# Proposed Hugo Wind Energy Facility near De Doorns, Western Cape Province

## Terrestrial Biodiversity Environmental Impact Assessment

PREPARED FOR
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SIGNATURE PAGE

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## Terrestrial Biodiversity Environmental Impact Assessment

0695823

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## ACRONYMS AND ABBREVIATIONS

| Acronyms | Description |
|---|---|
| BAP | Biodiversity Action Plan |
| BESS | Battery Energy Storage System |
| BI | Biodiversity Importance |
| BMP | Biodiversity Management Plan |
| CC | Closed Canopy |
| CI | Conservation Importance |
| CSIR | Council for Scientific and Industrial Research |
| D | Duration |
| DFFE | Department of Forestry, Fisheries and the Environment |
| E | Extent |
| EA | Environmental Authorization |
| EIA | Environmental Impact Assessment |

| Acronyms | Description |
|---|---|
| EMPr | Environmental Management Programme |
| ERM | Environmental Resources Management |
| ESIA | Environmental and Social Impact Assessment |
| FEPA | Freshwater Ecosystem Priority Areas |
| FFq 3 | Matjiesfontein Quartzite Fynbos |
| FFS 15 | North Langeberg Sandstone Fynbos |
| FI | Functional Integrity |
| FRs 6 | Matjiesfontein Shale Renosterveld |
| IPP | Independent Power Producers |
| kV | Kilovolt |
| M | Magnitude |
| MW | Megawatt |
| NFEPA | National Freshwater Ecosystem Priority Areas |
| NPAES | National Protected Areas Expansion Strategy |
| O&M | Operations and Maintenance |
| OSS | On-Site Substation |
| P | Probability |
| PAOI | Project Area of Influence |
| QGIS | Quantum Geographic Information System |
| R | Reversibility |
| RR | Receptor Resilience |
| SANBI | South African National Biodiversity Institute |
| SANLC | South African National Land Cover |
| SCC | Species of Conservation Concern |
| SD | Secure Digital |
| SEI | Site Ecological Importance |
| SWSA | Strategic Water Source Areas |
| WEF | Wind Energy Facility |
| WTG | Wind Turbine Generator |
| WWF | World Wildlife Fund |

# EXECUTIVE SUMMARY

ERM Southern Africa (Pty) Ltd. ("ERM") was contracted by Functional Entity (FE) Hugo & Khoe (Pty) Ltd ("The Client") to compile a Terrestrial Biodiversity Specialist Impact Assessment for the proposed Hugo Wind Energy Facility (WEF).

The proposed Hugo WEF will be located near De Doorns in the Western Cape Province and will include up to 48 turbines with a maximum output of 360 MW. The development will also include access roads and internal roads, a Battery Energy Storage System (BESS), Operations and Maintenance (O&M) building, On-Site Substation (OSS) and temporary site office.

The site is predominantly classified as Very High Sensitivity by the Department of Forestry, Fisheries and the Environments (DFFE) Online Screening Tool (ST), while remaining areas are classified as Low Sensitivity. This is due to the intersection of the Project Area of Influence (PAOI) with various important biodiversity areas including PAs such as the Matroosberg Mountain Catchment Area, Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs), Freshwater Ecosystem Priority Areas (FEPAs) and Strategic Water Source Areas (SWSAs).

Up to 586 animal species are potentially present on site, of which 40 are Species of Conservation Concern (SCC). However, some of the occurrence data is likely collected from individuals reintroduced to game reserves. Up to 1 777 plant species are potentially present on site, of which 37 are confirmed SCC according to the DFFE Online ST. Given the high number of species potentially present it is likely the number of SCC is greater than that provided by the DFFE Online ST. The proposed development area includes four vegetation types that are listed as Least Concern (LC) by the Red List of Ecosystems (RLE) and intersects in some areas with Protected Areas (PA), Critical Biodiversity Areas (CBA), Ecological Support Areas (ESA) and Other Natural Areas (ONA).

The anticipated impacts include vegetation clearing, loss of individual SCC, alien invasive species, soil erosion, chemical contamination, fire, reduced and restricted movement, altered flow regimes, disturbance and/or displacement, and mortality. Moreover, the Project presents an opportunity to enhance biodiversity by improving local overgrazing conditions. Cumulative impacts include those that affect broad-scale ecological processes. With adherence to the prescribed mitigation measures, opportunities exist to promote conservation efforts, community engagement and education, and local environmental monitoring and research.

It is the Specialists opinion that the DFFE Online ST Assessment of Very High Sensitivity in the Terrestrial Biodiversity Theme for some areas is accurate. High sensitivity areas are predominantly those listed as CBAs. All other areas are either Medium Sensitivity or Low Sensitivity.

It is the Specialists opinion that the proposed Hugo WEF may be considered for development, provided all mitigation measures are adhered to.

# 1. INTRODUCTION

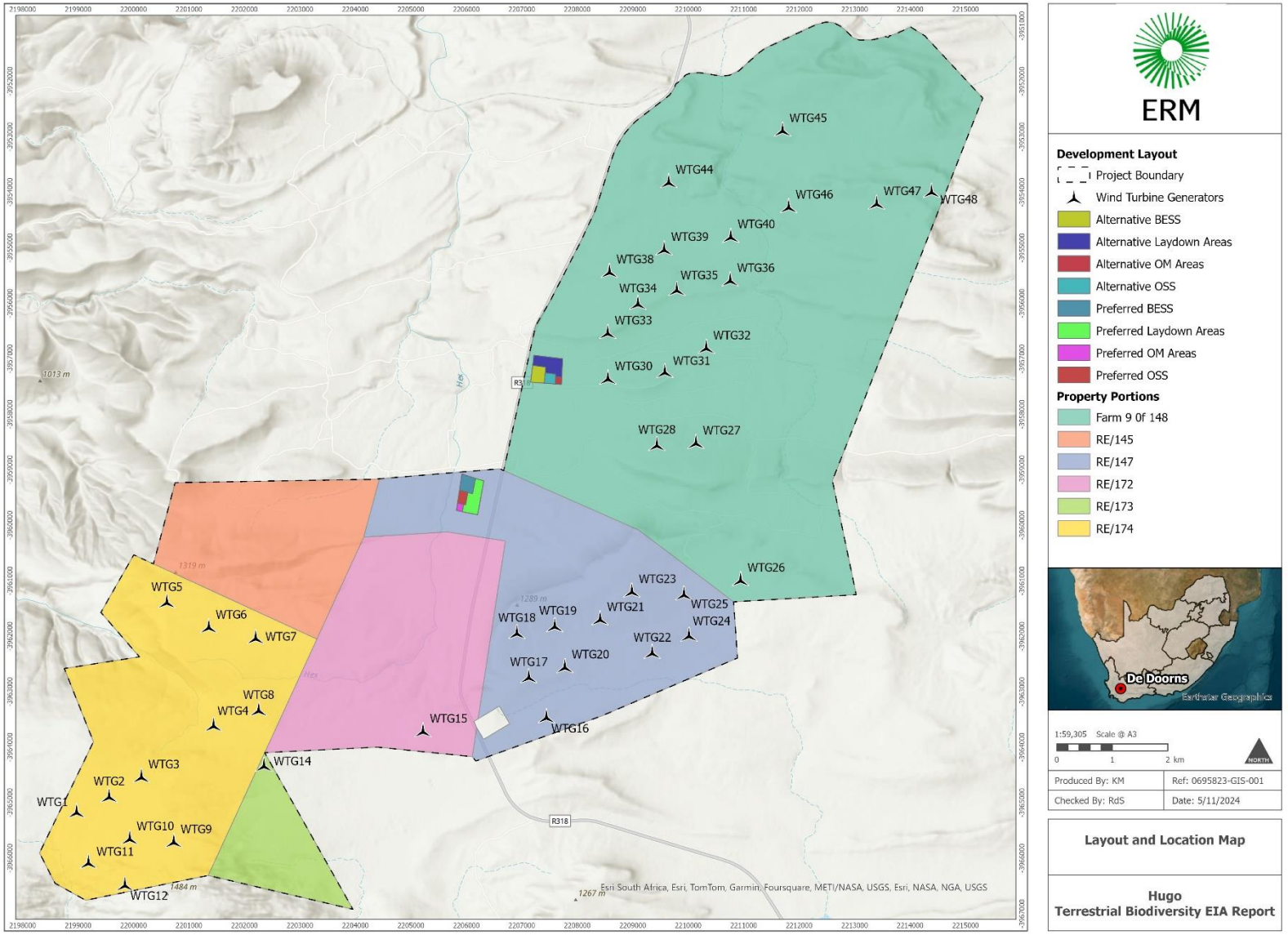
## 1.1 BACKGROUND

ERM Southern Africa (Pty) Ltd. ("ERM") was contracted by Functional Entity (FE) Hugo & Khoe (Pty) Ltd ("The Client") to compile a Terrestrial Biodiversity Specialist Assessment for the proposed Hugo Wind Energy Facility (WEF) near De Doorns in the Western Cape Province of South Africa. The primary purpose of this report is to identify and describe the plant and animal species, and habitats that are likely present within the proposed Project Area of Influence (PAOI), the anticipated impacts for the proposed development, and to evaluate the suitability of the proposed development in relation to the Terrestrial Biodiversity Theme.

## 1.2 PROJECT DESCRIPTION

The proposed Hugo WEF located approximately 10 km southeast of De Doorns on property portions Farm 9 of 148, RE/145, RE/147, RE/172, RE/173 and RE/174, will comprise up to 48 turbines (Figure 1) with a maximum output of up to 360 MW. This operation will also comprise access roads and internal roads, a Battery Energy Storage System (BESS), an Operations and Maintenance (O&M) building, an On-Site Substation (OSS), and a temporary site office. 33 kV underground/overhead cabling along the proposed roads and 132 kV overhead transmission lines connecting the Independent Power Producers (IPP) substation will be installed to connect the WEF to the national electrical grid network. The grid connection will form part of a separate application process.

## FIGURE 1: LAYOUT AND LOCATION OF THE PROPOSED HUGO WIND ENERGY FACILITY NEAR DE DOORNS, WESTERN CAPE PROVINCE.



## 1.3 TERMS OF REFERENCE

This report describes the proposed PAOI in terms of the terrestrial features that contribute to high levels of biodiversity in the area, as well as the plant and animal species present with specific focus on Species of Conservation Concern (SCC). In addition, this impact assessment identifies the potential impacts and sensitivities, and suitability of the proposed development to be assessed for environmental authorization.

This report follows the Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity, Government Gazette No. 43110, Government Notice No. 320, 20 March 2020[1], and the combined Department of Forestry, Fisheries and the Environment (DFFE), South African National Biodiversity Institute (SANBI) and BirdLife South Africa's Species Environmental Assessment Guidelines for the implementation of the Terrestrial Fauna and Terrestrial Flora Species Protocols for environmental impact assessment in South Africa (2022)[2]. The main objectives of this report include to:

- Identify ecological drivers or processes of the PAOI and how the proposed development will impact these.
- Identify the ecological functioning and ecological processes that operate within the PAOI.
- Identify flora and faunal ecological corridors within the PAOI that might be impeded by the proposed development.
- Identify significant landscape features (including rare or important flora-fauna associations, SWSAs, FEPA subcatchments etc.) in the PAOI.
- Describe the PAOI in terms of main vegetation types, threatened ecosystems ecological connectivity, habitat fragmentation, ecological processes, species distribution and movement.

### 1.3.1 APPLICABLE STANDARDS

This impact assessment identifies policies and legislations at different geographic scales that must be considered during the EA process. These policies and legislation are described in Table 1 below.

TABLE 1: APPLICABLE POLICIES AND LEGISLATIONS AT DIFFERENT GEOGRAPHIC SCALES.

| **PROVINCIAL STANDARDS** | |
|---|---|
| 1. Cape Nature and Environmental Conservation Ordinance 19 of 1974. | Applicable in the former Cape Province, this Act forms the legal basis for nature conservation and environmental management. Key aspects addressed include Protected Areas, Species Protection, Environmental Management, and Public Participation. |

[1] https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
[2] http://opus.sanbi.org/jspui/handle/20.500.12143/6922

| | |
|---|---|
| **PROVINCIAL STANDARDS** | |
| 2. Western Cape Biosphere Reserves Act 6 of 2011. | Focuses on the establishment, management and protection of biosphere reserves in the Western Cape Province. Key points include Biosphere Reserve Designation, Management and Conservation, Stakeholder Involvement, and Research and Education. |
| 3. Western Cape Land Use Planning Act, 2015. | Provides a framework for land use management and spatial planning within the Western Cape Province. Main elements include Spatial Planning, Land Use Management, Public Participation and Development Principles. |
| 4. Western Cape Biodiversity Act 6 of 2021. | The Act seeks to balance conservation efforts with sustainable use, involving various stakeholders to protect the unique biodiversity of the Western Cape Province. Key provisions include Biodiversity Stewardship, Regulation and Enforcement, Sustainable Use, and Research and Education. |
| **NATIONAL STANDARDS** | |
| 1. National Environmental Management: Protected Areas Act, 2003 (NEMA). | Provides a legal framework to safeguard South Africa's biodiversity and natural heritage with specific focus on Protected Area Categories, Protected Area Management, Stakeholder Involvement, and Conservation Objectives. |
| 2. National Environmental Management: Biodiversity Act, 2004 (NEMBA). | Provides a legal framework to promote conservation and sustainable use of South Africa's diverse biological resources while considering social, economic, and environmental factors, fostering a balance between conservation efforts and development needs. Key aspects of the Act include Biodiversity Conservation, Protected Areas and Species, Invasive Species Management, Bioprospecting and Access to |

| PROVINCIAL STANDARDS | |
|---|---|
| | Genetic Resources, and Research and Information. |
| 3. Conservation of Agricultural Resources Act, 1983 (CARA). | Provides a framework to ensure the conservation and sustainable utilization of agricultural resources, protecting the environment and promoting the long-term viability of agriculture in South Africa. Key points of the Act include Soil Conservation, Water Conservation, Control of Invasive Species, Land-Use Planning, and Research and Education. |

# 2. METHODOLOGY

## 2.1 DESKTOP STUDY

The desktop study was initiated by obtaining the proposed development area's expected sensitivity in the Terrestrial Biodiversity Theme using the DFFE Online Screening Tool (ST)[3], which is informed by the Western Cape Biodiversity Spatial Plan[4]. The recorded land-use of the proposed PAOI was determined using the latest available South African National Land Cover (SANLC, 2020)[5] spatial datasets and Quantum Geographic Information System (QGIS). These data were compared with previously identified important biodiversity areas in proximity to the Project by consulting the following resources:

- The Red List of Ecosystems (RLE, 2022) spatial dataset[6] to determine the Red List Status and Category of ecosystem(s) within the proposed PAOI.
- The Breedevalley Key Biodiversity Areas (KBA) spatial dataset[7] was used to determine the presence of Critical Biodiversity Areas (CBA1/2), Ecological Support Areas (ESA1/2), Protected Areas (PA) and Other Natural Areas (ONA) within the proposed PAOI.
- The SANBI 2018 Beta Vegetation Map of South Africa, Lesotho and Swaziland Spatial Dataset[8] to determine the Vegetation Units present within the proposed PAOI.
- The 2011 National Freshwater Ecosystem Priority Areas (NFEPA) river[9] and wetland[10] datasets.

[3] https://screening.environment.gov.za/screeningtool/#/pages/welcome
[4] https://www.capenature.co.za/uploads/files/protected-area-management-plans/SANBI_WCBSP-Handbook.pdf
[5] https://egis.environment.gov.za/sa_national_land_cover_datasets
[6] http://bgis.sanbi.org/SpatialDataset/Detail/6715
[7] http://bgis.sanbi.org/SpatialDataset/Detail/641
[8] http://bgis.sanbi.org/SpatialDataset/Detail/670
[9] http://bgis.sanbi.org/SpatialDataset/Detail/397
[10] http://bgis.sanbi.org/SpatialDataset/Detail/395

- The International Union for the Conservation of Nature's (IUCN) Red List[11] to confirm the international Red List Status and Category of plant species that have been recorded in the proposed PAOI.

In addition, the resources below were consulted to compile a list of plant and animal SCC that are potentially present within the proposed development area footprint:

- The SANBI Plants of Southern Africa (POSA) Brahms database[12] to identify plant species that have been recorded in the proposed PAOI.
- The Biodiversity and Development Institute's Virtual Museum database[13] to determine the presence of plant and animal species that have been recorded in the proposed PAOI.
- The Global Biodiversity Information Facility (GBIF) database[14] to determine the presence of plant and animal species that have been recorded in the proposed PAOI.
- The SANBI Red List of South African Species[15] to confirm the national Red List Status and Category of species that have been recorded in the proposed PAOI.
- The International Union for the Conservation of Nature's (IUCN) Red List[16] to confirm the international Red List Status and Category of plant species that have been recorded in the proposed PAOI.

## 2.2 SITE VERIFICATION

The specialist spent two days on site (28 - 29 June 2022) in conjunction with the terrestrial animal specialist retrieving camera trap data and replacing Secure Digital (SD) memory cards to verify the sensitivity of the proposed study area as described by the DFFE Online ST, and land use as described by the SANLC (2020).

An additional site visit was conducted (10 – 16 March 2024) to conduct terrestrial biodiversity surveys to determine species presence and distribution on site in correlation with the Scoping Phase project layout.

## 2.3 SITE ECOLOGICAL IMPORTANCE

Habitat sensitivity is determined as a function of several factors including the presence and distribution of SCC, intactness of habitat, extent of impacts, and the capacity of the habitat to withstand and/or recover from disturbance. These factors are assessed on a scale from 'Low' to 'Very High' according to pre-determined conditions and incorporated into a formula to determine the Site Ecological Importance (SEI) for each habitat. Full methodology can be found in Appendix A. How the different SEI outcomes relate to any proposed development is described in Table 2 below.

[11] https://www.iucnredlist.org/
[12] https://posa.sanbi.org/sanbi/Explore
[13] https://vmus.adu.org.za/
[14] https://www.gbif.org/
[15] http://speciesstatus.sanbi.org/
[16] https://www.iucnredlist.org/

TABLE 2: INTERPRETING SITE ECOLOGICAL IMPORTANCE OUTPUTS.

| Site Ecological Importance | 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 targets remain. |
| **High** | Avoidance mitigation wherever possible. Minimization 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** | Minimization and restoration mitigation – development activities of medium impact acceptable followed by appropriate restoration activities. |
| **Low** | Minimization and restoration mitigation – development activities of medium to high impact acceptable followed by appropriate restoration activities. |
| **Very Low** | Minimization mitigation – development activities of medium to high impact acceptable and restoration activities may not be required. |

## 2.4 IMPACT ASSESSMENT AND MITIGATION

This Impact Assessment (IA) exercise has been undertaken following a systematic process that predicts and evaluates the impacts of the project activities on selected aspects of the environmental receptors. Furthermore, the IA identifies measures that the project will need to take to avoid, reduce and remedy (mitigation), as far as is reasonably practicable. A comprehensive IA Methodology is provided in Appendix B.

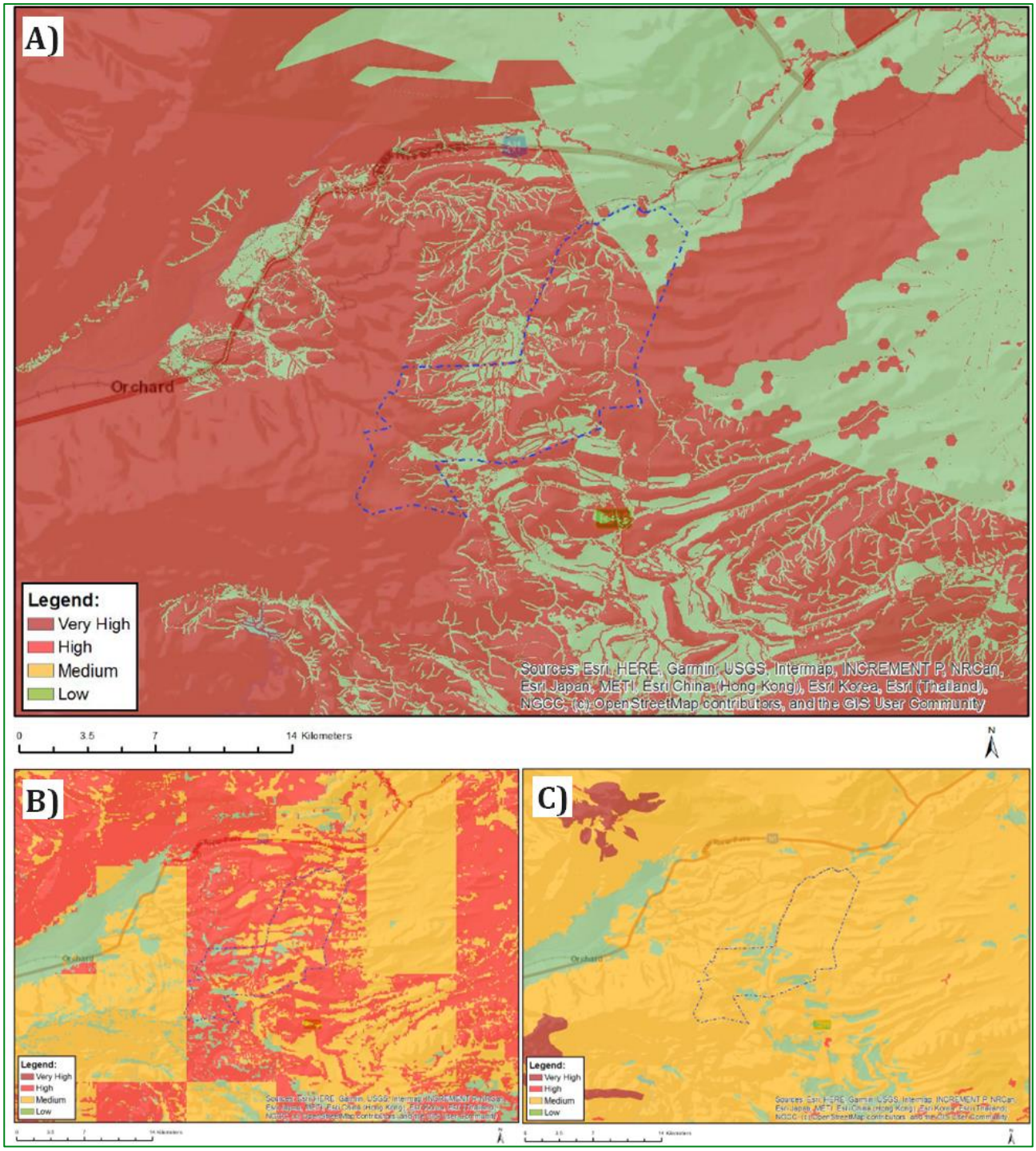
## 2.5 ASSUMPTIONS AND LIMITATIONS

- The contents of this report relate to the proposed Hugo WEF and associated infrastructure as presented in Figure 1.
- SCC are classified as Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Data Deficient (DD) and Rare.
- The identity of several plant SCC are withheld from this and subsequent reports due to the sensitivity of these species to illegal harvesting. These species are known by numerical identifiers (Sensitive Species 142, 207, 521, 654, 692, 871 and 1209) assigned by the SANBI. The identity of these species has been made available to the Specialist for consideration during the compilation of reports relevant to the study area.
- Previous studies used to compile online species distribution datasets used to supplement the species list for the proposed Hugo WEF and associated infrastructure PAOI are extremely limited and cannot be seen as fully representative of the diversity of plant species potentially on site.
- Where online databases provided records of species that have several sub-species but provided no reference to which sub-species was recorded, it was assumed the sub-species was that with the greatest conservation importance.

# 3. RESULTS

The DFFE Online ST identified the study area as having a predominantly Very High Sensitivity in the Terrestrial Biodiversity theme, with some areas of Low Sensitivity (Figure 2.A). The classification of High Sensitivity in the Terrestrial Biodiversity Theme is due to the intersection of the study area with the Matroosberg Mountain Catchment Area, Critical Biodiversity Areas (CBA), Ecological Support Areas (ESA) of Tier one (1) and two (2), Freshwater Ecosystem Priority Area (FEPA) Subcatchment, and the Groot Winterhoek Strategic Water Source Area (SWSA).

FIGURE 2: DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT'S ONLINE SCREENING TOOL ASSESSMENT OF A) TERRESTRIAL BIODIVERSITY, B) ANIMAL SPECIES, AND C) PLANT SPECIES OF THE PROPOSED HUGO WIND ENERGY FACILITY.




The Western Cape Biodiversity Spatial Plan (WCBSP) Handbook defines ESAs as areas that are not essential for meeting biodiversity targets but play an important role in supporting the functioning of Protected Areas (PAs) and / or CBAs and are often vital for delivering ecosystem services. Ecological Support Areas (ESAs) support landscape connectivity, encompass the ecological infrastructure from which ecosystem goods and services flow, and strengthen resilience to climate change. The WCBSP Handbook furthermore distinguishes between ESAs 1,

which are areas considered to be functional, in a natural or near-natural state or only moderately degraded, and ESAs 2, which are considered severely degraded or have no natural cover remaining and therefore require restoration.

ESAs include features such as regional climate adaptation corridors, water source and recharge areas, riparian habitat surrounding rivers or wetlands, and Endangered vegetation.

The proposed PAOI falls within the Matroosberg Mountain Catchment Area and Groot Winterhoek Strategic Water Source Area, which are important water recharge areas that have triggered the Very High Sensitivity in the Terrestrial Biodiversity Theme as ESAs of Tier one (1). In addition, several watercourses are marked for restoration from other land use.

ESAs of Tier one (1) must be maintained in at least a functional and often natural state in order to support the purpose for which they were identified, however some limited habitat loss may be acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised. ESAs of Tier two (2) must be restored and / or managed to minimize impact on ecological infrastructure functioning, especially soil and water-related services. A greater range of land uses over a wider ESA is appropriate, subject to an authorisation process that ensures the underlying biodiversity objectives and ecological functioning are not compromised. Cumulative impacts should also be explicitly considered.

Small sections of CBA Tier one (1) intersect with the proposed Hugo WEF PAOI. The WCBSP Handbook defines CBA 1s as areas in a natural condition that are required to meet biodiversity targets for species, ecosystems or ecological processes and infrastructure. The CBA 1 trigger within the PAOI is attributed to the presence of terrestrial features required to meet the discussed targets. The desired management of Terrestrial CBA 1 is to maintain natural areas with no further loss of habitat, rehabilitate degradation, and to allow only appropriate, low-impact, biodiversity sensitive land-uses.

The FEPA project provides strategic spatial priorities for conserving South Africa's freshwater ecosystems and supports sustainable use of water resources. FEPA were identified based on:

- Representation of ecosystem types and flagship free-flowing rivers.
- Maintenance of water supply areas in areas with high water yield.
- Identification of connected ecosystems.
- Representation of threatened and near-threatened fish species and associated migration corridors.
- Preferential identification of FEPAs that overlapped with:
    - Any free-flowing river.
    - Priority estuaries identified in the National Biodiversity Assessment 2011.
    - Existing protected areas and focus areas for protected area expansion identified in the Nationally Protected Areas Expansion Strategy (NPAES).

