethiopicum*, *Nymanina capensis*, *Putterlickia pyracantha*, *Searsia incisa*, *S. longispina*, *Scutia myrtina*. **Low Shrubs:** *Pentzia globosa* (d), *Aptosimum elongatum*, *Asparagus burchellii*, *A. crassicaudus*, *A. striatus*, *A. subulatus*, *Barleria obtusa*, *B. rigida*, *Blepharis capensis*, *Chascanum cuneifolium*, *Chrysocoma ciliata*, *Eriocephalus ericoides*, *Euryops algoensis*, *E. spathaceus*, *Felicia muricata*, *Garuleum latifolium*, *Hermannia althaeoides*, *Hibiscus aridus*, *Indigofera sessilifolia*, *Justicia orchioides*, *Lantana rugosa*, *Leucas capensis*, *Limeum*

aethiopicum, *Lycium oxycarpum*, *Osteospermum imbricatum*, *Pteronia paniculata*, *Rhigozum obovatum*, *Rosenia humilis*, *Selago fruticosa*, *S. geniculata*, *Senecio linifolius*, *Solanum capense*, *S. tomentosum*.

Succulent Shrubs: *Crassula ovata* (d), *Euphorbia caerulescens* (d), *E. ledienii* (d), *Portulacaria afra* (d), *Adromischus cristatus* var. *cristatus*, *A. sphenophyllus*, *Cotyledon campanulata*, *C. orbiculata* var. *oblonga*, *Crassula capitella* subsp. *capitella*, *C. capitella* subsp. *thyrsiflora*, *C. cotyledonis*, *C. cultrata*, *C. mesembryanthoides* subsp. *hispida*, *C. rogersii*, *Delosperma echinatum*, *D. uniflorum*, *Euphorbia mauritanica*, *Exomis microphylla*, *Kalanchoe rotundifolia*, *Lampranthus productus*, *Mestoklema tuberosum*, *Orbea pulchella*, *Pachypodium succulentum*, *Pelargonium carnosum*, *Psilocaulon articulatum*, *Zygophyllum foetidum*.

Semiparasitic Shrub: *Osyris compressa*.

Epiphytic Shrubs: *Viscum crassulae*, *V. obscurum*, *V. rotundifolium*.

Woody Succulent Climbers: *Pelargonium peltatum* (d), *Crassula perforata*, *Cyphostemma quinatum*, *Sarcostemma viminale*.

Woody Climbers: *Asparagus asparagoides*, *A. multiflorus*, *A. racemosus*, *A. volubilis*, *Behnia reticulata*, *Capparis sepiaria* var. *citrifolia*, *Cissampelos capensis*, *Plumbago auriculata*, *Rhoicarpus capensis*, *Rhoicissus digitata*.

Herbaceous Climbers: *Cynanchum ellipticum*, *Kedrostis capensis*.

Graminoids: *Aristida adscensionis* (d), *A. congesta* (d), *Cynodon dactylon* (d), *C. incompletus* (d), *Eragrostis obtusa* (d), *Panicum maximum* (d), *Tragus berteronianus* (d), *Cenchrus ciliaris*, *Cyperus capensis*, *Digitaria argyrograpta*, *Ehrharta calycina*, *Enneapogon scoparius*, *Eragrostis curvula*, *Eustachys paspaloides*, *Heteropogon contortus*, *Panicum deustum*, *Sporobolus fimbriatus*, *Stipa dregeana*, *Themeda triandra*.

Succulent Herbs: *Senecio radicans* (d), *Crassula expansa*, *C. spathulata*, *Gasteria bicolor*, *Sansevieria aethiopica*.

Geophytic Herbs: *Bulbine frutescens* (d), *Drimia intricata* (d), *Sansevieria hyacinthoides* (d), *Cyanella lutea*, *Cyrtanthus loddigesianus*, *C. spiralis*, *Drimia anomala*, *Freesia corymbosa*, *Hypoxis argentea*, *Justicia cuneata* subsp. *cuneata*, *Moraea stricta*, *Oxalis smithiana*, *Spiloxene trifurcillata*, *Trachyandra affinis*, *Tritonia securigera*, *Tritonia strictifolia*, *Urginea altissima*.

Herbs: *Abutilon sonneratianum*, *Aizoon glinoides*, *Arctotheca calendula*, *Chamaesyce inaequilatera*, *Commelina benghalensis*, *Cotula heterocarpa*, *Cyanotis speciosa*, *Cypselodontia eckloniana*, *Emex australis*, *Gazania krebsiana*, *Hibiscus pusillus*, *Hypoestes aristata*, *Indigastrum costatum* subsp. *macrum*, *Lepidium africanum*, *Lotononis glabra*, *Stachys aethiopica*.

Biogeographically Important Taxa (^SSouthern limit)

Succulent Climber: *Ceropegia ampliata* var. *ampliata*^S.

Herbaceous Climber: *Fockea sinuata*^S.

Epiphytic Parasitic Herb: *Cuscuta bifurcata*.

Geophytic Herb: *Pelargonium campestre*.

Endemic Taxa

Small Tree: *Encephalartos horridus*.

Succulent Shrubs: *Aloe bowiea*, *A. gracilis*, *Bergeranthus addoensis*, *Glottiphyllum grandiflorum*, *Orthopterum coegana*, *Ruschia aristata*, *Trichodiadema rupicola*.

Succulent Climbers: *Aptenia haeckeliana*, *Ceropegia dubia*.

Succulent Herbs: *Haworthia arachnoidea* var. *xiphiophylla*, *H. aristata*, *Huernia longii* subsp. *longii*.

Geophytic Herbs: *Brachystelma cummingii*, *B. schoenlandianum*, *B. tabularium*, *Pelargonium ochroleucum*, *Strelitzia juncea*, *Tritonia dubia*.

Herbs: *Arctotis hispidula*, *Argyrobium crassifolium*, *Lessertia carnosa*, *Lotononis monophylla*, *Senecio scaposus* var. *addoensis*, *Wahlenbergia oocarpa*.

Conservation Status

According to Mucina and Rutherford (2006) this vegetation type is classified as Least threatened. The conservation target is 19 %, with portions of this statutorily protected in Greater Addo Elephant National Park, Groendal Wilderness Area as well as in Swartkops Valley and Springs Nature Reserves. Private conservation areas, especially game farms (Kuzuko, Koedoeskop, Schuilpatdop, Tregathlyn, Citruslandgoed, Voetpadskloof) also conserve portions.

6.1.3 Faunal Assessment

6.1.3.1 Avifauna

Based on the South African Bird Atlas Project, Version 2 (SABAP2) database, 248 bird species have the potential to occur in the vicinity of the project area. The full list of potential bird species is provided in Appendix C.

Of the potential bird species, 12 species are listed as SCC either on a regional or global scale (Table 6-2). Three species have a low likelihood of occurrence in the project area due to a lack of suitable habitat.

Table 6-2 List of bird species of regional or global conservation importance that are expected to occur in close vicinity to the project area.

Species	Common Name	Conservation Status		Likelihood of Occurrence
		Regional (SANBI, 2016)	IUCN (2021)	
<i>Afrotis afra</i>	Korhaan, Southern Black	VU	VU	High
<i>Campethera notata</i>	Woodpecker, Knysna	NT	NT	Moderate
<i>Circus ranivorus</i>	Marsh-harrier, African	EN	LC	Low
<i>Coracias garrulus</i>	Roller, European	NT	LC	High
<i>Falco biarmicus</i>	Falcon, Lanner	VU	LC	High
<i>Grus paradisea</i>	Crane, Blue	NT	VU	Moderate
<i>Neotis denhami</i>	Bustard, Denham's	VU	NT	High
<i>Neotis ludwigii</i>	Bustard, Ludwig's	EN	EN	Moderate
<i>Phoenicopus roseus</i>	Flamingo, Greater	NT	LC	Low

Coerney Dam

<i>Podica senegalensis</i>	Finfoot, African	VU	LC	Low
<i>Polemaetus bellicosus</i>	Eagle, Martial	EN	EN	High
<i>Sagittarius serpentarius</i>	Secretarybird	VU	EN	High

Afrotis afra (Southern Black Korhaan) is listed as VU on a regional and global scale (IUCN, 2017). They are endemic to the South-Western side of South Africa. Their habitat varies from non-grassy areas to the Fynbos biome, Karoo biome and the western coastline of South Africa. The main threat to them is habitat loss, in an eight year span they loss 80% of their range due to agricultural developments. Their diet consists of insects, small reptiles and plant material, including seeds and green shoots (Hockey *et al.* 2005). Suitable habitat and prey can be found in the project area, the likelihood of occurrence is thus rated as high.

Campethera notata (Knysna Woodpecker) is listed as near threatened on a regional scale and on a global scale. It is confined to coastal areas of forest, woodland, dense bush, *Euphorbia* scrub, or open country with large trees, extending marginally inland in places. A range contraction in KwaZulu-Natal in the 19th century has been attributed to the clearance of coastal bush for sugar-cane farming and township development. Some patches of suitable habitat is present, therefore the likelihood of occurrence is rated as moderate.

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

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

Grus paradisea (Blue Crane) is listed as NT on a regional scale and as VU on a global scale. This species has declined, largely owing to direct poisoning, power-line collisions and loss of its grassland breeding habitat owing to afforestation, mining, agriculture and development (IUCN, 2017). This species breeds in natural grass- and sedge-dominated habitats, preferring secluded grasslands at high elevations where the vegetation is thick and short. The grassland habitat creates the potential for this species to occur, the amount of shrubs/trees does reduce the likelihood of occurrence to moderate.

Neotis denhami (Denhams Bustard) is listed as VU on a regional scale and NT on a global scale. It occurs in flat, arid, mostly open country such as grassland, karoo, bushveld, thornveld, scrubland and savanna but also including modified habitats such as wheat fields and firebreaks. Collisions with power lines may be a significant threat in parts of the range, particularly South Africa (IUCN, 2007). The habitat at the project site does provide marginally suitable habitat for this species and therefore it's likelihood of occurrence is rated as moderate.

Neotis ludwigii (Ludwig's Bustard) is listed as EN both locally and internationally. This species is found in the desert, grassland and shrubland specifically in rocky areas such as mountains and cliffs. The main reason for the decline in the numbers are ascribed to the collisions with power lines. Some areas of suitable habitat can be found, the likelihood of occurrence is thus rated as moderate.

Polemaetus bellicosus (Martial Eagle) is listed as EN on a regional scale and EN on a global scale. This species has an extensive range across much of sub-Saharan Africa, but populations are declining due to deliberate and incidental poisoning, habitat loss, reduction in available prey, pollution and collisions with power lines (IUCN, 2017). It inhabits open woodland, wooded savanna, bushy grassland, thorn-bush and, in southern Africa, more open country and even sub-desert (IUCN, 2017). With the presence of good grassland habitat in the project area as well as the presence of large trees for roosting and nesting this species has a high chance of occurring.

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

6.1.3.2 Mammals

The IUCN Red List Spatial Data (IUCN, 2017) lists 73 mammal species that could be expected to occur within the project area. Species limited to nature reserves in South Africa was removed from the expected species list (Appendix D). Twelve species of conservation concern have a potential to occur in the project area (Table 6-3). Six species have a low likelihood of occurrence, mainly as a result of lack of suitable habitat.

Table 6-3 List of mammal Species of Conservation Concern that may occur in the project area as well as their global and regional conservation statuses.

Species	Common Name	Conservation Status		Likelihood of occurrence
		Regional (SANBI, 2016)	IUCN (2017)	
<i>Aonyx capensis</i>	Cape Clawless Otter	NT	NT	Low
<i>Dasymys incommutus</i>	African Marsh Rat	NT	LC	Low
<i>Felis nigripes</i>	Black-footed Cat	VU	VU	Low
<i>Graphiurus ocellatus</i>	Spectacular Dormouse	NT	LC	Moderate
<i>Leptailurus serval</i>	Serval	NT	LC	High
<i>Mystromys albicaudatus</i>	White-tailed Rat	VU	EN	Low
<i>Panthera pardus</i>	Leopard	VU	VU	Moderate
<i>Parahyaena brunnea</i>	Brown Hyaena	NT	NT	Moderate
<i>Pelea capreolus</i>	Grey Rhebok	NT	NT	Low
<i>Philantomba monticola</i>	Blue Duiker	VU	LC	High
<i>Poecilogale albinucha</i>	African Striped Weasel	NT	LC	High
<i>Redunca fulvorufula</i>	Mountain Reedbuck	EN	EN	Low

Graphiurus ocellatus (Spectacular Dormouse) is categorised as NT on a regional scale. This species is endemic to South Africa, where it occurs widely in Northern Cape, Eastern Cape, and Western Cape provinces, with a single record from the North West province. The species is associated with the sandstone formations of the Cape, which have many vertical and horizontal cracks and crevices in which to shelter and nest. The likelihood of occurrence is rated as moderate as some areas of suitable habitat can be found on the edge of the project area.

Leptailurus serval (Serval) occurs widely through sub-Saharan Africa and is commonly recorded from most major national parks and reserves (IUCN, 2017). The Serval's status outside reserves is not certain, but they are inconspicuous and may be common in suitable habitat as they are

tolerant of farming practices provided there is cover and food available. In sub-Saharan Africa, they are found in habitat with well-watered savanna long-grass environments and are particularly associated with reedbeds and other riparian vegetation types. Suitable habitat and prey species are found in the project area, this species can therefore occur in the project area.

Panthera pardus (Leopard) has a wide distributional range across Africa and Asia, but populations have become reduced and isolated, and they are now extirpated from large portions of their historic range (IUCN, 2017). Impacts that have contributed to the decline in populations of this species include continued persecution by farmers, habitat fragmentation, increased illegal wildlife trade, excessive harvesting for ceremonial use of skins, prey base declines and poorly managed trophy hunting (IUCN, 2017). Although known to occur and persist outside of formally protected areas, the densities in these areas are considered to be low. The likelihood of occurrence in the project area which is in close proximity to a mountainous area is regarded as moderate.

Parahyaena brunnea (Brown Hyaena) is endemic to southern Africa. This species occurs in dry areas, generally with annual rainfall less than 100 mm, particularly along the coast, semi-desert, open scrub and open woodland savanna. Given its known ability to persist outside of formally protected areas the likelihood of occurrence of this species in the project area is moderate to good.

In South Africa, *Philantomba monticola* (Blue Duiker) is mainly confined to the evergreen forest and thickets along the coast from northern KwaZulu-Natal to the eastern Western Cape province (IUCN, 2017). Some portions of the project area consist of thicket vegetation, which is highly suitable for this species.

Poecilogale albinucha (African Striped Weasel) is usually associated with savanna habitats, although it probably has a wider habitat tolerance (IUCN, 2017). Due to its secretive nature, it is often overlooked in many areas where it does occur. There is sufficient habitat for this species in the project area and the likelihood of occurrence of this species is therefore considered to be high.

6.1.3.3 Reptiles

Based on the IUCN Red List Spatial Data (IUCN, 2017) and the ReptileMap database provided by the Animal Demography Unit (ADU, 2019) 78 reptile species have the potential to occur in the project area (Appendix E). Four (4) of the expected species are SCCs (IUCN, 2017). Based on the lack of suitable habitat mainly fynbos habitat, two of the species were given a low likelihood of occurrence.

Table 6-4 Reptiles SCCs expected in the project area.

Species	Common Name	Conservation Status		Likelihood of occurrence
		Regional (SANBI, 2016)	IUCN (2021)	
<i>Bradypodion taeniabronchum</i>	Elandsberg Dwarf Chameleon	EN	LC	High
<i>Chersobius boulengeri</i>	Karoo Dwarf Tortoise	NT	EN	Moderate
<i>Nucras taeniolata</i>	Albany Sandveld Lizard	NT	LC	Low
<i>Tetradactylus fitzsimonsi</i>	Fitzsimon's Long-tailed Seps	VU	VU	Low

Bradypodion taeniabronchum (Elandsberg Dwarf Chameleon) is listed as EN on a regional scale. This South African endemic chameleon species is found in Shrublands of the Eastern Cape. Suitable habitat can be found in the project area therefore it has a high likelihood of occurrence.

Chersobius boulengeri (Karoo padloper) is associated with dolomite ridges and rocky outcrops of the southern succulent and Nama Karoo biomes. This habitat specialist is found in low densities at localised locations. Some rocky patches are present in the project area, this species has a moderate chance of occurring.

6.1.3.4 Amphibians

Based on the IUCN Red List Spatial Data (IUCN, 2017) and the AmphibianMap database provided by the Animal Demography Unit (ADU, 2020) 22 amphibian species have the potential to occur in the project area (Appendix F). Two of the species are species of conservation concern (Table 6-5).

Table 6-5 Amphibian SCCs expected in the project area

Species	Common Name	Conservation Status		Likelihood of occurrence
		Regional (SANBI, 2016)	IUCN (2021)	
<i>Heleophryne hewitti</i>	Hewitt's Ghost Frog	CR	EN	Low
<i>Pyxicephalus adspersus</i>	Giant Bullfrog	NT	LC	Moderate

Giant Bull Frog (*Pyxicephalus adspersus*) is a species of conservation concern that will possibly occur in the project area. The Giant Bull Frog is listed as near threatened on a regional scale. It is a species of drier savannahs. It is fossorial for most of the year, remaining buried in cocoons. They emerge at the start of the rains, and breed in shallow, temporary waters in pools, pans and ditches (IUCN, 2017).

6.2 Fieldwork Findings

The field survey for the project area was conducted in February 2021. During the survey the floral and faunal communities within the project development footprint were assessed. The project area was ground-truthed on foot, which included spot checks in pre-selected areas to validate desktop data. Photographs were recorded during the site visit and some are provided in this section of the report.

6.2.1 Flora Assessment

This section is divided into two sections:

- Indigenous flora; and
- Invasive Alien Plants (IAPs).

6.2.1.1 Indigenous Flora

The species composition of the assessment area was consistent with typical Albany alluvial and Sundays Valley Thicket vegetation types. Distinctive vegetation communities were observed within these vegetation types and can be classified into alluvial vegetation, valley thicket, disturbed and transformed areas. The plant species recorded is by no means comprehensive, and repeated surveys during different phenological periods not covered, may likely yield up to 30% additional flora species for the project area. However, floristic analysis conducted to date is however regarded as a sound representation of the local flora for the project area.

The alluvial vegetation habitat generally consisted of species such as *Azima tetraacantha*, *Malephora lutea*, *Cadaba aphylla*, *Grewia occidentalis*, *Crassula mesembryanthoides*, *Carissa*

bispinosa subsp. *bispinosa*, *Ehretia rigida*, *Searsia incisa*, *Searsia fastigata*, *Senecio filifolius*, *Schotia afra* var. *afra*, *Drimia* sp, *Ruschia aristata*, *Asparagus striatus*, *Lycium cinereum*, *Vachellia natalitia* and the typical graminoides *Cynodon dactylon*, *Sporobolus nitens*, *Digitaria eriantha*, *Eragrostis curvula* and *E. obtusa*

The valley thicket floral community was typically dominated by *Aloe africana*, *Euphorbia grandidens*, *Pappea capensis*, *Bulbine* sp, *Ptaeroxylon obliquum*, *Euclea undulata*, *Diospyros pallens*, *Euphorbia caerulescens*, *Portulacaria afra*, *Gymnosporia buxifolia*, *Cotyledon Orbiculata*, *Crassula capitella*, *Sansevieria aethiopica*, *Pachypodium succulentum*, *Pelargonium peltatum* and typical graminoids such as *Aristida adscensionis*, *A. congesta*, *Cynodon dactylon*, *Eragrostis obtusa*, *Panicum maximum*, *Tragus berteronianus*, *Cenchrus ciliaris*, *Enneapogon scoparius*, *Eragrostis curvula*, *Sporobolus fimbriatus* and *Themeda triandra*.

The distribution of the plant SCC within the assessment area may be regarded as spaced naturally and occurring abundantly throughout. *Pappea capensis* and *Carissa bispinosa* were the woody plant species that were most marked protected plants, mainly due to them being the dominant woody plant species within the area and being more easily observed due to their growth form. Herbaceous species, especially all plants belonging to the Aizoaceae/Mesembryanthemaceae family, also occurred in large numbers, especially when found in dense stands. However, the species are more “cryptic”, especially the bulbs, within the landscape usually growing underneath woody shrubs occurred more sporadically depending on the condition of the habitat. One such species was *Pachypodium succulentum*. Succulents were ubiquitous throughout the assessment area and occurred within all the communities described above. Geophytes were present and occurred within the alluvial vegetation and low laying areas. It is important to note that these growth forms, and their non-succulent relatives, are protected under the Eastern Cape Legislation.



Figure 6-9 Photographs illustrating some of the protected flora recorded within the assessment area. A) *Ruschia aristata* and B) *Ammocharis coranica*, C) *Pachypodium succulentum* and D) *Delosperma uitenhagense*

6.2.1.2 Invasive Alien Plants

Invasive Alien Plants (IAPs) tend to dominate or replace indigenous flora, thereby transforming the structure, composition and functioning of ecosystems. Therefore, it is important that these plants are controlled by means of an eradication and monitoring programme. Some invader plants may also degrade ecosystems through superior competitive capabilities to exclude native plant species.

NEMBA is the most recent legislation pertaining to alien invasive plant species. In August 2014, the list of Alien Invasive Species was published in terms of the NEMBA. The Alien and Invasive Species Regulations were published in the Government Gazette No. 44182, 24th of February 2021. The legislation calls for the removal and / or control of IAP species (Category 1 species). In addition, unless authorised thereto in terms of the NWA, no land user shall allow Category 2 plants to occur within 30 meters of the 1:50 year flood line of a river, stream, spring, natural channel in which water flows regularly or intermittently, lake, dam or wetland. Category 3 plants are also prohibited from occurring within proximity to a watercourse. Below is a brief explanation of the three categories in terms of the NEMBA:

- *Category 1a:* Invasive species requiring compulsory control. Remove and destroy. Any specimens of Category 1a listed species need, by law, to be eradicated from the environment. No permits will be issued.
- *Category 1b:* Invasive species requiring compulsory control as part of an invasive species control programme. Remove and destroy. These plants are deemed to have such a high invasive potential that infestations can qualify to be placed under a government sponsored invasive species management programme. No permits will be issued.
- *Category 2:* Invasive species regulated by area. A demarcation permit is required to import, possess, grow, breed, move, sell, buy or accept as a gift any plants listed as Category 2 plants. No permits will be issued for Category 2 plants to exist in riparian zones.
- *Category 3:* Invasive species regulated by activity. An individual plant permit is required to undertake any of the following restricted activities (import, possess, grow, breed, move, sell, buy or accept as a gift) involving a Category 3 species. No permits will be issued for Category 3 plants to exist in riparian zones.

Note that according to the Alien and Invasive Species Regulations, a person who has under his or her control a category 1b listed invasive species must immediately:

- Notify the competent authority in writing
- Take steps to manage the listed invasive species in compliance with:
 - Section 75 of the NEMBA;
 - The relevant invasive species management programme developed in terms of regulation 4; and
 - Any directive issued in terms of section 73(3) of the NEMBA.

One (1) species, *Opuntia ficus-indica* was recorded numerously within the project area. These species are listed under the Alien and Invasive Species List 2021, Government Gazette No.

44182 as Category 1b. Category 1b species must be controlled by implementing an IAP Management Programme, in compliance of section 75 of the NEMBA, as stated above.

6.2.2 Faunal Assessment

Herpetofauna, mammal and avifauna observations and recordings are represented below.

6.2.2.1 Amphibians and Reptiles

Two species of reptiles were recorded in the project area during survey period (Table 6-6). However, there is the possibility of more species being present, as certain reptile species are secretive and require long-term surveys to ensure capture. No amphibian species were recorded during the survey period, this was largely due to the season in which the field survey was carried out as well as the fact that no pitfall trapping was done, surveys relied on opportunistic sightings as opposed to intensive and appropriate sampling methods. The only other method utilised was refuge examinations using visual scanning of terrains to record smaller herpetofauna species that often conceal themselves under rocks, in fallen logs, rotten tree stumps, in leaf litter, rodent burrows, ponds, old termite mounds, this method was also not intensively applied in the field. Both species are protected under provincial legislation.

Table 6-6 Summary of herpetofauna species recorded within the project area.

Species	Common Name	Conservation Status		EP Nature Conservation Ordinance No. 19 of 1974
		Regional (SANBI, 2016)	IUCN (2021)	
<i>Pedioplanis lineocellata pulchella</i>	Common Sand Lizard	LC	Unlisted	Schedule 2 Protected
<i>Homopus areolatus</i>	Parrot-beaked Dwarf Tortoise	LC	LC	Schedule 2 Protected



Figure 6-10 Reptile species recorded in the project area: A) *Homopus areolatus* and B) *Pedioplanis lineocellata pulchella*

6.2.2.2 Mammals

Three (3) mammal species were observed during the survey of the project area (Table 6-7) based on the presence of visual tracks and signs (Table 6-7). One of the species is provincially protected.

Table 6-7 Summary of mammal species recorded within the project area

Species	Common Name	Conservation Status		EP Nature Conservation Ordinance No. 19 of 1974
		Regional (SANBI, 2016)	IUCN (2021)	
<i>Lepus saxatilis</i>	Scrub Hare	LC	LC	-
<i>Raphicerus campestris</i>	Steenbok	LC	LC	Schedule 2
<i>Canis mesomelas</i>	Black-backed Jackal	LC	LC	-

6.2.2.3 Avifauna

Sixteen (16) species were recorded in the project area during the survey based on either direct observation, vocalisations, or the presence of visual tracks & signs, (Table 6-8). All species, except two, were listed as protected provincially.