Strategic Water Source Areas (SWSA) are defined as areas of land that either supply disproportionate quantity of mean annual surface water runoff in relation to their size and are thus nationally important or have high groundwater recharge and where the groundwater forms a nationally important resource. The Nationally Protected Areas Expansion Strategy (NFEPA), World Wildlife Fund (WWF) and Council for Scientific and Industrial Research (CSIR) have

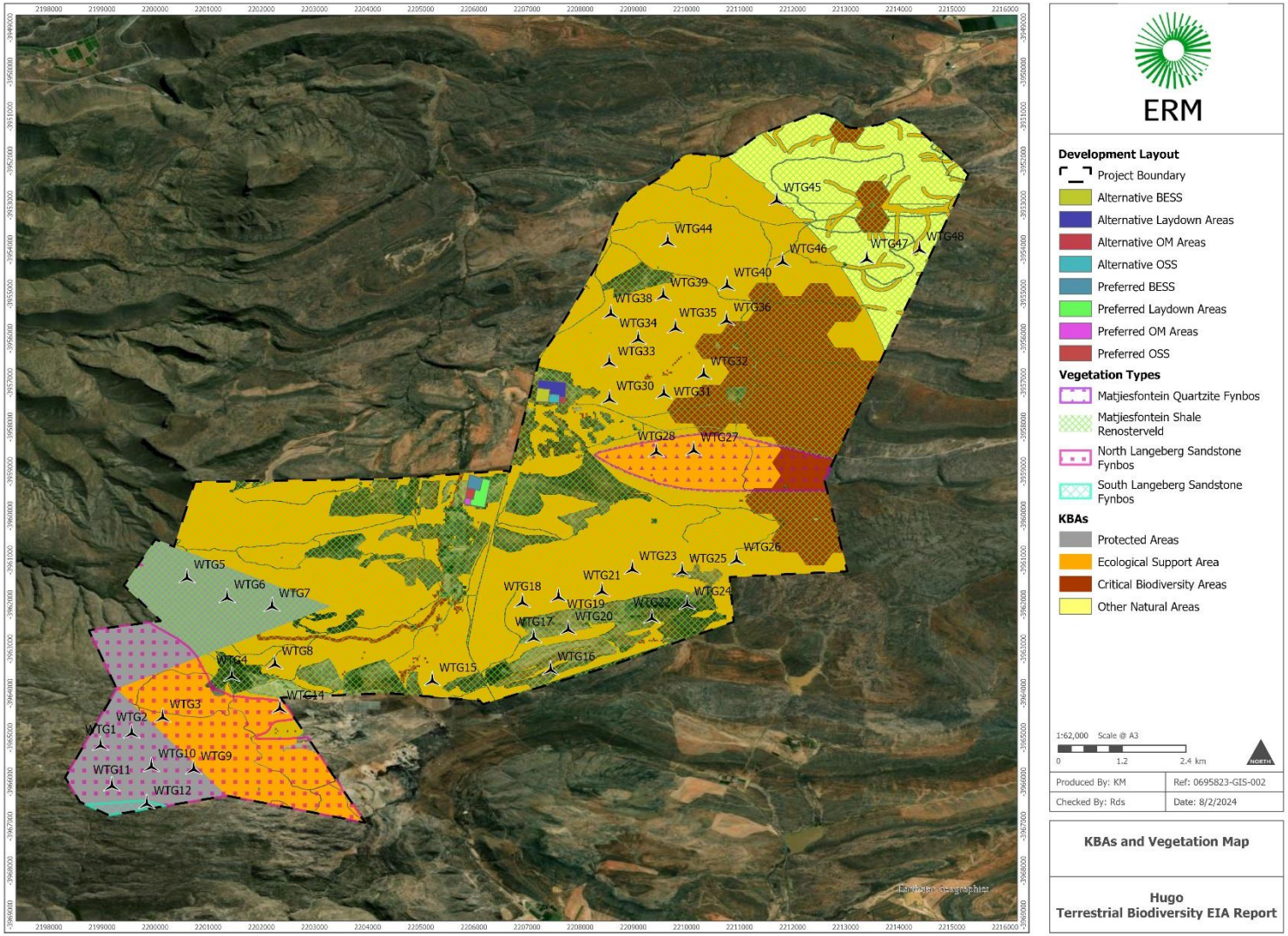
identified 21 SWSAs for surface water which cover 8% of South Africa and supply 50% of the mean annual runoff.

In addition, the DFFE Online ST outputs in the Animal (Figure 2.B) and Plant Species (Figure 2.C) Themes are predominantly High and Medium Sensitivity, respectively. These classifications are based on the potential presence of SCC within the proposed study area and are explored in more detail in the following sections.

## 3.1 LAND USE AND IMPORTANT BIODIVERSITY AREAS

The proposed Hugo WEF PAOI is dominated by Matjiesfontein Shale Renosterveld (FRs 6), followed by a section of North Langeberg Sandstone Fynbos (FFs 15) and a small section of South Langeberg Sandstone Fynbos (FFs 16) in the western sections, and Matjiesfontein Quartzite Fynbos (FFq 3) in the south-eastern section of the proposed PAOI (Figure 3). All three of the vegetation types identified are listed as Least Concern by the RLE (2022).

FIGURE 3: IMPORTANT VEGETATION AND KEY BIODIVERSITY AREAS WITHIN THE PROPOSED HUGO WIND ENERGY FACILITY STUDY AREA.



The landscape of the Matjiesfontein Shale Renosterveld (FRs 6) is described as being elevated areas (low mountains, parallel hills and mid-altitude plateaus) of low, moderate density leptophyllous shrubland dominated by renosterbos (*Dicerothmanus rhinocerotis*). Heuweltjies, which are soil mounds associated with increased local biodiversity, have been recorded in low densities in some places[17]. The North (FFs 15) and South Langeberg Sandstone Fynbos (FFs 16) are similar in their constituent vegetation types of proteoid, restioid and ericaceous fynbos, differing only by occurrence altitude and (FFs 15) also including asteraceous fynbos on lower slopes. The Matjiesfontein Quartzite Fynbos (FFq 3) consists of narrow, linear bands of moderate density, medium tall shrublands of asteraceous and proteoid shrubland.

Western sections of the proposed PAOI fall within the Matroosberg Mountain Catchment Area, which is a PA and currently includes Wind Turbine Generators (WTG) 1, 2, 9, 10, 11 and 12 (Figure 3).

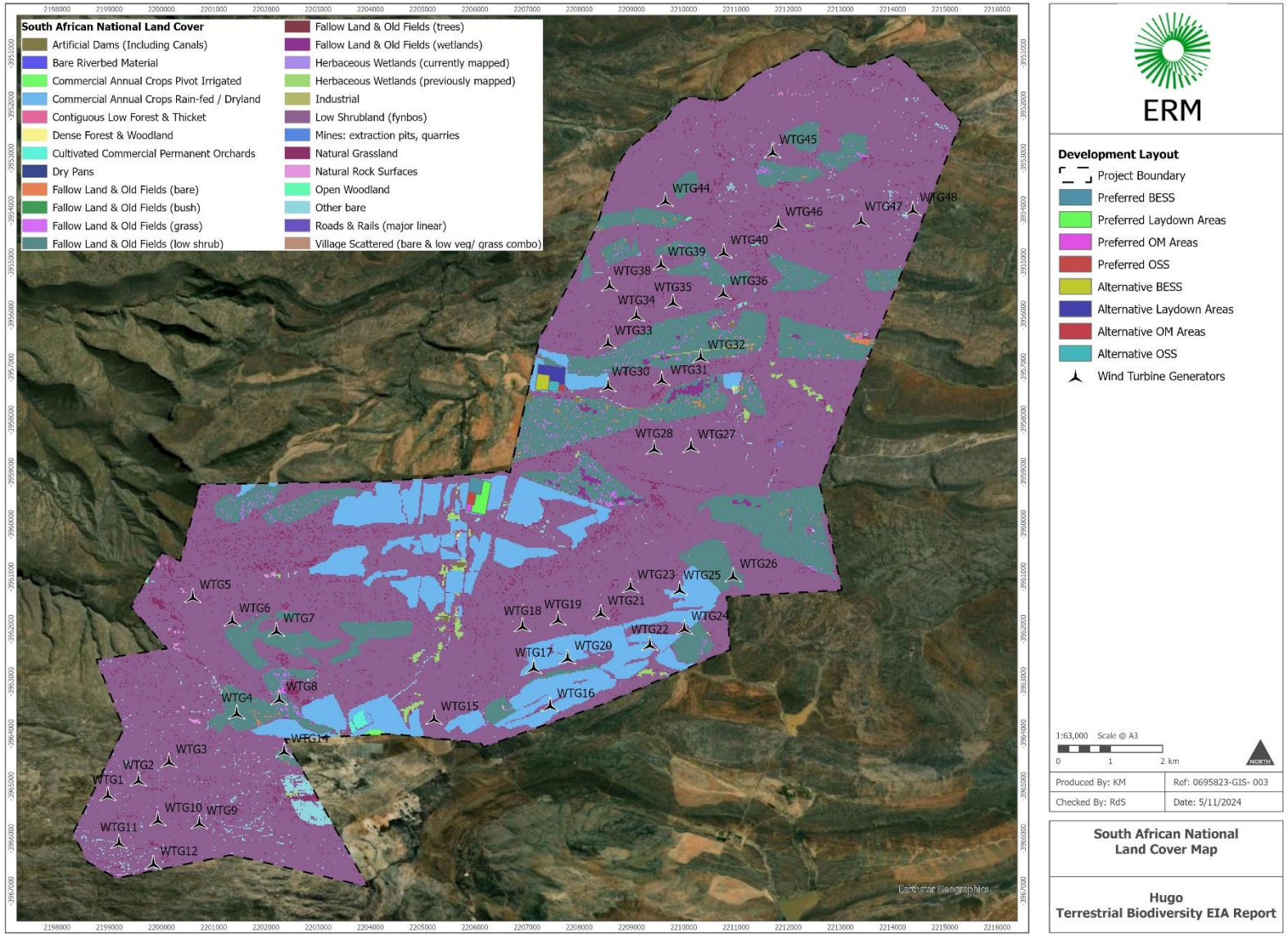
Most of the site falls within an ESA, which is classified as such due to the presence of predicted climate corridors, aquatic features that maintain broader ecological balance and processes that are essential in supporting biodiversity conservation. This area currently includes most WTGs. The ESAs must be maintained in a functional, near-natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functions are not compromised.

Eastern sections of the proposed PAOI fall within a CBA, classified as such due to the presence of various aquatic features that contribute to high levels of biodiversity in this specific area, and currently includes no WTGs. CBAs must be maintained in a natural, or near-natural state with no further loss of natural habitat. Degraded areas in the CBA should be rehabilitated, and only low-impact land uses are considered appropriate.

The north-eastern section of the proposed PAOI falls within Other Natural Areas (ONAs), which are not currently identified as priority but retain most of their natural character and perform a range of biodiversity and ecological infrastructure functions. This area currently includes WTGs 45, 47 and 48. According to the SANLC (2020) spatial dataset the proposed Hugo WEF PAOI (Figure 4) is dominated by low fynbos shrublands, followed by bare fallow lands, bare old fields, and commercial annual crops (rain-fed, dryland or non-irrigated). The site inspection confirmed that large portions of the proposed project site have been modified and / or disturbed through agricultural activity. Strips of natural vegetation that remain, particularly those around drainage lines, perennial rivers and farm dams, appear to be overgrazed.

[17]Mucina, L. & Rutherford, M.C. (2006). The vegetation of South Africa, Lesotho and Swaziland. South African National Biodiversity Institute.

FIGURE 4: THE LATEST AVAILABLE SOUTH AFRICAN NATIONAL LAND COVER DATASET OF THE PROPOSED HUGO WIND ENERGY FACILITY.



Additional land use types present include small areas of dense forest and woodland (35 - 75% closed canopy/CC – likely alien species), open woodland (10 - 35% CC), natural grassland, bare, artificial dams including canals, herbaceous wetlands (previous mapped extent), cultivated commercial permanent orchards, commercial annuals (pivot irrigated), major linear roads and rail and fallow lands and old fields (grasslands, low vegetation and wetlands).

### 3.1.1 SURVEY LOCATIONS

Ten surveys were conducted in the dominant Matjiesfontein Shale Renosterveld (FRs 6). These surveys include three Drainage Area habitats, three Low Shrubland habitats, three Riparian habitats and a single Rocky Outcrop. One of the Low Shrubland habitats survey is found on the periphery between the PA associated with the Matroosberg Mountain Catchment Area and the North Langeberg Sandstone Fynbos toward the southwest of the PAOI, and can be considered transitional between Low Shrubland and a northeast-facing Rocky Outcrop. One survey was also conducted within the eastern CBA of the proposed PAOI. A single survey was conducted in the low shrublands associated with north-facing slopes of the Matjiesfontein Quartzite Fynbos (FFq 3). No surveys were conducted directly within the PA and associated North- (FFs 15) and South Langeberg Sandstone Fynbos (FFs 16) habitats due to inaccessibility to these vegetation types. The identified habitats are described in the following sub-sections.

#### 3.1.1.1 MATJIESFONTEIN QUARTZITE FYNBOS LOW SHRUBLAND

The surveys for the Matjiesfontein Quartzite Fynbos Low Shrubland were conducted on a gradual north-facing slope, with sections featuring slight rocky outcrops. Dominant flora species observed include *Dicerothamnus rhinocerotis* (Renosterbos), *Tenaxia stricta*, and *Aizoon africanum*. Common plant species found in the area included *Oedera squarrosa, Ruschia multiflora*, and *Struthiola eckloniana*. Despite the habitat's varied topography and flora composition, findings from three surveys indicated a relatively low diversity of plant species, with only 24 species documented in total. Consequently, the calculated Site Ecological Importance is rated as medium (refer to Table 10), highlighting the habitat's ecological significance within the Matjiesfontein region.

#### 3.1.1.2 MATJIESFONTEIN SHALE RENOSTERVELD LOW SHRUBLAND

The Matjiesfontein Shale Renosterveld Low Shrubland habitat encompasses undulating hills intersected by drainage lines, characterized by clay-like soils and minimal rockiness. The landscape is predominantly populated by shrubs, with *Dicerothamnus rhinocerotis* (Renosterbos) and *Aizoon africanum* being the most prevalent species. Additionally, *Euryops lateriflorus* was observed on the site, albeit less abundantly. Despite the habitat's dominance by shrubs, species diversity was relatively low, with only 21 documented species. Notably, powerlines were prevalent throughout the survey area, potentially influencing the habitat's ecological dynamics and biodiversity.

#### 3.1.1.3 MATJIESFONTEIN SHALE RENOSTERVELD DRAINAGE AREA

The Matjiesfontein Shale Renosterveld drainage area habitat was characterized by a primary drainage line, featuring minimal exposed soil and rockiness. Shrubs were prevalent, covering up to 80% of the landscape. A total of 34 flora species were identified on-site, with dominant species including *Aizoon africanum*, *Chamarea* sp., *Pteronia incana*, and renosterbos. Additionally, within the flood zone, *Nidorella ivifolia* emerged as a dominant species.

#### 3.1.1.4 MATJIESFONTEIN SHALE RENOSTERVELD RIPARIAN HABITAT

The Matjiesfontein Shale Renosterveld Riparian habitat presents a distinctive landscape characterized by water body depressions, rockiness ranging from minimal to high in some areas, and up to 80% exposed soil. Shrubs, mainly *Aizoon africanum* and *Dicerothamnus rhinocerotis* (renosterbos), are abundant and dominant in this habitat. Findings from three field surveys revealed a relatively medium diversity of plant species, with roughly 50 species recorded in total. Despite this, the habitat maintains some ecological significance, with the calculated Site Ecological Importance rated as medium (Table 7). Additionally, the habitat is disturbed, with a high level of rockiness estimated to cover 70-80% of the area in varying sections. Pioneer species such as *Gomphocarpus fruticosus* are prevalent in disturbed areas, alongside natural renosterbos, contributing to the ecosystem's complexity. Despite these challenges, the total record of flora and type of species recorded on site indicates the habitat's resilience.

#### 3.1.1.5 MATJIESFONTEIN SHALE RENOSTERVELD ROCKY OUTCROPS

The rocky ridge surveyed for this habitat was characterized by a deep depression and east-facing slope. As expected, the area's percentage of rockiness was 90% in some areas and 100% in others. *Pteronia paniculata* was a dominant flora species documented on site, while renosterbos was occasionally reported within this specific habitat. *Pteronia paniculata* is known to occur in rocky and dry habitats, acting as a canopy for low-growing succulents on rocky substrate. This specific species is a pioneer species and is found to establish itself in over-grazed, disturbed areas.

## 3.2 ANIMAL SPECIES

A total of 586 animal species have been identified as potentially present on site and are presented in Appendix C. These include 259 invertebrate, 222 bird, 49 reptile, 46 mammal, and 10 amphibian species. Of these species, 30 are regional SCC, and 29 are international SCC (Table 3). Online database records include the Black Browed Albatross (*Thalassarche melanophris*), which is a strictly marine species, several large mammal species with natural distribution ranges that do not intersect with the POAI (African Bush Elephant – *Loxodonta Africana*, Hippopotamus – *Hippopotamus amphibius*, Mountain Reedbuck – *Redunca fulvorufula*, and Plains Zebra – *Equus quagga*), and the African Lion (*Panthera leo*), which is listed as extinct within a historic distribution range which intersects with the PAOI. These records likely represent chance encounters and / or translocated individuals on private game farms.

TABLE 3: ANIMAL SPECIES OF CONSERVATION CONCERN POTENTIALLY PRESENT IN THE HUGO WEF PAOI.

| Family | Scientific Name | Red List Status (Regional:International) | Group | Source |
|---|---|---|---|---|
| Accipitridae | *Aquila verreauxii* | VU:LC | Aves | GBIF, ST |
| Accipitridae | *Buteo trizonatus* | LC:NT | Aves | GBIF |
| Accipitridae | *Circus maurus* | EN:EN | Aves | GBIF, ST, VM |
| Accipitridae | *Circus ranivorus* | EN:LC | Aves | GBIF |
| Accipitridae | *Polemaetus bellicosus* | EN:EN | Aves | GBIF |
| Anatidae | *Oxyura maccoa* | NT:EN | Aves | GBIF |

| Family | Scientific Name | Red List Status (Regional:International) | Group | Source |
|---|---|---|---|---|
| Chaetopidae | *Chaetops frenatus* | NT:NT | Aves | GBIF, VM |
| Ciconiidae | *Ciconia nigra* | VU:LC | Aves | GBIF, VM |
| Fringillidae | *Crithagra leucoptera* | NT:NT | Aves | GBIF |
| Gruidae | *Anthropoides paradiseus* | NT:VU | Aves | GBIF |
| Heliornithidae | *Podica senegalensis* | VU:LC | Aves | GBIF |
| Muscicapidae | *Monticola explorator* | LC:NT | Aves | GBIF |
| Otididae | *Eupodotis afra* | VU:LC | Aves | GBIF, ST, VM |
| Otididae | *Neotis ludwigii* | EN:EN | Aves | VM |
| Phoenicopteridae | *Phoenicopterus minor* | NT:NT | Aves | VM |
| Picidae | *Geocolaptes olivaceus* | LC:NT | Aves | GBIF |
| Procellariidae | *Procellaria aequinoctialis* | VU:VU | Aves | GBIF |
| Sagittariidae | *Sagittarius serpentarius* | VU:EN | Aves | GBIF |
| Scolopacidae | *Calidris ferruginea* | LC:NT | Aves | GBIF |
| Scolopacidae | *Calidris minuta* | LC:NT | Aves | GBIF |
| Turnicidae | *Turnix hottentottus* | EN:LC | Aves | GBIF |
| Lycaenidae | *Aloeides caledoni* | Rare:LC | Invertebrates | ST |
| Lycaenidae | *Chrysoritis irene* | Rare:LC | Invertebrates | VM |
| Lycaenidae | *Chrysoritis rileyi* | EN:EN | Invertebrates | GBIF |
| Lycaenidae | *Lepidochrysops bacchus* | Rare:LC | Invertebrates | VM |
| Synlestidae | *Ecchlorolestes peringueyi* | NT:NT | Invertebrates | VM |
| Bovidae | *Damaliscus pygargus* subsp. *pygargus* | VU:NE | Mammalia | VM |
| Bovidae | *Pelea capreolus* | NT:NT | Mammalia | GBIF, VM |
| Bovidae | *Syncerus caffer* | LC:NT | Mammalia | VM |
| Felidae | *Panthera pardus* | VU:VU | Mammalia | GBIF, VM |
| Leporidae | *Bunolagus monticularis* | CR:CR | Mammalia | ST |
| Mustelidae | *Aonyx capensis* | NT:NT | Mammalia | VM |

| Family | Scientific Name | Red List Status (Regional:International) | Group | Source |
|---|---|---|---|---|
| Testudinidae | *Psammobates tentorius* subsp. | NT:NT | Reptilia | VM |
| Testudinidae | *Psammobates tentorius* subsp. *tentorius* | NT:NT | Reptilia | VM |

Avifaunal species of conservation concern that triggered the High Sensitivity rating in the Terrestrial Animal Theme of the Screening Tool included Black Harrier, Verreaux's Eagle and Southern Black Korhaan. These highly sensitive species will be addressed in the Avifaunal Impact Assessment. All faunal species of regional conservation concern will be addressed in the Terrestrial Animal Species Specialist Impact Assessment. Terrestrial animals were not assessed beyond desktop literature reviews and database studies.

## 3.3 PLANT SPECIES

A total of 1777 plant species potentially occur in and/or within proximity of the proposed Hugo WEF and are presented in Appendix C. The DFFE Online ST identified seven EN, 15 VU, and 15 Rare plant species according to Regional Red Lists potentially present within the proposed study area (Table 4). The sources include the SANBI POSA Brahms (B) database, the Global Biodiversity Information Facility (GBIF) database, The DFFE Online ST and the Biodiversity and Development Institute's Virtual Museum (VM) database.

TABLE 4: PLANT SPECIES OF CONSERVATION CONCERN TRIGGERED BY THE DFFE ONLINE SCREENING TOOL.

| Family | Species | Red List Status (Regional:Global) | Source |
|---|---|---|---|
| Aizoaceae | *Drosanthemum giffenii* | VU:NE | GBIF, ST |
| Aizoaceae | *Drosanthemum tuberculiferum* | EN:NE | GBIF, ST |
| Aizoaceae | *Drosanthemum worcesterense* | EN:NE | ST |
| Aizoaceae | *Esterhuysenia inclaudens* | Rare:NE | ST |
| Aizoaceae | *Octopoma nanum* | VU:NE | ST |
| Aizoaceae | *Phiambolia littlewoodii* | VU:NE | ST |
| Asparagaceae | *Asparagus mollis* | VU:NE | ST |
| Asteraceae | *Anderbergia elsiae* | Rare:NE | ST |
| Asteraceae | *Athanasia hirsuta* | Rare:NE | B, GBIF, ST |
| Asteraceae | *Eriocephalus microphyllus* var. *carnosus* | EN:NE | ST |
| Asteraceae | *Metalasia helmei* | Rare:NE | B, GBIF, ST |

| Family | Species | Red List Status (Regional:Global) | Source |
|---|---|---|---|
| Brassicaceae | *Heliophila elata* | VU:NE | ST |
| Ericaceae | *Erica constantia* | Rare:NE | ST |
| Fabaceae | *Amphithalea dahlgrenii* | VU:NE | ST |
| Fabaceae | *Amphithalea pageae* | VU:VU | GBIF, ST |
| Fabaceae | *Amphithalea spinosa* | VU:NE | B, GBIF, ST |
| Fabaceae | *Aspalathus intricata* subsp. *oxyclada* | Rare:NE | ST |
| Fabaceae | *Aspalathus rostrata* | Rare:NE | B, GBIF, ST |
| Fabaceae | *Aspalathus shawii* subsp. *longispica* | Rare:NE | GBIF, ST |
| Fabaceae | *Lotononis argentea* | VU:NE | GBIF, ST |
| Fabaceae | *Lotononis gracilifolia* | EN:NE | GBIF, ST |
| Fabaceae | *Otholobium* sp. nov (Storton & Zanotvska 11281 NBG) | VU:NE | ST |
| Iridaceae | *Ixia fucata* | Rare:NE | GBIF, ST |
| Iridaceae | *Ixia oxalidiflora* | VU:NE | B, GBIF, ST |
| Orchidaceae | *Pachites bodkinii* | Rare:NE | ST |
| Proteaceae | *Leucadendron cordatum* | Rare:LC | B, GBIF, ST |
| Proteaceae | *Protea holosericea* | EN:CR | ST |
| Proteaceae | *Protea rupicola* | EN:EN | ST |
| Rhamnaceae | *Phylica comptonii* | Rare:NE | ST |
| Rutaceae | *Acmadenia matroosbergensis* | Rare:NE | B, GBIF, ST |
| Withheld | Sensitive Species 1209 | Rare:NE | ST |
| Withheld | Sensitive Species 142 | VU:NE | ST |
| Withheld | Sensitive Species 207 | Rare:NE | B, ST |
| Withheld | Sensitive Species 654 | VU:NE | ST |
| Withheld | Sensitive Species 692 | VU:NE | ST |
| Withheld | Sensitive Species 871 | VU :NE | B, ST |
| Withheld | Sensitive Species 521 | EN:NE | GBIF, ST |

These floral species list includes a single CR, one EN and one VU plant species according to International Red Lists potentially present within the proposed study area. Given the number of additional plant species associated with the PAOI, the number of Regional and Global SCC will likely be much higher following detailed survey and review.

## 3.4 SITE ECOLOGICAL IMPORTANCE

SEI values for major habitats 1) Matroosberg Mountain Catchment Area and CBAs, 2) Terrestrial-Aquatic Ecotones, 3) Matjiesfontein Shale Renosterveld, 4) North Langeberg Sandstone Fynbos, 5) South Langeberg Sandstone Fynbos, and 6) Matjiesfontein Quartzite Fynbos are provided in Tables 5 - 10 below.