Table 6-8 A list of avifaunal species recorded for the project area

Species	Common Name	Conservation Status		EP Nature Conservation Ordinance No. 19 of 1974
		Regional (SANBI, 2016)	IUCN (2021)	
<i>Alopochen aegyptiaca</i>	Goose, Egyptian	Unlisted	LC	Schedule 2
<i>Andropadus importunus</i>	Greenbul, Sombre	Unlisted	LC	Schedule 2
<i>Apus apus</i>	Swift, Common	Unlisted	LC	Schedule 2
<i>Cercotrichas coryphoeus</i>	Scrub-robin, Karoo	Unlisted	LC	Schedule 2
<i>Cinnyris afer</i>	Sunbird, Greater Double-collared	Unlisted	LC	Schedule 2
<i>Cisticola juncidis</i>	Cisticola, Zitting	Unlisted	LC	Schedule 2
<i>Dendropicos fuscescens</i>	Woodpecker, Cardinal	Unlisted	LC	Schedule 2
<i>Laniarius ferrugineus</i>	Boubou, Southern	Unlisted	LC	Schedule 2
<i>Passer domesticus</i>	Sparrow, House	Unlisted	LC	Schedule 2
<i>Ploceus capensis</i>	Weaver, Cape	Unlisted	LC	
<i>Pycnonotus tricolor</i>	Bulbul, Dark-capped	Unlisted	Unlisted	Schedule 2
<i>Spilopelia senegalensis</i>	Dove, Laughing	Unlisted	LC	Schedule 2
<i>Sylvietta rufescens</i>	Crombec, Long-billed	Unlisted	LC	Schedule 2
<i>Turtur chalcospilos</i>	Wood-dove, Emerald-spotted	Unlisted	LC	Schedule 2
<i>Urocolius indicus</i>	Mousebird, Red-faced	Unlisted	LC	Schedule 2
<i>Zosterops virens</i>	White-eye, Cape	Unlisted	LC	



Figure 6-11 Some of the avifaunal species recorded in the project area: A) *Cinnyris afer* (Sunbird, Greater Double-collared) B) *Zosterops virens* (White-eye, Cape) , C) *Pycnonotus tricolor* (Bulbul, Dark-capped) and D) *Ploceus capensis* (Weaver, Cape)

7 Habitat Assessment and Site Ecological Importance

7.1 Habitat Assessment

The main habitat types identified across the project area were initially identified largely based on aerial imagery. These main habitat types were refined based on the field coverage and data collected during the survey; the delineated habitats can be seen in Figure 7-1. Emphasis was placed on limiting timed meander searches along the proposed PAOI within the natural habitats and therefore habitats with a higher potential of hosting SCC. The habitats observed, coincide with the vegetation types as described by Mucina & Rutherford in 2006 and SANBI (2019) due to the lack of large-scale transformation. These are discussed in detail in the sections that follow. A summary of important habitat types delineated within the project area can be seen in Table 7-1

Table 7-1 Summary of more natural habitat types delineated within the project area

Habitat Type	Description	Ecosystem Processes and Services	Habitat Sensitivity
Alluvial Vegetation	Low to no slope with alluvial soils. Channel through which surface water naturally collates and flows. Ephemeral systems both considered for this habitat type.	Water Paths, functions as important Water resources. Provides refuge and grazing areas, especially during the dry seasons. Provides surface water within the landscape. Aids in trapping sediment and nutrients derived from land runoff. Is important as a movement corridor as it creates a link between the system and its surrounding terrestrial landscape for several faunal species, especially birds and mammals.	High
Valley Thicket	Semi-natural thicket, on low mountains and foothills covered with tall, dense thicket but slightly disturbed due to the grazing by livestock, mismanagement and also human infringement.	Provides grazing for livestock. Aids in filtration of water permeating through the soil into drainage lines. Acts as Corridor for fauna dispersion within the landscape. Acts as buffer for high sensitivity areas. The unit acts as a greenland which supports viable plant species populations and is also used for foraging by fauna.	High

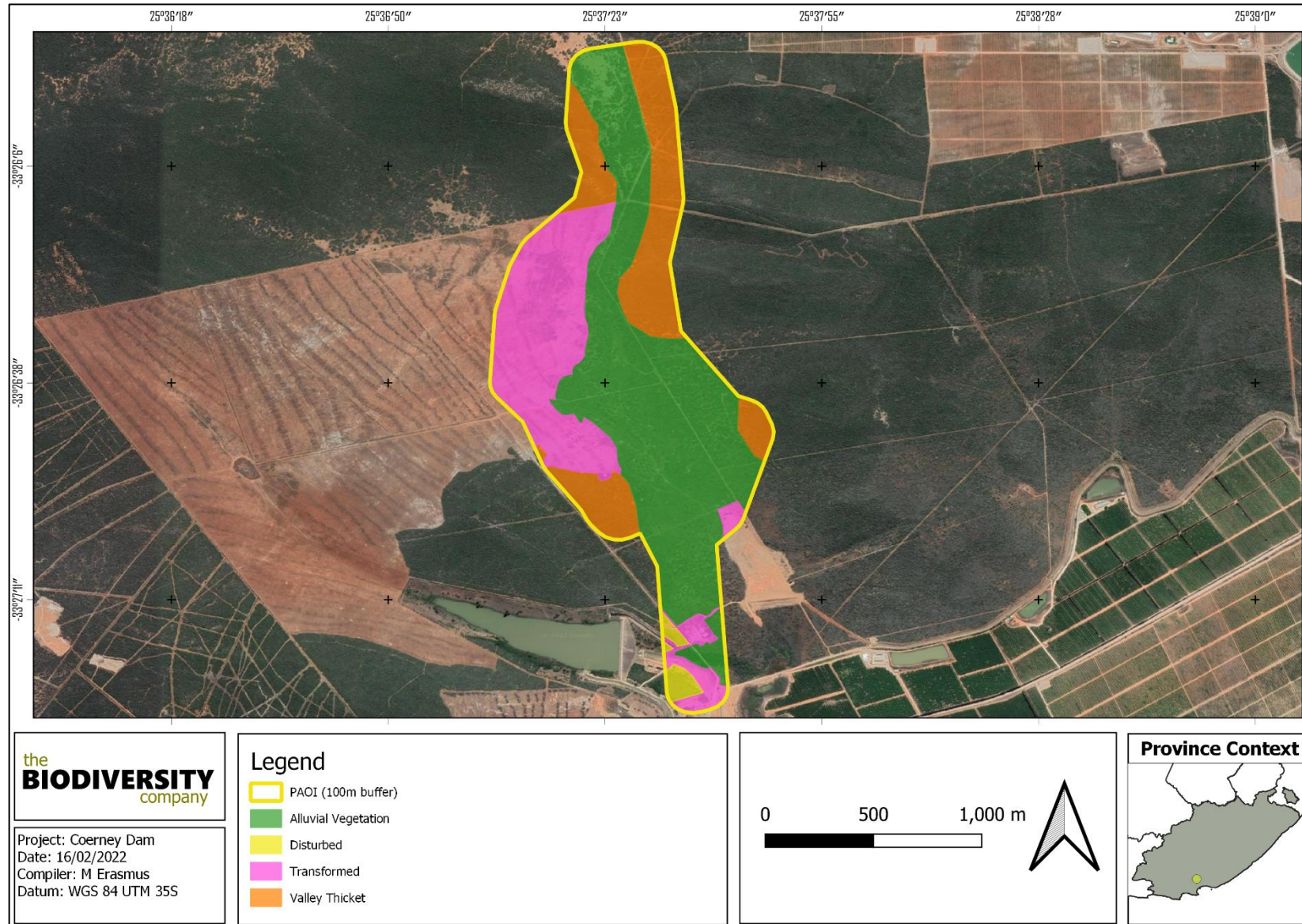


Figure 7-1 Habitats identified in the project area.

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7.1.1 Alluvial Vegetation

This habitat is regarded as areas where intermittent water sporadically moves through and exists as well as the drainage flats connected to these areas. This habitat type is regarded as semi-natural shrubland, but slightly disturbed due to the grazing by livestock, the associated human infringement and use (dam) (Figure 7-2 and Figure 7-3). Current human infringement still occurs throughout, especially in areas close to the roads. The current ecological condition of this habitat with regard to the main driving forces, are intact, which is evident in the amount of, and importance of the species recorded in the flora and faunal assessment, and also to the type of plant species recorded corresponding to the vegetation type as described by Mucina (2006).

The drainage lines within the project area can be regarded as non-perennial and possess surface flow only briefly during and following a period of rainfall (ephemeral), which is a feature of semi-arid/arid regions. These seasonal streams create an ecological link between the stream and its surrounding terrestrial landscape and has the same function albeit on a smaller scale than a river. These habitats, jointly, is important as a movement corridor as it creates a link between the system and its surrounding terrestrial landscape for several faunal species, especially birds and mammals, and plays a vital role as a water resource not only for the biodiversity but also the local community. These units act as greenland which supports viable plant species populations and is also used for foraging by fauna. This habitat unit can be regarded as highly important, not only within the local landscape, but also regionally as its acts as a viable EN ecosystem.



Figure 7-2 Drainage feature.



Figure 7-3 Alluvial Vegetation

7.1.2 Valley Thicket and Disturbed Valley Thicket

This habitat is the remainder of the shrubland that has been disturbed by historic and current grazing (Figure 7-4 and Figure 7-5). This habitat type is regarded semi-natural thicket, on low mountains and foothills covered with tall, dense thicket, but slightly disturbed due to the grazing by livestock, mismanagement and also human infringement. Some of these have not been entirely transformed but is in a constant disturbed state, as they cannot recover to a more natural state due to ongoing disturbances and impacts received from grazing from sheep and edge effects from the adjacent land use, hence called disturbed.

The current ecological condition of this habitat with regard to the main driving forces, are intact, which is evident in the amount of, and importance of the species recorded in the flora and faunal assessment, and also to the type of plant species recorded corresponding to the vegetation type as described by Mucina (2006). Even though this habitat is partly disturbed, it supports largely intact vegetation and acts as corridor for fauna dispersion within the landscape. Acts as buffer for high sensitivity areas. Acts as degraded ESA and will recover if left undisturbed. The unit acts as a greenland which supports viable plant species populations and is also used for foraging by fauna.



Figure 7-4 Density of the valley Thicket*Figure 7-5 Valley Thicket*

7.1.3 Transformed

Areas that have been heavily modified (Figure 7-6), largely due to previous and current clearing for agricultural activities and building of dams. The transformed areas are the areas which have little to no natural areas left due to being transformed. These habitats are in a constant disturbed state as it cannot recover to a more natural state due to ongoing disturbances and impacts it receives.

*Figure 7-6 Transformed areas*

7.2 Site Ecological Importance (SEI)

The biodiversity theme sensitivity, as indicated in the screening report, was derived to be Very High, mainly due to the project area being within an ESA and classified as an EN ecosystem (Figure 7-7).

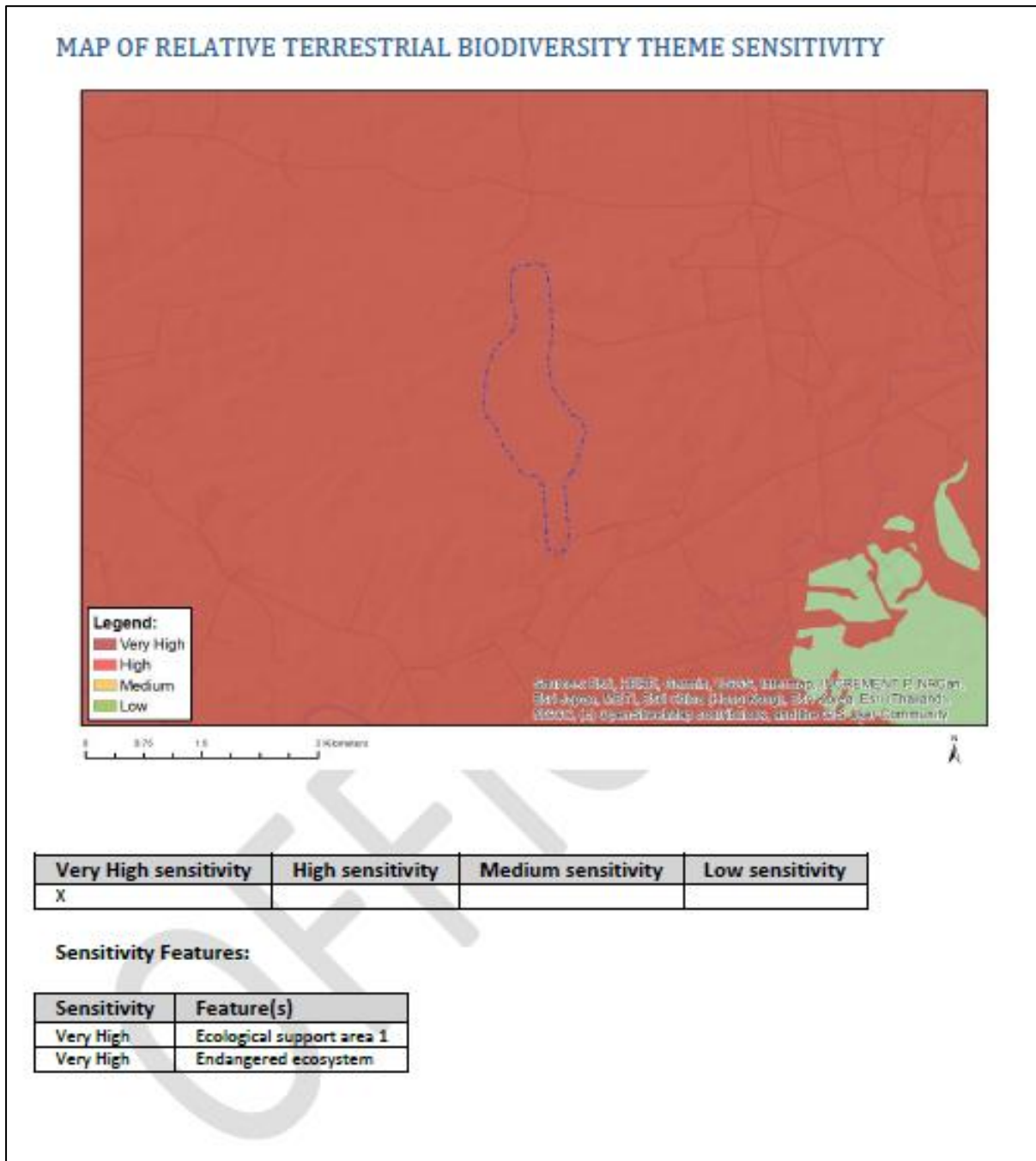


Figure 7-7 Terrestrial Biodiversity Theme Sensitivity, National Web based Environmental Screening Tool.

The location and extent of these habitats are illustrated in Figure 7-1. Based on the criteria provided in Section 5.2 of this report, all habitats within the assessment area of the proposed project were allocated a sensitivity category (Table 7-2). The sensitivities of the habitat types delineated are illustrated in Figure 7-8. ‘High Sensitivity’ areas are due to the following and the guidelines can be seen in Table 7-3:

- ESA1;
- Unique, important (EN Ecosystem, water resource) and low resilience habitats; and

- Threatened/Protected flora and fauna species were abundant and ubiquitous within the assessment area.

Table 7-2 SEI Summary of habitat types delineated within field assessment area of project area

Habitat	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance
Alluvial Vegetation	High	Medium	Medium	Low	High
Valley Thicket	Medium	Medium	Medium	Low	High
Disturbed	Medium	Low	Low	Medium	Medium
Transformed	Medium	Very Low	Very Low	High	Very Low

Table 7-3 Guidelines for interpreting Site Ecological Importance in the context of the proposed development activities

Site Ecological Importance (SEI)	Interpretation in relation to proposed development activities
High	Avoidance mitigation wherever possible. Minimisation mitigation – changes to project infrastructure design to limit the amount of habitat impacted, limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.
Very Low	Minimisation mitigation – development activities of medium to high impact acceptable and restoration activities may not be required.

According to the ECBCP handbook (2018), in ESA1 current land use must be maintained with no intensification, the following objectives apply according to the ECBCP handbook:

- These areas have already been subjected to severe and/or irreversible modification;
- These areas are not required to meet biodiversity targets, but they may still perform some function with respect to connectivity, ecosystem service delivery and climate change resilience
- Objective is to maintain remaining function, therefore:
 - Areas should not undergo any further deterioration in ecological function.
 - Opportunities to change land use practices to improve ecological function (i.e., cultivation agriculture to livestock grazing agriculture) are desirable in ESA2 areas.

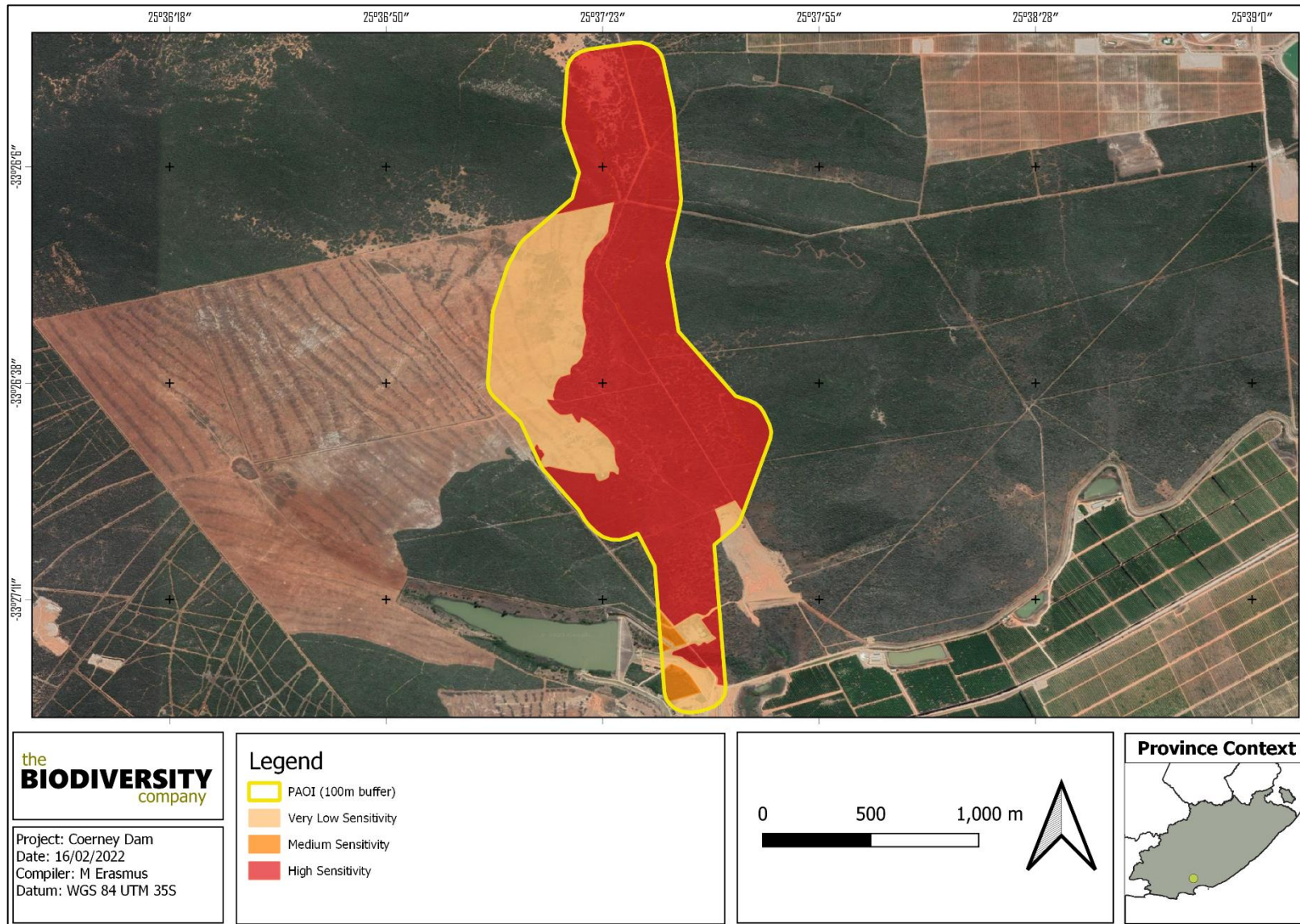


Figure 7-8 Biodiversity SEI relevant to the project area

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7.3 Impact Assessment

Potential impacts were evaluated against the data captured during the fieldwork to identify relevance to the project area, specifically the proposed development footprint area. The relevant impacts were then subjected to a prescribed impact assessment methodology. The details of this methodology can be provided on request.

7.3.1 Current Impacts

The current impacts observed during surveys are listed below. Photographic evidence of a selection of these impacts is shown in Figure 7-9.

- Roads (and associated traffic and wildlife road mortalities);
- Footpaths and litter associated with the human infringement;
- Alien and/or Invasive Plants (AIP);
- Dams and agricultural areas; and
- Vegetation removal (Mechanical).

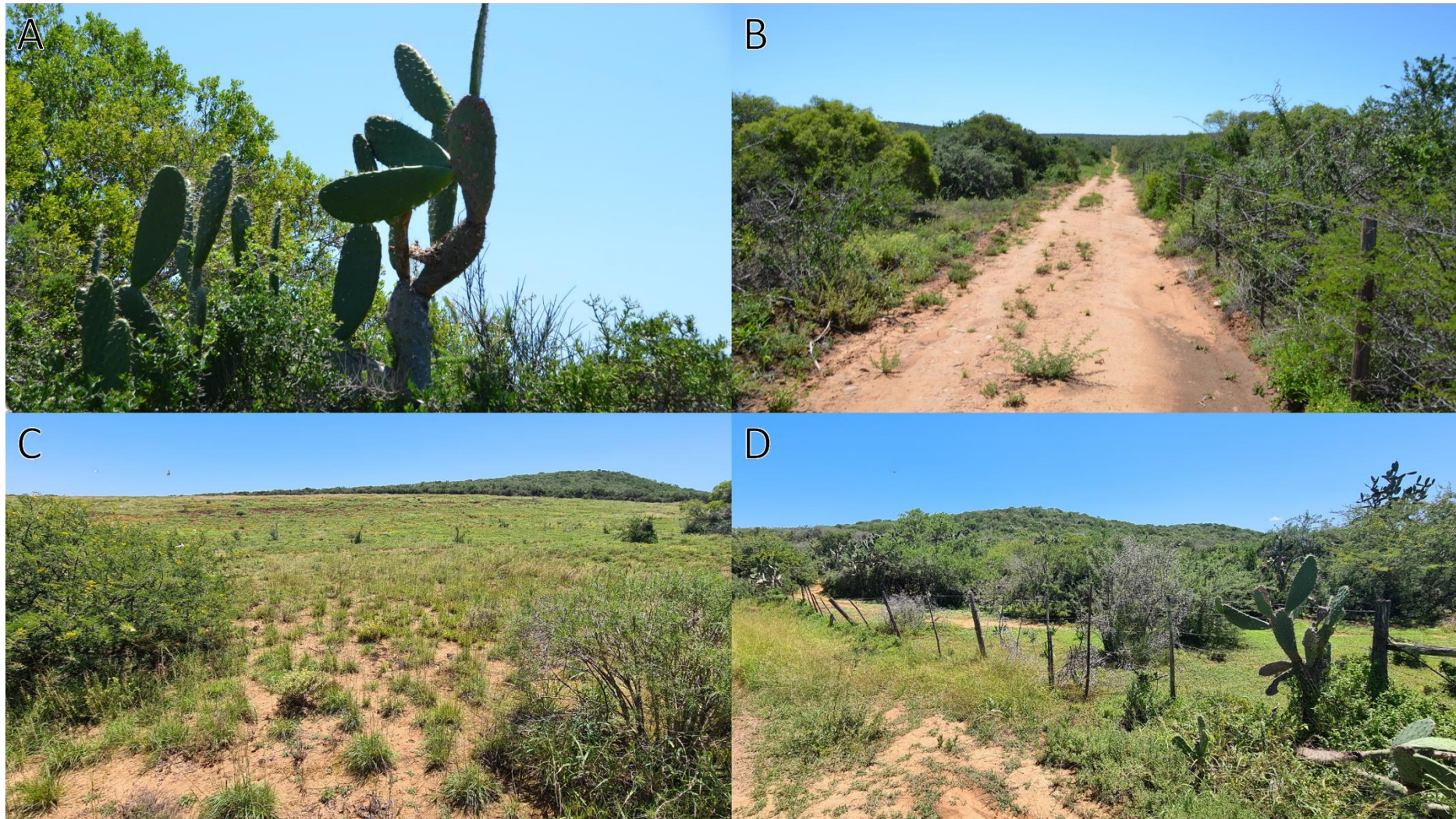


Figure 7-9 Some of the identified impacts within the project area; A) Alien Invasive Plants, B) Roads, C) Land clearing, D) Fences

7.3.2 Terrestrial Impact Assessment

Potential impacts were evaluated against the data captured during the desktop and field assessments to identify relevance to the project area. The relevant impacts associated with the proposed development were then subjected to a prescribed impact assessment methodology which is available on request. No decommissioning phase was considered based on the nature of the development. The sensitivity with the project infrastructure can be seen in Figure 7-10.