TABLE 5: SITE ECOLOGICAL IMPORTANCE OF THE MATROOSBERG MOUNTAIN CATCHMENT AREA AND CRITICAL BIODIVERSITY AREAS.

| **Conservation Importance (CI): High** |
|---|
| Highly likely occurrence of CR, EN and/or VU species that have a global EOO >10 km$^2$ (Tables 3 and 4). |
| **Functional Integrity (FI): Very High** |
| Very large (>100 ha) of a designated PA. |
| **Biodiversity Importance (BI): High** |
| **Receptor Resilience (RR): Medium** |
| Slow anticipated recovery (± >10 years) to restore >75 % of the original species composition. |
| **Site Ecological Importance (SEI): Medium** |
| Implications for Wind Energy mitigation: |
| 1. Minimisation and restoration mitigation. |
| 2. Development activities of medium impact acceptable followed by appropriate restoration activities. |
| 3. Monitor regularly for erosion and mitigate immediately when identified. |

TABLE 6: SITE ECOLOGICAL IMPORTANCE OF TERRESTRIAL-AQUATIC ECOTONES.

| **Conservation Importance (CI): High** |
|---|
| Highly likely occurrence of CR, EN and/or VU species that have a global EOO >10 km$^2$ (Tables 3 and 4). |
| **Functional Integrity (FI): High** |

| |
|---|
| Ecosystem type of LC with relatively good habitat connectivity and minor negative ecological impacts. |
| **Biodiversity Importance (BI): High** |
| **Receptor Resilience (RR): Medium** |
| Slow anticipated recovery (± >10 years) to restore >75 % of the original species composition. |
| **Site Ecological Importance (SEI): High** |
| Implications for Wind Energy mitigation: |
| 1. Avoidance where possible. |
| 2. Minimisation mitigation where avoidance is not possible. |
| 3. Adapt layout design to minimize impacts. |
| 4. Offset mitigation may be required. |

TABLE 7: SITE ECOLOGICAL IMPORTANCE OF MATJIESFONTEIN SHALE RENOSTERVELD.

| |
|---|
| **Conservation Importance (CI): High** |
| Highly likely occurrence of CR, EN and/or VU species that have a global EOO >10 km$^2$ (Tables 3 and 4). |
| **Functional Integrity (FI): High** |
| Large (20 – 100 ha) intact natural area with good habitat connectivity with good rehabilitation potential. |
| **Biodiversity Importance (BI): High** |
| **Receptor Resilience (RR): High** |
| Habitat can recover relatively quickly (5 - 10 years) to restore >75 % of the original species due to good habitat connectivity. |
| **Site Ecological Importance (SEI): Medium** |
| Implications for Solar Energy mitigation: |
| 1. Minimisation and restoration mitigation. |
| 2. Development activities of medium impact acceptable followed by appropriate restoration activities. |

| |
|---|
| 3. Monitor regularly for erosion and mitigate immediately when identified. |
| 4. Monitor regularly for alien invasive species and remove immediately when detected. |

TABLE 8: SITE ECOLOGICAL IMPORTANCE OF NORTH LANGEBERG SANDSTONE FYNBOS.

| **Conservation Importance (CI): High** |
|---|
| Highly likely occurrence of CR, EN and/or VU species that have a global EOO >10 km$^2$ (Tables 3 and 4). |
| **Functional Integrity (FI): High** |
| Large (20 – 100 ha) intact natural area with good habitat connectivity with good rehabilitation potential. |
| **Biodiversity Importance (BI): High** |
| **Receptor Resilience (RR): High** |
| Habitat can recover relatively quickly (5 - 10 years) to restore >75 % of the original species due to good habitat connectivity. |
| **Site Ecological Importance (SEI): Medium** |
| Implications for Solar Energy mitigation: |
| 1. Minimisation and restoration mitigation. |
| 2. Development activities of medium impact acceptable followed by appropriate restoration activities. |
| 3. Monitor regularly for erosion and mitigate immediately when identified. |
| 4. Monitor regularly for alien invasive species and remove immediately when detected. |

TABLE 9: SITE ECOLOGICAL IMPORTANCE OF SOUTH LANGEBERG SANDSTONE FYNBOS.

| **Conservation Importance (CI): High** |
|---|
| Highly likely occurrence of CR, EN and/or VU species that have a global EOO >10 km$^2$ (Tables 3 and 4). |
| **Functional Integrity (FI): Medium** |
| Medium (5 - 20 ha) area of good natural connectivity. |
| **Biodiversity Importance (BI): Medium** |
| **Receptor Resilience (RR): High** |

| |
|---|
| Habitat can recover relatively quickly (5 - 10 years) to restore >75 % of the original species due to good habitat connectivity. |
| **Site Ecological Importance (SEI): Low** |
| Implications for Solar Energy mitigation: |
| 1. Minimisation and restoration mitigation. |
| 2. Development activities of medium to high impact acceptable followed by appropriate restoration activities. |
| 3. Monitor regularly for erosion and mitigate immediately when identified. |
| 4. Monitor regularly for alien invasive species and remove immediately when detected. |

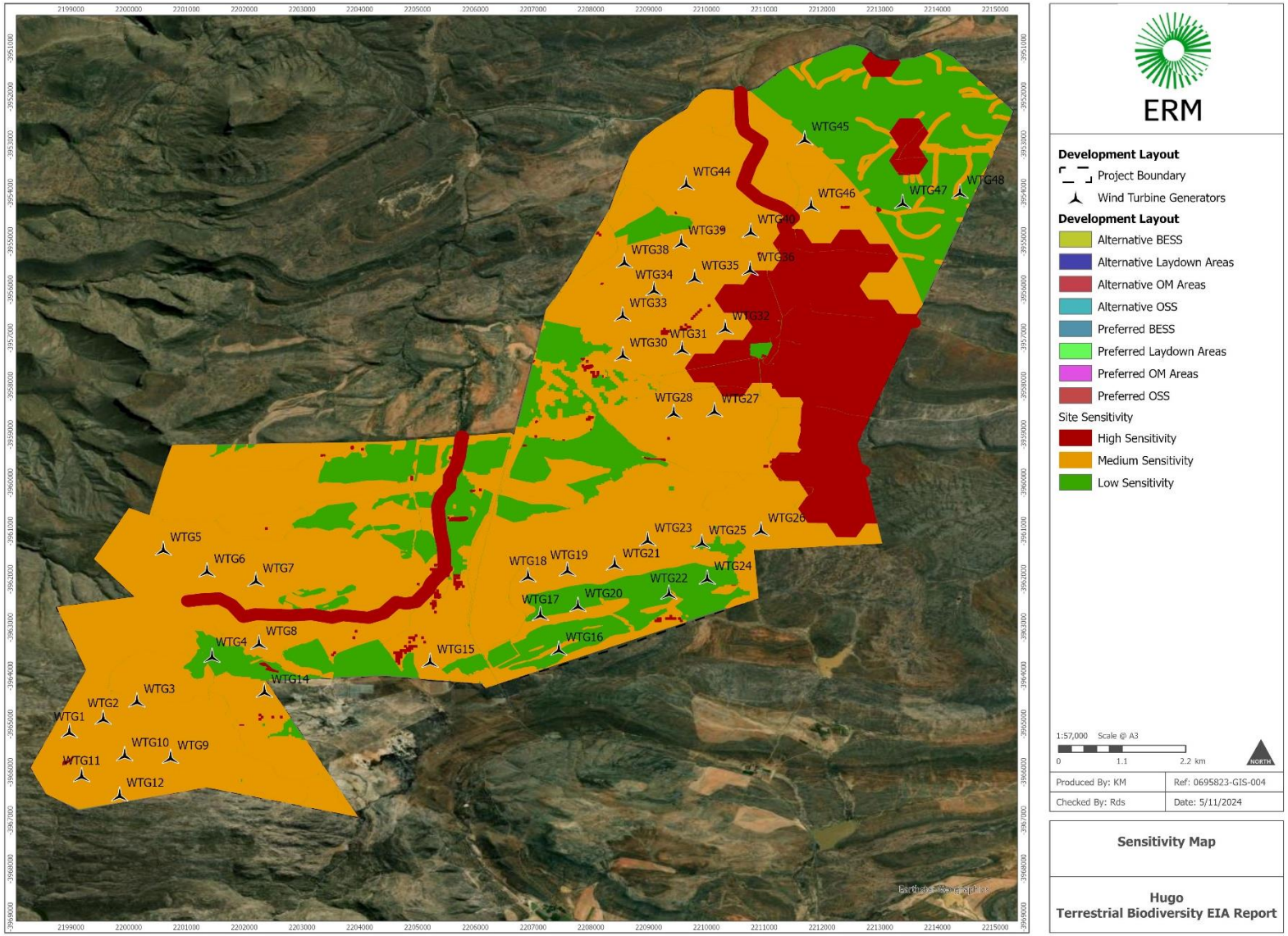
TABLE 10: SITE ECOLOGICAL IMPORTANCE OF MATJIESFONTEIN QUARTZITE FYNBOS.

| |
|---|
| **Conservation Importance (CI): High** |
| Highly likely occurrence of CR, EN and/or VU species that have a global EOO >10 km$^2$ (Tables 3 and 4). |
| **Functional Integrity (FI): High** |
| Large (20 – 100 ha) intact natural area with good habitat connectivity with good rehabilitation potential. |
| **Biodiversity Importance (BI): High** |
| **Receptor Resilience (RR): High** |
| Habitat can recover relatively quickly (5 - 10 years) to restore >75 % of the original species due to good habitat connectivity. |
| **Site Ecological Importance (SEI): Medium** |
| Implications for Solar Energy mitigation: |
| 1. Minimisation and restoration mitigation. |
| 2. Development activities of medium impact acceptable followed by appropriate restoration activities. |
| 3. Monitor regularly for erosion and mitigate immediately when identified. |
| 4. Monitor regularly for alien invasive species and remove immediately when detected. |

The site sensitivity in relation to the developer's final EIA layout is mapped using the SEIs above in conjunction with satellite imagery and specialist opinion. The site ecological importance map (Figure 5) in the Terrestrial Biodiversity Theme has informed the site's sensitivity. High Sensitivity areas have been classified as 'No Go' due to the presence of a CBA. The Protected Area has been classified as Medium Sensitivity as this area has shown promise to support CBAs present on site. Medium sensitivity areas can undergo a certain limit of habitat loss, provided the underlying ecological processes are not impacted and stringent mitigations are adhered to. The extent of the proposed development will not have a long-term impact on terrestrial biodiversity and the decision to make the PA "no-go" or high sensitivity should defer to the Aquatic Specialist as the PA's principal value is maintenance of water function, integrity, and water yield[1819]. No turbines are recommended to be placed within highly sensitive areas on the site.

[18]Rabie, A* & Burgers, C., 1997. The mountain catchment areas act and its implementation. SA Publiekreg= SA Public Law, 12(2), pp.351-372.
[19] South Africa. 1970. Mountain Catchment Area Act 63 of 1970. Available at: < https://www.gov.za/sites/default/files/gcis_document/201505/act-63-1970.pdf> [Accessed on: 18 April 2024].

FIGURE 5: SITE ECOLOGICAL IMPORTANCE MAP FOR THE PROPOSED HUGO WIND ENERGY FACILITY IN THE PLANT SPECIES THEME.



# 4. IMPACT ASSESSMENT

WEFs have the potential to impact terrestrial biodiversity directly through bird and bat mortalities and environmental pollution (noise and light) and indirectly through habitat fragmentation resulting in landscape modifications[20]. Direct and indirect impacts are anticipated and even expected for all phases of the development, namely construction, operational and decommissioning. An impact assessment was needed to thoroughly assess the anticipated impacts associated with each phase of the development.

## 4.1 CONSTRUCTION PHASE AND DECOMMISSIONING PHASE

The impacts that will be most prevalent during the Construction Phase of the proposed Hugo WEF are:

- Vegetation Clearing
- Chemical Contamination
- Reduced Connectivity and Restricted Movement
- Altered Flow Regimes
- Enhancement of Overgrazing effects
- Disturbance and/or Displacement
- Mortality

The anticipated impacts during the Decommissioning Phase of the proposed Hugo WEF mirror those expected during the construction phase. Decommissioning activities are foreseen to take a similar amount of time as construction activities. However, they primarily involve dismantling the structures that were previously erected for the development. The impacts that will be most prevalent during the Decommission Phase of the proposed Hugo WEF are:

- Vegetation Clearing
- Reduced Connectivity and Restricted Movement
- Disturbance and/or Displacement
- Mortality

### 4.1.1 IMPACT: VEGETATION CLEARING

Plants are vital in maintaining ecosystem function and integrity and play a key role in the determination of species abundance and distribution. The baseline environment will undergo vegetation clearing as a result of the development and associated infrastructure. WEFs are less invasive in terms of land-use modification as compared to solar farms and would require minimal vegetation clearing, leaving behind a good matrix of natural flora intact[21]. However, up to 100ha of natural land will be modified for the construction and decommissioning phase and this may have adverse impacts if not managed effectively. The impacts associated with vegetation clearing for the development is moderate before mitigation measures are applied (Table 11).

[20] Urziceanu, M., Anastasiu, P., Rozylowicz, L. and Sesan, T.E., 2021. Local-scale impact of wind energy farms on rare, endemic, and threatened plant species. PeerJ, 9, p.e11390.
[21] Keehn, J.E. and Feldman, C.R., 2018. Disturbance affects biotic community composition at desert wind farms. Wildlife Research, 45(5), pp.383-396.

## TABLE 11: ASSESSMENT OF POTENTIAL VEGETATION CLEARING IMPACTS ASSOCIATED WITH THE CONSTRUCTION AND DECOMMISSION PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Construction/ Decommissioning** | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Potential vegetation clearing impacts associated with the construction and decommissioning phase of the proposed development | | | | | |
| **Description of Impact:** Certain areas will need to be cleared of vegetation to facilitate construction of associated infrastructure and transport of personnel on site. This impact can negatively affect endemic, threatened or important flora species. | | | | | |
| **Impact Status:** Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Mitigation** | Local | Medium Term | Recoverable | Moderate | Highly Probable |
| **Score** | 2 | 3 | 3 | 3 | 4 |
| **With Mitigation** | Site | Short Term | Recoverable | Low | Probable |
| **Score** | 1 | 2 | 3 | 2 | 3 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | Moderate Negative Impact (44) | | Low Negative Impact (24) | | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |

Mitigation measures to reduce residual risk or enhance opportunities:

- The development footprint must avoid No-Go/ High Sensitivity areas as much as possible.
- Limit the area of impact as much as possible.
- A pre-construction walkthrough during the optimal flowering period (spring) of the finalized development layout must be conducted to ensure that No-Go and High Sensitivity areas are avoided where possible.
- Ensure that lay-down and other temporary infrastructure are within Low Sensitivity areas.
- Rehabilitate disturbed areas that are not required by the operational phase of the development.
- All construction staff on site must attend an environmental induction to ensure that basic environmental principles are adhered to. This includes topics such as avoiding fire hazards, no littering, appropriate handling of pollution and chemical spills, minimizing wildlife interactions, remaining within demarcated construction areas, avoidance of No-Go areas and sensitive habitats etc.
- Demarcate sensitive areas near the development footprint as no-go areas with construction tape or similar and clearly marked as No-Go areas.
- An environmental management programme (EMPr) must be implemented and must provide a detailed description of how construction activities must be conducted to reduce unnecessary clearing and/or destruction of habitat.

| | |
|---|---|
| Residual impact | *Residual impacts are expected to occur for the area and may be relevant in soil erosion and alien invasive species establishing themselves before natural flora can. All mitigation measures would need to be adhered to and continuous monitoring and maintenance is required after construction.* |

### 4.1.2 IMPACT: CHEMICAL CONTAMINATION

Chemical contamination can significantly impact the receiving environment due to construction activities. Studies at an upland wind farm highlighted the presence of contaminants like heavy metals (copper, chromium, zinc, aluminium, manganese) and bacteria in sediments and water[22]. Similar contaminants can lead to pollution and affect sediment quality. Other characteristics of water that can be impacted include pH and alkalinity. Chemical contamination can result from construction activities, waste disposal, and runoff, potentially degrading water quality and harming aquatic ecosystems and the terrestrial flora and fauna that depend on these aquatic sources on site. Monitoring and managing chemical contamination is crucial to mitigate adverse effects on the receiving environment. The assessment of chemical contamination impacts is assessed in Table 12.

TABLE 12: ASSESSMENT OF THE POTENTIAL CHEMICAL CONTAMINATION IMPACTS ASSOCIATED WITH THE CONSTRUCTION PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Construction** | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Potential chemical contamination impacts associated with the construction phase of the proposed development. | | | | | |
| **Description of Impact:** Chemical contamination during the Construction phase. Spillage of construction materials or chemicals can adversely impact waterbodies and the fauna and flora on which they depend. | | | | | |
| **Impact Status:** Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Mitigation** | Local | Medium term | Recoverable | High | Highly Probable |
| **Score** | 2 | 3 | 3 | 4 | 4 |
| **With Mitigation** | Site | Short Term | Recoverable | Moderate | Probable |
| **Score** | 1 | 2 | 3 | 3 | 3 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | Moderate Negative Impact (48) | | Low Negative Impact (27) | | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |
| Mitigation measures to reduce residual risk or enhance opportunities: <br>• The development footprint must avoid High Sensitivity areas as much as possible. <br>• Ensure proper storage and handling of chemicals (fuel, lubricants, cleaning agents) used on-site. Store all chemicals in designated areas equipped with spill containment measures to prevent leaks and spills. | | | | | |

[22] Millidine, K.J., Malcolm, I.A., McCartney, A., Laughton, R., Gibbins, C.N. and Fryer, R.J., 2015. The influence of wind farm development on the hydrochemistry and ecology of an upland stream. Environmental monitoring and assessment, 187, pp.1-17.

- A chemical spill response plan must be developed before construction activities are undertaken. This spill response plan must be implemented by an ECO on site.
- Provide appropriate training to construction staff on the safe handling of chemical and hazardous materials.
- Implement measures to prevent runoff to nearby waterbodies by installing sediment traps and/or containment pods. This should be addressed in the Stormwater Assessment.

| | |
|---|---|
| Residual impact | *Residual impacts are expected to occur for the area and may be relevant in aquatic systems on site as well as soil cover. The use of chemicals on site should be limited as far as possible and environmentally friendly alternatives should be utilized, resulting in no major residual impacts associated with the phase.* |

### 4.1.3 IMPACT: REDUCED CONNECTIVITY AND RESTRICTED MOVEMENT

The construction and decommissioning phase of a wind farm has the potential to impact terrestrial animals by creating a barrier effect. This effect is a behavioral impact due to the presence of a foreign element in a landscape that may potentially limit fauna species from moving freely across the landscape[23]. Faunal species may be excluded from previously accessible habitats due to laydown areas, frequent movement of personnel and the use of temporary fencing. The result could be a reduction in the use of an area by faunal species. Construction activities may also pose a barrier to suitable roosting or breeding sites. The impact of restricted movement and reduced connectivity and its significance on terrestrial biodiversity is assessed below.

TABLE 13: ASSESSMENT OF POTENTIALLY REDUCED CONNECTIVITY AND RESTRICTED MOVEMENT OF FAUNA IMPACTS ASSOCIATED WITH THE CONSTRUCTION AND DECOMMISSION PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Construction/ Decommissioning** | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Reduced connectivity and restricted movement of fauna impacts associated with the construction and decommissioning phase of the proposed development. | | | | | |
| **Description of Impact:** Construction and decommissioning activities and novel infrastructure (e.g., perimeter fencing) may exclude species from portions of suitable habitat by restricting animals' movement across the landscape. | | | | | |
| **Impact Status:** Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Mitigation** | Local | Medium term | Recoverable | Moderate | Highly Probable |
| **Score** | 2 | 3 | 3 | 3 | 4 |
| **With Mitigation** | Site | Short Term | Recoverable | Low | Probable |
| **Score** | 1 | 2 | 3 | 2 | 3 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |

[23] Pedro, Pereira., Nuno, Salgueiro., Sílvia, Mesquita. (2018). Impacts of On-shore Wind Farms in Wildlife Communities: Direct Fatalities and Indirect Impacts (Behavioural and Habitat Effects). doi: 10.1007/978-3-319-60351-3_2

| **S=(E+D+R+M)*P** | Moderate Negative Impact (44) | Low Negative Impact (24) |
|---|---|---|
| Was public comment received? | NO | |
| Has public comment been included in mitigation measures? | NO | |

Mitigation measures to reduce residual risk or enhance opportunities:

- Minimization of length and width of road network.
- Fencing and road designs to allow for passage of animals (e.g., short, wide culverts in roads and wildlife friendly fencing).
- The EMPr should include wildlife monitoring and an adaptive management plan for the operational phase to ensure there are no adverse impacts observed to the fauna community from the construction phase.
- Implement habitat enhancement and restoration measures to offset the loss of connectivity caused by construction and decommissioning activities. This can be achieved by planting native vegetation, installing nesting boxes, or creating artificial shelters to provide alternative habitats for displaced fauna species and enhance connectivity within the landscape. This should be considered in the EMPr.
- All recommendations in the Terrestrial Animal Specialist Assessment must be adhered to.

| | |
|---|---|
| Residual impact | *Residual impacts are expected to occur for the area specifically for wildlife. Change in wildlife behaviour as a response to activities associated with the WEF is expected and should be continuously monitored.* |

### 4.1.4 IMPACT: ALTERED WATER FLOW

Construction activities can potentially lead to altered water flow due to increased surface runoff caused by vegetation clearing. Altered water regimes can create more favourable conditions for alien invasive species, thus negatively impacting native flora who are not able to compete in a new environment fast enough. Adequate flow and erosion management mitigations would need to be addressed in the EMPr.

TABLE 14: ASSESSMENT OF THE POTENTIAL ALTERED FLOW REGIME IMPACTS ASSOCIATED WITH THE CONSTRUCTION PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Construction** | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Potential altered flow regime impacts associated with the construction phase of the proposed development. | | | | | |
| **Description of Impact:** Construction of infrastructure may alter water flow characteristics such as runoff, sedimentation and infiltration. These could change vegetation community composition, soil depth, and habitat suitability over time. | | | | | |
| **Impact Status:** Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Mitigation** | Local | Medium term | Recoverable | High | Highly Probable |
| **Score** | 2 | 3 | 3 | 4 | 4 |
| **With Mitigation** | Site | Short Term | Recoverable | Moderate | Probable |

| | | | | | |
|---|---|---|---|---|---|
| **Score** | 1 | 2 | 3 | 3 | 3 |
| **Significance Calculation** | **Without Mitigation** | | | **With Mitigation** | |
| **S=(E+D+R+M)*P** | Moderate Negative Impact (48) | | | Low Negative Impact (27) | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |

Mitigation measures to reduce residual risk or enhance opportunities:

- Adequate flow and erosion control measures should be included in the EMPr.
- Ongoing monitoring and rehabilitation of disturbed areas must be implemented.
- All recommendations in the Stormwater Assessment must be strictly adhered to.

| | |
|---|---|
| Residual impact | *Vegetation clearing may impact runoff and infiltration rates. As a result, residual impacts may occur after mitigation measures have been applied, but these impacts are manageable.* |

### 4.1.5 IMPACT: ENHANCEMENT OF OVERGRAZING EFFECTS

During the construction phase of the project, livestock are expected to be displaced and disturbed through activities that relate to removal of fences and access gates being left open by personnel. The construction of the WEF may reduce available grazing land and cause livestock to potentially overgraze on other natural areas, causing habitat fragmentation and wildlife restriction to loss of flora SCC and compaction. However, there is scope to reduce the anticipated negative impact of potential overgrazing during the construction phase of the development and turn it into a positive impact. Developers can work closely with landowners to minimize the impacts of overgrazing. Farmers can reduce the number of livestock on the farm, which will be compensated during the operational phase of the WEF. Developers can enforce restoration rehabilitation of natural land throughout the PAOI, thus creating opportunities to enhance the local biodiversity within the area. Post-mitigation significance is anticipated to be positive, provided mitigation measures are implemented during the construction phase of the development. The impact of overgrazing is assessed in Table 15 below.

TABLE 15: ASSESSMENT OF OVERGRAZING IMPACTS ASSOCIATED WITH THE CONSTRUCTION PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Construction** | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Overgrazing impacts associated with the construction phase of the proposed development. | | | | | |
| **Description of Impact:** Construction areas becoming unavailable for grazing may alter grazing patterns, potentially concentrating livestock in areas of high suitability for various SCCs. The project area is currently subject to overgrazing, however with the implementation of various mitigation measures listed below, the nature of the impact is expected to be positive. | | | | | |
| **Impact Status:** Positive | | | | | |
| | **E** | **D** | **R** | **M** | **P** |

| | | | | | |
|---|---|---|---|---|---|
| **Without Mitigation** | Local | Medium term | Recoverable | High | Probable |
| **Score** | 2 | 3 | 3 | 4 | 3 |
| **With Mitigation** | Local | Short Term | Recoverable | Low | Low Probability |
| **Score** | 2 | 2 | 3 | 2 | 2 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | Moderate Negative Impact (36) | | Low Positive Impact (18) | | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |

Mitigation measures to reduce residual risk or enhance opportunities:

- Temporary laydown areas, construction yards and site office buildings to be placed in low sensitivity areas.
- Developer should work closely with the farmer to identify areas that should be left for livestock grazing. These areas should be of an adequate size and should accommodate all livestock.
- Developer to work with livestock farmers to reduce number of stock prior to construction to avoid the displacement of sheep during construction. The loss of income from livestock farming should be compensated by the developer.
- Modified areas to be rehabilitated as far as possible through a restoration and rehabilitation plan.
- Disturbed areas from construction activities should be rehabilitated and treated in conjunction with an Alien Invasive Management Plan to reduce encroachment of invasive species.

| | |
|---|---|
| Residual impact | *Residual impacts include altered vegetation composition despite various rehabilitation plans. Long-term challenges may also arise in restoration plans as modified habitats may be challenging to restore fully to natural states. Farmers will also suffer loss from livestock farming before being compensating by the development.* |

### 4.1.6 IMPACT: DISTURBANCE OR DISPLACEMENT

During the construction and decommissioning phase of a wind farm, increased activity, movement of machinery, and operation of equipment can have significant effects on local wildlife. In particular, certain sensitive animal SCCs may be disturbed or displaced from their habitats in the vicinity of construction and decommissioning activities. The following table outlines the potential impacts of construction-related and decommissioning disturbances on these animal SCCs and the mitigation measures required to minimize adverse effects on biodiversity.

TABLE 16: ASSESSMENT OF POTENTIAL DISTURBANCE AND/OR DISPLACEMENT IMPACTS ASSOCIATED WITH THE CONSTRUCTION AND DECOMMISSION PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Construction/ Decommissioning** |
|---|
| **Nature of the impact**: Potential disturbance and/or displacement impacts on local wildlife associated with the construction and decommissioning phase of the proposed development. |

**Description of Impact:** Increased construction/decommissioning activity, movement of machinery and operation of equipment may disturb and/or displace certain animal SCCs from the vicinity of construction/decommissioning.