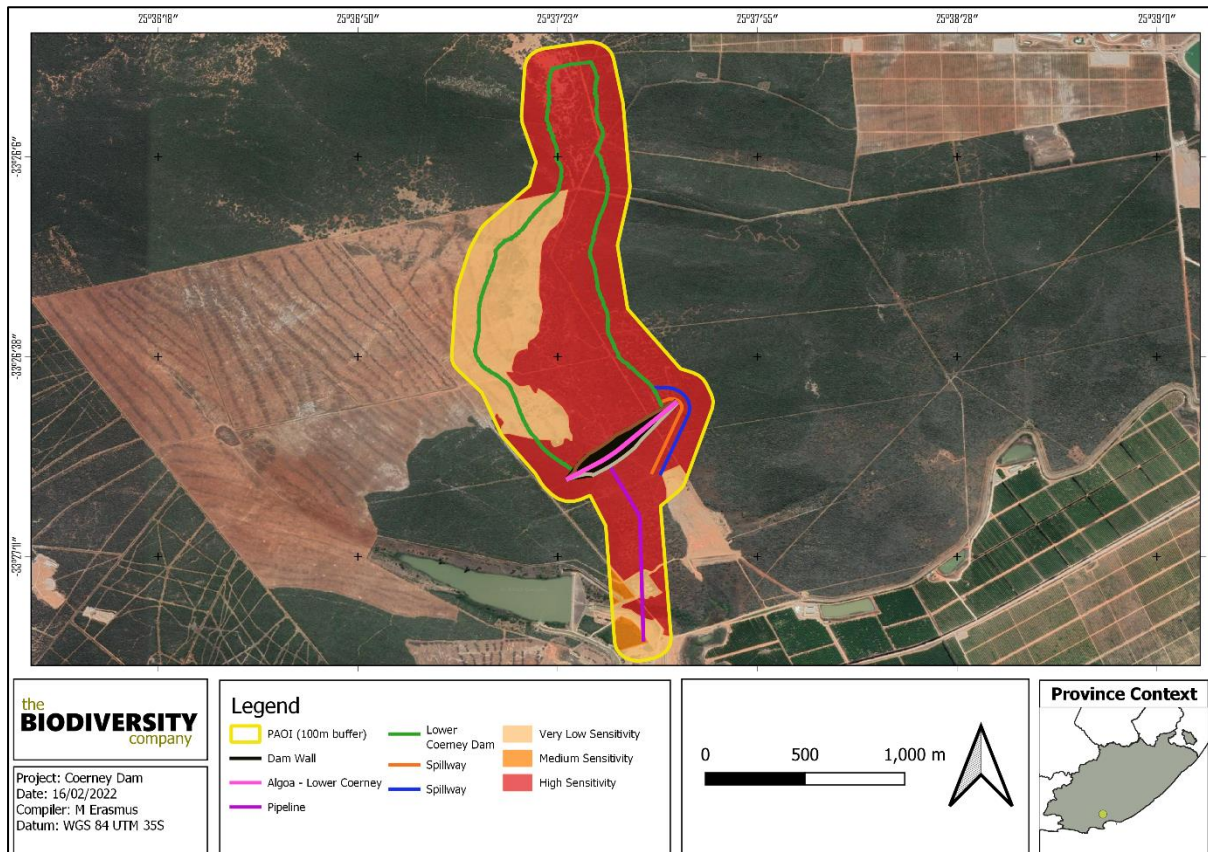


Figure 7-10 Sensitivities with the project layout overlaid.

7.3.2.1 Alternatives considered.

No alternatives were provided

7.3.2.2 Loss of Irreplaceable Resources

ESA will be lost, as well as viable area of an EN ecosystem.

7.3.2.3 Identification of Additional Potential Impacts

The project area still provides ample habitat and shelter for faunal species and supports floral communities. Although it is assumed that fauna species will move to different areas as a result of disturbance, many fauna species have very specific habitat requirements, and the destruction of their habitats may result in their displacement to less optimal habitats.

Flooding of the impoundment will effectively remove habitats for terrestrial fauna and flora species. The removal of vegetation will result in the direct loss of plant SCC as well as the

loss of potential genetic material that would otherwise have been contributed by these individuals. Increased potential for soil erosion due to bank instability is also expected. Drowning of fauna from flooding of inundation zone as well as the disruption / alteration of ecological life cycles (breeding, migration, feeding).

The main risks for the project will be the loss of vegetation, in particular the Albany Alluvial vegetation, which is an EN ecosystem according to the NBA, as well as an ESA1 area. A high likelihood of provincially protected species is also anticipated. Some of these impacts can however be mitigated to reduce the impact significance.

7.3.2.3.1 Construction Phase

The following potential impacts on the biodiversity were considered for the construction phase. This phase refers to the period during construction when the proposed infrastructure is constructed. This phase usually has the largest direct impact on biodiversity. This assumption is based on the proposed land clearance for the dam wall construction, access roads and servitudes, construction camps and laydown areas. The following potential impacts to terrestrial biodiversity were considered (Table 7-4) :

- Destruction, further loss and fragmentation of the EN ecosystem and vegetation community;
 - Access roads and servitudes; clearing new roads/servitudes as well as widening of existing roads/servitudes will remove habitats for terrestrial plant species;
 - Construction camps and laydown areas; these areas need to be cleared of vegetation for safe operation and therefore available habitat for terrestrial plant species will be reduced;
 - Dam wall and bridge construction; site establishment and the placement of this physical structure as well as supporting infrastructure on natural habitat will effectively remove habitat for terrestrial plant species through blasting and excavation followed by the building of foundations etc.;
 - Direct and indirect cause of erosion.
- Spread and/or establishment of alien and/or invasive species, especially in areas that are cleared;
- Destruction of protected flora species;
- Displacement, direct mortalities and disturbance of faunal (including protected species) community due to habitat loss and disturbances (such as site clearance, dust, light, vibrations, poaching and noise);
 - Displacement/loss of fauna, the removal of vegetation will result in the direct loss of habitat forcing the species to move into new area where more challenges may be present;
 - Disruption of faunal populations by interfering with their movements and/or breeding activities; and

- Direct mortalities from earth moving or transport vehicles and increased traffic due to construction work and the transportation of staff/materials.

7.3.2.3.2 Operational Phase

This phase refers to when construction has been completed and the proposed infrastructure has been built and is functional, with the expected loss of habitat due to the flooding of the inundation zone. The following potential impacts were considered (Table 7-5):

- Destruction, further loss and fragmentation of the vegetation community and displacement, direct mortalities and disturbance of faunal community due to habitat loss and disturbances;
 - Flooding of the area will effectively remove habitats for terrestrial plant species;
 - Drowning of fauna from flooding of inundation zone;
 - Displacement and fragmentation of the faunal community, particularly the disruption of natural faunal movement corridors;
- Continued encroachment and displacement of the natural vegetation community due to alien invasive plant species and erosion;
 - The edges of the new inundation area will likely be degraded by impacts such as livestock drinking and trampling, alien vegetation will become a concern in these disturbed areas.
- Introduction of new waterborne diseases;
 - With the influx of water into the area, the likelihood of waterborne diseases such as amoebiasis, botulism and giardiasis increase as untreated sewage from the old homesteads and surroundings will now be found in the water. All these diseases will pose a risk to the local fauna that will likely not have a natural resistance.

Table 7-4 Assessment of significance of potential impacts on terrestrial biodiversity associated with the construction phase of the project.

Impact	Prior to mitigation						Post mitigation					
	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance
Destruction, further loss and fragmentation of the EN ecosystem and vegetation community	5	3	4	4	5	High	5	2	4	4	3	Moderately High
	Permanent	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Great / harmful/ ecosystem structure and function largely altered	Ecology highly sensitive /important	Definite		Permanent	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Great / harmful/ ecosystem structure and function largely altered	Ecology highly sensitive /important	Likely	
Spread and/or establishment of alien and/or invasive species, especially in areas that are cleared, especially plants.	4	3	4	4	3	Moderately High	2	2	3	2	3	Low
	Life of operation or less than 20 years: Long Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Great / harmful/ ecosystem structure and function largely altered	Ecology highly sensitive /important	Likely		One month to one year: Short Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Significant / ecosystem structure and function moderately altered	Ecology with limited sensitivity/importance	Likely	
Destruction of protected plant species	3	3	4	4	5	Moderately High	2	2	3	3	4	Low
	One year to five years: Medium Term	Local area/ within 1 km of the site boundary	Great / harmful/ ecosystem structure and function	Ecology highly sensitive /important	Definite		One month to one year: Short Term	Development specific/ within the site boundary / < 100 ha impacted /	Significant / ecosystem structure and function	Ecology moderately sensitive/ /important	Highly likely	

		/ < 5000ha impacted / Linear features affected < 1000m	largely altered					Linear features affected < 100m	moderately altered			
	4	3	3	3	3		2	2	2	2	3	
Displacement, direct mortalities and disturbance of faunal (including protected species) community due to habitat loss and disturbances (such as site clearance, dust, light, vibrations, poaching and noise faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, dust, vibration and poaching).	Life of operation or less than 20 years: Long Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology moderately sensitive/ /important	Likely	Moderate	One month to one year: Short Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Likely	Low

Table 7-5 Assessment of significance of potential impacts on terrestrial biodiversity associated with the operational phase of the project.

Impact	Prior to mitigation						Post mitigation					
	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance	Duration of Impact	Spatial Scope	Severity of Impact	Sensitivity of Receiving Environment	Probability of Impact	Significance
Destruction, further loss and fragmentation of the vegetation community and displacement, direct mortalities and disturbance of faunal community due to habitat loss and disturbances.	4	3	4	4	4		3	2	2	2	3	
	Life of operation or less than 20 years: Long Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Great / harmful/ ecosystem structure and function largely altered	Ecology highly sensitive /important	Highly likely	Moderately High	One year to five years: Medium Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Likely	Low
Continued encroachment and displacement of the natural vegetation community due to alien invasive plant species and erosion	4	3	3	4	4		3	2	2	2	3	
	Life of operation or less than 20 years: Long Term	Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000m	Significant / ecosystem structure and function moderately altered	Ecology highly sensitive /important	Highly likely	Moderately High	One year to five years: Medium Term	Development specific/ within the site boundary / < 100 ha impacted / Linear features affected < 100m	Small / ecosystem structure and function largely unchanged	Ecology with limited sensitivity/importance	Likely	Low
Introduction of new waterborne diseases	4	4	4	4	3		3	2	2	2	3	
	Life of operation or less than 20 years:	Regional within 5 km of the site boundary / < 2000ha	Great / harmful/ ecosystem structure and function	Ecology highly sensitive /important	Likely	Moderately High	One year to five years: Medium Term	Development specific/ within the site boundary / < 100 ha impacted /	Small / ecosystem structure and function	Ecology with limited sensitivity/importance	Likely	Low

	Long Term	impacted / Linear features affected < 3000m	largely altered		Linear features affected < 100m	largely unchanged	
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8 Specialist Management Plan

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

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

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

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

Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
Management outcome: Vegetation and Habitats				
<p>Areas rated as High sensitivity outside of the direct development areas should be declared as 'no-go' areas during the life of the project, and all efforts must be made to prevent development access to these areas from construction workers and machinery. The infrastructure should be realigned to prioritise development within very low sensitivity areas.</p> <ul style="list-style-type: none"> In the case of development within the High sensitivity areas, it is suggested that the establishment of a buffer around the dam shore which will be managed as a conservation area. The remaining Medium and very Low sensitivity areas within the PAOI must be rehabilitated to provide a further level of compensation for the ecosystem and vegetation that will be lost. 	Construction Phase	Project manager, Environmental Officer	Development footprint	Ongoing
<p>Areas of indigenous vegetation, even secondary communities outside of the direct project footprint, should under no circumstances be fragmented or disturbed further. Clearing of vegetation should be minimized and avoided where possible. All activities must be restricted too within the very low sensitivity areas. No further loss of high sensitivity areas should be permitted. It is recommended that areas to be developed be specifically demarcated so that during the construction phase, only the demarcated areas be impacted upon.</p> <ul style="list-style-type: none"> Vegetation clearing on slopes should be minimized and where necessary, appropriate stormwater management should be put in place to limit erosion potential of exposed soil 	Life of operation	Project manager, Environmental Officer	Areas of indigenous vegetation	Ongoing
Existing access routes, especially roads must be made use of.	Construction/Operational Phase	Environmental Officer & Design Engineer	Roads and paths used	Ongoing
All laydown, chemical toilets etc. should be restricted to medium sensitivity areas. Any materials may not be stored for extended periods of time and must be removed from the project area once the construction phase has been concluded. No permanent construction phase structures should be permitted. Construction buildings should preferably be prefabricated or constructed of re-usable/recyclable materials. No storage of vehicles or equipment will be allowed outside of the designated project areas.	Construction/Operational Phase	Environmental Officer & Design Engineer	Laydown areas	Ongoing
Areas that are denuded during construction need to be re-vegetated with indigenous vegetation to prevent erosion during flood and wind events. This will also reduce the likelihood of encroachment by alien invasive plant	Operational phase	Environmental Officer & Contractor	Assess the state of rehabilitation and encroachment of alien vegetation	Quarterly for up to two years after the closure

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<p>species. All livestock must always be kept out of the rehabilitation project area, especially areas that have been recently re-planted</p> <ul style="list-style-type: none"> Vegetation establishment should be promoted after impoundment through bank restoration and the installation of engineering structures (e.g. gravel embankments, riprap, gabions). 				
<p>A hydrocarbon spill management plan must be put in place to ensure that should there be any chemical spill out or over that it does not run into the surrounding areas. The Contractor shall be in possession of an emergency spill kit that must always be complete and available on site. Drip trays or any form of oil absorbent material must be placed underneath vehicles/machinery and equipment when not in use. No servicing of equipment on site unless necessary. All contaminated soil / yard stone shall be treated in situ or removed and be placed in containers. Appropriately contain any generator diesel storage tanks, machinery spills (e.g. accidental spills of hydrocarbons oils, diesel etc.) in such a way as to prevent them leaking and entering the environment. Construction activities and vehicles could cause spillages of lubricants, fuels and waste material potentially negatively affecting the functioning of the ecosystem. All vehicles and equipment must be maintained, and all re-fuelling and servicing of equipment is to take place in demarcated areas outside of the project area. It should be made an offence for any staff to take/ bring any plant species into/out of any portion of the project area. No plant species whether indigenous or exotic should be brought into/taken from the project area, to prevent the spread of exotic or invasive species or the illegal collection of plants.</p>	<p>Life of operation</p>	<p>Environmental Officer & Contractor</p>	<p>Spill events, Vehicles dripping.</p>	<p>Ongoing</p>
<p>A fire management plan needs to be compiled and implemented to restrict the impact fire might have on the surrounding areas.</p>	<p>Life of operation</p>	<p>Project manager, Environmental Officer</p>	<p>Any instances</p>	<p>Ongoing</p>
<p>Any individual of the protected plants that are present needs a relocation or destruction permit in order for any individual that may be removed or destroyed due to the development. Hi visibility flags must be placed near any threatened/protected plants in order to avoid any damage or destruction of the species. If left undisturbed the sensitivity and importance of these species needs to be part of the environmental awareness program. Infrastructure, development areas and routes where protected plants cannot be avoided, these plants many being geophytes or small succulents should be removed from the soil and relocated/ re-planted in similar habitats where they should be able to resprout and flourish again. All protected and red-data plants should be relocated, and as many other geophytic species as possible.</p>	<p>Life of operation</p>	<p>Environmental Officer & Contractor</p>	<p>Fire Management</p>	<p>During Phase</p>
<p>A pre-construction survey in the flowering season (July-September) should be conducted in order to ensure that a more comprehensive floral presence confirmation. For the threatened species that may not be destroyed, it is</p>	<p>Life of operation</p>	<p>Project manager, Environmental Officer</p>	<p>Protected Tree/Plant species</p>	<p>Ongoing</p>
<p>A pre-construction survey in the flowering season (July-September) should be conducted in order to ensure that a more comprehensive floral presence confirmation. For the threatened species that may not be destroyed, it is</p>	<p>Planning Phase, Pre-Construction</p>	<p>Project manager, Environmental Officer & Contractor</p>	<p>Flora species</p>	<p>During Phase</p>

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recommended that professional service providers that deal with plant search and rescue be used to remove such plants and use them either for later rehabilitation work other conservation projects.

- A search and rescue plan for the plants and animals within the proposed inundation zone. The removal of vegetation such as bulbous and succulent plants in the inundation zone is recommended for transplantation/relocation or distribution within the local area.
- It is suggested that the vegetation removal be performed in an economically viable manner by making use of plants for the surrounding area. This will also reduce the risk of conversion of stored carbon into greenhouse gasses due to the decomposition of organic material in the water.
- Clearing existing vegetation within the expected inundation zone prior to filling of the dam, as this will cause the majority of fauna to evacuate the area.

Management outcome: Fauna				
Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
	<p>A qualified environmental control officer must be on site when construction begins. A site walk through is recommended by a suitably qualified ecologist prior to any construction activities, preferably during the wet season and any SSC should be noted. In situations where the threatened and protected plants must be removed, the proponent may only do so after the required permission/permits have been obtained in accordance with national and provincial legislation. In the abovementioned situation the development of a search, rescue and recovery program is suggested for the protection of these species. Should animals not move out of the area on their own relevant specialists must be contacted to advise on how the species can be relocated</p> <p>The areas to be developed must be specifically demarcated to prevent movement of staff or any individual into the surrounding environments,</p> <ul style="list-style-type: none"> • Signs must be put up to enforce this <p>The duration of the construction should be minimized to as short term as possible, to reduce the period of disturbance on fauna.</p>	Construction Phase	Environmental Officer, Contractor	Presence of any floral or faunal species.
	Construction/Operational Phase	Project manager, Environmental Officer	Infringement into these areas	Ongoing
	Construction	Project manager, Environmental Officer & Design Engineer	Construction/Closure Phase	Ongoing

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Noise must be kept to an absolute minimum during the evenings and at night to minimize all possible disturbances to amphibian species and nocturnal mammals	Construction/Operational Phase	Environmental Officer	Noise levels	Ongoing
No trapping, killing, or poisoning of any wildlife is to be allowed <ul style="list-style-type: none"> Signs must be put up to enforce this; 	Life of operation	Environmental Officer	Evidence of trapping etc	Ongoing
Outside lighting should be designed and limited to minimize impacts on fauna. All outside lighting should be directed away from highly sensitive areas. Fluorescent and mercury vapor lighting should be avoided and sodium vapor (green/red) lights should be used wherever possible.	Construction/Operational Phase	Project manager, Environmental Officer & Design Engineer	Light pollution and period of light.	Ongoing
All construction and maintenance motor vehicle operators should undergo an environmental induction that includes instruction on the need to comply with speed limits, to respect all forms of wildlife. Speed limits must still be enforced to ensure that road killings and erosion is limited.	Life of operation	Health and Safety Officer	Compliance to the training.	Ongoing
Schedule activities and operations during least sensitive periods, to avoid migration, nesting and breeding seasons. <ul style="list-style-type: none"> Blasting must be restricted to daylight hours 	Life of operation	Project manager, Environmental Officer & Design Engineer	Activities should take place during the day in the case.	Ongoing
All areas to be developed must be walked through prior to any activity to ensure no nests or fauna species are found in the area. Should any Species of Conservation Concern not move out of the area or their nest be found in the area a suitably qualified specialist must be consulted to advise on the correct actions to be taken.	Construction and Operational phase	Project manager, Environmental Officer	Presence of Nests and faunal species	Planning, Construction and Rehabilitation
Any holes/deep excavations must be dug and planted in a progressive manner and shouldn't be left open overnight; <ul style="list-style-type: none"> Should the holes overnight they must be covered temporarily to ensure no small fauna species fall in. 	Planning and Construction	Environmental Officer & Contractor, Engineer	Presence of trapped animals and open holes	Ongoing
Flooding of impoundment should be conducted over as long a time as possible, preferably to allow fauna to retreat to higher ground. In order to minimize the number of fauna species affected by the rising waters it is important to clear as much of the existing vegetation possible prior to filling of the dam, as this will cause the majority of fauna to evacuate the area <ul style="list-style-type: none"> Flooding of the area should be conducted over as long a time as possible, preferably 1 years to allow fauna to migrate. A trained team must be on site to capture and relocate any drowning or stranded fauna. Areas above and below the dam should not be fenced off, this can function as animal corridors and could assist with genetic diversity as well as movement out of the area when being flooded 	Operational	Environmental Officer & Contractor, Engineer	Flooding of the area	During Phse
Management outcome: Alien species				
Impact Management Actions	Implementation		Monitoring	

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	Phase	Responsible Party	Aspect	Frequency
Compilation of and implementation of an alien vegetation management plan.	Life of operation	Project manager, Environmental Officer & Contractor	Assess presence and encroachment of alien vegetation	Twice a year
The footprint area of the construction should be kept to a minimum. The footprint area must be clearly demarcated to avoid unnecessary disturbances to adjacent areas. Footprint of the roads must be kept to prescribed widths.	Construction/Operational Phase	Project manager, Environmental Officer & Contractor	Footprint Area	Life of operation
Waste management must be a priority and all waste must be collected and stored adequately. It is recommended that all waste be removed from site on a weekly basis to prevent rodents and pests entering the site	Life of operation	Environmental Officer & Health and Safety Officer	Presence of waste	Life of operation
A pest control plan must be put in place and implemented; it is imperative that poisons not be used due to the likely presence of SCCs	Life of operation	Environmental Officer & Health and Safety Officer	Evidence or presence of pests	Life of operation
Management outcome: Dust				
Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
Dust-reducing mitigation measures must be put in place and must be strictly adhered to. This includes wetting of exposed soft soil surfaces. <ul style="list-style-type: none"> No non environmentally friendly suppressants may be used as this could result in pollution of water sources 	Construction	Contractor	Dustfall	Dust monitoring program.
Management outcome: Waste management				
Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
Waste management must be a priority and all waste must be collected and stored effectively.	Life of operation	Environmental Officer & Contractor	Waste Removal	Weekly
Litter, spills, fuels, chemicals and human waste in and around the project area.	Construction/Closure Phase	Environmental Officer & Health and Safety Officer	Presence of Waste	Daily
A minimum of one toilet must be provided per 10 persons. Portable toilets must be pumped dry to ensure the system does not degrade over time and spill into the surrounding area.	Life of operation	Environmental Officer & Health and Safety Officer	Number of toilets per staff member. Waste levels	Daily
The Contractor should supply sealable and properly marked domestic waste collection bins and all solid waste collected shall be disposed of at a licensed disposal facility	Life of operation	Environmental Officer & Health and Safety Officer	Availability of bins and the collection of the waste.	Ongoing
Where a registered disposal facility is not available close to the project area, the Contractor shall provide a method statement with regard to waste management. Under no circumstances may domestic waste be burned on site	Life of operation	Environmental Officer, Contractor & Health and Safety Officer	Collection/handling of the waste.	Ongoing

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Refuse bins will be emptied and secured Temporary storage of domestic waste shall be in covered waste skips. Maximum domestic waste storage period will be 10 days.	Life of operation	Environmental Officer, Contractor & Health and Safety Officer	Management of bins and collection of waste	Ongoing, every 10 days
Management outcome: Environmental awareness training				
Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
All personnel and contractors to undergo Environmental Awareness Training. A signed register of attendance must be kept for proof. Discussions are required on sensitive environmental receptors within the project area to inform contractors and site staff of the presence of Red / Orange List species, their identification, conservation status and importance, biology, habitat requirements and management requirements the Environmental Authorisation and within the EMP. The avoidance and protection of the wetland areas must be included into a site induction. Contractors and employees must all undergo the induction and made aware of the "no-go" to be avoided.	Life of operation	Health and Safety Officer	Compliance to the training.	Ongoing
Management outcome: Erosion				
Impact Management Actions	Implementation		Monitoring	
	Phase	Responsible Party	Aspect	Frequency
Speed limits must be put in place to reduce erosion. <ul style="list-style-type: none"> Reducing the dust generated by the listed activities above, especially the earth moving machinery, through wetting the soil surface and putting up signs to enforce speed limit as well as speed bumps built to force slow speeds; Signs must be put up to enforce this. 	Life of operation	Project manager, Environmental Officer	Water Runoff from road surfaces	Ongoing
Where possible, existing access routes and walking paths must be made use of.	Life of operation	Project manager, Environmental Officer	Routes used within the area	Ongoing
Areas that are denuded during construction need to be re-vegetated with indigenous vegetation to prevent erosion during flood events and strong winds.	Life of operation	Project manager, Environmental Officer	Re-establishment of indigenous vegetation	Progressively

8.1 Recommendations

- Carbon sequestration or storage calculations are recommended in order to, for example, determine conversion of stored carbon into greenhouse gases due to flooding of the inundation zone;
- Alternatives for the infrastructure is recommended to reduce the impacts to the biodiversity due to their current locations being in sensitive areas resulting in the high impact rating;
- A stormwater management plan must be developed and implemented for the project. This plan must advise on watercourses to be avoided by the development. Preferential flow paths should be avoided as much as feasible; and
- The High sensitivity area should be avoided. Adjacent Medium and Very Low sensitivity areas must be rehabilitated to provide suitable compensation for the expected loss of High sensitivity areas for the project.

9 Conclusion and Impact Statement

9.1 Terrestrial Ecology

The completion of a comprehensive desktop study, in conjunction with the results from the field survey, suggest there is a good confidence in the information provided. The survey ensured that there was a suitable groundtruth coverage of the assessment area and most habitats and ecosystems were assessed to obtain a general species (fauna and flora) overview and the major current impacts were observed. The conservation status is classified as EN and the protection level is regarded as 'Not Protected/Poorly Protected' Ecosystem. Moreover, the proposed activity overlaps with an ESA1.

The current layout overlaps within sensitive habitats and other areas of high biodiversity potential. Portions of the current expected development would be considered to have a high negative impact as it would directly affect the habitat of threatened/protected plant species and expected listed faunal species that use these ecosystems;

- The assessment area possesses a high diversity and density of protected flora species. Moreover, protected fauna are ubiquitous within the assessment area and surrounding landscape.

The high sensitivity terrestrial areas still:

- Serve as and represent ESA as per the Conservation Plan;
- An EN ecosystem that is ecologically intact
- Serve as fundamental water resources for the region;
- Supports and protects fauna and flora (including protected and threatened species); and
- Support various organisms and may play a more important role in the ecosystem if left to recover from the superficial impacts.

The ecological integrity, importance and functioning of these terrestrial biodiversity areas provide a variety of ecological services considered beneficial, with one key service being the maintenance of biodiversity and water resources. The preservation of these systems is the most important aspect to consider for the proposed project.

The developer is urged to provide an alternative for the development, should this not be an option then the area must be offset.

9.2 Impact Statement

The main expected impacts of the proposed development will include the following:

- Habitat loss and fragmentation (including the loss of an EN ecosystem and vegetation type);
- Degradation of surrounding habitat; and
- Mortality, disturbance and displacement of fauna and flora caused during the construction and operational phases.

It is the opinion of the specialist that the project may proceed but a biodiversity compensation strategy must be included as a condition of the environmental authorisation. This compensation recommendation is based on amongst others the EN vegetation type that was found to still be intact.

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11 Appendices

Appendix A Specialist declarations

DECLARATION

I, Martinus Erasmus, declare that:

- 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 71 and is punishable in terms of Section 24F of the Act.



Martinus Erasmus

Terrestrial Ecologist

The Biodiversity Company

February 2022

DECLARATION

I, Lindi Steyn, declare that:

- 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 71 and is punishable in terms of Section 24F of the Act.



Lindi Steyn

Terrestrial Ecologist

The Biodiversity Company

February 2022

11.1 Appendix B Flora species expected in the project area and surrounds

Family	Taxon	Author	IUCN	Ecology
Malvaceae	<i>Abutilon rehmannii</i>	Baker f.	LC	Indigenous
Malvaceae	<i>Abutilon sonneratianum</i>	(Cav.) Sweet	LC	Indigenous
Euphorbiaceae	<i>Acalypha ecklonii</i>	Baill.	LC	Indigenous; Endemic
Euphorbiaceae	<i>Acalypha glabrata</i> var. <i>glabrata</i>	Thunb.	LC	Indigenous
Euphorbiaceae	<i>Acalypha punctata</i> var. <i>punctata</i>	Meisn. ex C.Krauss	LC	Indigenous
Achariaceae	<i>Acharia tragodes</i>	Thunb.	LC	Indigenous; Endemic
Asteraceae	<i>Achyranthemum striatum</i>	(Thunb.) N.G.Bergh		Indigenous; Endemic
Amaranthaceae	<i>Achyropsis avicularis</i>	(E.Mey. ex Moq.) Benth. & Hook.f. ex B.D.Jacks.	LC	Indigenous; Endemic
Asteraceae	<i>Afroaster hispidus</i>	(Thunb.) J.C.Manning & Goldblatt	LC	Indigenous
Rubiaceae	<i>Afrocanthium mundianum</i>	(Cham. & Schtdl.) Lantz	LC	Indigenous
Rutaceae	<i>Agathosma capensis</i>	(L.) Dummer	LC	Indigenous; Endemic
Rutaceae	<i>Agathosma ovata</i>	(Thunb.) F.Dietr.		Indigenous
Rutaceae	<i>Agathosma puberula</i>	(Steud.) Fourc.	LC	Indigenous; Endemic
Rutaceae	<i>Agathosma venusta</i>	(Eckl. & Zeyh.) Pillans	LC	Indigenous; Endemic
Rosaceae	<i>Agrimonia bracteata</i>	E.Mey. ex C.A.Mey.	LC	Indigenous
Poaceae	<i>Agrostis lachnantha</i> var. <i>lachnantha</i>	Nees	LC	Indigenous
Poaceae	<i>Aira cupaniana</i>	Guss.	NE	Not indigenous; Naturalised
Aizoaceae	<i>Aizoon canariense</i>	L.	LC	Indigenous
Hyacinthaceae	<i>Albuca shawii</i>	Baker	LC	Indigenous
Hyacinthaceae	<i>Albuca tortuosa</i>	Baker	LC	Indigenous; Endemic
Rosaceae	<i>Alchemilla capensis</i>	Thunb.	LC	Indigenous; Endemic
Apiaceae	<i>Alepidea capensis</i> var. <i>capensis</i>	(P.J.Bergius) R.A.Dyer	LC	Indigenous; Endemic
Poaceae	<i>Alloteropsis semialata</i> subsp. <i>eckloniana</i>	(R.Br.) Hitchc.	LC	Indigenous
Asphodelaceae	<i>Aloe lineata</i> var. <i>lineata</i>	(Aiton) Haw.	LC	Indigenous; Endemic
Asphodelaceae	<i>Aloe microstigma</i>	Salm-Dyck	LC	Indigenous
Asphodelaceae	<i>Aloe speciosa</i>	Baker	LC	Indigenous; Endemic
Asphodelaceae	<i>Aloiampelos ciliaris</i> var. <i>ciliaris</i>	(Haw.) Klopper & Gideon F.Sm.	LC	Indigenous; Endemic
Asphodelaceae	<i>Aloiampelos ciliaris</i> var. <i>tidmarshii</i>	(Haw.) Klopper & Gideon F.Sm.	LC	Indigenous; Endemic
Asphodelaceae	<i>Aloiampelos tenuior</i>	(Haw.) Klopper & Gideon F.Sm.	LC	Indigenous; Endemic
Amaranthaceae	<i>Amaranthus hybridus</i> subsp. <i>hybridus</i>	L.		Not indigenous; Naturalised
Amaranthaceae	<i>Amaranthus thunbergii</i>	Moq.	LC	Indigenous
Asteraceae	<i>Amellus alternifolius</i> subsp. <i>alternifolius</i>	Roth	LC	Indigenous; Endemic
Asteraceae	<i>Amellus strigosus</i> subsp. <i>strigosus</i>	(Thunb.) Less.	LC	Indigenous; Endemic
Fabaceae	<i>Amphithalea micrantha</i>	Walp.	LC	Indigenous; Endemic
Fabaceae	<i>Amphithalea phyllicoides</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic

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Anacampserotaceae	<i>Anacampseros arachnoides</i>	(Haw.) Sims	LC	Indigenous; Endemic
Anacampserotaceae	<i>Anacampseros telephiastrum</i>	DC.	LC	Indigenous; Endemic
Poaceae	<i>Andropogon appendiculatus</i>	Nees	LC	Indigenous
Ranunculaceae	<i>Anemone brevistylis</i>	(Szyszl.) J.C.Manning & Goldblatt	LC	Indigenous; Endemic
Apiaceae	<i>Anginon difforme</i>	(L.) B.L.Burt	LC	Indigenous; Endemic
Malvaceae	<i>Anisodontea scabrosa</i>	(L.) Bates	LC	Indigenous; Endemic
Rubiaceae	<i>Anthospermum herbaceum</i>	L.f.	LC	Indigenous
Rubiaceae	<i>Anthospermum paniculatum</i>	Cruse	LC	Indigenous; Endemic
Icaciniaceae	<i>Apodytes dimidiata subsp. dimidiata</i>	E.Mey. ex Arn.	LC	Indigenous
Asteraceae	<i>Arctotis arctotoides</i>	(L.f.) O.Hoffm.	LC	Indigenous
Fabaceae	<i>Argyrobium collinum</i>	Eckl. & Zeyh.	LC	Indigenous
Fabaceae	<i>Argyrobium tomentosum</i>	(Andrews) Druce	LC	Indigenous
Iridaceae	<i>Aristea anceps</i>	Eckl. ex Klatt	LC	Indigenous; Endemic
Iridaceae	<i>Aristea ecklonii</i>	Baker	LC	Indigenous
Iridaceae	<i>Aristea pusilla</i>	(Thunb.) Ker Gawl.	LC	Indigenous; Endemic
Iridaceae	<i>Aristea schizolaena</i>	Harv. ex Baker	LC	Indigenous; Endemic
Poaceae	<i>Aristida diffusa subsp. burkei</i>	Trin.	LC	Indigenous
Poaceae	<i>Arundinella nepalensis</i>	Trin.	LC	Indigenous
Fabaceae	<i>Aspalathus angustifolia subsp. robusta</i>	(Lam.) R.Dahlgren	VU	Indigenous; Endemic
Fabaceae	<i>Aspalathus kougaensis</i>	(Garab. ex R.Dahlgren) R.Dahlgren	LC	Indigenous; Endemic
Fabaceae	<i>Aspalathus setacea</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Fabaceae	<i>Aspalathus spinosa subsp. spinosa</i>	L.	LC	Indigenous; Endemic
Fabaceae	<i>Aspalathus teres subsp. teres</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Asparagaceae	<i>Asparagus aethiopicus</i>	L.	LC	Indigenous
Asparagaceae	<i>Asparagus asparagoides</i>	(L.) W.Wight	LC	Indigenous
Asparagaceae	<i>Asparagus burchellii</i>	Baker	LC	Indigenous; Endemic
Asparagaceae	<i>Asparagus crassicaudus</i>	Jessop	LC	Indigenous; Endemic
Asparagaceae	<i>Asparagus densiflorus</i>	(Kunth) Jessop	LC	Indigenous
Asparagaceae	<i>Asparagus multiflorus</i>	Baker	LC	Indigenous; Endemic
Asparagaceae	<i>Asparagus striatus</i>	(L.f.) Thunb.	LC	Indigenous; Endemic
Asparagaceae	<i>Asparagus suaveolens</i>	Burch.	LC	Indigenous
Asparagaceae	<i>Asparagus subulatus</i>	Thunb.	LC	Indigenous; Endemic
Asparagaceae	<i>Asparagus volubilis</i>	Thunb.	LC	Indigenous; Endemic
Aspleniaceae	<i>Asplenium capense</i>	(Kunze) Bir, Fraser-Jenk. & Lovis	LC	Indigenous
Aspleniaceae	<i>Asplenium lunulatum</i>	Sw.	LC	Indigenous
Aytoniaceae	<i>Asterella bachmannii</i>	(Steph.) S.W.Arnell		Indigenous
Asphodelaceae	<i>Astroloba corrugata</i>	N.L.Mey. & Gideon F.Sm.	LC	Indigenous; Endemic
Sapindaceae	<i>Atalaya capensis</i>	R.A.Dyer	LC	Indigenous; Endemic

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Asteraceae	<i>Athanasia dentata</i>	(L.) L.	LC	Indigenous; Endemic
Asteraceae	<i>Athanasia pinnata</i>	L.f.	LC	Indigenous; Endemic
Amaranthaceae	<i>Atriplex vestita</i> var. <i>appendiculata</i>	(Thunb.) Aellen	LC	Indigenous
Poaceae	<i>Avena fatua</i>	L.	NE	Not indigenous; Naturalised; Invasive
Salvadoraceae	<i>Azima tetraacantha</i>	Lam.	LC	Indigenous
Lamiaceae	<i>Ballota africana</i>	(L.) Benth.	LC	Indigenous
Acanthaceae	<i>Barleria obtusa</i>	Nees	LC	Indigenous
Begoniaceae	<i>Begonia geranioides</i>	Hook.f.	LC	Indigenous; Endemic
Aizoaceae	<i>Berberanthus vespertinus</i>	(A.Berger) Schwantes	LC	Indigenous; Endemic
Asteraceae	<i>Berkheya decurrens</i>	(Thunb.) Willd.	LC	Indigenous; Endemic
Asteraceae	<i>Berkheya sphaerocephala</i>	(DC.) Roessler	LC	Indigenous; Endemic
Asteraceae	<i>Bidens pilosa</i>	L.		Not indigenous; Naturalised
Blechnaceae	<i>Blechnum punctulatum</i> var. <i>punctulatum</i>	Sw.	LC	Indigenous
Acanthaceae	<i>Blepharis capensis</i>	(L.f.) Pers.	LC	Indigenous; Endemic
Acanthaceae	<i>Blepharis integrifolia</i> var. <i>integrifolia</i>	(L.f.) E.Mey. ex Schinz	LC	Indigenous
Iridaceae	<i>Bobartia orientalis</i> subsp. <i>orientalis</i>	J.B.Gillett	LC	Indigenous; Endemic
Iridaceae	<i>Bobartia</i> sp.			
Nyctaginaceae	<i>Boerhavia erecta</i>	L.		Not indigenous; Naturalised
Capparaceae	<i>Boscia oleoides</i>	(Burch. ex DC.) Toelken	LC	Indigenous; Endemic
Poaceae	<i>Brachiaria serrata</i>	(Thunb.) Stapf	LC	Indigenous
Asteraceae	<i>Brachylaena elliptica</i>	(Thunb.) DC.	LC	Indigenous; Endemic
Asteraceae	<i>Brachylaena ilicifolia</i>	(Lam.) E.Phillips & Schweick.	LC	Indigenous
Brachytheciaceae	<i>Brachythecium ruderae</i>	(Brid.) W.R.Buck		Indigenous
Bryaceae	<i>Bryum pycnophyllum</i>	(Dixon) Mohamed		Indigenous
Orobanchaceae	<i>Buchnera dura</i>	Benth.	LC	Indigenous
Scrophulariaceae	<i>Buddleja saligna</i>	Willd.	LC	Indigenous
Asphodelaceae	<i>Bulbine abyssinica</i>	A.Rich.	LC	Indigenous
Asphodelaceae	<i>Bulbine favosa</i>	(Thunb.) Schult. & Schult.f.	LC	Indigenous
Asphodelaceae	<i>Bulbine frutescens</i>	(L.) Willd.	LC	Indigenous
Asphodelaceae	<i>Bulbine latifolia</i> var. <i>latifolia</i>	(L.f.) Spreng.	LC	Indigenous; Endemic
Asphodelaceae	<i>Bulbine narcissifolia</i>	Salm-Dyck	LC	Indigenous
Cyperaceae	<i>Bulbostylis contexta</i>	(Nees) M.Bodard	LC	Indigenous
Capparaceae	<i>Cadaba aphylla</i>	(Thunb.) Wild	LC	Indigenous
Rutaceae	<i>Calodendrum capense</i>	(L.f.) Thunb.	LC	Indigenous
Fabaceae	<i>Calpurnia aurea</i> subsp. <i>aurea</i>	(Aiton) Benth.	LC	Indigenous
Restionaceae	<i>Cannomois virgata</i>	(Rottb.) Steud.	LC	Indigenous; Endemic
Rubiaceae	<i>Canthium inerme</i>	(L.f.) Kuntze	LC	Indigenous
Capparaceae	<i>Capparis sepiaria</i> var. <i>citrifolia</i>	L.	LC	Indigenous

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Apocynaceae	<i>Carissa bispinosa</i>	(L.) Desf. ex Brenan	LC	Indigenous
Cyperaceae	<i>Carpha glomerata</i>	(Thunb.) Nees	LC	Indigenous; Endemic
Celastraceae	<i>Cassine peragua subsp. peragua</i>	L.	LC	Indigenous
Lauraceae	<i>Cassytha filiformis</i>	L.	NE	Indigenous
Apiaceae	<i>Centella affinis var. affinis</i>	(Eckl. & Zeyh.) Adamson	LC	Indigenous; Endemic
Apiaceae	<i>Centella virgata var. virgata</i>	(L.f.) Drude	LC	Indigenous; Endemic
Achariaceae	<i>Ceratosicyos laevis</i>	(Thunb.) A.Meeuse	LC	Indigenous
Apocynaceae	<i>Ceropegia carnosia</i>	E.Mey.	LC	Indigenous
Scrophulariaceae	<i>Chaenostoma campanulatum</i>	Benth.	LC	Indigenous; Endemic
Scrophulariaceae	<i>Chaenostoma cordatum</i>	(Thunb.) Benth.	LC	Indigenous; Endemic
Scrophulariaceae	<i>Chaenostoma polyanthum</i>	Benth.	LC	Indigenous; Endemic
Cannabaceae	<i>Chaetachme aristata</i>	Planch.	LC	Indigenous
Fabaceae	<i>Chamaecrista capensis var. capensis</i>	(Thunb.) E.Mey.	LC	Indigenous
Verbenaceae	<i>Chascanum cuneifolium</i>	(L.f.) E.Mey.	LC	Indigenous; Endemic
Pteridaceae	<i>Cheilanthes capensis</i>	(Thunb.) Sw.	LC	Indigenous
Pteridaceae	<i>Cheilanthes hirta var. nemorosa</i>	Sw.	LC	Indigenous
Pteridaceae	<i>Cheilanthes multifida var. multifida</i>	(Sw.) Sw.	LC	Indigenous
Pteridaceae	<i>Cheilanthes parviloba</i>	(Sw.) Sw.	LC	Indigenous
Pteridaceae	<i>Cheilanthes viridis var. glauca</i>	(Forssk.) Sw.	LC	Indigenous
Pteridaceae	<i>Cheilanthes viridis var. macrophylla</i>	(Forssk.) Sw.	LC	Indigenous
Pteridaceae	<i>Cheilanthes viridis var. viridis</i>	(Forssk.) Sw.	LC	Indigenous
Amaranthaceae	<i>Chenopodium mucronatum</i>	Thunb.	LC	Indigenous
Agavaceae	<i>Chlorophytum capense</i>	(L.) Voss	LC	Indigenous; Endemic
Agavaceae	<i>Chlorophytum crispum</i>	(Thunb.) Baker	LC	Indigenous; Endemic
Asteraceae	<i>Chrysocoma ciliata</i>	L.	LC	Indigenous
Asteraceae	<i>Cineraria geraniifolia</i>	DC.	LC	Indigenous; Endemic
Asteraceae	<i>Cirsium vulgare</i>	(Savi) Ten.		Not indigenous; Naturalised; Invasive
Menispermaceae	<i>Cissampelos torulosa</i>	E.Mey. ex Harv.	LC	Indigenous
Ranunculaceae	<i>Clematis brachiata</i>	Thunb.	LC	Indigenous
Rosaceae	<i>Cliffortia drepanoides</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Rosaceae	<i>Cliffortia ilicifolia var. ilicifolia</i>	L.	LC	Indigenous; Endemic
Rosaceae	<i>Cliffortia strobilifera</i>	L.	LC	Indigenous
Peraceae	<i>Clutia alaternoides var. alaternoides</i>	L.	LC	Indigenous; Endemic
Peraceae	<i>Clutia dregeana</i>	Scheele	LC	Indigenous; Endemic
Peraceae	<i>Clutia laxa</i>	Eckl. ex Sond.	LC	Indigenous
Peraceae	<i>Clutia virgata</i>	Pax & K.Hoffm.	LC	Indigenous
Cucurbitaceae	<i>Coccinia quinqueloba</i>	(Thunb.) Cogn.	LC	Indigenous; Endemic
Rutaceae	<i>Coleonema pulchellum</i>	I.Williams	LC	Indigenous; Endemic
Combretaceae	<i>Combretum caffrum</i>	(Eckl. & Zeyh.) Kuntze	LC	Indigenous; Endemic

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Commelinaceae	<i>Commelina africana var. africana</i>	L.	LC	Indigenous
Commelinaceae	<i>Commelina africana var. lancispatha</i>	L.	LC	Indigenous
Commelinaceae	<i>Commelina benghalensis</i>	L.	LC	Indigenous
Commelinaceae	<i>Commelina eckloniana</i>	Kunth	LC	Indigenous
Convolvulaceae	<i>Convolvulus farinosus</i>	L.	LC	Indigenous
Asteraceae	<i>Conyza scabrida</i>	DC.		Indigenous
Asteraceae	<i>Corymbium africanum</i>	L.		Indigenous
Asteraceae	<i>Cotula heterocarpa</i>	DC.	LC	Indigenous; Endemic
Crassulaceae	<i>Cotyledon campanulata</i>	Marloth	LC	Indigenous; Endemic
Crassulaceae	<i>Cotyledon orbiculata var. orbiculata</i>	L.	LC	Indigenous
Crassulaceae	<i>Cotyledon velutina</i>	Hook.f.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula cultrata</i>	L.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula ericoides subsp. ericoides</i>	Haw.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula expansa subsp. expansa</i>	Aiton	LC	Indigenous
Crassulaceae	<i>Crassula mesembryanthoides subsp. mesembryanthemoides</i>	(Haw.) D.Dietr.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula muscosa var. muscosa</i>	L.	NE	Indigenous
Crassulaceae	<i>Crassula muscosa var. polpodacea</i>	L.	NE	Indigenous; Endemic
Crassulaceae	<i>Crassula nemorosa</i>	(Eckl. & Zeyh.) Endl. ex Walp.	LC	Indigenous
Crassulaceae	<i>Crassula obovata var. obovata</i>	Haw.	LC	Indigenous
Crassulaceae	<i>Crassula orbicularis</i>	L.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula pellucida subsp. marginalis</i>	L.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula perfoliata var. minor</i>	L.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula pubescens subsp. rattrayi</i>	Thunb.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula rupestris subsp. rupestris</i>	Thunb.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula sp.</i>	A.DC.		
Crassulaceae	<i>Crassula tetragona subsp. acutifolia</i>	L.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula tetragona subsp. lignescens</i>	L.	LC	Indigenous; Endemic
Crassulaceae	<i>Crassula vaillantii</i>	(Willd.) Roth		Not indigenous; Naturalised
Fabaceae	<i>Crotalaria capensis</i>	Jacq.	LC	Indigenous
Euphorbiaceae	<i>Croton rivularis</i>	Mull.Arg.	LC	Indigenous; Endemic
Cunoniaceae	<i>Cunonia capensis</i>	L.	LC	Indigenous; Endemic
Asteraceae	<i>Curio articulatus</i>	(L.f.) P.V.Heath	LC	Indigenous; Endemic
Convolvulaceae	<i>Cuscuta campestris</i>	Yunck.		Not indigenous; Naturalised; Invasive
Asteraceae	<i>Cuspidia cernua subsp. cernua</i>	(L.f.) B.L.Burt	LC	Indigenous; Endemic
Tecophilaeaceae	<i>Cyanella lutea</i>	L.f.		Indigenous
Commelinaceae	<i>Cyanotis speciosa</i>	(L.f.) Hassk.	LC	Indigenous
Orobanchaceae	<i>Cycnium tubulosum subsp. tubulosum</i>	(L.f.) Engl.	LC	Indigenous
Poaceae	<i>Cymbopogon marginatus</i>	(Steud.) Stapf ex Burt Davy	LC	Indigenous

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Poaceae	<i>Cymbopogon nardus</i>	(L.) Rendle	LC	Indigenous
Apocynaceae	<i>Cynanchum gerrardii</i>	(Harv.) Liede	LC	Indigenous
Apocynaceae	<i>Cynanchum viminalis subsp. viminalis</i>	(L.) L.		Indigenous
Poaceae	<i>Cynodon dactylon</i>	(L.) Pers.	LC	Indigenous
Poaceae	<i>Cynodon incompletus</i>	Nees	LC	Indigenous; Endemic
Cyperaceae	<i>Cyperus albostrigatus</i>	Schrad.	LC	Indigenous
Cyperaceae	<i>Cyperus austro-africanus</i>	C.Archer & Goetgh.	LC	Indigenous
Cyperaceae	<i>Cyperus difformis</i>	L.	LC	Indigenous
Cyperaceae	<i>Cyperus obtusiflorus var. flavissimus</i>	Vahl	LC	Indigenous
Cyperaceae	<i>Cyperus rubicundus</i>	Vahl	LC	Indigenous
Cyperaceae	<i>Cyperus tabularis</i>	Schrad.	LC	Indigenous; Endemic
Cyperaceae	<i>Cyperus uitenhagensis</i>	(Steud.) C.Archer & Goetgh.	LC	Indigenous
Cyperaceae	<i>Cyperus usitatus</i>	Burch.	LC	Indigenous
Vitaceae	<i>Cyphostemma cirrhosum subsp. cirrhosum</i>	(Thunb.) Desc. ex Wild & R.B.Drumm.	LC	Indigenous
Vitaceae	<i>Cyphostemma quinatum</i>	(Dryand.) Desc. ex Wild & R.B.Drumm.	LC	Indigenous
Amaryllidaceae	<i>Cyrtanthus helictus</i>	Lehm.	DD	Indigenous; Endemic
Euphorbiaceae	<i>Dalechampia capensis</i>	A.Spreng.	LC	Indigenous
Apiaceae	<i>Dasispermum hispidum</i>	(Thunb.) Magee & B.-E.van Wyk	LC	Indigenous; Endemic
Apiaceae	<i>Dasispermum humile</i>	(Meisn.) Magee & B.-E.van Wyk	LC	Indigenous; Endemic
Solanaceae	<i>Datura ferox</i>	L.		Not indigenous; Naturalised; Invasive
Asteraceae	<i>Delairea odorata</i>	Lem.	LC	Indigenous
Aizoaceae	<i>Delosperma echinatum</i>	(Lam.) Schwantes	LC	Indigenous; Endemic
Aizoaceae	<i>Delosperma ecklonis</i>	(Salm-Dyck) Schwantes	LC	Indigenous; Endemic
Aizoaceae	<i>Delosperma sp.</i>	L.Bolus		
Aizoaceae	<i>Delosperma versicolor</i>	L.Bolus	LC	Indigenous; Endemic
Scrophulariaceae	<i>Diascia cuneata</i>	E.Mey. ex Benth.	LC	Indigenous; Endemic
Convolvulaceae	<i>Dichondra micrantha</i>	Urb.		Not indigenous; Naturalised
Acanthaceae	<i>Dicliptera cernua</i>	(Hook.f. ex Nees) J.C.Manning & Goldblatt	LC	Indigenous
Pottiaceae	<i>Didymodon xanthocarpus</i>	(Mull.Hal.) Magill		Indigenous
Urticaceae	<i>Didymodoxa caffra</i>	(Thunb.) Friis & Wilmot-Deer	LC	Indigenous
Iridaceae	<i>Dierama pendulum</i>	(L.f.) Baker	LC	Indigenous; Endemic
Iridaceae	<i>Dierama trichorhizum</i>	(Baker) N.E.Br.	LC	Indigenous
Poaceae	<i>Digitaria eriantha</i>	Steud.	LC	Indigenous
Poaceae	<i>Digitaria monodactyla</i>	(Nees) Stapf	LC	Indigenous
Poaceae	<i>Digitaria natalensis</i>	Stent	LC	Indigenous
Poaceae	<i>Digitaria sanguinalis</i>	(L.) Scop.	NE	Not indigenous; Naturalised
Poaceae	<i>Diheteropogon filifolius</i>	(Nees) Clayton	LC	Indigenous