**Impact Status:** Negative

| | **E** | **D** | **R** | **M** | **P** |
|---|---|---|---|---|---|
| **Without Mitigation** | Regional | Medium term | Recoverable | High | Highly Probable |
| **Score** | 3 | 3 | 3 | 4 | 4 |
| **With Mitigation** | Local | Short Term | Recoverable | Moderate | Probable |
| **Score** | 2 | 2 | 3 | 3 | 3 |

| **Significance Calculation** | **Without Mitigation** | **With Mitigation** |
|---|---|---|
| **S=(E+D+R+M)*P** | Moderate Negative Impact (52) | Low Negative Impact (30) |
| Was public comment received? | NO | |
| Has public comment been included in mitigation measures? | NO | |

Mitigation measures to reduce residual risk or enhance opportunities:

- Temporary laydown areas, construction yards and site office buildings to be placed in low sensitivity or modified areas.
- Pre-construction baseline animal monitoring programme must be implemented, with focus on areas identified for the construction footprint during the design phase (e.g., road network).
- Avoidance of highly sensitive habitats for construction areas.
- Clearly demarcated construction areas and no unauthorized personnel to be permitted beyond demarcated areas.
- Adequate noise reduction measures (where possible) on heavy machinery.
- Minimize construction activity that occurs between dusk and dawn when animals are most active.
- Minimization of lighting used to illuminate construction areas and site buildings.
- Construction activity to be minimized during the night to reduce noise pollution during periods when Riverine Rabbit are most active.

| | |
|---|---|
| Residual impact | *Residual impacts include displaced SCCs as a result of activities associated with the WEF.* |

### 4.1.7 IMPACT: MORTALITY TO FAUNAL AND FLORA SPECIES

Construction and decommissioning activities can have significant implications for local wildlife populations. Increased traffic and human presence, coupled with illegal collection, poaching, and entrapment, pose direct threats to various animal species. Additionally, the indirect effects of construction and decommissioning activities, such as heightened predator presence and decreased detection, can further contribute to mortality rates among vulnerable wildlife populations. The following impact table outlines the potential risks associated with these factors and suggests mitigation measures to minimize adverse effects on biodiversity during the construction and decommissioning processes.

TABLE 17: ASSESSMENT OF THE POTENTIAL MORTALITY OF FAUNAL AND FLORA SPECIES DUE TO DIRECT AND INDIRECT IMPACTS ASSOCIATED WITH THE CONSTRUCTION/DECOMMISSION PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Construction/ Decommissioning** | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Potential mortality of faunal and flora species due to direct and indirect impacts associated with the construction and decommissioning phase of the proposed development. | | | | | |
| **Description of Impact:** Direct mortality due to increased traffic and illegal collection/poaching/entrapment, and indirect mortality due to potential increased predator presence and decreased detection can occur during the Construction and Decommissioning Phase. | | | | | |
| **Impact Status:** Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Mitigation** | Local | Long term | Irreversible | Very High | Highly Probably |
| **Score** | 2 | 4 | 5 | 5 | 4 |
| **With Mitigation** | Site | Medium term | Recoverable | Moderate | Probable |
| **Score** | 1 | 3 | 3 | 3 | 3 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | **High Negative Impact (64)** | | Low Negative Impact (30) | | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |

Mitigation measures to reduce residual risk or enhance opportunities:

- No movement of construction vehicles and personnel between dusk and dawn.
- Implementation and enforcement of speed limits.
- Roadkill monitoring and recording programme.
- Induction toolbox talks to personnel to increase awareness about animal SCCs present and roadkill risks.
- No unauthorized movement of personnel.
- No unauthorized access to the construction site.
- No trenches to be left uncovered overnight.
- Trenches, excavations and cattle grids to have slopes to allow for animals to escape should they fall in.
- No hunting permitted.
- No dogs or cats permitted (other than those of the landowner).
- Waste management programme to prevent trash buildup attracting species such as crows.
- Roadkill to be immediately reported, removed and suitably disposed of to prevent scavenging (e.g., buried).

| | |
|---|---|
| Residual impact | *Residual impacts include direct mortality of species of conservation concern as a result of activities associated with the WEF.* |

## 4.2 OPERATIONAL PHASE

The anticipated impacts for the operational phase of the proposed development are:

- Habitat Fragmentation
- Potential Encroachment of Alien Invasive Species
- Light, Noise and Visual Pollution
- Faunal Mortality and Loss of SCC
- Soil erosion
- Unwanted Fires

Their significance with and without the recommended mitigation measures are assessed in the tables below.

### 4.2.1 IMPACT: HABITAT FRAGMENTATION

Habitat fragmentation and loss can disrupt species dispersal patterns and this implication leads to lower species occurrence in landscapes. The presence of wind farm infrastructure may also deter species from the landscape and suitable habitats, causing a decrease in species abundance. The affects are assessed in Table 18 below and are expected to be Moderate before mitigation. Mitigation measures include rehabilitation of habitats that have been impacted by previous construction activities and ongoing operational activities. Rehabilitating disturbed areas away from the vicinity of turbines may be more favorable as this puts species in less danger of being directly impacted by the turbines and associated infrastructure.

TABLE 18: ASESSEMENT OF POTENTIAL HABITAT FRAGMENTATION IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Operation** | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Potential habitat fragmentation impacts associated with the operational phase of the proposed development. | | | | | |
| **Description of Impact:** Habitat fragmentation due to the presence of wind turbines and associated infrastructure is anticipated for the operational phase. Fragmented habitats may cause ecological barriers and restricted gene flow, indirectly affecting faunal and flora species. | | | | | |
| **Impact Status:** Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Mitigation** | Local | Long term | Recoverable | High | Highly Probably |
| **Score** | 2 | 4 | 3 | 4 | 4 |
| **With Mitigation** | Site | Medium term | Recoverable | Moderate | Probable |
| **Score** | 1 | 3 | 3 | 3 | 3 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | Moderate Negative Impact (52) | | Low Negative Impact (30) | | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |

Mitigation measures to reduce residual risk or enhance opportunities:

- The EMPr should include biodiversity monitoring and an adaptive management plan for the operational phase to ensure there are no adverse impacts observed to the fauna community.
- Biodiversity monitoring must be implemented for various specialisms to assess the ongoing impacts of the operational wind farm compared to pre-construction baseline data. Specialists would need to be contracted by the Functional Entity and monitoring must come into effect in direct alignment with various specialist Guidelines and Best Practice.
- Implement habitat enhancement and restoration measures to offset the loss of connectivity caused by operational activities. This can be achieved by planting native vegetation, installing nesting boxes, or creating artificial shelters to provide alternative habitats for displaced fauna species and enhance connectivity within the landscape. This should be considered in the EMPr.
- All recommendations in the Terrestrial Animal Specialist Assessment must be adhered to.

| | |
|---|---|
| Residual impact | *Residual impacts include displacement of species, potentially species of conservation concern, from the site.* |

### 4.2.2 IMPACT: ENCROACHMENT OF ALIEN INVASIVE SPECIES

The clearing and disturbance of areas during the construction phase of the project can result in an increased and ongoing risk of invasion of alien plant species, particularly pioneer species.

Four invasive plant species have been identified within the Hugo WEF area during the specialist site visit. It must be noted that more invasive species may be present on site but was not detected. *Acacia mearnsii* (Black Wattle) was detected in the descending catchment area adjacent to the Protected Area on the Hugo PAOI. This species is known to invade roadsides and watercourses and has the potential to invade and degrade riparian habitat. This invasive is listed as a Category 2 invasive species according to NEMBA, and requires ongoing monitoring and management, as it is not a widely distributed invasive[24]. *Bromus diandrus* was an occasional species found in the Hugo low shrubland and associated drainage areas. The Bromus sp. has the potential to transform invaded habitats and prefers roadsides and natural veld in fynbos. *Rumex acetosella* was detected in riparian vegetation at Hugo WEF. This species is listed as an invasive as per NEMBA but is not a regionally categorized (except for on Prince Edward and Marion islands). Nonetheless, it invades disturbed areas and would need operational monitoring to ensure the species does not spread further. *Tamarix ramosissima* invades riverbeds and riverbanks and was identified at a disturbed riparian habitat on Hugo in small quantities. It is listed as a Category 1b invasive species and must be controlled and/or eradicated as far as possible in alignment with NEMBA.

Regular alien clearing activities would be required, particularly during the initial stages of the operational phase to limit the spread of alien species. Once the natural vegetation has re-established in previously disturbed areas then the level of alien control required would likely be reduced.

TABLE 19: ASSESSMENT OF POTENTIAL ENCROACHMENT OF ALIEN INVASIVE SPECIES RESULTING IN LOSS OF FLORA SCC ASSOCIATED WITH THE OPERATIONAL PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Operation** |
|---|

[24] Henderson, L., Plant Protection Research Institute Handbook No. 21. Agricultural Research Council.

**Nature of the impact**: Potential encroachment of alien invasive species resulting in loss of flora SCC associated with the operational phase of the proposed development.

**Description of Impact:** Movement of personnel, and increased disturbance puts the proposed development area at greater risk of alien invasive species moving into and spreading within the area. Alien invasive species will encroach into disturbed areas left behind by construction activities and may go undetected during the operational phase. This impact results in the potential loss of flora SCC or endemic species.

**Impact Status:** Negative

| | **E** | **D** | **R** | **M** | **P** |
|---|---|---|---|---|---|
| **Without Mitigation** | Local | Long term | Irreversible | High | Definite |
| **Score** | 2 | 4 | 5 | 5 | 5 |
| **With Mitigation** | Site | Medium term | Recoverable | Moderate | Low Probability |
| **Score** | 1 | 3 | 3 | 3 | 2 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | **High Negative Impact (80)** | | Low Negative Impact (20) | | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |

Mitigation measures to reduce residual risk or enhance opportunities:

- Disturbed areas such as road verges, lay-down areas and areas utilised by temporary construction facilities must be regularly monitored to detect the establishment of alien species and those species should be eradicated before they spread.
- Regular alien clearing should be conducted, as needed, using the best-practice methods for the species concerned, the use of herbicides should be avoided as far as possible.
- The use of herbicides (if absolutely required) for the control and eradication of alien grasses should be done in accordance with the alien eradication programme in the EMPr to reduce unintended ecological impacts.

| | |
|---|---|
| Residual impact | *Residual impacts include loss of natural flora and suitable habitat due to encroachment of alien invasive species.* |

### 4.2.3 IMPACT: LIGHT, NOISE AND VISUAL POLLUTION

Artificial light at night has the potential to impact nocturnal species (bats and some birds). Bats specifically rely on darkness for foraging and navigation and light from turbine infrastructure can impact their natural behaviour. Additionally, artificial light can attract insects and thus, attract bats within the rotor swept area of a turbine, increasing collision risk.

Noise pollution is a common disturbance that deters faunal species from making use of the area. This may pose as a positive impact, as species are less prone to be impacted by the WEF directly through mortality. On the other hand, these impacts lead to displacement of species from their natural habitat. Noise pollution also has the ability to interfere with communication among species, which may lead to changes in mating behaviour and warning signals.

Visual disturbance caused by WEF infrastructure might cause wildlife to perceive infrastructure as a threat and ultimately avoid the PAOI. Avifauna may be directly impacted by turbine blades as most raptor species might not perceive the moving blades as obstacles, leading to accidental collisions.

These impacts are assessed below and has a moderate impact prior to recommended mitigation measures. It is important to note that avifaunal and bat specific recommendations (addressed in specialist-specific assessments for the proposed WEF) should be implemented and take priority over any conflicting recommendations listed in the table below.

TABLE 20: ASSESSMENT OF POTENTIAL LIGHT, NOISE AND VISUAL POLLUTION IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Operation** | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Potential light, noise and visual pollution impacts associated with the operational phase of the proposed development. | | | | | |
| **Description of Impact:** Wind farms have the potential to directly impact species through noise and vibration, light, and visual pollution.<br>Visual disturbance caused by wind turbines and associated infrastructure can impact faunal species' sight and deter their navigation and mating cues.<br>Artificial light present at night from operational turbines may attract insects and also attract bats posing a collision risk.<br>The WEF's associated infrastructure will cause noise and vibrations throughout the site and adjacent areas. This may impact faunal species by affecting their behaviour and deter species from their natural habitat. | | | | | |
| **Impact Status:** Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Mitigation** | Local | Long term | Recoverable | High | Highly Probably |
| **Score** | 2 | 4 | 3 | 4 | 4 |
| **With Mitigation** | Site | Medium term | Recoverable | Moderate | Probable |
| **Score** | 1 | 3 | 3 | 3 | 3 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | Moderate Negative Impact (52) | | Low Negative Impact (30) | | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |
| Mitigation measures to reduce residual risk or enhance opportunities:<br>• Use low-intensity and downward-facing lighting fixtures to reduce the attraction of insects and mitigate the risk of bat collisions.<br>• Employ noise mitigation measures, such as acoustic insulation, to reduce the transmission of noise from wind turbines and associated infrastructure.<br>• Develop and implement operational protocols to minimize noise and vibration disturbances during critical periods for faunal species, such as breeding, nesting, and foraging. | | | | | |

- Schedule maintenance activities and construction work during off-peak hours to minimize disruption to wildlife behavior and habitat use.

| | |
|---|---|
| Residual impact | *Residual impacts include potential collision risks of SCC by potentially attracting them into the rotor swept area. Other residual impacts include loss of species abundance and diversity from the area due to the WEF and associated activities.* |

### 4.2.4 IMPACT: UNWANTED FIRES

Although the Fynbos biome relies on fire and is susceptible to fires, unwanted or frequent and intense fires can cause vegetation loss. These fires can surpass the ecosystem's natural ability to recover, leading to habitat loss and fragmentation. This affects fauna species and has negative effects on all levels of the local ecosystem. Essential ecological processes such as nutrient cycling and soil structure can also be affected. Additionally, fires can create conditions that are favorable for invasive alien species to invade. Furthermore, fires can negatively impact infrastructure and personnel. The impact significance is rated as Moderate before mitigation measures are implemented.

TABLE 21: ASSESSMENT OF POTENTIAL FIRE IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Operation** | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Potential fire impacts associated with the operational phase of the proposed development. | | | | | |
| **Description of Impact:** Increased personnel on site increases the fire risk due to smoking and/or use of electrical equipment on site. | | | | | |
| **Impact Status:** Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Mitigation** | Local | Long term | Irreversible | High | Highly Probably |
| **Score** | 2 | 4 | 5 | 4 | 4 |
| **With Mitigation** | Site | Medium term | Recoverable | Moderate | Probable |
| **Score** | 1 | 3 | 3 | 3 | 3 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | Moderate Negative Impact (60) | | Low Negative Impact (30) | | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |

Mitigation measures to reduce residual risk or enhance opportunities:

- No open fires should be permitted outside of designated areas.
- Smoking areas must be defined, and no smoking should be permitted outside of designated areas.

- An emergency response plan for uncontrolled fires must be in place prior to operation and implemented for the duration of the WEF's lifespan.
- All staff members must have a Fire and Safety induction to increase awareness.

| | |
|---|---|
| Residual impact | *Residual impacts include loss of faunal SCC. This is why it is critical to manage unplanned fires as soon as possible to avoid mortality.* |

### 4.2.5 IMPACT: FAUNAL MORTALITY AND LOSS OF SCC

Wildlife and floral communities face direct mortality due to increased traffic and human presence, coupled with illegal collection, poaching, and entrapment. Avifaunal and bat species also face collision risks with turbine blades. The wind farm should implement operational biodiversity monitoring to understand and compare post-construction impacts with baseline (pre-construction) conditions. This will help create an adaptive management approach to effectively manage direct mortality to terrestrial floral and faunal communities. The following impact table outlines the potential risks associated with these factors and recommended mitigation measures to minimize adverse effects on biodiversity during the operational phase. The impacts of direct mortality is Moderate before mitigation measures are implemented. Extreme loss of species impacts biodiversity and the ecological processes that helps keep localized communities intact and ecosystems functioning.

TABLE 22: ASSESSMENT OF POTENTIAL FAUNAL MORTALITY AND LOSS OF SCC IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE OF THE PROPOSED DEVELOPMENT.

| **Impact Phase: Operation** | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Potential faunal mortality and loss of SCC impacts associated with the operational phase of the proposed development. | | | | | |
| **Description of Impact:** Direct mortality/loss of flora and faunal species is anticipated due to increased traffic on site and illegal collection/poaching/entrapment. Avifauna and bats face collision risk with moving turbine blades. Targeted illegal poaching and harvesting may pose a risk as the WEF may offer greater ease of access to the public. | | | | | |
| **Impact Status:** Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Mitigation** | Local | Long term | Irreversible | High | Highly Probable |
| **Score** | 2 | 4 | 5 | 4 | 4 |
| **With Mitigation** | Site | Medium term | Recoverable | Moderate | Low Probability |
| **Score** | 1 | 3 | 3 | 3 | 2 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | **Moderate Negative Impact (60)** | | Low Negative Impact (20) | | |
| Was public comment received? | NO | | | | |

| | |
|---|---|
| Has public comment been included in mitigation measures? | NO |

Mitigation measures to reduce residual risk or enhance opportunities:

- An environmental induction for all staff on site to identify SCC.
- Demarcate sensitive areas, where SCC have been confirmed present near the development footprint as No-Go areas.
- Site access should be controlled, and no unauthorized persons should be allowed onto the site to limit illegal harvesting.
- The collection or harvesting of any plants at the site should be strictly forbidden.
- Bird and bat carcass searchers must be deployed at the WEF and all findings to be reported to an appropriate bird and bat specialist. Refer to recommendations in the Avifaunal Specialist Impact Assessment and Bat Specialist Impact Assessment.
- The WEF must report all fatalities of SCC to a competent or Interested and Affected Party on a quarterly basis.
- All vehicles must adhere traffic rules on the site with a maximum speed of 30km to be implemented. Alternatively, consult and enforce all recommendations in the Traffic Impact Assessment.
- Limit driving at night on the site, between dusk and dawn, when fauna are most active.
- No hunting permitted.
- No dogs or cats permitted (other than those of the landowner).
- Waste management programme to prevent trash buildup attracting species such as crows.
- Roadkill to be immediately reported, removed and suitably disposed of to prevent scavenging (e.g., buried).

| | |
|---|---|
| Residual impact | *Residual impacts include loss flora and fauna SCC from the natural environment.* |

### 4.2.6 IMPACT: SOIL EROSION

Disturbance created during construction would leave the disturbed areas vulnerable to soil erosion in the operational phase. Consequently, specific measures such as erosion berms and water dispersion features will be required along the power line, access roads and servitudes. Although this impact has a moderate significance before mitigation, it can be effectively mitigated against through the maximum use of existing access roads and servitudes and the implementation of erosion control measures. The significance of this impact after the implementation of mitigation measures is therefore considered to be low.

TABLE 23: ASSESSMENT OF POTENTIAL SOIL EROSION IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE OF THE PROPOSED DEVELOPMENT.

**Impact Phase: Operation**

**Nature of the impact**: Potential soil erosion impacts associated with the operational phase of the proposed development.

**Description of Impact:** Soil erosion facilitated by clearing vegetation and increased road use promotes soil displacement and loss during the Operational Phase.

**Impact Status:** Negative

| | **E** | **D** | **R** | **M** | **P** |
|---|---|---|---|---|---|
| **Without Mitigation** | Local | Long term | Irreversible | High | Highly Probably |

| | | | | | |
|---|---|---|---|---|---|
| **Score** | 2 | 4 | 5 | 4 | 4 |
| **With Mitigation** | Site | Medium term | Recoverable | Moderate | Low Probability |
| **Score** | 1 | 3 | 3 | 3 | 2 |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | Moderate Negative Impact (60) | | Low Negative Impact (20) | | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |

Mitigation measures to reduce residual risk or enhance opportunities:

- Utilize existing servitudes and access roads wherever possible, any new roads or the upgrading of roads should be minimized as far as possible and not be larger than required.
- All construction vehicles should adhere to clearly defined and demarcated roads, no off-road driving should be allowed.
- Ensure that sufficient erosion control measures are constructed on all servitudes and access roads in the project area, including where such crosses waterbodies.
- Rehabilitate existing servitude and access roads in the project area with sufficient erosion control measures to prevent the loss of soil and the degradation of vegetation.
- Construction activities in or near drainage lines, washes or temporary inundated depressions must only take place during the dry season.
- An environmental management programme (EMPr) must be implemented and must provide a detailed description of how construction activities must be conducted to avoid increased erosion.
- Erosion management at the site should take place according to the Erosion Management Plan and Rehabilitation Plan included in the EMPr.
- All roads and other hardened surfaces should have runoff control features which redirect water flow and dissipate energy in the water stream which may pose an erosion risk.
- Regular monitoring for erosion after construction to ensure that no erosion problems have developed as result of the disturbance during the operation of the project.

| | |
|---|---|
| Residual impact | *Residual impacts include changes to infiltration rates and loss of soil fertility.* |

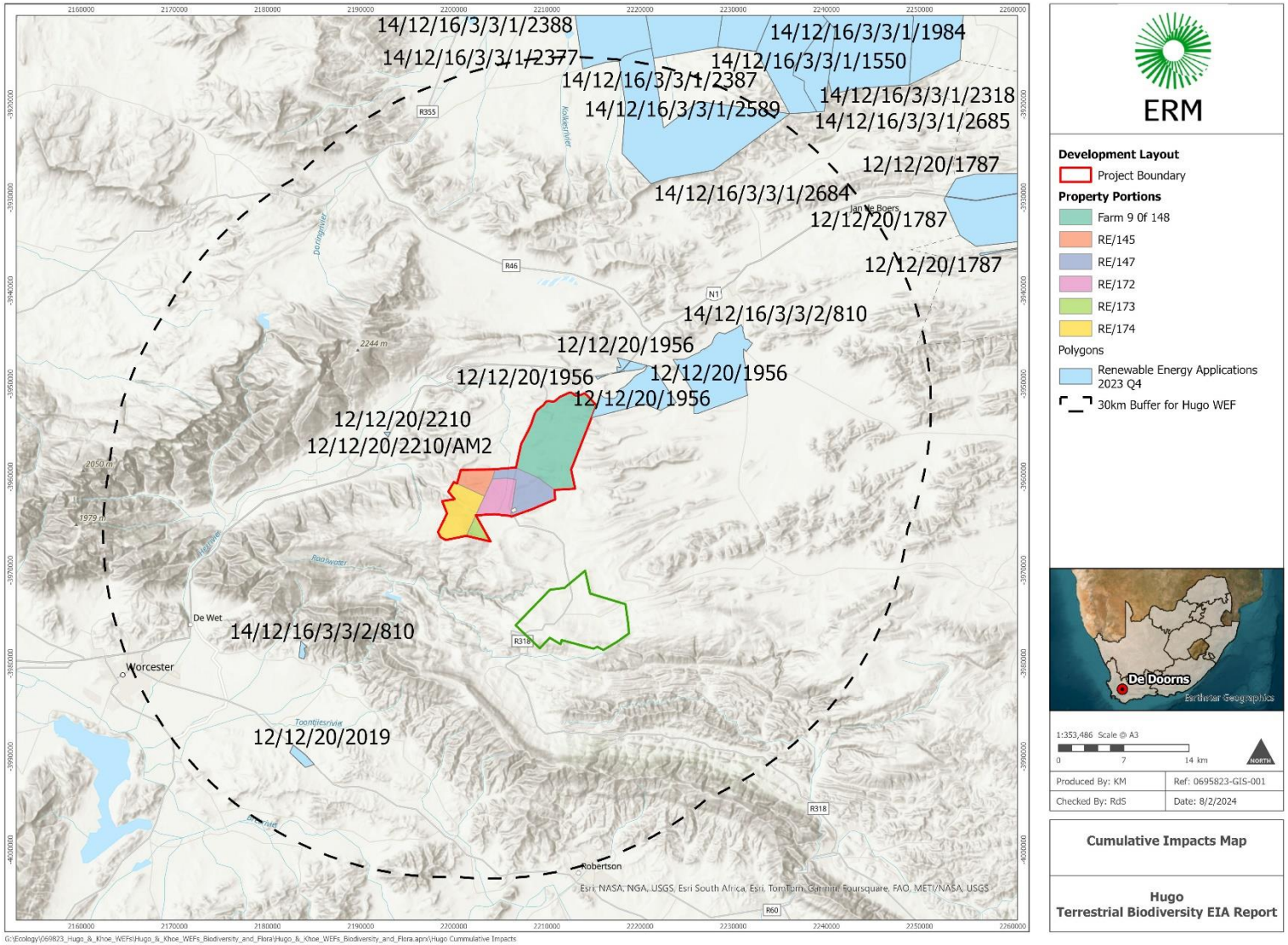
## 4.3 CUMULATIVE IMPACTS

The primary cumulative impact anticipated for the proposed Hugo WEF is changes to broad-scale ecological processes. According to the South African Renewable Energy EIA Application Database (2023, Q4), there are five solar Photovoltaic developments within a 30km radius of the proposed Hugo WEF, with no Wind Energy Farms considered within the same radius (Figure 6). Solar facilities typically involve more invasive vegetation clearing compared to WEFs. Consequently, this can lead to the loss of individual SCC and increased habitat fragmentation. Habitat fragmentation can reduce habitat connectivity and lead to changes in the dispersal of species, population isolation and reduced genetic diversity within landscapes. While the broad-scale impacts on habitat are concerning, it's noteworthy that the Fynbos biome is not listed as critically endangered. However, broad scale clearing of vegetation could lead to cascading effects in flow regimes, nutrient cycling, and energy flow which ultimately results in decreased biodiversity.

## TABLE 24: ASSESSMENT OF POTENTIAL BR0AD-SCALE ECOLOGICAL CUMULATIVE IMPACTS ASSOCIATED WITH THE PROPOSED DEVELOPMENT.

| **Impact Phase: Operation** | | | | | |
|---|---|---|---|---|---|
| **Description of the Cumulative Impact**: The consideration of five Solar Photovoltaic facilities within 30km of the proposed WEF brings about the potential of changes in broad-scale ecological processes brought on by vegetation clearing. | | | | | |
| **Impact Status:** Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Enhancement** | Regional | Long Term | Recoverable | High | Highly Probable |
| **Score** | 3 | 4 | 3 | 4 | 4 |
| **With Enhancement** | Regional | Long term | Recoverable | Moderate | Low Probability |
| **Score** | 3 | 4 | 3 | 3 | 2 |
| **Significance Calculation** | **Without Enhancement** | | **With Enhancement** | | |
| **S=(E+D+R+M)*P** | **Moderate Negative Impact (56)** | | Low Negative Impact (26) | | |
| Was public comment received? | NO | | | | |
| Has public comment been included in mitigation measures? | NO | | | | |
| Mitigation measures to reduce residual risk or enhance opportunities:<br>• Developers within the area should share baseline data and operational monitoring data to Interested and Affected Parties on a quarterly basis.<br>• All mitigations for the proposed development should be strictly adhered to avoid cumulative contributions. | | | | | |
| Residual impact | *Proposed development unlikely to significantly contribute to broad-scale ecological impacts to flora in the area.* | | | | |

## FIGURE 6: THE PROPOSED HUGO WEF IN RELATION TO OTHER RENEWABLE ENERGY DEVELOPMENTS WITHIN A 30KM RADIUS.



## 4.4 NO-GO ALTERNATIVE

The No-Go Alternative assumes that the proposed development described in Section 1.2 of this impact assessment report does not proceed. In this case the proposed Hugo WEF PAOI will remain unchanged from its baseline condition and be subject to all extant impacts and those that may arise from changes in potential future land-use. Under the No-Go Alternative the potential contribution of the proposed Hugo WEF to meet growing renewable power demands will be directed into an alternative energy development (renewable/non-renewable) with its own distinct impacts on the local environment. Development of a non-renewable alternative will potentially have far-reaching implications on climate change. Therefore, the benefits of developing a WEF within the landscape outweigh the No-Go alternative or the alternative to develop a non-renewable energy source. In these instances, none of the opportunities listed below will be realized which includes impacted land being rehabilitated through the management of invasive species and enhancing biodiversity and engaging the local community through environmental awareness.

## 4.5 OPPORTUNITIES

Development of the proposed Hugo WEF in adherence with the prescribed mitigation measures presents several ecological opportunities. By avoiding High Sensitivity areas, the development will indirectly contribute to conservation efforts. Additionally, rehabilitating impacted Low Sensitivity and Medium sensitivity areas following disturbance and overgrazing, and implementing pro-active alien invasive species management, will potentially enhance biodiversity by improving local conditions and reducing undue competition for resources. Overgrazing impacts expected during the construction phase of the Project will be enhanced into a positive impact by the rehabilitation and restoration of natural areas. Requiring on-site staff to attend an environmental induction fosters local community engagement and education on environmental issues. By publishing environmental management progress reports (as should be prescribed in the anticipated EMPr) the development will contribute to local environmental monitoring and could potentially initiate research interests to better understand the impacts and mitigations for renewable energy developments in similar habitats.

# 5. CONCLUSION

The sensitivities presented in this assessment have been refined following the prescribed detailed site survey. The Sensitivities provided by the DFFE Online ST are a useful guideline, and the site's sensitivity has been verified against the EIA layout. The data collected to date suggests that the negative impacts to terrestrial biodiversity posed by the proposed development range from Moderate to Low with adherence to the recommended mitigation measures. Some mitigation measures involve avoiding highly sensitive areas, implementing ongoing biodiversity monitoring plans for various specialisms and to continuously adapt the EMPr throughout the development's operational lifecycle.

Mitigation recommendations are standard for wind energy developments, and provided these and considerations presented in the Terrestrial Biodiversity Specialist Assessment are met, the development of the Hugo WEF will be compatible with conservation efforts in the area. For spatial planning purposes it is recommended that wind turbines be preferentially placed within modified and / or disturbed areas of cultivated lands.

It is the Specialist's opinion that the proposed Hugo WEF be considered for environmental authorization, provided all mitigation measures are adhered to.

# APPENDIX A COMPREHENSIVE SITE ECOLOGICAL IMPORTANCE METHODOLOGY

Site Ecological Importance (SEI) is considered to be a function of the Biodiversity Importance (BI) of the receiving environment (e.g., species of conservation concern and the habitat type present on the site) and its resilience to impacts, or Receptor Resilience (RR). The BI of the receiving environment is in turn a function of the Conservation Importance (CI) and the Functional Integrity (FI) of the receiving environment. Conservation Importance is defined by the South African National Biodiversity Institute's Species Environmental Assessment Guidelines as:

"The importance of a site for supporting biodiversity features of conservation concern present, e.g., populations of IUCN threatened and Near Threatened species (CR, EN, VU and NT), rare species, range restricted species, globally significant populations of congregatory species, and areas of threatened ecosystem types, through predominantly natural processes."

The CI assessment criteria are explained in Table 25 below.

TABLE 25: ASSESSMENT CRITERIA FOR CONSERVATION IMPORTANCE.

| Conservation Importance | Criteria |
|---|---|
| **Very High** | ▪ Confirmed or highly likely occurrence of CR, EN, VU or Extremely Rare of Critically Rare species that have a global extent of occurrence (EOO) < 10 $km^2$;<br>▪ Any area of natural habitat of a CR ecosystem type or large (>0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type; and<br>▪ Globally significant populations of congregatory species (>10% of the global population). |
| **High** | ▪ Confirmed or highly likely occurrence of CR, EN, VU species that have a global EOO of >10 km2. 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;<br>▪ 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; and<br>▪ 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;<br>▪ Any area of natural habitat of threatened ecosystems type with status VU;<br>▪ Presence of range restricted species; and<br>▪ >50% of receiving environment contains natural habitat with potential to support SCC. |
| **Low** | ▪ No confirmed or highly likely occurrence of SCC;<br>▪ No confirmed or highly likely occurrence of range-restricted species; and<br>▪ <50% of the receiving environment contains natural habitat with potential to support SCC. |
| **Very Low** | ▪ No confirmed and highly unlikely occurrence of SCC;<br>▪ No confirmed and highly unlikely populations of range-restricted species; and<br>▪ No natural habitat remaining. |

Functional Integrity (FI) of the receiving environment/habitats is defined as its current ability to maintain the structure and functions that define it, compared to its known or predicted state under ideal conditions i.e. a measure of the ecological condition of the receiving environment as determined by its remaining intact and functional area, its connectivity to other natural areas and the degree of current persistent ecological impacts. The degree of connectivity between habitat patches varies greatly with the dispersal ability of the taxon or taxon group in question, similarly existing impacts will have differential effects on each species. The FI assessment criteria are described in Table 26 below.

TABLE 26: ASSESSMENT CRITERIA FOR FUNCTIONAL INTEGRITY.

| Functional Integrity | Criteria |
|---|---|

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

As BI is a function of CI and FI, it can be determined as in Table 27 below.

TABLE 27: DETERMINING BIODIVERSITY IMPORTANCE AS A FUNCTION OF CONSERVATION IMPORTANCE AND FUNCTIONAL INTEGRITY.

| | **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 |

Receptor Resilience (RR) is the intrinsic capacity of the receiving environment to resist major damage from an impact and/or to recover to its original state with limited or no human intervention. Resilience can be linked to a particular disturbance/impact or time of year, e.g., large birds of prey have different levels of resilience to noise disturbance depending on whether they are breeding or not. The RR assessment criteria are described in Table 28 below.

TABLE 28: ASSESSMENT CRITERIA FOR RECEPTOR RESILIENCE.

| **Receptor Resilience** | **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 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 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 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 ± 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 disturbance or impact is occurring, or species that are unlikely to return to a site once the disturbance or impact has been removed. |

Guidelines to interpret Site Ecological Importance (SEI) in the context of the proposed development guidelines are presented in Table 2, Section 2.3 of this report.

# APPENDIX B COMPREHENSIVE IMPACT ASSESSMENT AND MITIGATION METHODOLOGY

## SPECIALIST REPORTING REQUIREMENTS

**The Specialist EIA Report** must comply with the requirement of GN 43110 of NEMA: Environmental Themes Reporting Criteria and the Relevant Protocols Gazetted, unless no protocol is prescribed, then the Appendix 6 of the EIA Regulations, 2014 (as amended), must be followed, as well as other relevant protocols, guidelines, policies and/or plans.

The specialist report will include the specialist impact assessment of the proposed developments. The terms of reference for specialist studies includes (but is not limited to):

- Site Visit
- Desktop Screening
- Mapping
- Sensitivity Analysis and/or modelling
- Submission of Shapefiles
- Defining the legal, planning and policy context,
- Description of the Baseline Environment
- Determination of potential impacts (direct, indirect, cumulative)
- Determination of residual risks
- Reporting
- Recommendation and input into project design
- Management Plan and/or Monitoring Programme for inclusion in the EMPr
- Sensitivity Verification Reporting in terms of GN 320 of 20 March 2020 and/or a Compliance Statement in terms of GN 320 / GN 1150 of 20 March 2020

## IMPACT ASSESSMENT METHODOLOGY

The purpose of the assessment of impacts in an EIA is to evaluate the likely extent and overall significance that a potential impact may have on an identified receptor or resource. Another important aspect of the assessment of impacts is to quantify those impacts that are not scientific-based or evidence-based and include the opinions of others (i.e., the involvement and comment from I&APs).

A successful assessment of the potential significance of impacts will include the description and development of measures that will be taken to avoid, minimise or compensate for any adverse environmental impacts, to enhance positive impacts, and to report the significance of residual impacts that occur following mitigation.

A 7-step approach for the determination of significance of potential impacts was developed by ERM to align with the requirements of Appendix 3 of the EIA Regulations, 2014 (as amended). The approach is both objective and scientific based to allow appointed specialists and EAPs to retain independence throughout the assessment process.

ERM has adapted this 7-step approach from standard ranking metrics such as the Hacking Method, Crawford Method etc. The ERM 7-step approach complies with the method provided in the EIA guideline document (GN 654 of 2010) and considers

international EIA Regulatory reporting standards such as the newly amended European Environmental Impact Assessment (EIA) Directive (2014/52/EU).

The 7-Step approach for determining the significance of impacts pre, and post mitigation, is described below:

- **Step 1:** Predict potential impacts by means of an appraisal of:
  - Site Surveys,
  - Project-related components and infrastructure,
  - Activities related with the project life-cycle,
  - The nature and profile of the receiving environment and potential sensitive environmental features and attributes,
  - Input received during public participation from all stakeholders, and
  - The relevant legal framework applicable to the proposed development
- **Step 2**: Determination of whether the potential impacts identified in **Step 1** will be *direct* (caused by construction, operation, decommissioning or maintenance activities on the proposed development site or immediate surroundings of the site), *indirect* (not immediately observable or do not occur on the proposed development site or immediate surroundings of the site), *residual* (those impacts which remain after post mitigation) and *cumulative* (the combined impact of the project when considered in conjunction with similar projects in proximity).
- **Step 3:** Description and determination of the significance of the predicted impacts in terms of the criteria below to ensure a consistent and systematic basis for the decision-making process. Significance is numerically quantified on the basis score of the following impact parameters:
  1. ***Extent* (E)** of the impact: The geographical extent of the impact on a given environmental receptor.
  2. ***Duration* (D)** of the impact: The length of permanence of the impact on the environmental receptor.
  3. ***Reversibility* (R) of the impact**: The ability of the environmental receptor to rehabilitate or restore after the activity has caused environmental change
  4. ***Magnitude* (M)** of the impact: The degree of alteration of the affected environmental receptor.
  5. ***Probability* (P)** of the impact: The likelihood of the impact actually occurring.

A widely accepted numerical quantification of significance is the formula:

$$\underline{\mathbf{S=(E+D+R+M)*P}}$$

Where: *Significance=(Extent+Duration+Reversibility+Magnitude) * Probability*

The following has also been considered when determining the significance of a potential impact.

6. **Nature (N)** of the impact: A description of what causes the effect, what will be affected, and how it will be affected.
7. **Status (S)** of the impact: described as either positive, negative or neutral
8. **Cumulative impacts**.
9. Inclusion of **Public comment.**

The significance of environmental impacts is determined and ranked by considering the criteria presented in the Table below. All criteria are rank according to 'Very Low', 'Low', 'Moderate', 'High' and 'Very High' and are assigned scores of 1 to 5 respectively.

**Defining the significant in terms of the impact criteria.**

| Impact Criteria | Definition | Score | Criteria Description |
|---|---|---|---|
| **Extent (E)** | Site | 1 | Impact is on the site only |
| | Local | 2 | Impact is localized inside the activity area |
| | Regional | 3 | Impact is localized outside the activity area |
| | National | 4 | Widespread impact beyond site boundary. May be defined in various ways, e.g. cadastral, catchment, topographic |
| | International | 5 | Impact widespread far beyond site boundary. Nationally or beyond |
| **Duration (D)** | Immediate | 1 | On impact only |
| | Short term | 2 | Quickly reversible, less than project life. Usually up to 5 years. |
| | Medium term | 3 | Reversible over time. Usually between 5 and 15 years. |
| | Long term | 4 | Longer than 10 years. Usually for the project life. |
| | Permanent | 5 | Indefinite |
| **Magnitude (M)** | Very Low | 1 | No impact on processes |
| | Low | 2 | Qualitative: Minor deterioration, nuisance or irritation, minor change in species/habitat/diversity or resource, no or very little quality deterioration.<br>Quantitative: No measurable change; Recommended level will never be exceeded. |
| | Moderate | 3 | Qualitative: Moderate deterioration, discomfort, Partial loss of habitat /biodiversity /resource or slight or alteration.<br>Quantitative: Measurable deterioration; Recommended level will occasionally be exceeded. |
| | High | 4 | Qualitative: Substantial deterioration death, illness or injury, loss of habitat /diversity or resource, severe alteration or disturbance of important processes.<br>Quantitative: Measurable deterioration; Recommended level will often be exceeded (e.g. pollution) |
| | Very High | 5 | Permanent cessation of processes |
| **Reversibility (R)** | Reversible | 1 | Recovery which does not require rehabilitation and/or mitigation. |

| Impact Criteria | Definition | Score | Criteria Description |
|---|---|---|---|
| | Recoverable | 3 | Recovery which does require rehabilitation and/or mitigation. |
| | Irreversible | 5 | Not possible, despite action. The impact will still persist, and no mitigation will remedy or reverse the impact. |
| **Probability (P)** | Improbable | 1 | Not likely at all. No known risk or vulnerability to natural or induced hazards |
| | Low Probability | 2 | Unlikely; low likelihood; Seldom; low risk or vulnerability to natural or induced hazards |
| | Probable | 3 | Possible, distinct possibility, frequent; medium risk or vulnerability to natural or induced hazards. |
| | Highly Probable | 4 | Highly likely that there will be a continuous impact. High risk or vulnerability to natural or induced hazards |
| | Definite | 5 | Definite, regardless of prevention measures. |

The *significance* (s) of potential impacts identified according to the criteria above has been colour coded for the purpose of comparison. This colour coding will be used in impact tables.

| Significance is deemed Negative (-) | | | Significance is deemed Positive (+) | | |
|---|---|---|---|---|---|
| **0 - 30** | **31 - 60** | **61 - 100** | **0 - 30** | **31 - 60** | **61 - 100** |
| **Low** | **Moderate** | **High** | **Low** | **Moderate** | **High** |

- **Step 4:** Determination of practical and reasonable mitigation measures based on specialists' inputs and field observations following the mitigation hierarchy (avoid, minimise, manage, mitigate, or rehabilitate).
- **Step 5:** Evaluation of predicted residual impacts after implementation of mitigation measures.
- **Step 6:** Determination of the significance of the impact taking into consideration the predicted residual impacts after implementation of mitigation measures.
- **Step 7:** Based on an acceptable significance of the impact, determination of the need and desirability of the proposed development and an opinion as to whether the development should proceed or not.

The Assessment of the significance of potential impacts is then populated in an Impact Summary Table.

**IMPACT SUMMARY TABLE**

**Please copy the below table into your reports** for any impact assessments required.

| **Impact Phase:** Detail if the impact will take place during Construction/ Operation/Decommissioning | | | | | |
|---|---|---|---|---|---|
| **Nature of the impact**: Name of impact | | | | | |
| **Description of Impact:** Detailed description of impact<br>xxxx<br>… | | | | | |
| **Impact Status:** Detail of the impact is Positive, Neutral or Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Mitigation** | Local | Medium Term | x | x | x |
| **Score** | 2 | 3 | x | x | x |
| **With Mitigation** | Site | Short Term | x | x | x |
| **Score** | 1 | 2 | x | x | x |
| **Significance Calculation** | **Without Mitigation** | | **With Mitigation** | | |
| **S=(E+D+R+M)*P** | Moderate Negative Impact (42) | | Low Negative Impact (25) | | |
| Was public comment received? | YES/NO. If yes, provide a bullet summary of main concerns. | | | | |
| Has public comment been included in mitigation measures? | YES/NO, if NO then WHY? If YES then HOW/WHERE | | | | |
| Mitigation measures to reduce residual risk or enhance opportunities:<br>*List and describe*<br>*Aaa*<br>*Aaa*<br>*Aaa*<br>*Aaa*<br>*Aaaa*<br>… | | | | | |
| Residual impact | *Describe the impact.* | | | | |

## ASSESSMENT OF CUMULATIVE IMPACTS

In relation to an activity, cumulative impact means *"the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may be significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities"* (NEMA EIA Reg GN R982 of 2014).

Specialists are required to assess cumulative impacts associated with similar developments within a 35 km radius of the proposed developments. The purpose of the cumulative assessment is to test if such impacts are relevant to the proposed developments in the proposed locations (i.e. whether the addition of the proposed project in the area will increase the impact). In this regard, specialist studies considered whether the construction of the proposed development will result in:

- Unacceptable risk

- Unacceptable loss
- Complete or whole-scale changes to the environment or sense of place
- Unacceptable increase in impact

Cumulative Impacts will be assessed and populate in a cumulative impact summary table.

**Please copy the below table into your reports for any impact assessments required**.

| **Cumulative Impact:** Name of impact | | | | | |
|---|---|---|---|---|---|
| **Description of Cumulative Impact:** Detailed description of cumulative impact<br>xxxx<br>… | | | | | |
| **Impact Status:** Detail of the impact is Positive, Neutral or Negative | | | | | |
| | **E** | **D** | **R** | **M** | **P** |
| **Without Enhancement** | Local | Medium Term | x | x | x |
| **Score** | 2 | 3 | x | x | x |
| **With Enhancement** | Site | Short Term | x | x | x |
| **Score** | 1 | 2 | x | x | x |
| **Significance Calculation** | **Without Enhancement** | | **With Enhancement** | | |
| **S=(E+D+R+M)*P** | Moderate Negative Impact (42) | | Low Negative Impact (25) | | |
| Can Impacts be Enhanced? | YES/NO and HOW/WHY | | | | |
| Enhancement:<br>*List and describe*<br>*Aaa*<br>*Aaa*<br>*Aaa*<br>*Aaa*<br>*Aaaa*<br>… | | | | | |
| Residual impact | *Describe the impact.* | | | | |

# APPENDIX C COMPREHENSIVE LIST OF ANIMAL SPECIES POTENTIALLY PRESENT ON SITE

A comprehensive list of all animal species that are potentially present in the proposed Hugo WEF PAOI and their associated data sources are presented in Table 29 below. The sources include the Global Biodiversity Information Facility (GBIF) database, The DFFE Online Screening Tool (ST) and the Biodiversity and Development Institute's Virtual Museum (VM) database.

TABLE 29: COMPREHENSIVE LIST OF ANIMAL SPECIES POTENTIALLY PRESENT WITHIN THE PROPOSED HUGO WEF PROJECT PAOI.