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Ebenaceae	<i>Diospyros lycioides subsp. lycioides</i>	Desf.	LC	Indigenous
Ebenaceae	<i>Diospyros villosa var. villosa</i>	(L.) De Winter	LC	Indigenous; Endemic
Orchidaceae	<i>Disa chrysostachya</i>	Sw.	LC	Indigenous
Orchidaceae	<i>Disa porrecta</i>	Sw.	LC	Indigenous
Orchidaceae	<i>Disa sagittalis</i>	(L.f.) Sw.	LC	Indigenous; Endemic
Asteraceae	<i>Disparago tortilis</i>	(DC.) Sch.Bip.	LC	Indigenous; Endemic
Orchidaceae	<i>Disperis fanniniae</i>	Harv.	LC	Indigenous
Sapindaceae	<i>Dodonaea viscosa var. angustifolia</i>	Jacq.	LC	Indigenous
Pteridaceae	<i>Doryopteris concolor</i>	(Langsd. & Fisch.) Kuhn	LC	Indigenous
Salicaceae	<i>Dovyalis rhamnoides</i>	(Burch. ex DC.) Burch. ex Harv. & Sond.	LC	Indigenous
Salicaceae	<i>Dovyalis zeyheri</i>	(Sond.) Warb.	LC	Indigenous
Hyacinthaceae	<i>Drimia altissima</i>	(L.f.) Ker Gawl.	LC	Indigenous
Hyacinthaceae	<i>Drimia capensis</i>	(Burm.f.) Wijnands	LC	Indigenous; Endemic
Hyacinthaceae	<i>Drimia elata</i>	Jacq. ex Willd.	DD	Indigenous
Aizoaceae	<i>Drosanthemum floribundum</i>	(Haw.) Schwantes	LC	Indigenous; Endemic
Acanthaceae	<i>Dyschoriste burchellii</i>	(Nees) Kuntze	LC	Indigenous
Acanthaceae	<i>Dyschoriste setigera</i>	(Pers.) J.C.Manning & Goldblatt	LC	Indigenous
Amaranthaceae	<i>Dysphania carinata</i>	(R.Br.) Mosyakin & Clemants		Not indigenous; Naturalised; Invasive
Poaceae	<i>Echinochloa crus-galli</i>	(L.) P.Beauv.	LC	Indigenous
Poaceae	<i>Echinochloa jubata</i>	Stapf	LC	Indigenous
Boraginaceae	<i>Echium plantagineum</i>	L.		Not indigenous; Naturalised; Invasive
Boraginaceae	<i>Ehretia rigida subsp. rigida</i>	(Thunb.) Druce	LC	Indigenous; Endemic
Boraginaceae	<i>Ehretia rigida subsp. silvatica</i>	(Thunb.) Druce	LC	Indigenous; Endemic
Poaceae	<i>Ehrharta erecta var. erecta</i>	Lam.	LC	Indigenous
Poaceae	<i>Ehrharta erecta var. natalensis</i>	Lam.	LC	Indigenous
Poaceae	<i>Ehrharta ramosa subsp. ramosa</i>	(Thunb.) Thunb.	LC	Indigenous; Endemic
Dryopteridaceae	<i>Elaphoglossum acrostichoides</i>	(Hook. & Grev.) Schelpe	LC	Indigenous
Cyperaceae	<i>Eleocharis limosa</i>	(Schrad.) Schult.	LC	Indigenous
Poaceae	<i>Elionurus muticus</i>	(Spreng.) Kunth	LC	Indigenous
Polygonaceae	<i>Emex australis</i>	Steinh.	LC	Indigenous
Cyperaceae	<i>Epischoenus sp.</i>			
Poaceae	<i>Eragrostis cilianensis</i>	(All.) Vignolo ex Janch.	LC	Indigenous
Poaceae	<i>Eragrostis curvula</i>	(Schrad.) Nees	LC	Indigenous
Poaceae	<i>Eragrostis obtusa</i>	Munro ex Ficalho & Hiern	LC	Indigenous
Poaceae	<i>Eragrostis plana</i>	Nees	LC	Indigenous
Poaceae	<i>Eragrostis planiculmis</i>	Nees	LC	Indigenous
Poaceae	<i>Eragrostis racemosa</i>	(Thunb.) Steud.	LC	Indigenous
Ericaceae	<i>Erica caffra var. caffra</i>	L.	LC	Indigenous

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Ericaceae	<i>Erica chamissonis</i> var. <i>chamissonis</i>	Klotzsch ex Benth.	LC	Indigenous; Endemic
Ericaceae	<i>Erica chamissonis</i> var. <i>polyantha</i>	Klotzsch ex Benth.	LC	Indigenous; Endemic
Ericaceae	<i>Erica copiosa</i> var. <i>copiosa</i>	J.C.Wendl.	LC	Indigenous; Endemic
Ericaceae	<i>Erica copiosa</i> var. <i>linearisepala</i>	J.C.Wendl.	LC	Indigenous; Endemic
Ericaceae	<i>Erica corifolia</i> var. <i>corifolia</i>	L.	LC	Indigenous; Endemic
Ericaceae	<i>Erica cristata</i>	Dulfer	LC	Indigenous; Endemic
Ericaceae	<i>Erica curviflora</i>	L.	LC	Indigenous; Endemic
Ericaceae	<i>Erica demissa</i> var. <i>demissa</i>	Klotzsch ex Benth.	LC	Indigenous; Endemic
Ericaceae	<i>Erica melanthera</i>	L.	LC	Indigenous; Endemic
Ericaceae	<i>Erica nabea</i>	Guthrie & Bolus	LC	Indigenous; Endemic
Ericaceae	<i>Erica nutans</i>	J.C.Wendl.	LC	Indigenous; Endemic
Ericaceae	<i>Erica simulans</i> var. <i>simulans</i>	Dulfer	LC	Indigenous; Endemic
Ericaceae	<i>Erica unilateralis</i>	Klotzsch ex Benth.	LC	Indigenous; Endemic
Brassicaceae	<i>Erucastrum strigosum</i>	(Thunb.) O.E.Schulz	LC	Indigenous
Ebenaceae	<i>Euclea</i> sp.			
Ebenaceae	<i>Euclea undulata</i>	Thunb.	LC	Indigenous
Myrtaceae	<i>Eugenia zeyheri</i>	(Harv.) Harv.	LC	Indigenous; Endemic
Euphorbiaceae	<i>Euphorbia inaequilatera</i>	Sond.	LC	Indigenous
Euphorbiaceae	<i>Euphorbia kraussiana</i>	Bernh. ex Krauss	LC	Indigenous; Endemic
Euphorbiaceae	<i>Euphorbia mammillaris</i>	L.	LC	Indigenous; Endemic
Euphorbiaceae	<i>Euphorbia mauritanica</i>	L.	LC	Indigenous
Euphorbiaceae	<i>Euphorbia rhombifolia</i>	Boiss.	LC	Indigenous
Euphorbiaceae	<i>Euphorbia sclerophylla</i>	Boiss.	LC	Indigenous; Endemic
Euphorbiaceae	<i>Euphorbia spartaria</i>	N.E.Br.	LC	Indigenous
Euphorbiaceae	<i>Euphorbia tetragona</i>	Haw.	LC	Indigenous; Endemic
Asteraceae	<i>Euryops euryopoides</i>	(DC.) B.Nord.	LC	Indigenous; Endemic
Asteraceae	<i>Euryops spathaceus</i>	DC.	LC	Indigenous; Endemic
Convolvulaceae	<i>Falkia repens</i>	Thunb.	LC	Indigenous; Endemic
Asteraceae	<i>Felicia aethiopica</i> subsp. <i>ecklonis</i>	(Burm.f.) Bolus & Wolley-Dod ex Adamson & T.M.Salter	LC	Indigenous; Endemic
Asteraceae	<i>Felicia erigeroides</i>	DC.	LC	Indigenous; Endemic
Asteraceae	<i>Felicia fascicularis</i>	DC.	LC	Indigenous
Poaceae	<i>Festuca scabra</i>	Vahl	LC	Indigenous
Cyperaceae	<i>Ficinia acuminata</i>	(Nees) Nees	LC	Indigenous; Endemic
Cyperaceae	<i>Ficinia indica</i>	(Lam.) H.Pfeiff.	LC	Indigenous; Endemic
Cyperaceae	<i>Ficinia trispicata</i>	(L.f.) Druce	LC	Indigenous; Endemic
Moraceae	<i>Ficus sur</i>	Forssk.	LC	Indigenous
Fissidentaceae	<i>Fissidens ovatus</i>	Brid.		Indigenous
Phyllanthaceae	<i>Flueggea verrucosa</i>	(Thunb.) G.L.Webster	LC	Indigenous; Endemic
Fossombroniaceae	<i>Fossombronia capensis</i>	S.W.Arnell		Indigenous

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Fossombroniaceae	<i>Fossombronia zuurbergensis</i>	Perold		Indigenous; Endemic
Iridaceae	<i>Freesia corymbosa</i>	(Burm.f.) N.E.Br.	LC	Indigenous; Endemic
Scrophulariaceae	<i>Freylinia undulata</i>	(L.f.) Benth.	LC	Indigenous; Endemic
Aizoaceae	<i>Galenia pubescens</i>	(Eckl. & Zeyh.) Druce	LC	Indigenous; Endemic
Aizoaceae	<i>Galenia sarcophylla</i>	Fenzl ex Sond.	LC	Indigenous
Asteraceae	<i>Galinsoga parviflora</i>	Cav.		Not indigenous; Naturalised; Invasive
Rubiaceae	<i>Galopina aspera</i>	(Eckl. & Zeyh.) Walp.	LC	Indigenous
Rubiaceae	<i>Galopina circaeoides</i>	Thunb.	LC	Indigenous
Asphodelaceae	<i>Gasteria acinacifolia</i>	(J.Jacq.) Haw.	LC	Indigenous; Endemic
Asphodelaceae	<i>Gasteria baylissiana</i>	Rauh	LC	Indigenous; Endemic
Asphodelaceae	<i>Gasteria bicolor</i> var. <i>bicolor</i>	Haw.	LC	Indigenous; Endemic
Asteraceae	<i>Gazania krebsiana</i> subsp. <i>krebsiana</i>	Less.	LC	Indigenous
Asteraceae	<i>Gazania linearis</i> var. <i>linearis</i>	(Thunb.) Druce	LC	Indigenous
Asteraceae	<i>Gazania pectinata</i>	(Thunb.) Spreng.	LC	Indigenous; Endemic
Geraniaceae	<i>Geranium</i> sp.			
Asteraceae	<i>Gerbera cordata</i>	(Thunb.) Less.	LC	Indigenous; Endemic
Asteraceae	<i>Gerbera piloselloides</i>	(L.) Cass.	LC	Indigenous
Amaryllidaceae	<i>Gethyllis spiralis</i>	(Thunb.) Thunb.	LC	Indigenous; Endemic
Iridaceae	<i>Gladiolus longicollis</i> subsp. <i>longicollis</i>	Baker	LC	Indigenous
Iridaceae	<i>Gladiolus mortonius</i>	Herb.	LC	Indigenous; Endemic
Iridaceae	<i>Gladiolus ochroleucus</i>	Baker	LC	Indigenous
Iridaceae	<i>Gladiolus permeabilis</i> subsp. <i>edulis</i>	D.Delaroche	LC	Indigenous
Iridaceae	<i>Gladiolus permeabilis</i> subsp. <i>permeabilis</i>	D.Delaroche	LC	Indigenous; Endemic
Iridaceae	<i>Gladiolus stellatus</i>	G.J.Lewis	LC	Indigenous; Endemic
Thymelaeaceae	<i>Gnidia laxa</i>	(L.f.) Gilg	LC	Indigenous; Endemic
Thymelaeaceae	<i>Gnidia racemosa</i>	Thunb.	LC	Indigenous; Endemic
Thymelaeaceae	<i>Gnidia</i> sp.			
Thymelaeaceae	<i>Gnidia squarrosa</i>	(L.) Druce	LC	Indigenous
Apocynaceae	<i>Gonioma kamassi</i>	E.Mey.	LC	Indigenous
Malvaceae	<i>Grewia occidentalis</i> var. <i>occidentalis</i>	L.	LC	Indigenous
Celastraceae	<i>Gymnosporia buxifolia</i>	(L.) Szyszyl.	LC	Indigenous
Celastraceae	<i>Gymnosporia capitata</i>	(E.Mey. ex Sond.) Loes.	LC	Indigenous; Endemic
Celastraceae	<i>Gymnosporia heterophylla</i>	(Eckl. & Zeyh.) Loes.	LC	Indigenous
Celastraceae	<i>Gymnosporia linearis</i> subsp. <i>linearis</i>	(L.f.) Loes.	LC	Indigenous; Endemic
Celastraceae	<i>Gymnosporia polyacantha</i> subsp. <i>polyacantha</i>	Szyszyl.	LC	Indigenous; Endemic
Amaryllidaceae	<i>Haemanthus albiflos</i>	Jacq.	LC	Indigenous; Endemic
Amaryllidaceae	<i>Haemanthus coccineus</i>	L.	LC	Indigenous
Poaceae	<i>Hainardia cylindrica</i>	(Willd.) Greuter	NE	Not indigenous; Naturalised

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Asteraceae	<i>Haplocarpha scaposa</i>	Harv.	LC	Indigenous
Orobanchaceae	<i>Harveya pumila</i>	Schltr.	LC	Indigenous
Asphodelaceae	<i>Haworthia angustifolia</i> var. <i>baylissii</i>	Haw.	NE	Indigenous; Endemic
Asphodelaceae	<i>Haworthia cooperi</i> var. <i>cooperi</i>	Baker	NE	Indigenous; Endemic
Asphodelaceae	<i>Haworthia cooperi</i> var. <i>pilifera</i>	Baker	NE	Indigenous; Endemic
Asphodelaceae	<i>Haworthia cymbiformis</i> var. <i>cymbiformis</i>	(Haw.) Duval	NE	Indigenous; Endemic
Asphodelaceae	<i>Haworthia</i> sp.			
Asphodelaceae	<i>Haworthiopsis attenuata</i> var. <i>attenuata</i>	(Haw.) G.D.Rowley		Indigenous; Endemic
Asphodelaceae	<i>Haworthiopsis glauca</i> var. <i>glauca</i>	(Baker) G.D.Rowley		Indigenous; Endemic
Asphodelaceae	<i>Haworthiopsis glauca</i> var. <i>herrei</i>	(Baker) G.D.Rowley		Indigenous; Endemic
Asphodelaceae	<i>Haworthiopsis sordida</i>	(Haw.) G.D.Rowley		Indigenous; Endemic
Asphodelaceae	<i>Haworthiopsis sordida</i> var. <i>sordida</i>	(Haw.) G.D.Rowley		Indigenous; Endemic
Asteraceae	<i>Helichrysum albanense</i>	Hilliard	LC	Indigenous; Endemic
Asteraceae	<i>Helichrysum anomalum</i>	Less.	LC	Indigenous
Asteraceae	<i>Helichrysum asperum</i> var. <i>appressifolium</i>	(Thunb.) Hilliard & B.L.Burt	LC	Indigenous; Endemic
Asteraceae	<i>Helichrysum aureum</i> var. <i>monocephalum</i>	(Houtt.) Merr.	NE	Indigenous
Asteraceae	<i>Helichrysum cephaloideum</i>	DC.	LC	Indigenous
Asteraceae	<i>Helichrysum cymosum</i> subsp. <i>cymosum</i>	(L.) D.Don	LC	Indigenous; Endemic
Asteraceae	<i>Helichrysum felinum</i>	Less.	LC	Indigenous; Endemic
Asteraceae	<i>Helichrysum nudifolium</i> var. <i>nudifolium</i>	(L.) Less.	LC	Indigenous
Asteraceae	<i>Helichrysum nudifolium</i> var. <i>oxyphyllum</i>	(L.) Less.	LC	Indigenous
Asteraceae	<i>Helichrysum nudifolium</i> var. <i>pilosellum</i>	(L.) Less.	LC	Indigenous
Asteraceae	<i>Helichrysum odoratissimum</i>	(L.) Sweet	LC	Indigenous
Asteraceae	<i>Helichrysum petiolare</i>	Hilliard & B.L.Burt	LC	Indigenous; Endemic
Asteraceae	<i>Helichrysum rosum</i> var. <i>rosum</i>	(P.J.Bergius) Less.	LC	Indigenous; Endemic
Asteraceae	<i>Helichrysum rugulosum</i>	Less.	LC	Indigenous
Asteraceae	<i>Helichrysum tenax</i> var. <i>tenax</i>	M.D.Hend.	LC	Indigenous
Asteraceae	<i>Helichrysum zeyheri</i>	Less.	LC	Indigenous
Rhamnaceae	<i>Helinus integrifolius</i>	(Lam.) Kuntze	LC	Indigenous
Malvaceae	<i>Hermannia cuneifolia</i> var. <i>cuneifolia</i>	Jacq.	LC	Indigenous
Malvaceae	<i>Hermannia flammea</i>	Jacq.	LC	Indigenous; Endemic
Malvaceae	<i>Hermannia hyssopifolia</i>	L.	LC	Indigenous; Endemic
Malvaceae	<i>Hermannia mucronulata</i>	Turcz.	LC	Indigenous; Endemic
Malvaceae	<i>Hermannia schlechteriana</i>	Schinz ex K.Schum.	LC	Indigenous; Endemic
Malvaceae	<i>Hermannia</i> sp.			
Malvaceae	<i>Hermannia suavis</i>	C.Presl ex Harv.	LC	Indigenous; Endemic
Malvaceae	<i>Hermannia velutina</i>	DC.	LC	Indigenous
Asteraceae	<i>Hertia kraussii</i>	(Sch.Bip.) Fourc.	LC	Indigenous; Endemic

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Iridaceae	<i>Hesperantha bachmannii</i>	Baker	LC	Indigenous; Endemic
Apiaceae	<i>Heteromorpha arborescens</i> var. <i>collina</i>	(Spreng.) Cham. & Schltld.	LC	Indigenous; Endemic
Poaceae	<i>Heteropogon contortus</i>	(L.) Roem. & Schult.	LC	Indigenous
Malvaceae	<i>Hibiscus pusillus</i>	Thunb.	LC	Indigenous
Asteraceae	<i>Hilliardiella capensis</i>	(Houtt.) H.Rob., Skvarla & V.A.Funk		Indigenous
Sapindaceae	<i>Hippobromus pauciflorus</i>	(L.f.) Radlk.	LC	Indigenous
Orchidaceae	<i>Holothrix burchellii</i>	(Lindl.) Rchb.f.	LC	Indigenous; Endemic
Orchidaceae	<i>Holothrix schlechteriana</i>	Schltr. ex Kraenzl.	LC	Indigenous; Endemic
Orchidaceae	<i>Holothrix secunda</i>	(Thunb.) Rchb.f.	LC	Indigenous; Endemic
Orchidaceae	<i>Holothrix</i> sp.			
Salicaceae	<i>Homalium rufescens</i>	Benth.	LC	Indigenous; Endemic
Apocynaceae	<i>Huernia guttata</i> subsp. <i>guttata</i>	(Masson) Haw.	LC	Indigenous; Endemic
Poaceae	<i>Hyparrhenia anamesa</i>	Clayton	LC	Indigenous
Poaceae	<i>Hyparrhenia hirta</i>	(L.) Stapf	LC	Indigenous
Rubiaceae	<i>Hyperacanthus amoenus</i>	(Sims) Bridson	LC	Indigenous
Hypericaceae	<i>Hypericum aethiopicum</i> subsp. <i>aethiopicum</i>	Thunb.	LC	Indigenous
Hypnaceae	<i>Hypnum cupressiforme</i> var. <i>cupressiforme</i>	Hedw.		Indigenous
Hypoxidaceae	<i>Hypoxis hemerocallidea</i>	Fisch., C.A.Mey. & Ave-Lall.	LC	Indigenous
Hypoxidaceae	<i>Hypoxis villosa</i> var. <i>obliqua</i>	L.f.	NE	Indigenous
Hypoxidaceae	<i>Hypoxis villosa</i> var. <i>villosa</i>	L.f.	NE	Indigenous
Fabaceae	<i>Indigofera angustata</i>	E.Mey.	LC	Indigenous; Endemic
Fabaceae	<i>Indigofera cuneifolia</i>	Eckl. & Zeyh.		Indigenous
Fabaceae	<i>Indigofera cuneifolia</i> var. <i>cuneifolia</i>	Eckl. & Zeyh.	LC	Indigenous
Fabaceae	<i>Indigofera denudata</i>	L.f.	LC	Indigenous; Endemic
Fabaceae	<i>Indigofera disticha</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Fabaceae	<i>Indigofera heterophylla</i>	Thunb.	LC	Indigenous; Endemic
Fabaceae	<i>Indigofera zeyheri</i>	Spreng. ex Eckl. & Zeyh.	LC	Indigenous
Acanthaceae	<i>Isoglossa prolixa</i>	(Nees) Lindau	LC	Indigenous; Endemic
Acanthaceae	<i>Isoglossa woodii</i>	C.B.Clarke	LC	Indigenous; Endemic
Cyperaceae	<i>Isolepis ludwigii</i>	(Steud.) Kunth	LC	Indigenous; Endemic
Cyperaceae	<i>Isolepis sepulcralis</i>	Steud.	LC	Indigenous
Cyperaceae	<i>Isolepis tenuissima</i>	(Nees) Kunth	LC	Indigenous; Endemic
Pylaisiadelphaceae	<i>Isopterygium</i> sp.			
Iridaceae	<i>Ixia orientalis</i>	L.Bolus	LC	Indigenous; Endemic
Scrophulariaceae	<i>Jamesbrittenia albanensis</i>	Hilliard	LC	Indigenous; Endemic
Scrophulariaceae	<i>Jamesbrittenia foliolosa</i>	(Benth.) Hilliard	LC	Indigenous; Endemic
Scrophulariaceae	<i>Jamesbrittenia microphylla</i>	(L.f.) Hilliard	LC	Indigenous; Endemic
Scrophulariaceae	<i>Jamesbrittenia</i> sp.			

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Oleaceae	<i>Jasminum abyssinicum</i>	Hochst. ex DC.	LC	Indigenous
Oleaceae	<i>Jasminum angulare</i>	Vahl	LC	Indigenous
Oleaceae	<i>Jasminum sp.</i>			
Euphorbiaceae	<i>Jatropha capensis</i>	(L.f.) Sond.	LC	Indigenous; Endemic
Juncaceae	<i>Juncus exsertus</i>	Buchenau	LC	Indigenous
Acanthaceae	<i>Justicia capensis</i>	Thunb.	LC	Indigenous
Acanthaceae	<i>Justicia orchioides subsp. orchioides</i>	L.f.	LC	Indigenous; Endemic
Crassulaceae	<i>Kalanchoe rotundifolia</i>	(Haw.) Haw.	LC	Indigenous
Achariaceae	<i>Kiggelaria africana</i>	L.	LC	Indigenous
Asphodelaceae	<i>Kniphofia uvaria</i>	(L.) Oken	LC	Indigenous; Endemic
Hyacinthaceae	<i>Lachenalia bowkeri</i>	Baker	LC	Indigenous; Endemic
Aizoaceae	<i>Lampranthus sp.</i>			
Aizoaceae	<i>Lampranthus spectabilis</i>	(Haw.) N.E.Br.	LC	Indigenous; Endemic
Verbenaceae	<i>Lantana camara</i>	L.		Not indigenous; Cultivated; Naturalised; Invasive
Urticaceae	<i>Laportea grossa</i>	(Wedd.) Chew	LC	Indigenous; Endemic
Thymelaeaceae	<i>Lasiosiphon meisnerianus</i>	Endl.	LC	Indigenous; Endemic
Celastraceae	<i>Lauridia reticulata</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Hyacinthaceae	<i>Ledebouria nitida</i>	(Eckl.) J.C.Manning & Goldblatt		Indigenous; Endemic
Hyacinthaceae	<i>Ledebouria ovatifolia</i>	(Baker) Jessop		Indigenous
Hyacinthaceae	<i>Ledebouria sp.</i>			
Hyacinthaceae	<i>Ledebouria undulata</i>	(Jacq.) Jessop ex Willd.	LC	Indigenous
Araceae	<i>Lemna minor</i>	L.	LC	Indigenous
Lamiaceae	<i>Leonotis leonurus</i>	(L.) R.Br.	LC	Indigenous
Lamiaceae	<i>Leonotis ocyimifolia</i>	(Burm.f.) Iwarsson	LC	Indigenous
Lamiaceae	<i>Leonotis pentadentata</i>	J.C.Manning & Goldblatt	LC	Indigenous
Leptodontaceae	<i>Leptodon smithii</i>	(Hedw.) F.Weber & D.Mohr		Indigenous
Fabaceae	<i>Lessertia frutescens subsp. frutescens</i>	(L.) Goldblatt & J.C.Manning	LC	Indigenous
Proteaceae	<i>Leucadendron salignum</i>	P.J.Bergius	LC	Indigenous; Endemic
Proteaceae	<i>Leucospermum cuneiforme</i>	(Burm.f.) Rourke	LC	Indigenous; Endemic
Limeaceae	<i>Limeum aethiopicum var. aethiopicum</i>	Burm.f.	NE	Indigenous; Endemic
Limeaceae	<i>Limeum africanum subsp. africanum</i>	L.	LC	Indigenous; Endemic
Boraginaceae	<i>Lithospermum papillosum</i>	Thunb.	LC	Indigenous
Boraginaceae	<i>Lithospermum scabrum</i>	Thunb.	LC	Indigenous; Endemic
Lobeliaceae	<i>Lobelia anceps</i>	L.f.	LC	Indigenous
Lobeliaceae	<i>Lobelia erinus</i>	L.	LC	Indigenous
Lobeliaceae	<i>Lobelia flaccida subsp. flaccida</i>	(C.Presl) A.DC.	LC	Indigenous
Lobeliaceae	<i>Lobelia neglecta</i>	Schult.	LC	Indigenous; Endemic
Lobeliaceae	<i>Lobelia tomentosa</i>	L.f.	LC	Indigenous; Endemic

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Boraginaceae	<i>Lobostemon trigonus</i>	(Thunb.) H.Buek	LC	Indigenous; Endemic
Fabaceae	<i>Lotononis pungens</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Fabaceae	<i>Lotononis stricta</i>	(Eckl. & Zeyh.) B.-E.van Wyk	LC	Indigenous
Anacardiaceae	<i>Loxostylis alata</i>	A.Spreng. ex Rchb.	LC	Indigenous; Endemic
Solanaceae	<i>Lycium cinereum</i>	Thunb.	LC	Indigenous
Solanaceae	<i>Lycium ferocissimum</i>	Miers	LC	Indigenous
Solanaceae	<i>Lycium oxycarpum</i>	Dunal	LC	Indigenous; Endemic
Solanaceae	<i>Lycium tenue</i>	Willd.	LC	Indigenous; Endemic
Myrsinaceae	<i>Lysimachia arvensis</i>	(L.) U.Manns & Anderb.		Not indigenous; Naturalised; Invasive
Capparaceae	<i>Maerua racemulosa</i>	(A.DC.) Gilg & Gilg-Ben.	LC	Indigenous
Aizoaceae	<i>Malephora lutea</i>	(Haw.) Schwantes	LC	Indigenous; Endemic
Aizoaceae	<i>Malephora luteola</i>	(Haw.) Schwantes	LC	Indigenous; Endemic
Lamiaceae	<i>Marrubium vulgare</i>	L.		Not indigenous; Naturalised
Apocynaceae	<i>Marsdenia dregea</i>	(Harv.) Schltr.		Indigenous
Celastraceae	<i>Maytenus acuminata var. acuminata</i>	(L.f.) Loes.	LC	Indigenous
Celastraceae	<i>Maytenus undata</i>	(Thunb.) Blakelock	LC	Indigenous
Malvaceae	<i>Melhania didyma</i>	Eckl. & Zeyh.	LC	Indigenous
Poaceae	<i>Melica racemosa</i>	Thunb.	LC	Indigenous
Fabaceae	<i>Melilotus albus</i>	Medik.	NE	Not indigenous; Naturalised; Invasive
Aizoaceae	<i>Mesembryanthemum aitonis</i>	Jacq.	LC	Indigenous; Endemic
Aizoaceae	<i>Mesembryanthemum articulatum</i>	Thunb.		Indigenous
Aizoaceae	<i>Mesembryanthemum rhizophorum</i>	Klak	LC	Indigenous; Endemic
Aizoaceae	<i>Mesembryanthemum splendens subsp. splendens</i>	L.		Indigenous; Endemic
Asteraceae	<i>Metalasia aurea</i>	D.Don	LC	Indigenous; Endemic
Asteraceae	<i>Metalasia densa</i>	(Lam.) P.O.Karis	LC	Indigenous
Asteraceae	<i>Metalasia muricata</i>	(L.) D.Don	LC	Indigenous; Endemic
Asteraceae	<i>Metalasia pungens</i>	D.Don	LC	Indigenous; Endemic
Metzgeriaceae	<i>Metzgeria nudifrons</i>	Steph.		Indigenous
Asteraceae	<i>Microglossa mespilifolia</i>	(Less.) B.L.Rob.	LC	Indigenous; Endemic
Poaceae	<i>Miscanthus ecklonii</i>	(Nees) Mabb.	LC	Indigenous
Lobeliaceae	<i>Monopsis scabra</i>	(Thunb.) Urb.	LC	Indigenous; Endemic
Lobeliaceae	<i>Monopsis unidentata subsp. intermedia</i>	(W.T.Aiton) E.Wimm.	LC	Indigenous; Endemic
Geraniaceae	<i>Monsonia emarginata</i>	(L.f.) L'Her.	LC	Indigenous; Endemic
Montiniaceae	<i>Montinia caryophyllacea</i>	Thunb.	LC	Indigenous
Loranthaceae	<i>Moquiella rubra</i>	(A.Spreng.) Balle	LC	Indigenous
Iridaceae	<i>Moraea bipartita</i>	L.Bolus	LC	Indigenous; Endemic
Iridaceae	<i>Moraea elliotii</i>	Baker	LC	Indigenous
Myricaceae	<i>Morella serrata</i>	(Lam.) Killick	LC	Indigenous

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Polygalaceae	<i>Muraltia ericaefolia</i>	DC.	LC	Indigenous; Endemic
Orchidaceae	<i>Mystacidium capense</i>	(L.f.) Schltr.	LC	Indigenous
Celastraceae	<i>Mystroxydon aethiopicum subsp. aethiopicum</i>	(Thunb.) Loes.	LC	Indigenous; Endemic
Poaceae	<i>Nassella trichotoma</i>	(Nees) Hack. ex Arechav.	NE	Not indigenous; Naturalised; Invasive
Scrophulariaceae	<i>Nemesia fruticans</i>	(Thunb.) Benth.	LC	Indigenous
Scrophulariaceae	<i>Nemesia sp.</i>			
Amaryllidaceae	<i>Nerine undulata</i>	(L.) Herb.	LC	Indigenous; Endemic
Solanaceae	<i>Nicandra physalodes</i>	(L.) Gaertn.		Not indigenous; Naturalised; Invasive
Solanaceae	<i>Nicotiana glauca</i>	Graham		Not indigenous; Naturalised; Invasive
Apiaceae	<i>Notobubon laevigatum</i>	(Aiton) Magee	LC	Indigenous
Meliaceae	<i>Nymanianthus capensis</i>	(Thunb.) Lindb.	LC	Indigenous
Nymphaeaceae	<i>Nymphaea nouchali var. caerulea</i>	Burm.f.	LC	Indigenous
Nymphaeaceae	<i>Nymphaea nouchali var. zanzibariensis</i>	Burm.f.	LC	Indigenous
Menyanthaceae	<i>Nymphoides thunbergiana</i>	(Griseb.) Kuntze	LC	Indigenous
Ochnaceae	<i>Ochna natalitia</i>	(Meisn.) Walp.	LC	Indigenous
Ochnaceae	<i>Ochna serrulata</i>	(Hochst.) Walp.	LC	Indigenous
Asteraceae	<i>Oedera pungens subsp. pungens</i>	(L'Her.) N.G.Bergh		Indigenous; Endemic
Onagraceae	<i>Oenothera sinuosa</i>	W.L.Wagner & Hoch		Not indigenous; Naturalised
Asteraceae	<i>Oldenburgia grandis</i>	(Thunb.) Baill.	LC	Indigenous; Endemic
Oliniaceae	<i>Olinia ventosa</i>	(L.) Cufod.	LC	Indigenous; Endemic
Cactaceae	<i>Opuntia ficus-indica</i>	(L.) Mill.	NE	Not indigenous; Cultivated; Naturalised; Invasive
Hyacinthaceae	<i>Ornithogalum dubium</i>	Houtt.	LC	Indigenous; Endemic
Hyacinthaceae	<i>Ornithogalum juncifolium var. juncifolium</i>	Jacq.	NE	Indigenous
Hyacinthaceae	<i>Ornithogalum paludosum</i>	Baker	LC	Indigenous
Neckeraceae	<i>Orthostichella pandurifolia</i>	(Mull.Hal.) W.R.Buck		Indigenous
Asteraceae	<i>Osteospermum calendulaceum</i>	L.f.	LC	Indigenous; Endemic
Asteraceae	<i>Osteospermum herbaceum</i>	L.f.	LC	Indigenous; Endemic
Asteraceae	<i>Osteospermum imbricatum subsp. imbricatum</i>	L.	LC	Indigenous; Endemic
Asteraceae	<i>Osteospermum imbricatum subsp. nervalum</i>	L.	NE	Indigenous; Endemic
Asteraceae	<i>Osteospermum junceum</i>	P.J.Bergius	LC	Indigenous; Endemic
Asteraceae	<i>Osteospermum moniliferum subsp. pisiferum</i>	L.	LC	Indigenous; Endemic
Fabaceae	<i>Otholobium prodiens</i>	C.H.Stirt. & Muasya	NE	Indigenous; Endemic
Oxalidaceae	<i>Oxalis eckloniana var. sonderi</i>	C.Presl	LC	Indigenous; Endemic
Oxalidaceae	<i>Oxalis imbricata var. violacea</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Oxalidaceae	<i>Oxalis purpurata</i>	Jacq.	LC	Indigenous; Endemic
Oxalidaceae	<i>Oxalis semiloba subsp. semiloba</i>	Sond.	LC	Indigenous

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Oxalidaceae	<i>Oxalis smithiana</i>	Eckl. & Zeyh.	LC	Indigenous
Oxalidaceae	<i>Oxalis stellata</i> var. <i>stellata</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Oxalidaceae	<i>Oxalis tragopoda</i>	T.M.Salter	LC	Indigenous
Apocynaceae	<i>Pachypodium succulentum</i>	(L.f.) Sweet	LC	Indigenous; Endemic
Poaceae	<i>Panicum deustum</i>	Thunb.	LC	Indigenous
Poaceae	<i>Panicum ecklonii</i>	Nees	LC	Indigenous
Poaceae	<i>Panicum maximum</i>	Jacq.	LC	Indigenous
Poaceae	<i>Panicum stapfianum</i>	Fourc.	LC	Indigenous
Poaceae	<i>Panicum subalbidum</i>	Kunth	LC	Indigenous
Papaveraceae	<i>Papaver aculeatum</i>	Thunb.	LC	Indigenous
Meteoriaceae	<i>Papillaria africana</i>	(Mull.Hal.) A.Jaeger		Indigenous
Sapindaceae	<i>Pappea capensis</i>	Eckl. & Zeyh.	LC	Indigenous
Poaceae	<i>Paspalum dilatatum</i>	Poir.	NE	Not indigenous; Naturalised; Invasive
Thymelaeaceae	<i>Passerina falcifolia</i>	(Meisn.) C.H.Wright	LC	Indigenous; Endemic
Hypoxidaceae	<i>Pauridia scullyi</i>	(Baker) Snijman & Kocyan	LC	Indigenous; Endemic
Rubiaceae	<i>Pavetta capensis</i> subsp. <i>capensis</i>	(Houtt.) Bremek.	LC	Indigenous; Endemic
Rubiaceae	<i>Pavetta lanceolata</i>	Eckl.	LC	Indigenous
Malvaceae	<i>Pavonia praemorsa</i>	(L.f.) Cav.	LC	Indigenous; Endemic
Geraniaceae	<i>Pelargonium alchemilloides</i>	(L.) L'Her.	LC	Indigenous
Geraniaceae	<i>Pelargonium inquinans</i>	(L.) L'Her.	LC	Indigenous; Endemic
Geraniaceae	<i>Pelargonium multicaule</i> subsp. <i>multicaule</i>	Jacq.	LC	Indigenous
Geraniaceae	<i>Pelargonium myrrhifolium</i> var. <i>myrrhifolium</i>	(L.) L'Her.	LC	Indigenous; Endemic
Geraniaceae	<i>Pelargonium panduriforme</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Geraniaceae	<i>Pelargonium peltatum</i>	(L.) L'Her.	LC	Indigenous; Endemic
Geraniaceae	<i>Pelargonium ribifolium</i>	Jacq.	LC	Indigenous; Endemic
Geraniaceae	<i>Pelargonium schizopetalum</i>	Sweet	LC	Indigenous; Endemic
Geraniaceae	<i>Pelargonium sidoides</i>	DC.	LC	Indigenous
Penaeaceae	<i>Penaea cneorum</i> subsp. <i>lanceolata</i>	Meerb.	LC	Indigenous; Endemic
Penaeaceae	<i>Penaea cneorum</i> subsp. <i>ovata</i>	Meerb.	LC	Indigenous; Endemic
Poaceae	<i>Pentameris airoides</i> subsp. <i>airoides</i>	Nees	LC	Indigenous
Poaceae	<i>Pentameris ampla</i>	(Nees) Galley & H.P.Linder	LC	Indigenous
Poaceae	<i>Pentameris curvifolia</i>	(Schrad.) Nees	LC	Indigenous
Poaceae	<i>Pentameris eriostoma</i>	(Nees) Steud.	LC	Indigenous
Poaceae	<i>Pentameris glandulosa</i>	(Schrad.) Steud.	LC	Indigenous
Poaceae	<i>Pentameris heptameris</i>	(Nees) Steud.	LC	Indigenous
Poaceae	<i>Pentameris macrocalycina</i>	(Steud.) Schweick.	LC	Indigenous; Endemic
Poaceae	<i>Pentameris pallida</i>	(Thunb.) Galley & H.P.Linder	LC	Indigenous
Apocynaceae	<i>Pentarrhinum insipidum</i>	E.Mey.	LC	Indigenous

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Asteraceae	<i>Pentzia incana</i>	(Thunb.) Kuntze	LC	Indigenous
Molluginaceae	<i>Pharnaceum dichotomum</i>	L.f.	LC	Indigenous
Molluginaceae	<i>Pharnaceum trigonum</i>	Eckl. & Zeyh.	LC	Indigenous
Poaceae	<i>Phragmites australis</i>	(Cav.) Steud.	LC	Indigenous
Rhamnaceae	<i>Phylica axillaris</i>	Lam.	LC	Indigenous
Rhamnaceae	<i>Phylica axillaris var. axillaris</i>	Lam.	NE	Indigenous; Endemic
Rhamnaceae	<i>Phylica axillaris var. lutescens</i>	Lam.	NE	Indigenous; Endemic
Rhamnaceae	<i>Phylica paniculata</i>	Willd.	LC	Indigenous
Scrophulariaceae	<i>Phyllopodium sp.</i>			
Phytolaccaceae	<i>Phytolacca dioica</i>	L.		Not indigenous; Naturalised; Invasive
Apocynaceae	<i>Piaranthus geminatus subsp. geminatus</i>	(Masson) N.E.Br.	LC	Indigenous; Endemic
Pittosporaceae	<i>Pittosporum viridiflorum</i>	Sims	LC	Indigenous
Aytoniaceae	<i>Plagiochasma rupestre var. rupestre</i>	(J.R.Forst. & G.Forst.) Steph.		Indigenous
Plantaginaceae	<i>Plantago lanceolata</i>	L.	LC	Indigenous
Plantaginaceae	<i>Plantago virginica</i>	L.		Not indigenous; Naturalised
Asteraceae	<i>Plecostachys polifolia</i>	(Thunb.) Hilliard & B.L.Burt	LC	Indigenous
Lamiaceae	<i>Plectranthus aliciae</i>	(Codd) Van Jaarsv. & T.J.Edwards	LC	Indigenous; Endemic
Lamiaceae	<i>Plectranthus madagascariensis var. madagascariensis</i>	(Pers.) Benth.	LC	Indigenous
Lamiaceae	<i>Plectranthus spicatus</i>	E.Mey. ex Benth.	LC	Indigenous
Lamiaceae	<i>Plectranthus verticillatus</i>	(L.f.) Druce	LC	Indigenous
Polypodiaceae	<i>Pleopeltis macrocarpa</i>	(Bory ex Willd.) Kaulf.	LC	Indigenous
Plumbaginaceae	<i>Plumbago auriculata</i>	Lam.	LC	Indigenous
Fabaceae	<i>Podalyria burchellii</i>	DC.	LC	Indigenous; Endemic
Podocarpaceae	<i>Podocarpus latifolius</i>	(Thunb.) R.Br. ex Mirb.	LC	Indigenous
Caryophyllaceae	<i>Pollichia campestris</i>	Aiton	LC	Indigenous
Caryophyllaceae	<i>Polycarpon tetraphyllum</i>	(L.) L.		Not indigenous; Naturalised
Polygalaceae	<i>Polygala asbestina</i>	Burch.	LC	Indigenous; Endemic
Polygalaceae	<i>Polygala ephedroides</i>	Burch.	LC	Indigenous
Polygalaceae	<i>Polygala fruticosa</i>	P.J.Bergius	LC	Indigenous
Polygalaceae	<i>Polygala illepipa</i>	E.Mey. ex Harv.	LC	Indigenous; Endemic
Polygalaceae	<i>Polygala microlopha var. microlopha</i>	DC.	LC	Indigenous; Endemic
Polygalaceae	<i>Polygala myrtifolia var. myrtifolia</i>	L.	LC	Indigenous
Polygalaceae	<i>Polygala ohlendorfiana</i>	Eckl. & Zeyh.	LC	Indigenous
Polygalaceae	<i>Polygala serpentaria</i>	Eckl. & Zeyh.	LC	Indigenous
Polygalaceae	<i>Polygala uncinata</i>	E.Mey. ex Meisn.	LC	Indigenous
Polygalaceae	<i>Polygala virgata var. virgata</i>	Thunb.	LC	Indigenous
Polygonaceae	<i>Polygonum aviculare</i>	L.		Not indigenous; Naturalised

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Neckeraceae	<i>Porotrichum elongatum</i>	(Welw. & Duby) A.Gepp		Indigenous
Neckeraceae	<i>Porotrichum madagassum</i>	Kiaer ex Besch.		Indigenous
Didiereaceae	<i>Portulacaria afra</i>	Jacq.	LC	Indigenous
Verbenaceae	<i>Priva meyeri</i> var. <i>meyeri</i>	Jaub. & Spach	LC	Indigenous
Pottiaceae	<i>Pseudocrossidium crinitum</i>	(Schultz) R.H.Zander		Indigenous
Fabaceae	<i>Psoralea glabra</i>	E.Mey.	LC	Indigenous
Fabaceae	<i>Psoralea oligophylla</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Fabaceae	<i>Psoralea plauta</i>	C.H.Stirt.	LC	Indigenous; Endemic
Fabaceae	<i>Psoralea restioides</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Rutaceae	<i>Ptaeroxylon obliquum</i>	(Thunb.) Radlk.	LC	Indigenous
Celastraceae	<i>Pterocelastrus tricuspidatus</i>	(Lam.) Walp.	LC	Indigenous; Endemic
Leucodontaceae	<i>Pterogoniadelphus assimilis</i>	(Mull.Hal.) Ochyra & Zijlstra		Indigenous
Asteraceae	<i>Pteronia paniculata</i>	Thunb.	LC	Indigenous
Asteraceae	<i>Pteronia teretifolia</i>	(Thunb.) Fourc.	LC	Indigenous; Endemic
Amaranthaceae	<i>Pupalia lappacea</i> var. <i>lappacea</i>	(L.) A.Juss.	LC	Indigenous
Celastraceae	<i>Putterlickia pyracantha</i>	(L.) Endl.	LC	Indigenous; Endemic
Fabaceae	<i>Rafnia elliptica</i>	Thunb.	LC	Indigenous; Endemic
Myrsinaceae	<i>Rapanea melanophloeos</i>	(L.) Mez	LC	Indigenous
Restionaceae	<i>Restio gaudichaudianus</i>	Kunth	LC	Indigenous; Endemic
Restionaceae	<i>Restio paniculatus</i>	Rottb.	LC	Indigenous; Endemic
Restionaceae	<i>Restio sejunctus</i>	Mast.	LC	Indigenous; Endemic
Restionaceae	<i>Restio sieberi</i>	Kunth	LC	Indigenous; Endemic
Restionaceae	<i>Restio</i> sp.			
Restionaceae	<i>Restio triticeus</i>	Rottb.	LC	Indigenous; Endemic
Restionaceae	<i>Rhodocoma capensis</i>	Steud.	LC	Indigenous; Endemic
Restionaceae	<i>Rhodocoma fruticosa</i>	(Thunb.) H.P.Linder	LC	Indigenous; Endemic
Restionaceae	<i>Rhodocoma gigantea</i>	(Kunth) H.P.Linder	LC	Indigenous; Endemic
Santalaceae	<i>Rhoiacarpos capensis</i>	(Harv.) A.DC.	LC	Indigenous; Endemic
Vitaceae	<i>Rhoicissus digitata</i>	(L.f.) Gilg & M.Brandt	LC	Indigenous
Vitaceae	<i>Rhoicissus tridentata</i> subsp. <i>tridentata</i>	(L.f.) Wild & R.B.Drumm.	NE	Indigenous; Endemic
Fabaceae	<i>Rhynchosia caribaea</i>	(Jacq.) DC.	LC	Indigenous
Fabaceae	<i>Rhynchosia chrysoscias</i>	Benth. ex Harv.	LC	Indigenous; Endemic
Fabaceae	<i>Rhynchosia totta</i> var. <i>totta</i>	(Thunb.) DC.	LC	Indigenous
Fabaceae	<i>Rhynchosia totta</i> var. <i>venulosa</i>	(Thunb.) DC.		Indigenous
Ricciaceae	<i>Riccia stricta</i>	(Lindenb.) Perold		Indigenous
Rubiaceae	<i>Richardia humistrata</i>	(Cham. & Schltld.) Steud.	NE	Not indigenous; Naturalised
Zygophyllaceae	<i>Roepera maritima</i>	(Eckl. & Zeyh.) Beier & Thulin		Indigenous
Iridaceae	<i>Romulea autumnalis</i>	L.Bolus	LC	Indigenous; Endemic