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Brevicipitidae | *Breviceps montanus* | GBIF | Erebidae | *Thyretes hippotes* | GBIF |
| Bufonidae | *Sclerophrys capensis* | GBIF, VM | Erebidae | *Utetheisa pulchella* | GBIF |
| Bufonidae | *Vandijkophrynus angusticeps* | VM | Eresidae | *Gandanameno spenceri* | GBIF |
| Bufonidae | *Vandijkophrynus gariepensis* | VM | Eriophyidae | *Colomerus vitis* | GBIF |
| Heleophrynidae | *Heleophryne purcelli* | VM | Eumenidae | *Delta emarginatum* | GBIF |
| Pipidae | *Xenopus laevis* | GBIF, VM | Eumenidae | *Delta lepeleterii* | GBIF |
| Pyxicephalidae | *Amietia fuscigula* | GBIF, VM | Eumenidae | *Eumenidiopsis* sp. | GBIF |
| Pyxicephalidae | *Cacosternum boettgeri* | VM | Flatidae | *Siphanta acuta* | GBIF |
| Pyxicephalidae | *Strongylopus grayii* | GBIF, VM | Formicidae | *Anoplolepis custodiens* | GBIF |
| Pyxicephalidae | *Tomopterna delalandii* | VM | Formicidae | *Anoplolepis steingroeveri* | GBIF |
| Accipitridae | *Accipiter melanoleucus* | GBIF | Formicidae | *Bothroponera pumicosa* | GBIF |
| Accipitridae | *Accipiter rufiventris* | GBIF | Formicidae | *Camponotus emarginatus* | GBIF |
| Accipitridae | *Accipiter tachiro* | GBIF | Formicidae | *Camponotus fulvopilosus* | GBIF |
| Accipitridae | *Aquila verreauxii* | GBIF, ST | Formicidae | *Camponotus maculatus* | GBIF |
| Accipitridae | *Buteo buteo* | GBIF, VM | Formicidae | *Camponotus niveosetosus* | GBIF |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Accipitridae | *Buteo rufofuscus* | GBIF, VM | Formicidae | *Camponotus storeatus* | GBIF |
| Accipitridae | *Buteo trizonatus* | GBIF | Formicidae | *Camponotus vestitus* | GBIF |
| Accipitridae | *Circus maurus* | GBIF, ST, VM | Formicidae | *Crematogaster delagoensis* subsp. *merwei* | GBIF |
| Accipitridae | *Circus ranivorus* | GBIF | Formicidae | *Crematogaster orobia* | GBIF |
| Accipitridae | *Elanus caeruleus* | GBIF, VM | Formicidae | *Crematogaster peringueyi* | GBIF |
| Accipitridae | *Haliaeetus vocifer* | GBIF | Formicidae | *Lepisiota capensis* | GBIF |
| Accipitridae | *Hieraaetus pennatus* | GBIF, VM | Formicidae | *Monomorium fridae* | GBIF |
| Accipitridae | *Melierax canorus* | GBIF, VM | Formicidae | *Myrmicaria nigra* | GBIF |
| Accipitridae | *Milvus migrans parasitus* | GBIF | Formicidae | *Ocymyrmex barbiger* | GBIF |
| Accipitridae | *Polemaetus bellicosus* | GBIF | Formicidae | *Technomyrmex pallipes* | GBIF |
| Accipitridae | *Polyboroides typus* | GBIF, VM | Galinthiadidae | *Harpagomantis tricolor* | GBIF |
| Acrocephalidae | *Acrocephalus baeticatus* | GBIF, VM | Geometridae | *Argyrophora trofonia* | GBIF |
| Acrocephalidae | *Acrocephalus gracilirostris* | GBIF | Geometridae | *Chiasmia brongusaria* | GBIF |
| Acrocephalidae | *Acrocephalus scirpaceus* | GBIF, VM | Geometridae | *Chlorerythra rubriplaga* | GBIF |
| Alaudidae | *Calandrella cinerea* | GBIF, VM | Geometridae | *Drepanogynis bifasciata* | GBIF |
| Alaudidae | *Calendulauda albescens* | VM | Geometridae | *Pseudomaenas intricata* | VM |
| Alaudidae | *Certhilauda subcoronata* | GBIF | Geometridae | *Rhodometra sacraria* | VM |
| Alaudidae | *Eremopterix verticalis* | GBIF | Geometridae | *Victoria albipicta* | GBIF |
| Alaudidae | *Galerida magnirostris* | GBIF, VM | Geoplanidae | *Bipalium kewense* | GBIF |
| Alaudidae | *Mirafra apiata* | GBIF | Gomphidae | *Ceratogomphus pictus* | GBIF |
| Alcedinidae | *Ceryle rudis* | GBIF | Gomphidae | *Paragomphus cognatus* | GBIF |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Alcedinidae | *Corythornis cristatus* | GBIF | Gryllidae | *Gryllus bimaculatus* | GBIF |
| Alcedinidae | *Halcyon albiventris* | GBIF | Gryllidae | *Oecanthus capensis* | GBIF |
| Alcedinidae | *Megaceryle maxima* | GBIF, VM | Helicidae | *Cornu aspersum* | GBIF |
| Anatidae | *Alopochen aegyptiaca* | GBIF, VM | Helicidae | *Theba pisana* | GBIF |
| Anatidae | *Anas capensis* | GBIF, VM | Hesperiidae | *Ernsta nanus* | GBIF |
| Anatidae | *Anas erythrorhyncha* | GBIF, VM | Hesperiidae | *Metisella malgacha* | GBIF |
| Anatidae | *Anas platyrhynchos* | GBIF | Hesperiidae | *Spialia ferax* | VM |
| Anatidae | *Anas sparsa* | GBIF | Hesperiidae | *Spialia nanus* | VM |
| Anatidae | *Anas undulata* | GBIF, VM | Hesperiidae | *Spialia sataspes* | VM |
| Anatidae | *Cairina moschata* | GBIF | Hesperiidae | *Spialia spio* | GBIF, VM |
| Anatidae | *Netta erythrophthalma* | GBIF, VM | Hesperiidae | *Tsitana tulbagha* subsp. *kaplani* | GBIF, VM |
| Anatidae | *Oxyura maccoa* | GBIF | Hodotermitidae | *Microhodotermes viator* | GBIF |
| Anatidae | *Plectropterus gambensis* | GBIF, VM | Hormuridae | *Opisthacanthus capensis* | GBIF |
| Anatidae | *Spatula smithii* | GBIF | Hormuridae | *Opisthacanthus diremptus* | GBIF |
| Anatidae | *Tadorna cana* | GBIF, VM | Libellulidae | *Crocothemis erythraea* | GBIF, VM |
| Anhingidae | *Anhinga rufa* | GBIF, VM | Libellulidae | *Crocothemis sanguinolenta* | GBIF, VM |
| Apodidae | *Apus affinis* | GBIF | Libellulidae | *Nesciothemis farinosa* | GBIF |
| Apodidae | *Apus apus* | GBIF | Libellulidae | *Orthetrum caffrum* | GBIF, VM |
| Apodidae | *Apus barbatus* | GBIF | Libellulidae | *Orthetrum capicola* | VM |
| Apodidae | *Apus caffer* | GBIF | Libellulidae | *Orthetrum chrysostigma* | VM |
| Apodidae | *Cypsiurus parvus* | GBIF | Libellulidae | *Orthetrum julia* | GBIF, VM |
| Apodidae | *Tachymarptis melba* | GBIF, VM | Libellulidae | *Orthetrum trinacria* | GBIF, VM |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Ardeidae | *Ardea cinerea* | GBIF, VM | Libellulidae | *Sympetrum fonscolombii* | GBIF, VM |
| Ardeidae | *Ardea melanocephala* | GBIF, VM | Libellulidae | *Trithemis arteriosa* | GBIF, VM |
| Ardeidae | *Bubulcus ibis* | GBIF, VM | Libellulidae | *Trithemis dorsalis* | GBIF, VM |
| Ardeidae | *Egretta garzetta* | GBIF | Libellulidae | *Trithemis furva* | GBIF, VM |
| Ardeidae | *Ixobrychus minutus* | GBIF | Libellulidae | *Trithemis kirbyi* | GBIF |
| Burhinidae | *Burhinus capensis* | GBIF | Libellulidae | *Trithemis sp.* | VM |
| Burhinidae | *Burhinus vermiculatus* | GBIF | Libellulidae | *Trithemis stictica* | GBIF, VM |
| Caprimulgidae | *Caprimulgus pectoralis* | GBIF | Libellulidae | *Zygonyx natalensis* | GBIF, VM |
| Chaetopidae | *Chaetops frenatus* | GBIF, VM | Lycaenidae | *Aloeides almeida* | VM |
| Charadriidae | *Charadrius pecuarius* | GBIF, VM | Lycaenidae | *Aloeides aranda* | GBIF, VM |
| Charadriidae | *Charadrius tricollaris* | GBIF, VM | Lycaenidae | *Aloeides caledoni* | ST |
| Charadriidae | *Vanellus armatus* | GBIF, VM | Lycaenidae | *Aloeides pierus* | VM |
| Charadriidae | *Vanellus coronatus* | GBIF | Lycaenidae | *Aloeides thyra* subsp. *thyra* | VM |
| Ciconiidae | *Ciconia nigra* | GBIF, VM | Lycaenidae | *Anthene amarah* subsp. *amarah* | GBIF, VM |
| Cisticolidae | *Apalis thoracica* | GBIF, VM | Lycaenidae | *Anthene definita* subsp. *definita* | VM |
| Cisticolidae | *Cisticola fulvicapilla* | GBIF | Lycaenidae | *Anthene talboti* | VM |
| Cisticolidae | *Cisticola subruficapilla* | GBIF, VM | Lycaenidae | *Brephidium metophis* | GBIF, VM |
| Cisticolidae | *Cisticola textrix* | GBIF | Lycaenidae | *Cacyreus dicksoni* | GBIF, VM |
| Cisticolidae | *Cisticola tinniens* | GBIF, VM | Lycaenidae | *Cacyreus fracta* subsp. *fracta* | GBIF, VM |
| Cisticolidae | *Eremomela gregalis* | GBIF | Lycaenidae | *Cacyreus lingeus* | VM |
| Cisticolidae | *Eremomela icteropygialis* | GBIF, VM | Lycaenidae | *Cacyreus marshalli* | GBIF, VM |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Cisticolidae | *Malcorus pectoralis* | GBIF | Lycaenidae | *Capys alpheus* subsp. *alpheus* | VM |
| Cisticolidae | *Phragmacia substriata* | VM | Lycaenidae | *Chrysoritis brooksi brooksi* | VM |
| Cisticolidae | *Prinia hypoxantha* | GBIF | Lycaenidae | *Chrysoritis chrysaor* | GBIF, VM |
| Cisticolidae | *Prinia maculosa* | GBIF, VM | Lycaenidae | *Chrysoritis felthami dukei* | VM |
| Coliidae | *Colius colius* | GBIF, VM | Lycaenidae | *Chrysoritis irene* | VM |
| Coliidae | *Colius striatus* | GBIF, VM | Lycaenidae | *Chrysoritis lysander* | GBIF |
| Coliidae | *Urocolius indicus* | GBIF, VM | Lycaenidae | *Chrysoritis nigricans* subsp. *nigricans* | VM |
| Columbidae | *Columba arquatrix* | GBIF, VM | Lycaenidae | *Chrysoritis pan lysander* | VM |
| Columbidae | *Columba guinea* | GBIF, VM | Lycaenidae | *Chrysoritis plutus* | VM |
| Columbidae | *Columba larvata* | GBIF | Lycaenidae | *Chrysoritis rileyi* | GBIF |
| Columbidae | *Columba livia* | GBIF | Lycaenidae | *Chrysoritis* sp. | GBIF |
| Columbidae | *Oena capensis* | GBIF, VM | Lycaenidae | *Chrysoritis turneri* subsp. *turneri* | VM |
| Columbidae | *Spilopelia senegalensis* | GBIF, VM | Lycaenidae | *Chrysoritis uranus* subsp. *uranus* | VM |
| Columbidae | *Streptopelia capicola* | GBIF, VM | Lycaenidae | *Deudorix antalus* | VM |
| Columbidae | *Streptopelia semitorquata* | GBIF, VM | Lycaenidae | *Durbaniella clarki* subsp. *phaea* | VM |
| Columbidae | *Turtur tympanistria* | GBIF | Lycaenidae | *Durbaniopsis saga* | VM |
| Corvidae | *Corvus albicollis* | GBIF, VM | Lycaenidae | *Eicochrysops messapus* | GBIF, VM |
| Corvidae | *Corvus albus* | GBIF, VM | Lycaenidae | *Lepidochrysops asteris* | VM |
| Corvidae | *Corvus capensis* | GBIF | Lycaenidae | *Lepidochrysops australis* | VM |
| Cuculidae | *Chrysococcyx klaas* | GBIF, VM | Lycaenidae | *Lepidochrysops bacchus* | VM |
| Dendrocygnidae | *Dendrocygna viduata* | VM | Lycaenidae | *Lepidochrysops dukei* | VM |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Dicruridae | *Dicrurus adsimilis* | GBIF, VM | Lycaenidae | *Lepidochrysops puncticilia* | VM |
| Diomedeidae | *Thalassarche melanophris* | GBIF | Lycaenidae | *Lepidochrysops robertsoni* | VM |
| Emberizidae | *Emberiza capensis* | GBIF, VM | Lycaenidae | *Leptomyrina lara* | GBIF, VM |
| Emberizidae | *Emberiza impetuani* | GBIF | Lycaenidae | *Lycaena clarki* | VM |
| Emberizidae | *Emberiza tahapisi* | GBIF | Lycaenidae | *Oraidium barberae* | GBIF, VM |
| Estrildidae | *Coccopygia melanotis* | GBIF | Lycaenidae | *Phasis clavum clavum* | VM |
| Estrildidae | *Estrilda astrild* | GBIF, VM | Lycaenidae | *Phasis thero thero* | VM |
| Falconidae | *Falco peregrinus* | GBIF | Lycaenidae | *Tarucus thespis* | VM |
| Falconidae | *Falco rupicoloides* | GBIF | Lycaenidae | *Thestor brachycerus* subsp. *dukei* | VM |
| Falconidae | *Falco rupicolus* | VM | Lycaenidae | *Thestor braunsi* | VM |
| Fringillidae | *Crithagra albogularis* | GBIF, VM | Lycaenidae | *Thestor penningtoni* | VM |
| Fringillidae | *Crithagra flaviventris* | GBIF, VM | Lycaenidae | *Thestor pringlei* | VM |
| Fringillidae | *Crithagra gularis* | GBIF, VM | Lycaenidae | *Thestor protumnus* subsp. *aridus* | VM |
| Fringillidae | *Crithagra leucoptera* | GBIF | Lycaenidae | *Thestor stepheni* | VM |
| Fringillidae | *Crithagra scotops* | GBIF | Lycaenidae | *Trimenia argyroplaga* subsp. *argyroplaga* | VM |
| Fringillidae | *Crithagra sulphurata* | GBIF | Lycaenidae | *Trimenia macmasteri* subsp. *macmasteri* | VM |
| Fringillidae | *Crithagra totta* | GBIF | Lycaenidae | *Zizeeria knysna* subsp. *knysna* | GBIF, VM |
| Fringillidae | *Serinus alario* | GBIF, VM | Lycidae | *Lycus ampliatus* | GBIF |
| Fringillidae | *Serinus canicollis* | GBIF, VM | Margarodidae | *Icerya purchasi* | GBIF |
| Fringillidae | *Serinus sulphuratus* | VM | Masaridae | *Quartinia antennata* | GBIF |
| Gruidae | *Anthropoides paradiseus* | GBIF | Meloidae | *Hycleus lunatus* | GBIF |
| Heliornithidae | *Podica senegalensis* | GBIF | Meloidae | *Hycleus quadriguttatus* | GBIF |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Hirundinidae | *Delichon urbicum* | GBIF | Melyridae | *Melyris pubescens* | GBIF |
| Hirundinidae | *Hirundo albigularis* | GBIF | Myrmeleontidae | *Palpares speciosus* | VM |
| Hirundinidae | *Hirundo cucullata* | GBIF, VM | Myrmeleontidae | *Pamexis karoo* | VM |
| Hirundinidae | *Hirundo rustica* | GBIF, VM | Nemopteridae | *Concroce parva* | VM |
| Hirundinidae | *Psalidoprocne pristoptera* | GBIF | Noctuidae | *Caradrina atriluna* | GBIF |
| Hirundinidae | *Ptyonoprogne fuligula* | GBIF, VM | Noctuidae | *Diaphone eumela* | GBIF |
| Hirundinidae | *Riparia paludicola* | GBIF, VM | Noctuidae | *Helicoverpa armigera* | GBIF |
| Hirundinidae | *Riparia riparia* | GBIF | Noctuidae | *Spodoptera littoralis* | GBIF |
| Indicatoridae | *Indicator minor* | GBIF | Nymphalidae | *Acraea horta* | VM |
| Laniidae | *Lanius collaris* | GBIF, VM | Nymphalidae | *Aeropetes tulbaghia* | GBIF |
| Locustellidae | *Bradypterus baboecala* | GBIF | Nymphalidae | *Cassionympha detecta* | GBIF, VM |
| Lybiidae | *Tricholaema leucomelas* | GBIF, VM | Nymphalidae | *Charaxes brutus natalensis* | GBIF |
| Macrosphenidae | *Cryptillas victorini* | GBIF | Nymphalidae | *Charaxes pelias* | GBIF, VM |
| Macrosphenidae | *Sphenoeacus afer* | GBIF | Nymphalidae | *Danaus chrysippus orientis* | GBIF, VM |
| Macrosphenidae | *Sylvietta rufescens* | GBIF, VM | Nymphalidae | *Melampias huebneri huebneri* | VM |
| Malaconotidae | *Laniarius ferrugineus* | GBIF, VM | Nymphalidae | *Pseudonympha southeyi* subsp. *wykehami* | VM |
| Malaconotidae | *Tchagra tchagra* | GBIF | Nymphalidae | *Pseudonympha trimenii namaquana* | GBIF |
| Malaconotidae | *Telophorus zeylonus* | GBIF, VM | Nymphalidae | *Pseudonympha trimenii trimenii* | VM |
| Meropidae | *Merops apiaster* | GBIF | Nymphalidae | *Stygionympha irrorata* | VM |
| Monarchidae | *Terpsiphone viridis* | GBIF | Nymphalidae | *Stygionympha vigilans* | GBIF, VM |
| Motacillidae | *Anthus cinnamomeus* | GBIF, VM | Nymphalidae | *Tarsocera cassus* subsp. *cassus* | VM |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Motacillidae | *Anthus leucophrys* | GBIF | Nymphalidae | *Tarsocera dicksoni* | VM |
| Motacillidae | *Anthus nicholsoni* | GBIF, VM | Nymphalidae | *Tarsocera fulvina* | VM |
| Motacillidae | *Macronyx capensis* | GBIF | Nymphalidae | *Tarsocera* sp. | VM |
| Motacillidae | *Motacilla capensis* | GBIF, VM | Nymphalidae | *Torynesis hawequas* | VM |
| Muscicapidae | *Agricola infuscatus* | GBIF | Nymphalidae | *Torynesis mintha* subsp. *mintha* | VM |
| Muscicapidae | *Cercomela sinuata* | GBIF, VM | Nymphalidae | *Vanessa cardui* | GBIF, VM |
| Muscicapidae | *Cossypha caffra* | GBIF, VM | Oopeltidae | *Oopelta granulosa* | GBIF |
| Muscicapidae | *Emarginata schlegelii* | GBIF, VM | Papilionidae | *Papilio demodocus* subsp. *demodocus* | VM |
| Muscicapidae | *Monticola explorator* | GBIF | Parastrachiidae | *Dismegistus fimbriatus* | GBIF |
| Muscicapidae | *Monticola rupestris* | GBIF, VM | Pieridae | *Belenois aurota* | VM |
| Muscicapidae | *Muscicapa adusta* | GBIF | Pieridae | *Belenois creona* subsp. *severina* | GBIF |
| Muscicapidae | *Oenanthe familiaris* | GBIF, VM | Pieridae | *Colias electo electo* | VM |
| Muscicapidae | *Oenanthe monticola* | GBIF, VM | Pieridae | *Mylothris agathina* subsp. *agathina* | GBIF |
| Muscicapidae | *Oenanthe pileata* | GBIF, VM | Pieridae | *Pontia helice helice* | GBIF, VM |
| Muscicapidae | *Saxicola torquatus* | GBIF, VM | Platycnemididae | *Allocnemis leucosticta* | GBIF, VM |
| Muscicapidae | *Sigelus silens* | GBIF, VM | Platycnemididae | *Elattoneura frenulata* | GBIF, VM |
| Muscicapidae | *Tychaedon coryphoeus* | GBIF, VM | Potamonautidae | *Potamonautes barnardi* | GBIF |
| Nectariniidae | *Anthobaphes violacea* | GBIF, VM | Potamonautidae | *Potamonautes perlatus* | GBIF |
| Nectariniidae | *Chalcomitra amethystina* | GBIF | Psychidae | *Criocharacta amphiactis* | GBIF |
| Nectariniidae | *Cinnyris afer* | GBIF | Pyrgomorphidae | *Dictyophorus spumans* | GBIF |
| Nectariniidae | *Cinnyris chalybeus* | GBIF, VM | Pyrgomorphidae | *Phymateus leprosus* | GBIF |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Nectariniidae | *Nectarinia famosa* | GBIF, VM | Pyrrhocoridae | *Cenaeus carnifex* | GBIF |
| Numididae | *Numida meleagris* | GBIF, VM | Pyrrhocoridae | *Scantius forsteri* | GBIF |
| Oriolidae | *Oriolus larvatus* | GBIF | Rhyparochromidae | *Polycrates consutus* | GBIF |
| Otididae | *Eupodotis afra* | GBIF, ST, VM | Scarabaeidae | *Catharsius tricornutus* | VM |
| Otididae | *Neotis ludwigii* | VM | Scarabaeidae | *Copris capensis* | VM |
| Paridae | *Melaniparus afer* | GBIF | Scarabaeidae | *Diplognatha gagates* subsp. *silicea* | GBIF |
| Passeridae | *Passer diffusus* | GBIF | Scarabaeidae | *Euoniticellus triangulatus* | VM |
| Passeridae | *Passer domesticus* | GBIF, VM | Scarabaeidae | *Kirprellius syrichtus* | GBIF |
| Passeridae | *Passer melanurus* | GBIF, VM | Scarabaeidae | *Mausoleopsis amabilis* | GBIF |
| Phalacrocoracidae | *Microcarbo africanus* | GBIF | Scarabaeidae | *Onitis caffer* | VM |
| Phalacrocoracidae | *Phalacrocorax africanus* | GBIF, VM | Scarabaeidae | *Onthophagus binodis* | VM |
| Phalacrocoracidae | *Phalacrocorax carbo* | GBIF | Scarabaeidae | *Onthophagus cameloides* | VM |
| Phalacrocoracidae | *Phalacrocorax lucidus* | GBIF, VM | Scarabaeidae | *Pachnoda sinuata* subsp. *flaviventris* | GBIF |
| Phasianidae | *Coturnix coturnix* | GBIF, VM | Scarabaeidae | *Scarabaeus bonellii* | VM |
| Phasianidae | *Pternistis capensis* | GBIF, VM | Scarabaeidae | *Trichostetha capensis* | GBIF |
| Phasianidae | *Scleroptila afra* | GBIF | Scarabaeidae | *Trichostetha fascicularis* subsp. *fascicularis* | GBIF |
| Phoenicopteridae | *Phoenicopterus minor* | VM | Scorpionidae | *Opistophthalmus chaperi* | GBIF |
| Phylloscopidae | *Phylloscopus trochilus* | GBIF | Scorpionidae | *Opistophthalmus karrooensis* | GBIF |
| Picidae | *Dendropicos fuscescens* | GBIF, VM | Scutelleridae | *Deroplax silphoides* | GBIF |
| Picidae | *Geocolaptes olivaceus* | GBIF | Sicariidae | *Loxosceles* sp. | VM |
| Platysteiridae | *Batis capensis* | GBIF, VM | Sphingidae | *Temnora pylas* | GBIF |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Platysteiridae | *Batis pririt* | GBIF | Synlestidae | *Chlorolestes tessellatus* | VM |
| Ploceidae | *Euplectes capensis* | GBIF, VM | Synlestidae | *Ecchlorolestes peringueyi* | VM |
| Ploceidae | *Euplectes orix* | GBIF, VM | Syrphidae | *Eupeodes corollae* | GBIF |
| Ploceidae | *Ploceus capensis* | GBIF, VM | Tabanidae | *Rhigioglossa edentula* | GBIF |
| Ploceidae | *Ploceus velatus* | GBIF, VM | Tabanidae | *Tabanus taeniatus* | GBIF |
| Ploceidae | *Quelea quelea* | GBIF, VM | Tenebrionidae | *Moluris gibba* | GBIF |
| Podicipedidae | *Podiceps cristatus* | GBIF, VM | Tettigoniidae | *Hetrodes pupus* | GBIF |
| Podicipedidae | *Podiceps nigricollis* | GBIF, VM | Theraphosidae | *Harpactira dictator* | GBIF, VM |
| Podicipedidae | *Tachybaptus ruficollis* | GBIF, VM | Thericleidae | *Thericlesiella meridionalis* | GBIF |
| Procellariidae | *Procellaria aequinoctialis* | GBIF | Theridiidae | *Latrodectus geometricus* | GBIF |
| Promeropidae | *Promerops cafer* | GBIF, VM | Thomisidae | *Synema imitatrix* | GBIF |
| Pycnonotidae | *Andropadus importunus* | GBIF, VM | Uloboridae | *Uloborus plumipes* | GBIF |
| Pycnonotidae | *Phyllastrephus terrestris* | GBIF | Zodariidae | *Psammorygma aculeatum* | GBIF |
| Pycnonotidae | *Pycnonotus capensis* | GBIF, VM | Bathyergidae | *Georychus capensis* | VM |
| Rallidae | *Fulica cristata* | GBIF, VM | Bovidae | *Alcelaphus buselaphus caama* | VM |
| Rallidae | *Gallinula chloropus* | GBIF, VM | Bovidae | *Antidorcas marsupialis* | GBIF, VM |
| Recurvirostridae | *Himantopus himantopus* | GBIF, VM | Bovidae | *Damaliscus pygargus* subsp. *pygargus* | VM |
| Recurvirostridae | *Recurvirostra avosetta* | VM | Bovidae | *Oreotragus oreotragus* | GBIF, VM |
| Remizidae | *Anthoscopus minutus* | GBIF | Bovidae | *Oryx gazella* | VM |
| Sagittariidae | *Sagittarius serpentarius* | GBIF | Bovidae | *Pelea capreolus* | GBIF, VM |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Scolopacidae | *Actitis hypoleucos* | GBIF | Bovidae | *Raphicerus melanotis* | GBIF |
| Scolopacidae | *Calidris ferruginea* | GBIF | Bovidae | *Redunca fulvorufula* | VM |
| Scolopacidae | *Calidris minuta* | GBIF | Bovidae | *Sylvicapra grimmia* | GBIF |
| Scolopacidae | *Calidris pugnax* | GBIF | Bovidae | *Syncerus caffer* | VM |
| Scolopacidae | *Tringa nebularia* | GBIF | Bovidae | *Tragelaphus oryx* | GBIF, VM |
| Scopidae | *Scopus umbretta* | GBIF | Canidae | *Otocyon megalotis* | GBIF, VM |
| Stenostiridae | *Stenostira scita* | GBIF, VM | Cercopithecidae | *Papio ursinus* | GBIF, VM |
| Strigidae | *Bubo africanus* | GBIF | Chrysochloridae | *Chrysochloris asiatica* | VM |
| Struthionidae | *Struthio camelus* | GBIF, VM | Elephantidae | *Loxodonta africana* | VM |
| Sturnidae | *Lamprotornis bicolor* | GBIF, VM | Equidae | *Equus quagga* | GBIF |
| Sturnidae | *Onychognathus morio* | GBIF, VM | Felidae | *Caracal caracal* | GBIF, VM |
| Sturnidae | *Onychognathus nabouroup* | GBIF | Felidae | *Felis catus* | GBIF |
| Sturnidae | *Sturnus vulgaris* | GBIF, VM | Felidae | *Felis silvestris* | VM |
| Sylviidae | *Curruca layardi* | GBIF | Felidae | *Panthera leo* | VM |
| Sylviidae | *Curruca subcoerulea* | GBIF, VM | Felidae | *Panthera pardus* | GBIF, VM |
| Threskiornithidae | *Bostrychia hagedash* | GBIF, VM | Gliridae | *Graphiurus ocularis* | VM |
| Threskiornithidae | *Platalea alba* | GBIF, VM | Herpestidae | *Cynictis penicillata* | VM |
| Threskiornithidae | *Threskiornis aethiopicus* | GBIF, VM | Herpestidae | *Herpestes pulverulentus* | GBIF, VM |
| Turdidae | *Turdus olivaceus* | GBIF, VM | Hippopotamidae | *Hippopotamus amphibius* | VM |
| Turdidae | *Turdus smithi* | GBIF | Leporidae | *Bunolagus monticularis* | ST |
| Turnicidae | *Turnix hottentottus* | GBIF | Leporidae | *Lepus saxatilis* | VM |
| Tytonidae | *Tyto alba* | GBIF | Leporidae | *Pronolagus saundersiae* | GBIF |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Upupidae | *Upupa africana* | GBIF, VM | Muridae | *Aethomys namaquensis* | VM |
| Upupidae | *Upupa epops* | GBIF | Muridae | *Gerbilliscus afra* | VM |
| Viduidae | *Vidua macroura* | GBIF | Muridae | *Otomys irroratus* | GBIF, VM |
| Zosteropidae | *Zosterops pallidus* | GBIF | Muridae | *Otomys unisulcatus* | VM |
| Zosteropidae | *Zosterops virens* | GBIF, VM | Muridae | *Rhabdomys pumilio* | GBIF, VM |
| Acrididae | *Acanthacris ruficornis* subsp. *ruficornis* | GBIF | Mustelidae | *Aonyx capensis* | VM |
| Aeshnidae | *Anax imperator* | GBIF, VM | Mustelidae | *Mellivora capensis* | GBIF, VM |
| Aeshnidae | *Anax speratus* | GBIF, VM | Orycteropodidae | *Orycteropus afer* | VM |
| Aeshnidae | *Pinheyschna subpupillata* | VM | Procaviidae | *Procavia capensis* | GBIF, VM |
| Aeshnidae | *Zosteraeschna minuscula* | GBIF | Soricidae | *Crocidura* sp. | VM |
| Aleyrodidae | *Aleurothrixus floccosus* | GBIF | Soricidae | *Myosorex varius* | VM |
| Aphididae | *Aphis nerii* | GBIF | Suidae | *Potamochoerus larvatus* | GBIF |
| Apidae | *Amegilla atrocincta* | GBIF | Suidae | *Potamochoerus porcus* | VM |
| Apidae | *Apis mellifera* | GBIF | Vespertilionidae | *Eptesicus hottentotus* | VM |
| Apidae | *Apis mellifera* subsp. *capensis* | GBIF | Vespertilionidae | *Neoromicia capensis* | GBIF |
| Apidae | *Xylocopa caffra* | GBIF | Viverridae | *Genetta genetta* | VM |
| Araneidae | *Argiope australis* | GBIF | Viverridae | *Genetta tigrina* | GBIF |
| Araneidae | *Argiope trifasciata* | GBIF | Agamidae | *Agama atra* | GBIF, VM |
| Araneidae | *Caerostris sexcuspidata* | GBIF | Atractaspididae | *Homoroselaps lacteus* | GBIF, VM |
| Araneidae | *Trichonephila fenestrata* subsp. *fenestrata* | GBIF | Chamaeleonidae | *Bradypodion gutturale* | GBIF, VM |
| Armadillidiidae | *Armadillidium vulgare* | GBIF | Colubridae | *Crotaphopeltis hotamboeia* | GBIF, VM |
| Bacillidae | *Phalces brevis* | GBIF | Colubridae | *Dasypeltis scabra* | VM |
| Blaberidae | *Aptera fusca* | GBIF | Colubridae | *Dispholidus typus* | VM |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Blattidae | *Deropeltis erythrocephala* | GBIF | Cordylidae | *Chamaesaura anguina* | GBIF, VM |
| Brachyceridae | *Brachycerus obesus* | GBIF | Cordylidae | *Cordylus cordylus* | GBIF, VM |
| Buprestidae | *Acmaeodera karooana* | GBIF | Cordylidae | *Hemicordylus capensis* | VM |
| Buprestidae | *Acmaeodera trifasciata* | GBIF | Cordylidae | *Karusasaurus polyzonus* | VM |
| Buprestidae | *Julodis viridipes* | GBIF | Cordylidae | *Pseudocordylus microlepidotus* | GBIF, VM |
| Buprestidae | *Neojulodis picta* subsp. *picta* | GBIF | Elapidae | *Naja nivea* | GBIF, VM |
| Buthidae | *Parabuthus planicauda* | GBIF | Gekkonidae | *Afrogecko porphyreus* | VM |
| Buthidae | *Uroplectes carinatus* | GBIF | Gekkonidae | *Chondrodactylus bibronii* | GBIF, VM |
| Buthidae | *Uroplectes lineatus* | GBIF | Gekkonidae | *Goggia incognita* | VM |
| Calliphoridae | *Chrysomya chloropyga* | GBIF | Gekkonidae | *Goggia microlepidota* | VM |
| Carabidae | *Anthia decemguttata* | GBIF | Gekkonidae | *Lygodactylus capensis* | GBIF |
| Carabidae | *Cicindela lurida* | GBIF | Gekkonidae | *Pachydactylus geitje* | GBIF, VM |
| Cecidomyiidae | *Dasineura rubiformis* | GBIF | Gekkonidae | *Pachydactylus maculatus* | VM |
| Cerambycidae | *Anubis scalaris* subsp. *scalaris* | GBIF | Gekkonidae | *Pachydactylus oculatus* | GBIF, VM |
| Cerambycidae | *Litopus latipes* | GBIF | Gerrhosauridae | *Tetradactylus tetradactylus* | VM |
| Cerambycidae | *Phoracantha semipunctata* | GBIF | Lacertidae | *Australolacerta australis* | GBIF, VM |
| Cerambycidae | *Promeces longipes* | GBIF | Lacertidae | *Meroles knoxii* | VM |
| Cerambycidae | *Zographus oculator* | GBIF | Lacertidae | *Nucras tessellata* | VM |
| Cercopidae | *Locris arithmetica* | GBIF | Lacertidae | *Pedioplanis burchelli* | VM |
| Chrysomelidae | *Conchyloctenia punctata* | GBIF | Lacertidae | *Pedioplanis lineoocellata* | GBIF, VM |
| Cleridae | *Trichodes aulicus* | GBIF | Lacertidae | *Tropidosaura gularis* | VM |
| Coccinellidae | *Harmonia axyridis* | GBIF | Lacertidae | *Tropidosaura montana* subsp. *montana* | VM |
| Coccinellidae | *Hippodamia variegata* | GBIF | Lamprophiidae | *Boaedon capensis* | VM |

| Family | Scientific Name | Source | Family | Scientific Name | Source |
|---|---|---|---|---|---|
| Coccinellidae | *Lioadalia flavomaculata* | GBIF | Lamprophiidae | *Duberria lutrix lutrix* | VM |
| Coccinellidae | *Psyllobora variegata* | GBIF | Lamprophiidae | *Lamprophis aurora* | VM |
| Coenagrionidae | *Africallagma glaucum* | GBIF, VM | Lamprophiidae | *Lamprophis guttatus* | GBIF, VM |
| Coenagrionidae | *Ischnura senegalensis* | GBIF, VM | Lamprophiidae | *Lycodonomorphus rufulus* | VM |
| Coenagrionidae | *Pseudagrion furcigerum* | GBIF | Lamprophiidae | *Pseudaspis cana* | VM |
| Coenagrionidae | *Pseudagrion kersteni* | GBIF, VM | Pelomedusidae | *Pelomedusa galeata* | GBIF |
| Coenagrionidae | *Pseudagrion massaicum* | GBIF | Psammophiidae | *Psammophis notostictus* | GBIF, VM |
| Corydalidae | *Chloroniella peringueyi* | GBIF | Psammophiidae | *Psammophylax rhombeatus* | GBIF, VM |
| Corydalidae | *Platychauliodes capensis* | VM | Scincidae | *Acontias meleagris* | VM |
| Corydalidae | *Taeniochauliodes ochraceopennis* | VM | Scincidae | *Trachylepis capensis* | VM |
| Crambidae | *Antigastra morysalis* | GBIF | Scincidae | *Trachylepis homalocephala* | GBIF, VM |
| Curculionidae | *Lixus schoenherri* | GBIF | Scincidae | *Trachylepis variegata* | GBIF, VM |
| Deroplatyidae | *Popa spurca* | GBIF | Testudinidae | *Chersina angulata* | GBIF, VM |
| Dinidoridae | *Coridius nubilus* | GBIF | Testudinidae | *Homopus areolatus* | GBIF, VM |
| Erebidae | *Bracharoa tricolor* | GBIF | Testudinidae | *Psammobates tentorius* subsp. | VM |
| Erebidae | *Dysgonia torrida* | GBIF | Testudinidae | *Psammobates tentorius* subsp. *tentorius* | VM |
| Erebidae | *Grammodes stolida* | GBIF, VM | Testudinidae | *Stigmochelys pardalis* | GBIF |
| Erebidae | *Lacipa picta* | GBIF | Typhlopidae | *Rhinotyphlops lalandei* | VM |
| Erebidae | *Laelia fusca* | GBIF | Viperidae | *Bitis arietans* | GBIF, VM |
| Erebidae | *Rhodogastria amasis* | GBIF | Viperidae | *Bitis rubida* | GBIF |

# APPENDIX D COMPREHENSIVE LIST OF PLANT SPECIES POTENTIALLY PRESENT ON SITE

A comprehensive list of all plant species that are potentially present in the proposed Hugo WEF PAOI and their associated data sources are presented in Table 30 below. The sources include the SANBI POSA Brahms (B) database, the Global Biodiversity Information Facility (GBIF) database, The DFFE Online Screening Tool (ST) and the Biodiversity and Development Institute's Virtual Museum (VM) database.