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Brassicaceae	<i>Rorippa fluviatilis</i> var. <i>fluviatilis</i>	(E.Mey. ex Sond.) R.A.Dyer	LC	Indigenous
Rosaceae	<i>Rubus rigidus</i>	Sm.	LC	Indigenous
Polygonaceae	<i>Rumex crispus</i>	L.		Not indigenous; Naturalised; Invasive
Polygonaceae	<i>Rumex lanceolatus</i>	Thunb.	LC	Indigenous
Polygonaceae	<i>Rumex sagittatus</i>	Thunb.	LC	Indigenous
Aizoaceae	<i>Ruschia orientalis</i>	L.Bolus	LC	Indigenous; Endemic
Aizoaceae	<i>Ruschia</i> sp.			
Salicaceae	<i>Salix mucronata</i> subsp. <i>mucronata</i>	Thunb.	LC	Indigenous
Acanthaceae	<i>Salpinctium stenosphon</i>	(C.B.Clarke) T.J.Edwards	LC	Indigenous; Endemic
Amaranthaceae	<i>Salsola kali</i>	L.		Not indigenous; Naturalised; Invasive
Lamiaceae	<i>Salvia aurita</i>	L.f.		Indigenous
Lamiaceae	<i>Salvia aurita</i> var. <i>aurita</i>	L.f.	LC	Indigenous; Endemic
Lamiaceae	<i>Salvia repens</i> var. <i>repens</i>	Burch. ex Benth.	LC	Indigenous
Lamiaceae	<i>Salvia triangularis</i>	Thunb.	LC	Indigenous; Endemic
Ruscaceae	<i>Sansevieria hyacinthoides</i>	(L.) Druce	LC	Indigenous
Balanophoraceae	<i>Sarcophyte sanguinea</i> subsp. <i>sanguinea</i>	Sparrm.	LC	Indigenous
Orchidaceae	<i>Satyrium longicolle</i>	Lindl.	LC	Indigenous; Endemic
Orchidaceae	<i>Satyrium membranaceum</i>	Sw.	LC	Indigenous; Endemic
Dipsacaceae	<i>Scabiosa columbaria</i>	L.	LC	Indigenous
Amaryllidaceae	<i>Scadoxus puniceus</i>	(L.) Friis & Nordal	LC	Indigenous
Apocynaceae	<i>Schizoglossum linifolium</i> var. <i>linifolium</i>	Schltr.	LC	Indigenous
Cyperaceae	<i>Schoenoplectus decipiens</i>	(Nees) J.Raynal	LC	Indigenous
Cyperaceae	<i>Schoenus cuspidatus</i>	Rottb.		Indigenous; Endemic
Fabaceae	<i>Schotia afra</i> var. <i>afra</i>	(L.) Thunb.	LC	Indigenous; Endemic
Fabaceae	<i>Schotia latifolia</i>	Jacq.	LC	Indigenous
Salicaceae	<i>Scolopia mundii</i>	(Eckl. & Zeyh.) Warb.	LC	Indigenous
Salicaceae	<i>Scolopia zeyheri</i>	(Nees) Harv.	LC	Indigenous
Rhamnaceae	<i>Scutia myrtina</i>	(Burm.f.) Kurz	LC	Indigenous
Anacardiaceae	<i>Searsia chirindensis</i>	(Baker f.) Moffett	LC	Indigenous
Anacardiaceae	<i>Searsia dentata</i>	(Thunb.) F.A.Barkley	LC	Indigenous
Anacardiaceae	<i>Searsia fastigata</i>	(Eckl. & Zeyh.) Moffett	LC	Indigenous; Endemic
Anacardiaceae	<i>Searsia incisa</i> var. <i>effusa</i>	(L.f.) F.A.Barkley	LC	Indigenous; Endemic
Anacardiaceae	<i>Searsia incisa</i> var. <i>incisa</i>	(L.f.) F.A.Barkley	LC	Indigenous; Endemic
Anacardiaceae	<i>Searsia lancea</i>	(L.f.) F.A.Barkley	LC	Indigenous
Anacardiaceae	<i>Searsia longispina</i>	(Eckl. & Zeyh.) Moffett	LC	Indigenous; Endemic
Anacardiaceae	<i>Searsia pallens</i>	(Eckl. & Zeyh.) Moffett	LC	Indigenous
Anacardiaceae	<i>Searsia refracta</i>	(Eckl. & Zeyh.) Moffett	LC	Indigenous; Endemic
Anacardiaceae	<i>Searsia undulata</i>	(Jacq.) T.S.Yi, A.J.Mill. & J.Wen	LC	Indigenous

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Apocynaceae	<i>Secamone filliformis</i>	(L.f.) J.H.Ross	LC	Indigenous
Scrophulariaceae	<i>Selago dolosa</i>	Hilliard	LC	Indigenous; Endemic
Scrophulariaceae	<i>Selago geniculata</i>	L.f.	LC	Indigenous; Endemic
Scrophulariaceae	<i>Selago luxurians</i>	Choisy	LC	Indigenous; Endemic
Scrophulariaceae	<i>Selago myrtifolia</i>	Rchb.	LC	Indigenous; Endemic
Scrophulariaceae	<i>Selago sp.</i>			
Asteraceae	<i>Senecio angulatus</i>	L.f.	LC	Indigenous; Endemic
Asteraceae	<i>Senecio brachypodus</i>	DC.	LC	Indigenous
Asteraceae	<i>Senecio glutinosus</i>	Thunb.	LC	Indigenous
Asteraceae	<i>Senecio isatideus</i>	DC.	LC	Indigenous
Asteraceae	<i>Senecio juniperinus var. juniperinus</i>	L.f.	LC	Indigenous; Endemic
Asteraceae	<i>Senecio linifolius</i>	L.	LC	Indigenous
Asteraceae	<i>Senecio macroglossus</i>	DC.	LC	Indigenous
Asteraceae	<i>Senecio oxyodontus</i>	DC.	LC	Indigenous; Endemic
Asteraceae	<i>Senecio oxyriifolius subsp. oxyriifolius</i>	DC.	LC	Indigenous
Asteraceae	<i>Senecio pauciflosculosus</i>	C.Jeffrey	LC	Indigenous; Endemic
Asteraceae	<i>Senecio pseudolongifolius</i>	Sch.Bip. ex J.Calvo		Indigenous; Endemic
Asteraceae	<i>Senecio pterophorus</i>	DC.	LC	Indigenous
Asteraceae	<i>Senecio puberulus</i>	DC.	LC	Indigenous; Endemic
Asteraceae	<i>Senecio repandus</i>	Thunb.	LC	Indigenous; Endemic
Asteraceae	<i>Senecio sp.</i>			
Asteraceae	<i>Senecio speciosus</i>	Willd.	LC	Indigenous
Asteraceae	<i>Senecio striatifolius</i>	DC.	LC	Indigenous
Fabaceae	<i>Senegalia caffra</i>	(Thunb.) P.J.H.Hurter & Mabb.	LC	Indigenous
Fabaceae	<i>Senna multiglandulosa</i>	(Jacq.) H.S.Irwin & Barneby	NE	Not indigenous; Cultivated; Naturalised
Poaceae	<i>Setaria lindenbergiana</i>	(Nees) Stapf	LC	Indigenous
Poaceae	<i>Setaria sphacelata var. sphacelata</i>	(Schumach.) Stapf & C.E.Hubb. ex M.B.Moss	LC	Indigenous
Malvaceae	<i>Sida dregei</i>	Burt Davy	LC	Indigenous
Malvaceae	<i>Sida ternata</i>	L.f.	LC	Indigenous
Sapotaceae	<i>Sideroxylon inerme subsp. inerme</i>	L.	LC	Indigenous
Caryophyllaceae	<i>Silene burchellii subsp. pilosellifolia</i>	Oth ex DC.		Indigenous
Sapindaceae	<i>Smelophyllum capense</i>	(Sond.) Radlk.	LC	Indigenous; Endemic
Solanaceae	<i>Solanum retroflexum</i>	Dunal	LC	Indigenous
Asteraceae	<i>Sonchus oleraceus</i>	L.		Not indigenous; Naturalised; Invasive
Poaceae	<i>Sporobolus africanus</i>	(Poir.) Robyns & Tournay	LC	Indigenous
Poaceae	<i>Sporobolus fimbriatus</i>	(Trin.) Nees	LC	Indigenous
Poaceae	<i>Sporobolus ludwigii</i>	Hochst.	LC	Indigenous
Poaceae	<i>Sporobolus nitens</i>	Stent	LC	Indigenous

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Lamiaceae	<i>Stachys aethiopica</i>	L.	LC	Indigenous
Lamiaceae	<i>Stachys scabrida</i>	Skan	LC	Indigenous; Endemic
Lamiaceae	<i>Stachys tubulosa</i>	MacOwan	LC	Indigenous
Apocynaceae	<i>Stapelia hirsuta var. baylissii</i>	L.	LC	Indigenous; Endemic
Poaceae	<i>Stenotaphrum secundatum</i>	(Walter) Kuntze	LC	Indigenous
Poaceae	<i>Stipa dregeana var. dregeana</i>	Steud.	LC	Indigenous; Endemic
Poaceae	<i>Stipa dregeana var. elongata</i>	Steud.	LC	Indigenous
Thymelaeaceae	<i>Struthiola parviflora</i>	Bartl. ex Meisn.	LC	Indigenous; Endemic
Euphorbiaceae	<i>Suregada africana</i>	(Sond.) Kuntze	LC	Indigenous
Pallaviciniaceae	<i>Symphyogyna brasiliensis</i>	Nees & Mont.		Indigenous
Asteraceae	<i>Syncarpha milleflora</i>	(L.f.) B.Nord.	LC	Indigenous; Endemic
Iridaceae	<i>Syringodea bifucata</i>	M.P.de Vos	LC	Indigenous; Endemic
Poaceae	<i>Tenaxia disticha</i>	(Nees) N.P.Barker & H.P.Linder		Indigenous
Poaceae	<i>Tenaxia dura</i>	(Stapf) N.P.Barker & H.P.Linder	LC	Indigenous
Fabaceae	<i>Tephrosia capensis var. capensis</i>	(Jacq.) Pers.	LC	Indigenous
Fabaceae	<i>Tephrosia capensis var. longipetiolata</i>	(Jacq.) Pers.	LC	Indigenous; Endemic
Fabaceae	<i>Tephrosia macropoda var. macropoda</i>	(E.Mey.) Harv.	LC	Indigenous
Fabaceae	<i>Tephrosia semiglabra</i>	Sond.	LC	Indigenous
Aizoaceae	<i>Tetragonia fruticosa</i>	L.	LC	Indigenous
Lamiaceae	<i>Teucrium trifidum</i>	Retz.	LC	Indigenous
Poaceae	<i>Themeda triandra</i>	Forssk.	LC	Indigenous
Santalaceae	<i>Thesium nudicaule</i>	A.W.Hill	LC	Indigenous; Endemic
Acanthaceae	<i>Thunbergia dregeana</i>	Nees	LC	Indigenous
Asphodelaceae	<i>Trachyandra affinis</i>	Kunth	LC	Indigenous; Endemic
Asphodelaceae	<i>Trachyandra asperata var. stenophylla</i>	Kunth	LC	Indigenous; Endemic
Asphodelaceae	<i>Trachyandra saltii var. saltii</i>	(Baker) Oberm.	LC	Indigenous
Poaceae	<i>Trachypogon spicatus</i>	(L.f.) Kuntze	LC	Indigenous
Euphorbiaceae	<i>Tragia capensis</i>	Thunb.		Indigenous
Poaceae	<i>Tragus berteronianus</i>	Schult.	LC	Indigenous
Poaceae	<i>Tragus racemosus</i>	(L.) All.	LC	Indigenous
Poaceae	<i>Tribolium curvum</i>	(Nees) Verboom & H.P.Linder	LC	Indigenous
Poaceae	<i>Tribolium obtusifolium</i>	(Nees) Renvoize	LC	Indigenous; Endemic
Hamamelidaceae	<i>Trichocladus ellipticus subsp. ellipticus</i>	Eckl. & Zeyh.	LC	Indigenous; Endemic
Aizoaceae	<i>Trichodiadema pomeridianum</i>	L.Bolus	LC	Indigenous
Pottiaceae	<i>Trichostomum brachydontium</i>	Bruch		Indigenous
Salicaceae	<i>Trimeria trinervis</i>	Harv.	LC	Indigenous; Endemic
Pottiaceae	<i>Triquetrella tristicha</i>	(Mull.Hal.) Mull.Hal.		Indigenous
Poaceae	<i>Triraphis andropogonoides</i>	(Steud.) E.Phillips	LC	Indigenous

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Poaceae	<i>Trisetopsis hirtula</i>	(Steud.) Roser & A.Wolk		Indigenous
Iridaceae	<i>Tritonia gladiolaris</i>	(Lam.) Goldblatt & J.C.Manning	LC	Indigenous
Iridaceae	<i>Tritonia laxifolia</i>	(Klatt) Benth. ex Baker	LC	Indigenous
Asteraceae	<i>Troglophyton capillaceum subsp. capillaceum</i>	(Thunb.) Hilliard & B.L.Burtt	LC	Indigenous
Alliaceae	<i>Tulbaghia cernua</i>	Ave-Lall.	LC	Indigenous
Alliaceae	<i>Tulbaghia ludwigiana</i>	Harv.	LC	Indigenous
Alliaceae	<i>Tulbaghia sp.</i>			
Alliaceae	<i>Tulbaghia violacea subsp. violacea</i>	Harv.	LC	Indigenous; Endemic
Asteraceae	<i>Ursinia discolor</i>	(Less.) N.E.Br.	LC	Indigenous; Endemic
Asteraceae	<i>Ursinia nana subsp. nana</i>	DC.	LC	Indigenous
Lentibulariaceae	<i>Utricularia gibba</i>	L.	LC	Indigenous
Fabaceae	<i>Vachellia karroo</i>	(Hayne) Banfi & Galasso	LC	Indigenous
Hyacinthaceae	<i>Veltheimia bracteata</i>	Harv. ex Baker	LC	Indigenous; Endemic
Verbenaceae	<i>Verbena bonariensis</i>	L.		Not indigenous; Naturalised; Invasive
Asteraceae	<i>Verbesina encelioides subsp. exauriculata</i>	(Cav.) Benth. & Hook.f. ex A.Gray		Not indigenous; Naturalised
Apocynaceae	<i>Vincetoxicum cordatum</i>	(R.Br. ex Schult.) Meve & Liede		Indigenous; Endemic
Apocynaceae	<i>Vincetoxicum lycioides</i>	(E.Mey.) Kuntze		Indigenous
Poaceae	<i>Vulpia bromoides</i>	(L.) Gray	NE	Not indigenous; Naturalised; Invasive
Campanulaceae	<i>Wahlenbergia androsacea</i>	A.DC.	LC	Indigenous
Campanulaceae	<i>Wahlenbergia capillacea subsp. capillacea</i>	(L.f.) A.DC.	LC	Indigenous
Campanulaceae	<i>Wahlenbergia cinerea</i>	(L.f.) Lammers	LC	Indigenous; Endemic
Campanulaceae	<i>Wahlenbergia cuspidata</i>	Brehmer	LC	Indigenous; Endemic
Campanulaceae	<i>Wahlenbergia procumbens</i>	(L.f.) A.DC.	LC	Indigenous; Endemic
Campanulaceae	<i>Wahlenbergia rubens var. rubens</i>	(H.Buek) Lammers	LC	Indigenous; Endemic
Campanulaceae	<i>Wahlenbergia undulata</i>	(L.f.) A.DC.	LC	Indigenous
Rutaceae	<i>Zanthoxylum capense</i>	(Thunb.) Harv.	LC	Indigenous
Fabaceae	<i>Zornia capensis subsp. capensis</i>	Pers.	LC	Indigenous
Orthotrichaceae	<i>Zygodon erosus</i>	Mitt.		Indigenous

11.2 Appendix C Avifauna species expected in the project area

Species	Common Name	Conservation Status	
		Regional (SANBI, 2016)	IUCN (2021)
<i>Accipiter melanoleucus</i>	Sparrowhawk, Black	Unlisted	LC
<i>Accipiter minullus</i>	Sparrowhawk, Little	Unlisted	LC
<i>Accipiter rufiventris</i>	Sparrowhawk, Rufous-breasted	Unlisted	LC
<i>Accipiter tachiro</i>	Goshawk, African	Unlisted	LC
<i>Acrocephalus baeticatus</i>	Reed-warbler, African	Unlisted	Unlisted
<i>Acrocephalus gracilirostris</i>	Swamp-warbler, Lesser	Unlisted	LC
<i>Actitis hypoleucos</i>	Sandpiper, Common	Unlisted	LC
<i>Afrotis afra</i>	Korhaan, Southern Black	VU	VU
<i>Alopochen aegyptiaca</i>	Goose, Egyptian	Unlisted	LC
<i>Amblyospiza albifrons</i>	Weaver, Thick-billed	Unlisted	LC
<i>Anas capensis</i>	Teal, Cape	Unlisted	LC
<i>Anas erythrorhyncha</i>	Teal, Red-billed	Unlisted	LC
<i>Anas sparsa</i>	Duck, African Black	Unlisted	LC
<i>Anas undulata</i>	Duck, Yellow-billed	Unlisted	LC
<i>Andropadus importunus</i>	Greenbul, Sombre	Unlisted	LC
<i>Anhinga rufa</i>	Darter, African	Unlisted	LC
<i>Anthoscopus minutus</i>	Penduline-tit, Cape	Unlisted	LC
<i>Anthus cinnamomeus</i>	Pipit, African	Unlisted	LC
<i>Apalis flavida</i>	Apalis, Yellow-breasted	Unlisted	LC
<i>Apalis thoracica</i>	Apalis, Bar-throated	Unlisted	LC
<i>Apaloderma narina</i>	Trogon, Narina	Unlisted	LC
<i>Apus affinis</i>	Swift, Little	Unlisted	LC
<i>Apus apus</i>	Swift, Common	Unlisted	LC
<i>Apus barbatus</i>	Swift, African Black	Unlisted	LC
<i>Apus caffer</i>	Swift, White-rumped	Unlisted	LC
<i>Apus horus</i>	Swift, Horus	Unlisted	LC
<i>Ardea cinerea</i>	Heron, Grey	Unlisted	LC
<i>Ardea goliath</i>	Heron, Goliath	Unlisted	LC
<i>Ardea melanocephala</i>	Heron, Black-headed	Unlisted	LC
<i>Ardea purpurea</i>	Heron, Purple	Unlisted	LC
<i>Batis capensis</i>	Batis, Cape	Unlisted	LC
<i>Batis molitor</i>	Batis, Chinspot	Unlisted	LC
<i>Bostrychia hagedash</i>	Ibis, Hadeda	Unlisted	LC
<i>Bradypterus baboecala</i>	Rush-warbler, Little	Unlisted	LC
<i>Bubo africanus</i>	Eagle-owl, Spotted	Unlisted	LC
<i>Bubo capensis</i>	Eagle-Owl, Cape	Unlisted	LC

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<i>Bubulcus ibis</i>	Egret, Cattle	Unlisted	LC
<i>Buphagus erythrorhynchus</i>	Oxpecker, Red-billed	Unlisted	Unlisted
<i>Burhinus capensis</i>	Thick-knee, Spotted	Unlisted	LC
<i>Burhinus vermiculatus</i>	Thick-knee, Water	Unlisted	LC
<i>Buteo buteo</i>	Buzzard, Common (Steppe)	Unlisted	LC
<i>Buteo rufofuscus</i>	Buzzard, Jackal	Unlisted	LC
<i>Calandrella cinerea</i>	Lark, Red-capped	Unlisted	LC
<i>Calidris minuta</i>	Stint, Little	LC	LC
<i>Camaroptera brachyura</i>	Camaroptera, Green-backed	Unlisted	LC
<i>Campephaga flava</i>	Cuckoo-shrike, Black	Unlisted	LC
<i>Campethera notata</i>	Woodpecker, Knysna	NT	NT
<i>Caprimulgus pectoralis</i>	Nightjar, Fiery-necked	Unlisted	LC
<i>Cebblepyris caesius</i>	Cuckoo-shrike, Grey	Unlisted	LC
<i>Cecropis abyssinica</i>	Swallow, Lesser Striped	Unlisted	LC
<i>Cecropis cucullata</i>	Swallow, Greater Striped	Unlisted	LC
<i>Centropus burchellii</i>	Coucal, Burchell's	Unlisted	Unlisted
<i>Cercotrichas coryphoeus</i>	Scrub-robin, Karoo	Unlisted	LC
<i>Cercotrichas leucophrys</i>	Scrub-robin, White-browed	Unlisted	LC
<i>Cercotrichas signata</i>	Scrub Robin, Brown	Unlisted	LC
<i>Certhilauda semitorquata</i>	Lark, Eastern Long-billed	Unlisted	LC
<i>Ceryle rudis</i>	Kingfisher, Pied	Unlisted	LC
<i>Chalcomitra amethystina</i>	Sunbird, Amethyst	Unlisted	LC
<i>Charadrius hiaticula</i>	Plover, Common Ringed	Unlisted	LC
<i>Charadrius pecuarius</i>	Plover, Kittlitz's	Unlisted	LC
<i>Charadrius tricollaris</i>	Plover, Three-banded	Unlisted	LC
<i>Chlorophoneus olivaceus</i>	Bush-Shrike, Olive	Unlisted	LC
<i>Chlorophoneus sulfureopectus</i>	Bush-Shrike, Orange-breasted	Unlisted	LC
<i>Chloropicus namaquus</i>	Woodpecker, Bearded	Unlisted	LC
<i>Chrysococcyx caprius</i>	Cuckoo, Diderick	Unlisted	LC
<i>Chrysococcyx klaas</i>	Cuckoo, Klaas's	Unlisted	LC
<i>Ciconia ciconia</i>	Stork, White	Unlisted	LC
<i>Cinnyris afer</i>	Sunbird, Greater Double-collared	Unlisted	LC
<i>Cinnyris chalybeus</i>	Sunbird, Southern Double-collared	Unlisted	LC
<i>Circus ranivorus</i>	Marsh-harrier, African	EN	LC
<i>Cisticola aberrans</i>	Cisticola, Lazy	Unlisted	LC
<i>Cisticola fulvicapilla</i>	Neddicky, Neddicky	Unlisted	LC
<i>Cisticola juncidis</i>	Cisticola, Zitting	Unlisted	LC
<i>Cisticola subruficapilla</i>	Cisticola, Grey-backed	Unlisted	LC
<i>Cisticola textrix</i>	Cisticola, Cloud	Unlisted	LC

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<i>Cisticola tinnius</i>	Cisticola, Levallant's	Unlisted	LC
<i>Clamator jacobinus</i>	Cuckoo, Jacobin	Unlisted	LC
<i>Coccyzygia melanotis</i>	Waxbill, Swee	Unlisted	LC
<i>Colius striatus</i>	Mousebird, Speckled	Unlisted	LC
<i>Columba guinea</i>	Pigeon, Speckled	Unlisted	LC
<i>Columba livia</i>	Dove, Rock	Unlisted	LC
<i>Coracias garrulus</i>	Roller, European	NT	LC
<i>Corvus albicollis</i>	Raven, White-necked	Unlisted	LC
<i>Corvus albus</i>	Crow, Pied	Unlisted	LC
<i>Corvus capensis</i>	Crow, Cape	Unlisted	LC
<i>Corythornis cristatus</i>	Kingfisher, Malachite	Unlisted	Unlisted
<i>Cossypha caffra</i>	Robin-chat, Cape	Unlisted	LC
<i>Coturnix coturnix</i>	Quail, Common	Unlisted	LC
<i>Creatophora cinerea</i>	Starling, Wattled	Unlisted	LC
<i>Crithagra albogularis</i>	White-throated Canary	LC	LC
<i>Crithagra atrogularis</i>	Canary, Black-throated	Unlisted	LC
<i>Crithagra flaviventris</i>	Canary, Yellow	Unlisted	LC
<i>Crithagra gularis</i>	Seed-eater, Streaky-headed	Unlisted	LC
<i>Crithagra mozambica</i>	Canary, Yellow-fronted	Unlisted	LC
<i>Crithagra scotops</i>	Canary, Forest	Unlisted	LC
<i>Crithagra sulphurata</i>	Canary, Brimstone	Unlisted	Unlisted
<i>Cuculus clamosus</i>	Cuckoo, Black	Unlisted	LC
<i>Cuculus solitarius</i>	Cuckoo, Red-chested	Unlisted	LC
<i>Curruca layardi</i>	Tit-Babbler, Layard's	Unlisted	LC
<i>Curruca subcoerulea</i>	Tit-babbler, Chestnut-vented	Unlisted	Unlisted
<i>Cyanomitra veroxii</i>	Sunbird, Grey	LC	Unlisted
<i>Cypsiurus parvus</i>	Palm-swift, African	Unlisted	LC
<i>Delichon urbicum</i>	House-martin, Common	Unlisted	LC
<i>Dendrocygna viduata</i>	Duck, White-faced Whistling	Unlisted	LC
<i>Dendropicos fuscescens</i>	Woodpecker, Cardinal	Unlisted	LC
<i>Dendropicos griseocephalus</i>	Woodpecker, Olive	Unlisted	LC
<i>Dicrurus adsimilis</i>	Drongo, Fork-tailed	Unlisted	LC
<i>Dryoscopus cubla</i>	Puffback, Black-backed	Unlisted	LC
<i>Egretta garzetta</i>	Egret, Little	Unlisted	LC
<i>Elanus caeruleus</i>	Kite, Black-shouldered	Unlisted	LC
<i>Emberiza flaviventris</i>	Bunting, Golden-breasted	Unlisted	LC
<i>Estrilda astrild</i>	Waxbill, Common	Unlisted	LC
<i>Euplectes ardens</i>	Widowbird, Red-collared	Unlisted	LC
<i>Euplectes capensis</i>	Bishop, Yellow	Unlisted	LC