TABLE 30: COMPREHENSIVE LIST OF PLANT SPECIES POTENTIALLY PRESENT WITHIN THE PROPOSED HUGO WEF PROJECT PAOI.

| Family | Species | Source | Family | Species | Source |
|---|---|---|---|---|---|
| Acanthaceae | *Blepharis capensis* | GBIF | Fabaceae | *Aspalathus shawii* subsp. *shawii* | B, GBIF |
| Achariaceae | *Kiggelaria africana* | GBIF | Fabaceae | *Aspalathus simii* | B |
| Agavaceae | *Agave sisalana* | B | Fabaceae | *Aspalathus smithii* | B |
| Aizoaceae | *Acrodon bellidiflorus* | GBIF | Fabaceae | *Aspalathus spiculata* | GBIF |
| Aizoaceae | *Acrosanthes anceps* | B | Fabaceae | *Aspalathus spinosa* | GBIF |
| Aizoaceae | *Acrosanthes humifusa* | GBIF | Fabaceae | *Aspalathus spinosa subsp. flavispina* | GBIF |
| Aizoaceae | *Acrosanthes parviflora* | GBIF | Fabaceae | *Aspalathus spinosa subsp. spinosa* | GBIF |
| Aizoaceae | *Aizoon africanum* | GBIF | Fabaceae | *Aspalathus stenophylla* | B |
| Aizoaceae | *Amphibolia laevis* | B | Fabaceae | *Aspalathus steudeliana* | B |
| Aizoaceae | *Antimima aristulata* | GBIF | Fabaceae | *Aspalathus tridentata* subsp. *tridentata* | B |
| Aizoaceae | *Antimima condensa* | B, ST | Fabaceae | *Aspalathus triquetra* | B |
| Aizoaceae | *Antimima leipoldtii* | GBIF | Fabaceae | *Aspalathus wittebergensis* | B |

| | | | | | |
|---|---|---|---|---|---|
| Aizoaceae | *Antimima mutica* | B, GBIF | Fabaceae | *Bauhinia galpinii* | GBIF |
| Aizoaceae | *Antimima peersii* | GBIF | Fabaceae | *Calobota cytisoides* | GBIF |
| Aizoaceae | *Braunsia apiculata* | GBIF | Fabaceae | *Calobota elongata* | B |
| Aizoaceae | *Carpobrotus edulis* | B, GBIF | Fabaceae | *Crotalaria excisa subsp. excisa* | GBIF |
| Aizoaceae | *Carpobrotus edulis subsp. edulis* | GBIF | Fabaceae | *Cyclopia genistoides* | GBIF |
| Aizoaceae | *Carpobrotus mellei* | GBIF | Fabaceae | *Cyclopia glabra* | B |
| Aizoaceae | *Cephalophyllum alstonii* | B | Fabaceae | *Dipogon lignosus* | B, GBIF |
| Aizoaceae | *Cephalophyllum ceresianum* | B | Fabaceae | *Gleditsia triacanthos* | GBIF |
| Aizoaceae | *Cephalophyllum diversiphyllum* | GBIF | Fabaceae | *Hypocalyptus coluteoides* | GBIF |
| Aizoaceae | *Cephalophyllum loreum* | GBIF | Fabaceae | *Hypocalyptus oxalidifolius* | GBIF |
| Aizoaceae | *Cephalophyllum purpureoalbum* | GBIF | Fabaceae | *Hypocalyptus sophoroides* | B, GBIF |
| Aizoaceae | *Cephalophyllum subulatoides* | B, GBIF | Fabaceae | *Indigofera burchellii* | GBIF |
| Aizoaceae | *Cheiridopsis namaquensis* | GBIF | Fabaceae | *Indigofera capillaris* | B, GBIF |
| Aizoaceae | *Cleretum papulosum* | GBIF | Fabaceae | *Indigofera complicata* | GBIF |
| Aizoaceae | *Cleretum papulosum subsp. papulosum* | GBIF | Fabaceae | *Indigofera frutescens* | B |
| Aizoaceae | *Conophytum bicarinatum* | B | Fabaceae | *Indigofera heterophylla* | B, GBIF |
| Aizoaceae | *Conophytum minusculum* | B | Fabaceae | *Indigofera humifusa* | B, GBIF |
| Aizoaceae | *Conophytum obcordellum* subsp. *obcordellum* | B | Fabaceae | *Indigofera meyeriana* | GBIF |
| Aizoaceae | *Conophytum truncatum subsp. viridicatum* | GBIF | Fabaceae | *Indigofera pilgeriana* | GBIF |

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|---|---|---|---|---|---|
| Aizoaceae | *Drosanthemum acuminatum* | GBIF | Fabaceae | *Indigofera priorii* | GBIF |
| Aizoaceae | *Drosanthemum brevifolium* | B | Fabaceae | *Indigofera* sp. | GBIF |
| Aizoaceae | *Drosanthemum calycinum* | GBIF | Fabaceae | *Lebeckia pauciflora* | B, GBIF |
| Aizoaceae | *Drosanthemum collinum* | B | Fabaceae | *Lessertia frutescens* | GBIF |
| Aizoaceae | *Drosanthemum comptonii* | B | Fabaceae | *Lessertia frutescens* subsp. *frutescens* | B, GBIF |
| Aizoaceae | *Drosanthemum delicatulum* | B | Fabaceae | *Lessertia frutescens subsp. microphylla* | GBIF |
| Aizoaceae | *Drosanthemum expersum* | B | Fabaceae | *Lessertia stenoloba* | B |
| Aizoaceae | *Drosanthemum giffenii* | GBIF, ST | Fabaceae | *Liparia latifolia* | GBIF |
| Aizoaceae | *Drosanthemum globosum* | GBIF | Fabaceae | *Lotononis argentea* | GBIF, ST |
| Aizoaceae | *Drosanthemum gracillimum* | GBIF | Fabaceae | *Lotononis brevicaulis* | B |
| Aizoaceae | *Drosanthemum hispidum* | GBIF | Fabaceae | *Lotononis gracilifolia* | GBIF, ST |
| Aizoaceae | *Drosanthemum karrooense* | GBIF | Fabaceae | *Medicago polymorpha* | GBIF |
| Aizoaceae | *Drosanthemum parvifolium* | GBIF | Fabaceae | *Medicago sativa* | GBIF |
| Aizoaceae | *Drosanthemum praecultum* | GBIF | Fabaceae | *Melilotus indicus* | GBIF |
| Aizoaceae | *Drosanthemum pulchrum* | GBIF | Fabaceae | *Otholobium* sp. nov (Storton & Zanotvska 11281 NBG) | ST |
| Aizoaceae | *Drosanthemum semiglobosum* | B, GBIF | Fabaceae | *Otholobium striatum* | B |
| Aizoaceae | *Drosanthemum speciosum* | GBIF | Fabaceae | *Podalyria calyptrata* | GBIF |
| Aizoaceae | *Drosanthemum striatum* | B | Fabaceae | *Podalyria myrtillifolia* | GBIF |

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|---|---|---|---|---|---|
| Aizoaceae | *Drosanthemum thudichumii* | B | Fabaceae | *Prosopis glandulosa* var. *torreyana* | B |
| Aizoaceae | *Drosanthemum tuberculiferum* | GBIF, ST | Fabaceae | *Psoralea candicans* | GBIF |
| Aizoaceae | *Drosanthemum worcesterense* | ST | Fabaceae | *Psoralea ensifolia* | GBIF |
| Aizoaceae | *Erepsia aspera* | B | Fabaceae | *Psoralea hirta* | GBIF |
| Aizoaceae | *Erepsia bracteata* | GBIF | Fabaceae | *Psoralea odoratissima* | GBIF |
| Aizoaceae | *Erepsia gracilis* | B | Fabaceae | *Psoralea ramulosa* | B |
| Aizoaceae | *Esterhuysenia alpina* | B | Fabaceae | *Psoralea speciosa* | GBIF |
| Aizoaceae | *Esterhuysenia inclaudens* | ST | Fabaceae | *Psoralea spicata* | GBIF |
| Aizoaceae | *Esterhuysenia stokoei* | B | Fabaceae | *Psoralea spissa* | GBIF |
| Aizoaceae | *Galenia africana* | B | Fabaceae | *Psoralea striata* | GBIF |
| Aizoaceae | *Galenia fruticosa* | B | Fabaceae | *Psoralea usitata* | B |
| Aizoaceae | *Galenia procumbens* | B | Fabaceae | *Psoralea verrucosa* | B, GBIF |
| Aizoaceae | *Gibbaeum gibbosum* | GBIF | Fabaceae | *Rafnia amplexicaulis* | B |
| Aizoaceae | *Gibbaeum pubescens* | B | Fabaceae | *Rafnia capensis* subsp. *capensis* | B |
| Aizoaceae | *Glottiphyllum depressum* | GBIF | Fabaceae | *Rafnia capensis* subsp. *dichotoma* | B |
| Aizoaceae | *Hereroa acuminata* | GBIF | Fabaceae | *Rafnia rostrata* subsp. *rostrata* | B |
| Aizoaceae | *Lampranthus aduncus* | GBIF | Fabaceae | *Senna multiglandulosa* | GBIF |
| Aizoaceae | *Lampranthus caudatus* | B | Fabaceae | Sensitive Species 1209 | B |
| Aizoaceae | *Lampranthus dissimilis* | B | Fabaceae | Sensitive Species 142 | GBIF |
| Aizoaceae | *Lampranthus elegans* | GBIF | Fabaceae | Sensitive Species 207 | B |
| Aizoaceae | *Lampranthus falcatus* | B, GBIF | Fabaceae | Sensitive Species 654 | B |

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|---|---|---|---|---|---|
| Aizoaceae | *Lampranthus francesiae* | B | Fabaceae | Sensitive Species 692 | B |
| Aizoaceae | *Lampranthus laetus* | B | Fabaceae | Sensitive Species 871 | GBIF |
| Aizoaceae | *Lampranthus mucronatus* | B | Fabaceae | *Sesbania punicea* | GBIF |
| Aizoaceae | *Lampranthus pocockiae* | B | Fabaceae | *Stirtonanthus insignis* | B, GBIF |
| Aizoaceae | *Lampranthus spiniformis* | GBIF | Fabaceae | *Tephrosia capensis* | GBIF |
| Aizoaceae | *Leipoldtia schultzei* | GBIF | Fabaceae | *Trifolium repens* | GBIF |
| Aizoaceae | *Lithops comptonii* | B | Fabaceae | *Vachellia karroo* | B, GBIF |
| Aizoaceae | *Malephora lutea* | GBIF | Fabaceae | *Vachellia sieberiana* | GBIF |
| Aizoaceae | *Mesembryanthemum crystallinum* | B, GBIF | Fabaceae | *Vicia benghalensis* | GBIF |
| Aizoaceae | *Mesembryanthemum grossum* | B | Fabaceae | *Vicia sativa* | GBIF |
| Aizoaceae | *Mesembryanthemum guerichianum* | GBIF | Fabaceae | *Wiborgia mucronata* | B |
| Aizoaceae | *Mesembryanthemum junceum* | GBIF | Fabaceae | *Wiborgia tenuifolia* | GBIF |
| Aizoaceae | *Mesembryanthemum longistylum* | B, GBIF | Fabaceae | *Xiphotheca fruticosa* | B, GBIF |
| Aizoaceae | *Mesembryanthemum noctiflorum subsp. defoliatum* | GBIF | Fabroniaceae | *Ischyrodon lepturus* | GBIF |
| Aizoaceae | *Mesembryanthemum nodiflorum* | GBIF | Fumariaceae | *Cysticapnos vesicaria* subsp. *vesicaria* | B, GBIF |
| Aizoaceae | *Mesembryanthemum tortuosum* | GBIF | Funariaceae | *Funaria spathulata* | B |
| Aizoaceae | *Octopoma nanum* | ST | Gentianaceae | *Chironia baccifera* | B, GBIF |
| Aizoaceae | *Oscularia deltoides* | B, GBIF | Gentianaceae | *Sebaea aurea* | GBIF |
| Aizoaceae | *Phiambolia francisci* | GBIF | Gentianaceae | *Sebaea exacoides* | GBIF |
| Aizoaceae | *Phiambolia gydouwensis* | GBIF | Gentianaceae | *Sebaea membranacea* | B |

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|---|---|---|---|---|---|
| Aizoaceae | *Phiambolia littlewoodii* | ST | Geraniaceae | *Erodium cicutarium* | GBIF |
| Aizoaceae | *Psilocaulon bicorne* | B | Geraniaceae | *Erodium moschatum* | B |
| Aizoaceae | *Ruschia amicorum* | B | Geraniaceae | *Geranium molle* | GBIF |
| Aizoaceae | *Ruschia approximata* | GBIF | Geraniaceae | *Pelargonium abrotanifolium* | B, GBIF |
| Aizoaceae | *Ruschia caroli* | GBIF | Geraniaceae | *Pelargonium alchemilloides* | GBIF |
| Aizoaceae | *Ruschia concava* | B | Geraniaceae | *Pelargonium alternans* | GBIF |
| Aizoaceae | *Ruschia divaricata* | B | Geraniaceae | *Pelargonium alternans subsp. alternans* | GBIF |
| Aizoaceae | *Ruschia frederici* | GBIF | Geraniaceae | *Pelargonium articulatum* | GBIF |
| Aizoaceae | *Ruschia lineolata* | B, GBIF | Geraniaceae | *Pelargonium burgerianum* | GBIF |
| Aizoaceae | *Ruschia multiflora* | B, GBIF | Geraniaceae | *Pelargonium buysii* | B |
| Aizoaceae | *Ruschia pungens* | B, GBIF | Geraniaceae | *Pelargonium candicans* | B, GBIF |
| Aizoaceae | *Ruschia rigida* | B | Geraniaceae | *Pelargonium carnosum* | B, GBIF |
| Aizoaceae | *Ruschia tenella* | GBIF | Geraniaceae | *Pelargonium carnosum subsp. ferulaceum* | GBIF |
| Aizoaceae | *Ruschia tumidula* | B | Geraniaceae | *Pelargonium caucalifolium* subsp. *caucalifolium* | B, GBIF |
| Aizoaceae | *Ruschiella argentea* | B, GBIF | Geraniaceae | *Pelargonium citronellum* | GBIF |
| Aizoaceae | *Ruschiella henricii* | B | Geraniaceae | *Pelargonium columbinum* | GBIF |
| Aizoaceae | *Ruschiella lunulata* | B, GBIF | Geraniaceae | *Pelargonium coronopifolium* | GBIF |
| Aizoaceae | *Smicrostigma viride* | GBIF | Geraniaceae | *Pelargonium crispum* | B, GBIF |
| Aizoaceae | *Tanquana prismatica* | B | Geraniaceae | *Pelargonium crithmifolium* | B, GBIF |

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|---|---|---|---|---|---|
| Aizoaceae | *Tetragonia fruticosa* | B | Geraniaceae | *Pelargonium elongatum* | B, GBIF |
| Aizoaceae | *Tetragonia saligna* | B, GBIF | Geraniaceae | *Pelargonium englerianum* | GBIF |
| Aizoaceae | *Tetragonia sarcophylla* | B | Geraniaceae | *Pelargonium fissifolium* | GBIF |
| Aizoaceae | *Trichodiadema marlothii* | B, GBIF | Geraniaceae | *Pelargonium glutinosum* | B, GBIF |
| Aizoaceae | *Trichodiadema pomeridianum* | GBIF | Geraniaceae | *Pelargonium grossularioides* | GBIF |
| Aizoaceae | *Vlokia ater* | GBIF | Geraniaceae | *Pelargonium hermaniifolium* | GBIF |
| Alliaceae | *Tulbaghia capensis* | B, GBIF | Geraniaceae | *Pelargonium hispidum* | B, GBIF |
| Amaranthaceae | *Atriplex lindleyi subsp. inflata* | GBIF | Geraniaceae | *Pelargonium hypoleucum* | GBIF |
| Amaranthaceae | *Atriplex nummularia* | GBIF | Geraniaceae | *Pelargonium hystrix* | GBIF |
| Amaranthaceae | *Atriplex semibaccata* | B, GBIF | Geraniaceae | *Pelargonium laevigatum subsp. diversifolium* | GBIF |
| Amaranthaceae | *Caroxylon aphyllum* | GBIF | Geraniaceae | *Pelargonium laevigatum subsp. laevigatum* | GBIF |
| Amaryllidaceae | *Agapanthus praecox subsp. praecox* | GBIF | Geraniaceae | *Pelargonium lanceolatum* | B, GBIF |
| Amaryllidaceae | *Allium synnotii* | GBIF | Geraniaceae | *Pelargonium lobatum* | GBIF |
| Amaryllidaceae | *Boophone disticha* | GBIF | Geraniaceae | *Pelargonium longicaule var. longicaule* | GBIF |
| Amaryllidaceae | *Crossyne guttata* | GBIF | Geraniaceae | *Pelargonium longifolium* | B |
| Amaryllidaceae | *Cyrtanthus angustifolius* | B, GBIF | Geraniaceae | *Pelargonium luteolum* | GBIF |
| Amaryllidaceae | *Gethyllis campanulata* | B | Geraniaceae | *Pelargonium luteopetalum* | GBIF |
| Amaryllidaceae | *Gethyllis transkarooica* | B | Geraniaceae | *Pelargonium multicaule* | GBIF |

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| | | | | *subsp. multicaule* | |
| Amaryllidaceae | *Gethyllis verrucosa* | GBIF | Geraniaceae | *Pelargonium myrrhifolium* | GBIF |
| Amaryllidaceae | *Gethyllis villosa* | B | Geraniaceae | *Pelargonium myrrhifolium var. coriandrifolium* | GBIF |
| Amaryllidaceae | *Haemanthus coccineus* | B, GBIF | Geraniaceae | *Pelargonium myrrhifolium var. myrrhifolium* | GBIF |
| Amaryllidaceae | *Haemanthus sanguineus* | GBIF | Geraniaceae | *Pelargonium nanum* | GBIF |
| Amaryllidaceae | *Hessea stellaris* | B, GBIF | Geraniaceae | *Pelargonium nervifolium* | GBIF |
| Amaryllidaceae | *Nerine humilis* | B, GBIF | Geraniaceae | *Pelargonium ovale subsp. hyalinum* | GBIF |
| Amaryllidaceae | *Nerine ridleyi* | B | Geraniaceae | *Pelargonium ovale subsp. ovale* | GBIF |
| Amaryllidaceae | *Nerine sarniensis* | B, GBIF | Geraniaceae | *Pelargonium papilionaceum* | GBIF |
| Amaryllidaceae | *Strumaria tenella* | B | Geraniaceae | *Pelargonium patulum* | GBIF |
| Amaryllidaceae | *Strumaria tenella subsp. tenella* | GBIF | Geraniaceae | *Pelargonium patulum var. patulum* | GBIF |
| Anacampserotaceae | *Anacampseros arachnoides* | GBIF | Geraniaceae | *Pelargonium patulum var. tenuilobum* | GBIF |
| Anacampserotaceae | *Anacampseros filamentosa* | B | Geraniaceae | *Pelargonium peltatum* | GBIF |
| Anacampserotaceae | *Anacampseros lanceolata* subsp. *lanceolata* | B | Geraniaceae | *Pelargonium pillansii* | GBIF |
| Anacampserotaceae | *Anacampseros retusa* | B, GBIF | Geraniaceae | *Pelargonium pilosellifolium* | GBIF |
| Anacampserotaceae | *Anacampseros telephiastrum* | GBIF | Geraniaceae | *Pelargonium rapaceum* | B, GBIF |
| Anacardiaceae | *Ozoroa dispar* | B | Geraniaceae | *Pelargonium ribifolium* | GBIF |

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| Anacardiaceae | *Searsia angustifolia* | GBIF | Geraniaceae | *Pelargonium scabrum* | B, GBIF |
| Anacardiaceae | *Searsia dissecta* | B | Geraniaceae | *Pelargonium tetragonum* | GBIF |
| Anacardiaceae | *Searsia lancea* | GBIF | Geraniaceae | *Pelargonium trifidum* | GBIF |
| Anacardiaceae | *Searsia longispina* | GBIF | Geraniaceae | *Pelargonium triste* | GBIF |
| Anacardiaceae | *Searsia lucida* | GBIF | Geraniaceae | *Pelargonium zonale* | B, GBIF |
| Anacardiaceae | *Searsia pallens* | B, GBIF | Gleicheniaceae | *Gleichenia polypodioides* | B, GBIF |
| Anacardiaceae | *Searsia pyroides var. pyroides* | GBIF | Grimmiaceae | *Grimmia laevigata* | B |
| Anacardiaceae | *Searsia tomentosa* | GBIF | Grimmiaceae | *Grimmia pulvinata* | B |
| Anemiaceae | *Anemia caffrorum* | GBIF | Gunneraceae | *Gunnera perpensa* | GBIF |
| Apiaceae | *Anginon difforme* | GBIF | Haemodoraceae | *Dilatris ixioides* | B, GBIF |
| Apiaceae | *Anginon fruticosum* | B, GBIF | Haemodoraceae | *Wachendorfia multiflora* | GBIF |
| Apiaceae | *Anginon swellendamense* | GBIF | Haemodoraceae | *Wachendorfia paniculata* | B, GBIF |
| Apiaceae | *Apium graveolens* | B | Haemodoraceae | *Wachendorfia thyrsiflora* | GBIF |
| Apiaceae | *Arctopus echinatus* | GBIF | Hemerocallidaceae | *Caesia contorta* | B, GBIF |
| Apiaceae | *Dasispermum tenue* | GBIF | Hyacinthaceae | *Albuca canadensis* | GBIF |
| Apiaceae | *Deverra denudata* subsp. *aphylla* | B | Hyacinthaceae | *Albuca longipes* | GBIF |
| Apiaceae | *Itasina filifolia* | B | Hyacinthaceae | *Albuca setosa* | GBIF |
| Apiaceae | *Lichtensteinia latifolia* | GBIF | Hyacinthaceae | *Albuca suaveolens* | GBIF |
| Apiaceae | *Notobubon capense* | GBIF | Hyacinthaceae | *Albuca viscosa* | B, GBIF |
| Apiaceae | *Notobubon gummiferum* | GBIF | Hyacinthaceae | *Drimia intricata* | B |
| Apiaceae | *Notobubon sonderi* | GBIF | Hyacinthaceae | *Drimia multifolia* | B |

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| Apiaceae | *Notobubon tenuifolium* | GBIF | Hyacinthaceae | *Drimia physodes* | B, GBIF |
| Apiaceae | *Peucedanum ferulaceum* | B | Hyacinthaceae | *Lachenalia ameliae* | B |
| Apocynaceae | *Carissa bispinosa* | B, GBIF | Hyacinthaceae | *Lachenalia attenuata* | B |
| Apocynaceae | *Carissa haematocarpa* | GBIF | Hyacinthaceae | *Lachenalia aurioliae* | B, GBIF |
| Apocynaceae | *Ceropegia occulta* | GBIF | Hyacinthaceae | *Lachenalia comptonii* | B |
| Apocynaceae | *Cynanchum obtusifolium* | GBIF | Hyacinthaceae | *Lachenalia contaminata* | B |
| Apocynaceae | *Cynanchum viminale* | GBIF | Hyacinthaceae | *Lachenalia ensifolia* | GBIF |
| Apocynaceae | *Cynanchum viminale subsp. viminale* | GBIF | Hyacinthaceae | *Lachenalia judithiae* | GBIF |
| Apocynaceae | *Duvalia caespitosa* | GBIF | Hyacinthaceae | *Lachenalia juncifolia* | B, GBIF |
| Apocynaceae | *Duvalia elegans* | GBIF | Hyacinthaceae | *Lachenalia mutabilis* | GBIF |
| Apocynaceae | *Eustegia minuta* | GBIF | Hyacinthaceae | *Lachenalia obscura* | B, GBIF |
| Apocynaceae | *Gomphocarpus cancellatus* | GBIF | Hyacinthaceae | *Lachenalia orchioides* | GBIF |
| Apocynaceae | *Gomphocarpus fruticosus* | GBIF | Hyacinthaceae | *Lachenalia perryae* | B, GBIF |
| Apocynaceae | *Huernia pillansii* | B | Hyacinthaceae | *Lachenalia unifolia* | GBIF |
| Apocynaceae | *Microloma sagittatum* | B, GBIF | Hyacinthaceae | *Lachenalia zeyheri* | B |
| Apocynaceae | *Microloma tenuifolium* | GBIF | Hyacinthaceae | *Massonia depressa* | B, GBIF |
| Apocynaceae | *Orbea variegata* | GBIF | Hyacinthaceae | *Ornithogalum dubium* | B, GBIF |
| Apocynaceae | *Piaranthus geminatus* | GBIF | Hyacinthaceae | *Ornithogalum hispidum* | B, GBIF |
| Apocynaceae | *Quaqua arenicola* subsp. *arenicola* | B | Hyacinthaceae | *Ornithogalum maculatum* | B, GBIF |
| Apocynaceae | *Quaqua arida* | GBIF | Hyacinthaceae | *Veltheimia capensis* | B, GBIF |