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<i>Euplectes orix</i>	Bishop, Southern Red	Unlisted	LC
<i>Falco amurensis</i>	Falcon, Amur	Unlisted	LC
<i>Falco biarmicus</i>	Falcon, Lanner	VU	LC
<i>Falco peregrinus</i>	Falcon, Peregrine	Unlisted	LC
<i>Falco rupicolus</i>	Kestrel, Rock	Unlisted	LC
<i>Fulica cristata</i>	Coot, Red-knobbed	Unlisted	LC
<i>Gallinula chloropus</i>	Moorhen, Common	Unlisted	LC
<i>Grus paradisea</i>	Crane, Blue	NT	VU
<i>Gymnoris supercilialis</i>	Petronia, Yellow-throated	Unlisted	LC
<i>Halcyon albiventris</i>	Kingfisher, Brown-hooded	Unlisted	LC
<i>Haliaeetus vocifer</i>	Fish-eagle, African	Unlisted	LC
<i>Hedydipna collaris</i>	Sunbird, Collared	Unlisted	LC
<i>Hieraaetus pennatus</i>	Eagle, Booted	Unlisted	LC
<i>Himantopus himantopus</i>	Stilt, Black-winged	Unlisted	LC
<i>Hirundo albigularis</i>	Swallow, White-throated	Unlisted	LC
<i>Hirundo dimidiata</i>	Swallow, Pearl-breasted	Unlisted	LC
<i>Hirundo rustica</i>	Swallow, Barn	Unlisted	LC
<i>Indicator indicator</i>	Honeyguide, Greater	Unlisted	LC
<i>Indicator minor</i>	Honeyguide, Lesser	Unlisted	LC
<i>Jynx ruficollis</i>	Wryneck, Red-throated	Unlisted	LC
<i>Lagonosticta rubricata</i>	Firefinch, African	Unlisted	LC
<i>Lagonosticta senegala</i>	Firefinch, Red-billed	Unlisted	LC
<i>Lamprotornis bicolor</i>	Starling, Pied	Unlisted	LC
<i>Lamprotornis nitens</i>	Starling, Cape Glossy	Unlisted	LC
<i>Laniarius ferrugineus</i>	Boubou, Southern	Unlisted	LC
<i>Lanius collaris</i>	Fiscal, Common (Southern)	Unlisted	LC
<i>Lanius collurio</i>	Shrike, Red-backed	Unlisted	LC
<i>Lophoceros alboterminatus</i>	Hornbill, Crowned	Unlisted	LC
<i>Lybius torquatus</i>	Barbet, Black-collared	Unlisted	LC
<i>Macronyx capensis</i>	Longclaw, Cape	Unlisted	LC
<i>Malaconotus blanchoti</i>	Bush-shrike, Grey-headed	Unlisted	LC
<i>Megaceryle maxima</i>	Kingfisher, Giant	Unlisted	Unlisted
<i>Melaenornis pammelaina</i>	Flycatcher, Southern Black	Unlisted	LC
<i>Melaenornis silens</i>	Flycatcher, Fiscal	Unlisted	LC
<i>Melaniparus niger</i>	Tit, Southern Black	Unlisted	Unlisted
<i>Melierax canorus</i>	Goshawk, Southern Pale Chanting	Unlisted	LC
<i>Merops apiaster</i>	Bee-eater, European	Unlisted	LC
<i>Merops bullockoides</i>	Bee-eater, White-fronted	Unlisted	LC
<i>Microcarbo africanus</i>	Cormorant, Reed	Unlisted	LC

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<i>Milvus aegyptius</i>	Kite, Yellow-billed	Unlisted	Unlisted
<i>Mirafra africana</i>	Lark, Rufous-naped	Unlisted	LC
<i>Mirafra fasciolata</i>	Lark, Eastern Clapper	Unlisted	LC
<i>Motacilla aguimp</i>	Wagtail, African Pied	Unlisted	LC
<i>Motacilla capensis</i>	Wagtail, Cape	Unlisted	LC
<i>Muscicapa adusta</i>	Flycatcher, African Dusky	Unlisted	LC
<i>Muscicapa striata</i>	Flycatcher, Spotted	Unlisted	LC
<i>Myrmecocichla formicivora</i>	Chat, Anteating	Unlisted	LC
<i>Nectarinia famosa</i>	Sunbird, Malachite	Unlisted	LC
<i>Neotis denhami</i>	Bustard, Denham's	VU	NT
<i>Neotis ludwigii</i>	Bustard, Ludwig's	EN	EN
<i>Notopholia corusca</i>	Starling, Black-bellied	Unlisted	LC
<i>Numida meleagris</i>	Guineafowl, Helmeted	Unlisted	LC
<i>Nycticorax nycticorax</i>	Night-Heron, Black-crowned	Unlisted	LC
<i>Oena capensis</i>	Dove, Namaqua	Unlisted	LC
<i>Oenanthe familiaris</i>	Chat, Familiar	Unlisted	LC
<i>Onychognathus morio</i>	Starling, Red-winged	Unlisted	LC
<i>Onychognathus naboroupp</i>	Starling, Pale-winged	Unlisted	LC
<i>Oriolus larvatus</i>	Oriole, Black-headed	Unlisted	LC
<i>Oriolus oriolus</i>	Oriole, Eurasian Golden	Unlisted	LC
<i>Ortygospiza atricollis</i>	Quailfinch, African	Unlisted	LC
<i>Otus senegalensis</i>	Scops-owl, African	Unlisted	LC
<i>Pandion haliaetus</i>	Osprey, Osprey	Unlisted	LC
<i>Passer diffusus</i>	Sparrow, Southern Grey-headed	Unlisted	LC
<i>Passer domesticus</i>	Sparrow, House	Unlisted	LC
<i>Passer melanurus</i>	Sparrow, Cape	Unlisted	LC
<i>Phalacrocorax lucidus</i>	Cormorant, White-breasted	Unlisted	LC
<i>Phoenicopterus roseus</i>	Flamingo, Greater	NT	LC
<i>Phoeniculus purpureus</i>	Wood-hoopoe, Green	Unlisted	LC
<i>Phyllastrephus terrestris</i>	Brownbul, Terrestrial	Unlisted	LC
<i>Phylloscopus trochilus</i>	Warbler, Willow	Unlisted	LC
<i>Platalea alba</i>	Spoonbill, African	Unlisted	LC
<i>Plectropterus gambensis</i>	Goose, Spur-winged	Unlisted	LC
<i>Ploceus capensis</i>	Weaver, Cape	Unlisted	LC
<i>Ploceus cucullatus</i>	Weaver, Village	Unlisted	LC
<i>Ploceus ocularis</i>	Weaver, Spectacled	Unlisted	LC
<i>Ploceus subaureus</i>	Weaver, Yellow	Unlisted	LC
<i>Ploceus velatus</i>	Masked-weaver, Southern	Unlisted	LC
<i>Podica senegalensis</i>	Finfoot, African	VU	LC

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<i>Pogoniulus pusillus</i>	Tinkerbird, Red-fronted	Unlisted	LC
<i>Polemaetus bellicosus</i>	Eagle, Martial	EN	EN
<i>Polyboroides typus</i>	Harrier-Hawk, African	Unlisted	LC
<i>Prinia maculosa</i>	Prinia, Karoo	Unlisted	LC
<i>Prinia subflava</i>	Prinia, Tawny-flanked	Unlisted	LC
<i>Psalidoprocne pristoptera</i>	Saw-wing, Black	Unlisted	LC
<i>Pternistis afer</i>	Spurfowl, Red-necked	Unlisted	LC
<i>Pterocles namaqua</i>	Sandgrouse, Namaqua	Unlisted	LC
<i>Ptyonoprogne fuligula</i>	Martin, Rock	Unlisted	Unlisted
<i>Pycnonotus capensis</i>	Bulbul, Cape	Unlisted	LC
<i>Pycnonotus nigricans</i>	Bulbul, African Red-eyed	Unlisted	LC
<i>Pycnonotus tricolor</i>	Bulbul, Dark-capped	Unlisted	Unlisted
<i>Quelea quelea</i>	Quelea, Red-billed	Unlisted	LC
<i>Recurvirostra avosetta</i>	Avocet, Pied	Unlisted	LC
<i>Rhinopomastus cyanomelas</i>	Scimitarbill, Common	Unlisted	LC
<i>Riparia cincta</i>	Martin, Banded	Unlisted	LC
<i>Riparia paludicola</i>	Martin, Brown-throated	Unlisted	LC
<i>Sagittarius serpentarius</i>	Secretarybird	VU	EN
<i>Sarothrura elegans</i>	Flufftail, Buff-spotted	Unlisted	LC
<i>Saxicola torquatus</i>	Stonechat, African	Unlisted	LC
<i>Scleroptila levaillantii</i>	Francolin, Red-winged	Unlisted	LC
<i>Scopus umbretta</i>	Hamerkop, Hamerkop	Unlisted	LC
<i>Serinus canicollis</i>	Canary, Cape	Unlisted	LC
<i>Spilopelia senegalensis</i>	Dove, Laughing	Unlisted	LC
<i>Stenostira scita</i>	Flycatcher, Fairy	Unlisted	LC
<i>Streptopelia capicola</i>	Turtle-dove, Cape	Unlisted	LC
<i>Streptopelia semitorquata</i>	Dove, Red-eyed	Unlisted	LC
<i>Struthio camelus</i>	Ostrich, Common	Unlisted	LC
<i>Sturnus vulgaris</i>	Starling, Common	Unlisted	LC
<i>Sylvietta rufescens</i>	Crombec, Long-billed	Unlisted	LC
<i>Tachybaptus ruficollis</i>	Grebe, Little	Unlisted	LC
<i>Tachymartus melba</i>	Swift, Alpine	Unlisted	LC
<i>Tadorna cana</i>	Shelduck, South African	Unlisted	LC
<i>Tauraco corythaix</i>	Turaco, Knysna	Unlisted	LC
<i>Tchagra tchagra</i>	Tchagra, Southern	Unlisted	LC
<i>Telophorus zeylonus</i>	Bokmakierie, Bokmakierie	Unlisted	LC
<i>Terpsiphone viridis</i>	Paradise-flycatcher, African	Unlisted	LC
<i>Threskiornis aethiopicus</i>	Ibis, African Sacred	Unlisted	LC
<i>Treron calvus</i>	Green-pigeon, African	Unlisted	LC

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<i>Tricholaema leucomelas</i>	Barbet, Acacia Pied	Unlisted	LC
<i>Tringa nebularia</i>	Greenshank, Common	Unlisted	LC
<i>Trochocercus cyanomelas</i>	Crested-Flycatcher, Blue-mantled	Unlisted	LC
<i>Turdus olivaceus</i>	Thrush, Olive	Unlisted	LC
<i>Turdus smithi</i>	Thrush, Karoo	Unlisted	LC
<i>Turtur chalcospilos</i>	Wood-dove, Emerald-spotted	Unlisted	LC
<i>Turtur tympanistria</i>	Dove, Tambourine	Unlisted	LC
<i>Tyto alba</i>	Owl, Barn	Unlisted	LC
<i>Upupa africana</i>	Hoopoe, African	Unlisted	LC
<i>Urocolius indicus</i>	Mousebird, Red-faced	Unlisted	LC
<i>Vanellus armatus</i>	Lapwing, Blacksmith	Unlisted	LC
<i>Vanellus coronatus</i>	Lapwing, Crowned	Unlisted	LC
<i>Vanellus melanopterus</i>	Lapwing, Black-winged	Unlisted	LC
<i>Vidua funerea</i>	Indigobird, Dusky	Unlisted	LC
<i>Vidua macroura</i>	Whydah, Pin-tailed	Unlisted	LC
<i>Zapornia flavirostra</i>	Crake, Black	Unlisted	LC
<i>Zosterops virens</i>	White-eye, Cape	Unlisted	LC

11.3 Appendix D Mammals expected in the project area

Species	Common Name	Conservation Status	
		Regional (SANBI, 2016)	IUCN (2021)
<i>Aethomys namaquensis</i>	Namaqua rock rat	LC	LC
<i>Amblysomus hottentotus</i>	Hottentot's Golden Mole	LC	LC
<i>Aonyx capensis</i>	Cape Clawless Otter	NT	NT
<i>Canis mesomelas</i>	Black-backed Jackal	LC	LC
<i>Caracal caracal</i>	Caracal	LC	LC
<i>Chlorocebus pygerythrus</i>	Vervet Monkey	LC	LC
<i>Crociodura cyanea</i>	Reddish-grey Musk Shrew	LC	LC
<i>Crociodura flavescens</i>	Greater Red Musk Shrew	LC	LC
<i>Cryptomys hottentotus</i>	Common Mole-rat	LC	LC
<i>Cynictis penicillata</i>	Yellow Mongoose	LC	LC
<i>Dasymys incomtus</i>	African Marsh rat	NT	LC
<i>Dendromus melanotis</i>	Grey Climbing Mouse	LC	LC
<i>Dendromus mesomelas</i>	Brant's Climbing Mouse	LC	LC
<i>Desmodillus auricularis</i>	Short-tailed Gerbil	LC	LC
<i>Elephantulus rupestris</i>	Western Rock Sengi	LC	LC
<i>Epomophorus wahlbergi</i>	Wahlberg's epauletted fruit bat	LC	LC
<i>Felis nigripes</i>	Black-footed Cat	VU	VU
<i>Felis silvestris</i>	African Wildcat	LC	LC
<i>Genetta genetta</i>	Small-spotted Genet	LC	LC
<i>Genetta tigrina</i>	Cape Genet	LC	LC
<i>Georchus capensis</i>	Cape Mole-rat	LC	LC
<i>Grammomys cometes</i>	Mozambique Woodland Mouse	LC	LC
<i>Graphiurus murinus</i>	Woodland Dormouse	LC	LC
<i>Graphiurus ocellatus</i>	Spectacular Dormouse	NT	LC
<i>Herpestes ichneumon</i>	Large Grey Mongoose	LC	LC
<i>Herpestes pulverulentus</i>	Cape Grey Mongoose	LC	LC
<i>Hystrix africaeaustralis</i>	Cape Porcupine	LC	LC
<i>Ictonyx striatus</i>	Striped Polecat	LC	LC
<i>Kerivoula lanosa</i>	Lesser Woolly Bat	LC	LC
<i>Leptailurus serval</i>	Serval	NT	LC
<i>Lepus saxatilis</i>	Scrub Hare	LC	LC
<i>Mastomys natalensis</i>	Natal Multimammate Mouse	LC	LC
<i>Mellivora capensis</i>	Honey Badger	LC	LC
<i>Mus minutoides</i>	Pygmy Mouse	LC	LC
<i>Mus musculus</i>	House Mouse	Unlisted	LC
<i>Myosorex varius</i>	Forest Shrew	LC	LC

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<i>Myotis tricolor</i>	Temminck's Hairy Bat	LC	LC
<i>Mystromys albicaudatus</i>	White-tailed Rat	VU	EN
<i>Neoromicia capensis</i>	Cape Serotine Bat	LC	LC
<i>Neoromicia zuluensis</i>	Aloe Bat	LC	LC
<i>Nycteris thebaica</i>	Egyptian Slit-faced Bat	LC	LC
<i>Oreotragus oreotragus</i>	Klipspringer	LC	LC
<i>Orycteropus afer</i>	Aardvark	LC	LC
<i>Otocyon megalotis</i>	Bat-eared Fox	LC	LC
<i>Otomys irroratus</i>	Vlei Rat (Fynbos type)	LC	LC
<i>Otomys unisulcatus</i>	Karoo Bush Rat	LC	LC
<i>Panthera pardus</i>	Leopard	VU	VU
<i>Papio ursinus</i>	Chacma Baboon	LC	LC
<i>Parahyaena brunnea</i>	Brown Hyaena	NT	NT
<i>Pedetes capensis</i>	Springhare	LC	LC
<i>Pelea capreolus</i>	Grey Rhebok	NT	NT
<i>Phacochoerus africanus</i>	Common Warthog	LC	LC
<i>Philantomba monticola</i>	Blue Duiker	VU	LC
<i>Poecilogale albinucha</i>	African Striped Weasel	NT	LC
<i>Potamochoerus larvatus</i>	Bushpig	LC	LC
<i>Procavia capensis</i>	Rock Hyrax	LC	LC
<i>Pronolagus saundersiae</i>	Hewitt's Red Rock Rabbit	LC	LC
<i>Proteles cristata</i>	Aardwolf	LC	LC
<i>Raphicerus campestris</i>	Steenbok	LC	LC
<i>Rattus rattus</i>	House Rat	Exotic (Not listed)	LC
<i>Redunca fulvorufula</i>	Mountain Reedbuck	EN	EN
<i>Rhabdomys pumilio</i>	Xeric Four-striped Mouse	LC	LC
<i>Rhinolophus capensis</i>	Cape Horseshoe Bat	LC	LC
<i>Rhinolophus clivosus</i>	Geoffroy's Horseshoe Bat	LC	LC
<i>Rousettus aegyptiacus</i>	Egyptian Fruit Bat	LC	LC
<i>Saccostomus campestris</i>	Pouched Mouse	LC	LC
<i>Suncus varilla</i>	Lesser Dwarf Shrew	LC	LC
<i>Suricata suricatta</i>	Suricate	LC	LC
<i>Sylvicapra grimmia</i>	Common Duiker	LC	LC
<i>Tadarida aegyptiaca</i>	Egyptian Free-tailed Bat	LC	LC
<i>Thryonomys swinderianus</i>	Greater Cane Rat	LC	LC
<i>Tragelaphus scriptus</i>	Cape Bushbuck	LC	LC
<i>Tragelaphus strepsiceros</i>	Greater Kudu	LC	LC

11.4 Appendix E Reptiles species expected in the project area

Species	Common Name	Conservation Status	
		Regional (SANBI, 2016)	IUCN (2017)
<i>Acontias gracilicauda</i>	Thin-tailed Legless Skink	LC	LC
<i>Acontias lineicauda</i>	Algoa Legless Skink	LC	LC
<i>Acontias meleagris</i>	Cape Legless Skink	LC	LC
<i>Acontias orientalis</i>	Eastern Cape Legless Skink	LC	LC
<i>Acontias percivali</i>	Percival's legless lizard	Unlisted	LC
<i>Afroedura nivaria</i>	Drakensberg Flat Gecko	LC	LC
<i>Afrotyphlops bibronii</i>	Bibron's Blind Snake	LC	LC
<i>Agama aculeata aculeata</i>	Western Ground Agama	LC	Unlisted
<i>Agama atra</i>	Southern Rock Agama	LC	LC
<i>Aparallactus capensis</i>	Black-headed Centipede-eater	LC	LC
<i>Aspidelaps lubricus lubricus</i>	Coral Shield Snake	LC	LC
<i>Bitis arietans arietans</i>	Puff Adder	LC	Unlisted
<i>Boaedon capensis</i>	Brown House Snake	LC	LC
<i>Bradydodion taeniabronchum</i>	Elandsberg Dwarf Chameleon	EN	LC
<i>Bradydodion ventrale</i>	Eastern Cape Dwarf Chameleon	LC	LC
<i>Causus rhombeatus</i>	Rhombic Night Adder	LC	LC
<i>Chamaesaura anguina anguina</i>	Cape Grass Lizard	LC	Unlisted
<i>Chersina angulata</i>	Angulate Tortoise	LC	LC
<i>Chersobius boulengeri</i>	Karoo Dwarf Tortoise	NT	EN
<i>Chondrodactylus bibronii</i>	Bibron's Gecko	LC	Unlisted
<i>Cordylus cordylus</i>	Cape Girdles Lizard	LC	LC
<i>Crotaphopeltis hotamboeia</i>	Red-lipped Snake	LC	Unlisted
<i>Dasypeltis scabra</i>	Rhombic Egg-eater	LC	LC
<i>Dispholidus typus</i>	Boomslang	LC	Unlisted
<i>Duberria lutrix</i>	Common Slug-eater	LC	LC
<i>Gerrhosaurus flavigularis</i>	Yellow-throated Plated Lizard	LC	Unlisted
<i>Goggia essexi</i>	Essex's Pygmy Gecko	LC	LC
<i>Hemachatus haemachatus</i>	Rinkhals	LC	LC
<i>Hemidactylus mabouia</i>	Common Tropical House Gecko	LC	Unlisted
<i>Homopus areolatus</i>	Parrot-beaked Dwarf Tortoise	LC	LC
<i>Homoroselaps lacteus</i>	Spotted Harlequin Snake	LC	LC
<i>Hydrophis platurus</i>	Yellow-bellied Sea Snake	LC	LC
<i>Karusasaurus polyzonus</i>	Southern Karusa Lizard	LC	LC
<i>Lamprophis aurora</i>	Aurora House Snake	LC	LC
<i>Lamprophis fuscus</i>	Yellow-bellied House Snake	LC	LC
<i>Lamprophis guttatus</i>	Spotted Rock Snake	LC	LC

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<i>Leptotyphlops nigricans</i>	Black Thread Snake	LC	LC
<i>Lycodonomorphus inornatus</i>	Olive House Snake	LC	LC
<i>Lycodonomorphus laevisissimus</i>	Dusky-bellied Water Snake	LC	LC
<i>Lycodonomorphus rufulus</i>	Brown Water Snake	LC	Unlisted
<i>Lycophidion capense capense</i>	Cape Wolf Snake	LC	Unlisted
<i>Lygodactylus capensis</i>	Common Dwarf Gecko	LC	Unlisted
<i>Naja nivea</i>	Cape Cobra	LC	Unlisted
<i>Nucras lalandii</i>	Delalande's Sandveld Lizard	LC	LC
<i>Nucras livida</i>	Karoo Sandveld Lizard	LC	LC
<i>Nucras taeniolata</i>	Albany Sandveld Lizard	NT	LC
<i>Pachydactylus geitje</i>	Ocellated Gecko	LC	LC
<i>Pachydactylus maculatus</i>	Spotted Gecko	LC	LC
<i>Pachydactylus mariquensis</i>	Common Banded Gecko	LC	LC
<i>Pedioplanis lineoocelata pulchella</i>	Common Sand Lizard	LC	Unlisted
<i>Pelomedusa galeata</i>	South African Marsh Terrapin	Not evaluated	Unlisted
<i>Philothamnus hoplogaster</i>	South Eastern Green Snake	LC	Unlisted
<i>Philothamnus occidentalis</i>	Western Natal Green Snake	Unlisted	Unlisted
<i>Philothamnus semivariegatus</i>	Spotted Bush Snake	LC	Unlisted
<i>Prosymna sundevallii</i>	Sundevall's Shovel-snout	LC	LC
<i>Psammobates tentorius</i>	Tent Tortoise	LC	LC
<i>Psammophis crucifer</i>	Cross-marked Grass Snake	LC	LC
<i>Psammophis notostictus</i>	Karoo Sand Snake	LC	Unlisted
<i>Psammophylax rhombeatus</i>	Spotted Grass Snake	LC	Unlisted
<i>Pseudaspis cana</i>	Mole Snake	LC	Unlisted
<i>Pseudocordylus microlepidotus fasciatus</i>	Karoo Crag Lizard	LC	LC
<i>Pseudocordylus microlepidotus microlepidotus</i>	Cape Crag Lizard	LC	LC
<i>Rhinotyphlops lalandei</i>	Delalande's Beaked Blind Snake	LC	Unlisted
<i>Scelotes anguineus</i>	Algoa Dwarf Burrowing Skink	LC	LC
<i>Scelotes caffer</i>	Cape Dwarf Burrowing Skink	LC	LC
<i>Stigmochelys pardalis</i>	Leopard Tortoise	LC	LC
<i>Tetradactylus africanus</i>	Eastern Long-tailed Seps	LC	LC
<i>Tetradactylus fitzsimonsi</i>	Fitzsimon's Long-tailed Seps	VU	VU
<i>Tetradactylus seps</i>	Short-tailed Seps	LC	LC
<i>Trachylepis capensis</i>	Cape Skink	LC	Unlisted
<i>Trachylepis homalocephala</i>	Red-sided Skink	LC	LC
<i>Trachylepis sulcata sulcata</i>	Western Rock Skink	LC	Unlisted
<i>Trachylepis varia</i>	Variable Skink	LC	LC
<i>Trachylepis variegata</i>	Variiegated Skink	LC	Unlisted
<i>Tropidosaura gularis</i>	Cape Mountain Lizard	LC	LC

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<i>Tropidosaura montana</i>	Common Mountain Lizard	LC	LC
<i>Varanus albigularis albigularis</i>	Southern Rock Monitor	LC	Unlisted
<i>Varanus niloticus</i>	Water Monitor	LC	Unlisted

11.5 Appendix F Amphibians expected in the project area

Species	Common Name	Conservation Status	
		Regional (SANBI, 2016)	IUCN (2021)
<i>Amietia delalandii</i>	Delalande's River Frog	LC	Unlisted
<i>Amietia fuscigula</i>	Cape River Frog	LC	LC
<i>Amietia poyntoni</i>	Poynton's River Frog	LC	LC
<i>Breviceps adspersus</i>	Bushveld Rain Frog	LC	LC
<i>Breviceps verrucosus</i>	Plaintive Rain Frog	LC	LC
<i>Cacosternum boettgeri</i>	Common Caco	LC	LC
<i>Cacosternum nanum nanum</i>	Bronze Caco	LC	LC
<i>Heleophryne hewitti</i>	Hewitt's Ghost Frog	CR	EN
<i>Hyperolius marmoratus</i>	Painted Reed Frog	LC	LC
<i>Hyperolius semidiscus</i>	Yellowstriped Reed Frog	LC	LC
<i>Kassina senegalensis</i>	Bubbling Kassina	LC	LC
<i>Phrynobatrachus natalensis</i>	Snoring Puddle Frog	LC	LC
<i>Pyxicephalus adspersus</i>	Giant Bullfrog	NT	LC
<i>Sclerophrys capensis</i>	Raucous Toad	LC	LC
<i>Sclerophrys pardalis</i>	Eastern leopard toad	LC	LC
<i>Semnodactylus wealii</i>	Rattling Frog	LC	LC
<i>Strongylopus fasciatus</i>	Striped Stream Frog	LC	LC
<i>Strongylopus grayii</i>	Clicking Stream Frog	LC	LC
<i>Tomopterna delalandii</i>	Cape Sand Frog	LC	LC
<i>Tomopterna tandyi</i>	Tandy's Sand Frog	LC	LC
<i>Vandijkophrynus garipeensis garipeensis</i>	Karoo Toad	Not listed	Not listed
<i>Xenopus laevis</i>	Common Platanna	LC	LC