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| Apocynaceae | *Quaqua linearis* | GBIF | Hydnoraceae | *Hydnora africana* | GBIF |
| Apocynaceae | *Quaqua mammillaris* | GBIF | Hymenophyllaceae | *Hymenophyllum tunbrigense* | GBIF |
| Apocynaceae | *Quaqua pillansii* | GBIF | Hypoxidaceae | *Pauridia aquatica* | B |
| Apocynaceae | *Quaqua ramosa* | GBIF | Hypoxidaceae | *Pauridia capensis* | B, GBIF |
| Apocynaceae | *Sarcostemma viminale* subsp. *viminale* | B | Hypoxidaceae | *Pauridia maryae* | GBIF |
| Apocynaceae | *Schizoglossum aschersonianum* | GBIF | Hypoxidaceae | *Pauridia serrata* | GBIF |
| Apocynaceae | *Schizoglossum aschersonianum var. aschersonianum* | GBIF | Hypoxidaceae | *Pauridia serrata* subsp. *serrata* | B |
| Apocynaceae | *Stapelia hirsuta* | GBIF | Hypoxidaceae | *Spiloxene aemulans* | B |
| Apocynaceae | *Stapelia hirsuta var. hirsuta* | GBIF | Hypoxidaceae | *Spiloxene aquatica* | B |
| Apocynaceae | *Stapelia paniculata subsp. scitula* | GBIF | Hypoxidaceae | *Spiloxene capensis* | B |
| Apocynaceae | *Stapelia rufa* | GBIF | Hypoxidaceae | *Spiloxene ovata* | B |
| Apocynaceae | *Stapeliopsis saxatilis* | GBIF | Hypoxidaceae | *Spiloxene serrata* var. *serrata* | B |
| Apocynaceae | *Tridentea gemmiflora* | GBIF | Iridaceae | *Afrocrocus unifolius* | B, GBIF |
| Apocynaceae | *Vinca major* | GBIF | Iridaceae | *Aristea spiralis* | GBIF |
| Apocynaceae | *Xysmalobium gomphocarpoides* | GBIF | Iridaceae | *Babiana ambigua* | GBIF |
| Apocynaceae | *Xysmalobium gomphocarpoides var. gomphocarpoides* | GBIF | Iridaceae | *Babiana cuneata* | GBIF |
| Apocynaceae | *Xysmalobium undulatum* | GBIF | Iridaceae | *Babiana nana* | GBIF |
| Araceae | *Zantedeschia aethiopica* | B, GBIF | Iridaceae | *Babiana patula* | GBIF |
| Asparagaceae | *Asparagus aethiopicus* | GBIF | Iridaceae | *Babiana sambucina* | B, GBIF |

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| Asparagaceae | *Asparagus asparagoides* | GBIF | Iridaceae | *Babiana sambucina* subsp. *sambucina* | B, GBIF |
| Asparagaceae | *Asparagus capensis* | GBIF | Iridaceae | *Babiana scariosa* | B |
| Asparagaceae | *Asparagus kraussianus* | B | Iridaceae | *Bobartia orientalis subsp. orientalis* | GBIF |
| Asparagaceae | *Asparagus lignosus* | GBIF | Iridaceae | *Chasmanthe aethiopica* | GBIF |
| Asparagaceae | *Asparagus mollis* | ST | Iridaceae | *Chasmanthe bicolor* | GBIF |
| Asparagaceae | *Asparagus mucronatus* | B | Iridaceae | *Ferraria crispa* | B |
| Asparagaceae | *Asparagus retrofractus* | B, GBIF | Iridaceae | *Ferraria divaricata* subsp. *divaricata* | B |
| Asparagaceae | *Asparagus rubicundus* | B, GBIF | Iridaceae | *Ferraria variabilis* | GBIF |
| Asparagaceae | *Asparagus scandens* | GBIF | Iridaceae | *Freesia caryophyllacea* | GBIF |
| Asparagaceae | *Asparagus suaveolens* | B | Iridaceae | *Freesia refracta* | GBIF |
| Asparagaceae | *Chlorophytum crispum* | GBIF | Iridaceae | *Geissorhiza heterostyla* | B, GBIF |
| Asparagaceae | *Chlorophytum graminifolium* | GBIF | Iridaceae | *Geissorhiza heterostyla* subsp. *rosea* | B |
| Asparagaceae | *Dipcadi brevifolium* | GBIF | Iridaceae | *Geissorhiza juncea* | B |
| Asparagaceae | *Drimia capensis* | GBIF | Iridaceae | *Geissorhiza ornithogaloides* | GBIF |
| Asparagaceae | *Drimia elata* | GBIF | Iridaceae | *Geissorhiza ornithogaloides* subsp. *marlothii* | B, GBIF |
| Asparagaceae | *Drimia exuviata* | GBIF | Iridaceae | *Geissorhiza ornithogaloides subsp. ornithogaloides* | GBIF |
| Asparagaceae | *Drimia fragrans* | GBIF | Iridaceae | *Geissorhiza ovalifolia* | B |

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|---|---|---|---|---|---|
| Asparagaceae | *Drimia platyphylla* | GBIF | Iridaceae | *Geissorhiza ovata* | GBIF |
| Asparagaceae | *Drimia sigmoidea* | GBIF | Iridaceae | *Gladiolus alatus* | B, GBIF |
| Asparagaceae | *Eriospermum alcicorne* | GBIF | Iridaceae | *Gladiolus cardinalis* | B, GBIF |
| Asparagaceae | *Eriospermum dregei* | GBIF | Iridaceae | *Gladiolus carinatus* | B, GBIF |
| Asparagaceae | *Eriospermum paradoxum* | GBIF | Iridaceae | *Gladiolus carneus* | GBIF |
| Asparagaceae | *Eriospermum proliferum* | GBIF | Iridaceae | *Gladiolus ceresianus* | GBIF |
| Asparagaceae | *Eucomis regia* | GBIF | Iridaceae | *Gladiolus debilis* | GBIF |
| Asparagaceae | *Furcraea foetida* | GBIF | Iridaceae | *Gladiolus floribundus* | B, GBIF |
| Asparagaceae | *Ledebouria ovalifolia* | GBIF | Iridaceae | *Gladiolus gracilis* | GBIF |
| Asparagaceae | *Massonia setulosa* | GBIF | Iridaceae | *Gladiolus grandiflorus* | B, GBIF |
| Asparagaceae | *Massonia triflora* | GBIF | Iridaceae | *Gladiolus guthriei* | B, GBIF |
| Asparagaceae | *Ornithogalum graminifolium* | GBIF | Iridaceae | *Gladiolus inflatus* | GBIF |
| Asparagaceae | *Ornithogalum rupestre* | GBIF | Iridaceae | *Gladiolus liliaceus* | GBIF |
| Asphodelaceae | *Aloe chabaudii* var. *chabaudii* | B | Iridaceae | *Gladiolus maculatus* | B, GBIF |
| Asphodelaceae | *Aloe comosa* | B | Iridaceae | *Gladiolus patersoniae* | B |
| Asphodelaceae | *Aloe microstigma* | GBIF | Iridaceae | *Gladiolus permeabilis* | GBIF |
| Asphodelaceae | *Aloe perfoliata* | B, GBIF | Iridaceae | *Gladiolus permeabilis* subsp. *edulis* | B |
| Asphodelaceae | *Aloe striata* | B, GBIF | Iridaceae | *Gladiolus permeabilis* subsp. *permeabilis* | B, GBIF |
| Asphodelaceae | *Astroloba corrugata* | GBIF | Iridaceae | *Gladiolus quadrangularis* | B, GBIF |

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| Asphodelaceae | *Bulbine abyssinica* | B, GBIF | Iridaceae | *Gladiolus rogersii* | B, GBIF |
| Asphodelaceae | *Bulbine frutescens* | GBIF | Iridaceae | *Gladiolus rudis* | B |
| Asphodelaceae | *Bulbine lagopus* | B, GBIF | Iridaceae | *Gladiolus scullyi* | B |
| Asphodelaceae | *Bulbine mesembryanthoides* | GBIF | Iridaceae | *Gladiolus stefaniae* | GBIF |
| Asphodelaceae | *Bulbine mesembryanthoides* subsp. *mesembryanthoides* | B | Iridaceae | *Gladiolus tristis* | GBIF |
| Asphodelaceae | *Bulbine praemorsa* | GBIF | Iridaceae | *Gladiolus venustus* | B, GBIF |
| Asphodelaceae | *Bulbine succulenta* | B, GBIF | Iridaceae | *Gladiolus virescens* | B, GBIF |
| Asphodelaceae | *Bulbinella cauda-felis* | B | Iridaceae | *Hesperantha acuta* subsp. *acuta* | B |
| Asphodelaceae | *Bulbinella elata* | B | Iridaceae | *Hesperantha bachmannii* | B, GBIF |
| Asphodelaceae | *Bulbinella latifolia* subsp. *denticulata* | B | Iridaceae | *Hesperantha cucullata* | GBIF |
| Asphodelaceae | *Bulbinella nutans* | B | Iridaceae | *Hesperantha falcata* | B, GBIF |
| Asphodelaceae | *Bulbinella nutans* subsp. *nutans* | B, GBIF | Iridaceae | *Hesperantha flava* | GBIF |
| Asphodelaceae | *Bulbinella nutans* subsp. *turfosicola* | B | Iridaceae | *Hesperantha humilis* | B, GBIF |
| Asphodelaceae | *Bulbinella triquetra* | B, GBIF | Iridaceae | *Hesperantha marlothii* | B |
| Asphodelaceae | *Gasteria disticha* | GBIF | Iridaceae | *Hesperantha radiata* | GBIF |
| Asphodelaceae | *Gasteria disticha* var. *disticha* | B, GBIF | Iridaceae | *Ixia capillaris* | B |
| Asphodelaceae | *Gasteria disticha var. langebergensis* | GBIF | Iridaceae | *Ixia exiliflora* | B |
| Asphodelaceae | *Gasteria retusa* | B | Iridaceae | *Ixia fucata* | GBIF, ST |
| Asphodelaceae | *Haworthia arachnoidea* | GBIF | Iridaceae | *Ixia latifolia* | B, GBIF |

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| Asphodelaceae | *Haworthia arachnoidea* var. *arachnoidea* | B, GBIF | Iridaceae | *Ixia latifolia var. latifolia* | GBIF |
| Asphodelaceae | *Haworthia herbacea* var. *lupula* | B | Iridaceae | *Ixia mostertii* | B |
| Asphodelaceae | *Haworthia maculata* | B | Iridaceae | *Ixia nutans* | B |
| Asphodelaceae | *Haworthia maraisii* | GBIF | Iridaceae | *Ixia oxalidiflora* | B, GBIF, ST |
| Asphodelaceae | *Haworthia maraisii var. maraisii* | GBIF | Iridaceae | *Ixia paucifolia* | B, GBIF |
| Asphodelaceae | *Haworthia mucronata* | GBIF | Iridaceae | *Ixia polystachya* | B |
| Asphodelaceae | *Haworthia pulchella* var. *pulchella* | B, GBIF | Iridaceae | *Ixia simulans* | GBIF |
| Asphodelaceae | *Haworthia reticulata* var. *reticulata* | B | Iridaceae | *Ixia stenophylla* | GBIF |
| Asphodelaceae | *Haworthia venosa* | B | Iridaceae | *Ixia stolonifera* | B, GBIF |
| Asphodelaceae | *Kniphofia sarmentosa* | B, GBIF | Iridaceae | *Ixia vanzijliae* | B |
| Asphodelaceae | *Kniphofia uvaria* | B, GBIF | Iridaceae | *Lapeirousia plicata* | GBIF |
| Asphodelaceae | *Trachyandra flexifolia* | B | Iridaceae | *Lapeirousia pyramidalis* | GBIF |
| Asphodelaceae | *Trachyandra revoluta* | B | Iridaceae | *Lapeirousia pyramidalis subsp. pyramidalis* | GBIF |
| Asphodelaceae | *Tulista pumila* | GBIF | Iridaceae | *Melasphaerula graminea* | B, GBIF |
| Aspleniaceae | *Asplenium aethiopicum* | GBIF | Iridaceae | *Moraea angusta* | B |
| Asteraceae | *Achyranthemum paniculatum* | B, GBIF | Iridaceae | *Moraea ciliata* | B, GBIF |
| Asteraceae | *Anderbergia elsiae* | ST | Iridaceae | *Moraea cookii* | GBIF |
| Asteraceae | *Arctotheca calendula* | GBIF | Iridaceae | *Moraea crispa* | GBIF |
| Asteraceae | *Arctotheca prostrata* | GBIF | Iridaceae | *Moraea cuspidata* | B |

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| Asteraceae | *Arctotis arctotoides* | B | Iridaceae | *Moraea falcifolia* | GBIF |
| Asteraceae | *Arctotis candida* | B | Iridaceae | *Moraea fugacissima* | GBIF |
| Asteraceae | *Arctotis dregei* | GBIF | Iridaceae | *Moraea fugax* | GBIF |
| Asteraceae | *Arctotis revoluta* | B | Iridaceae | *Moraea gawleri* | B, GBIF |
| Asteraceae | *Arctotis subacaulis* | GBIF | Iridaceae | *Moraea inconspicua* | GBIF |
| Asteraceae | *Artemisia afra* | GBIF | Iridaceae | *Moraea inconspicua subsp. inconspicua* | GBIF |
| Asteraceae | *Artemisia afra* var. *afra* | B | Iridaceae | *Moraea karroica* | B, GBIF |
| Asteraceae | *Athanasia flexuosa* | B | Iridaceae | *Moraea lewisiae* | GBIF |
| Asteraceae | *Athanasia hirsuta* | B, GBIF, ST | Iridaceae | *Moraea macronyx* | B, GBIF |
| Asteraceae | *Athanasia linifolia* | B | Iridaceae | *Moraea miniata* | GBIF |
| Asteraceae | *Athanasia trifurcata* | GBIF | Iridaceae | *Moraea polyanthos* | B |
| Asteraceae | *Berkheya armata* | GBIF | Iridaceae | *Moraea setifolia* | GBIF |
| Asteraceae | *Berkheya barbata* | GBIF | Iridaceae | *Moraea thomasiae* | B, GBIF |
| Asteraceae | *Berkheya carlinifolia* | GBIF | Iridaceae | *Moraea tricuspidata* | GBIF |
| Asteraceae | *Berkheya heterophylla* | GBIF | Iridaceae | *Moraea tripetala* | B, GBIF |
| Asteraceae | *Berkheya heterophylla* var. *radiata* | B, GBIF | Iridaceae | *Moraea tripetala subsp. tripetala* | GBIF |
| Asteraceae | *Berkheya onobromoides* | GBIF | Iridaceae | *Moraea tripetala* subsp. *violacea* | B, GBIF |
| Asteraceae | *Berkheya onobromoides var. carlinoides* | GBIF | Iridaceae | *Moraea unguiculata* | GBIF |
| Asteraceae | *Berkheya onobromoides var. onobromoides* | GBIF | Iridaceae | *Moraea virgata* | GBIF |
| Asteraceae | *Berkheya spinosa* | GBIF | Iridaceae | *Romulea atrandra* | GBIF |

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| Asteraceae | *Bolandia pedunculosa* | GBIF | Iridaceae | *Romulea atrandra* var. *atrandra* | B, GBIF |
| Asteraceae | *Brachylaena neriifolia* | B, GBIF | Iridaceae | *Romulea atrandra* var. *esterhuyseniae* | B, GBIF |
| Asteraceae | *Chrysocoma ciliata* | B, GBIF | Iridaceae | *Romulea austinii* | GBIF |
| Asteraceae | *Chrysocoma valida* | B | Iridaceae | *Romulea flava* | GBIF |
| Asteraceae | *Cichorium intybus* | GBIF | Iridaceae | *Romulea hallii* | GBIF |
| Asteraceae | *Cineraria alchemilloides* | B | Iridaceae | *Romulea luteiflora* | B |
| Asteraceae | *Cirsium vulgare* | GBIF | Iridaceae | *Romulea malaniae* | B, ST |
| Asteraceae | *Conyza scabrida* | B | Iridaceae | *Romulea minutiflora* | B, GBIF |
| Asteraceae | *Corymbium villosum* | GBIF | Iridaceae | *Romulea rosea* | GBIF |
| Asteraceae | *Cotula coronopifolia* | GBIF | Iridaceae | *Romulea rosea var. rosea* | GBIF |
| Asteraceae | *Cotula macroglossa* | B, GBIF | Iridaceae | *Romulea setifolia* var. *ceresiana* | B |
| Asteraceae | *Crassothonna alba* | GBIF | Iridaceae | *Romulea setifolia* var. *setifolia* | B |
| Asteraceae | *Crassothonna capensis* | GBIF | Iridaceae | *Romulea sphaerocarpa* | B |
| Asteraceae | *Crassothonna protecta* | GBIF | Iridaceae | *Romulea tetragona* | GBIF |
| Asteraceae | *Cullumia bisulca* | B | Iridaceae | *Romulea tortuosa* | GBIF |
| Asteraceae | *Cullumia patula subsp. patula* | GBIF | Iridaceae | *Romulea tortuosa* subsp. *depauperata* | B |
| Asteraceae | *Cullumia patula subsp. uncinata* | GBIF | Iridaceae | *Romulea tortuosa* subsp. *tortuosa* | B, GBIF |
| Asteraceae | *Cullumia sulcata* | GBIF | Iridaceae | *Romulea vlokii* | GBIF |
| Asteraceae | *Cullumia sulcata* var. *sulcata* | B, GBIF | Iridaceae | *Tritonia pallida* | GBIF |

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| Asteraceae | *Curio acaulis* | GBIF | Iridaceae | *Tritonia pallida* subsp. *pallida* | B |
| Asteraceae | *Curio archeri* | GBIF | Iridaceae | *Tritoniopsis antholyza* | GBIF |
| Asteraceae | *Curio citriformis* | GBIF | Iridaceae | *Tritoniopsis dodii* | GBIF |
| Asteraceae | *Curio radicans* | GBIF | Iridaceae | *Tritoniopsis ramosa* | GBIF |
| Asteraceae | *Curio repens* | GBIF | Iridaceae | *Tritoniopsis ramosa var. ramosa* | GBIF |
| Asteraceae | *Curio talinoides* | GBIF | Iridaceae | *Watsonia aletroides* | B, GBIF |
| Asteraceae | *Curio talinoides var. aizoides* | GBIF | Iridaceae | *Watsonia meriana* | GBIF |
| Asteraceae | *Cymbopappus adenosolen* | GBIF | Iridaceae | *Watsonia zeyheri* | B |
| Asteraceae | *Dicerothamnus adpressus* | GBIF | Iridaceae | *Xenoscapa fistulosa* | B, GBIF |
| Asteraceae | *Dicerothamnus rhinocerotis* | B, GBIF | Juncaceae | *Juncus lomatophyllus* | GBIF |
| Asteraceae | *Dimorphotheca chrysanthemifolia* | B | Juncaceae | *Juncus punctorius* | B |
| Asteraceae | *Dimorphotheca cuneata* | B, GBIF | Juncaginaceae | *Triglochin bulbosa* | GBIF |
| Asteraceae | *Dimorphotheca montana* | B | Lamiaceae | *Coleus barbatus var. grandis* | GBIF |
| Asteraceae | *Dimorphotheca nudicaulis* | GBIF | Lamiaceae | *Lamium amplexicaule* | GBIF |
| Asteraceae | *Dimorphotheca nudicaulis* var. *nudicaulis* | B | Lamiaceae | *Leonotis leonurus* | GBIF |
| Asteraceae | *Dimorphotheca sinuata* | GBIF | Lamiaceae | *Mentha longifolia* | GBIF |
| Asteraceae | *Disparago pilosa* | B | Lamiaceae | *Mentha longifolia subsp. capensis* | GBIF |
| Asteraceae | *Dolichothrix ericoides* | GBIF | Lamiaceae | *Plectranthus ramosior* | B |
| Asteraceae | *Edmondia fasciculata* | B | Lamiaceae | *Pseudodictamnus africanus* | GBIF |

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|---|---|---|---|---|---|
| Asteraceae | *Edmondia pinifolia* | GBIF | Lamiaceae | *Salvia africana* | GBIF |
| Asteraceae | *Edmondia sesamoides* | B, GBIF | Lamiaceae | *Salvia chamelaeagnea* | B, GBIF |
| Asteraceae | *Elytropappus hispidus* | B | Lamiaceae | *Salvia disermas* | GBIF |
| Asteraceae | *Eriocephalus africanus* | GBIF | Lamiaceae | *Stachys aethiopica* | B, GBIF |
| Asteraceae | *Eriocephalus africanus* var. *paniculatus* | B | Lamiaceae | *Stachys sublobata* | B |
| Asteraceae | *Eriocephalus aromaticus* | B, GBIF | Lauraceae | *Cassytha ciliolata* | GBIF |
| Asteraceae | *Eriocephalus ericoides* | GBIF | Lauraceae | *Cryptocarya angustifolia* | B |
| Asteraceae | *Eriocephalus ericoides* subsp. *ericoides* | B, GBIF | Lentibulariaceae | *Utricularia bisquamata* | GBIF |
| Asteraceae | *Eriocephalus microphyllus* var. *carnosus* | ST | Limeaceae | *Limeum aethiopicum* | GBIF |
| Asteraceae | *Eriocephalus punctulatus* | B | Limeaceae | *Limeum capense* | B |
| Asteraceae | *Euryops abrotanifolius* | B, GBIF | Limeaceae | *Limeum telephioides var. telephioides* | GBIF |
| Asteraceae | *Euryops imbricatus* | B, GBIF | Lobeliaceae | *Lobelia setacea* | B |
| Asteraceae | *Euryops lateriflorus* | B | Loranthaceae | *Moquiniella rubra* | GBIF |
| Asteraceae | *Euryops othonnoides* | B | Loranthaceae | *Septulina glauca* | GBIF |
| Asteraceae | *Euryops tagetoides* | B | Lycopodiaceae | *Lycopodium clavatum* | GBIF |
| Asteraceae | *Euryops tenuissimus* | GBIF | Malvaceae | *Abutilon sonneratianum* | GBIF |
| Asteraceae | *Euryops tenuissimus* subsp. *tenuissimus* | B, GBIF | Malvaceae | *Anisodontea dissecta* | GBIF |
| Asteraceae | *Felicia amoena* | GBIF | Malvaceae | *Anisodontea elegans* | B |
| Asteraceae | *Felicia amoena* subsp. *stricta* | B | Malvaceae | *Anisodontea procumbens* | B |

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|---|---|---|---|---|---|
| Asteraceae | *Felicia bellidioides* subsp. *foliata* | B | Malvaceae | *Anisodontea triloba* | B, GBIF |
| Asteraceae | *Felicia denticulata* | B | Malvaceae | *Grewia occidentalis* | GBIF |
| Asteraceae | *Felicia filifolia* | GBIF | Malvaceae | *Hermannia alnifolia* | GBIF |
| Asteraceae | *Felicia filifolia* subsp. *bodkinii* | B | Malvaceae | *Hermannia althaeifolia* | B, GBIF |
| Asteraceae | *Felicia filifolia subsp. filifolia* | GBIF | Malvaceae | *Hermannia angularis* | B, GBIF |
| Asteraceae | *Felicia filifolia* subsp. *schaeferi* | B, GBIF | Malvaceae | *Hermannia confusa* | GBIF |
| Asteraceae | *Felicia filifolia* subsp. *schlechteri* | B | Malvaceae | *Hermannia cuneifolia* var. *cuneifolia* | B |
| Asteraceae | *Felicia hispida* | B | Malvaceae | *Hermannia diversistipula* | GBIF |
| Asteraceae | *Felicia macrorrhiza* | B | Malvaceae | *Hermannia filifolia* | GBIF |
| Asteraceae | *Felicia venusta* | B | Malvaceae | *Hermannia filifolia var. filifolia* | GBIF |
| Asteraceae | *Gazania ×splendens* | GBIF | Malvaceae | *Hermannia holosericea* | GBIF |
| Asteraceae | *Gerbera serrata* | GBIF | Malvaceae | *Hermannia hyssopifolia* | GBIF |
| Asteraceae | *Gnaphalium declinatum* | GBIF | Malvaceae | *Hermannia multiflora* | B |
| Asteraceae | *Gorteria integrifolia* | GBIF | Malvaceae | *Hermannia muricata* | B, GBIF |
| Asteraceae | *Gorteria piloselloides* | GBIF | Malvaceae | *Hermannia odorata* | GBIF |
| Asteraceae | *Helichrysum acrophilum* | B | Malvaceae | *Hermannia pulverata* | B |
| Asteraceae | *Helichrysum asperum* var. *albidulum* | B, GBIF | Malvaceae | *Hermannia salviifolia* | GBIF |
| Asteraceae | *Helichrysum cylindriflorum* | B, GBIF | Malvaceae | *Hibiscus aethiopicus* | GBIF |
| Asteraceae | *Helichrysum excisum* | GBIF | Malvaceae | *Hibiscus pusillus* | B, GBIF |

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|---|---|---|---|---|---|
| Asteraceae | *Helichrysum felinum* | GBIF | Malvaceae | *Hibiscus trionum* | GBIF |
| Asteraceae | *Helichrysum foetidum* | GBIF | Marsileaceae | *Marsilea macrocarpa* | B |
| Asteraceae | *Helichrysum hamulosum* | B, GBIF | Melianthaceae | *Melianthus major* | GBIF |
| Asteraceae | *Helichrysum hebelepis* | B | Menispermaceae | *Cissampelos capensis* | GBIF |
| Asteraceae | *Helichrysum helianthemifolium* | B | Mniaceae | *Pohlia elongata* | B |
| Asteraceae | *Helichrysum indicum* | B | Molluginaceae | *Adenogramma glomerata* | GBIF |
| Asteraceae | *Helichrysum interzonale* | B | Molluginaceae | *Pharnaceum ciliare* | GBIF |
| Asteraceae | *Helichrysum lambertianum* | B | Molluginaceae | *Pharnaceum dichotomum* | GBIF |
| Asteraceae | *Helichrysum lancifolium* | B, GBIF | Molluginaceae | *Psammotropha quadrangularis* | GBIF |
| Asteraceae | *Helichrysum leontonyx* | GBIF | Montiniaceae | *Montinia caryophyllacea* | GBIF |
| Asteraceae | *Helichrysum moeserianum* | B | Moraceae | *Ficus carica* | GBIF |
| Asteraceae | *Helichrysum nudifolium var. nudifolium* | GBIF | Myricaceae | *Morella integra* | GBIF |
| Asteraceae | *Helichrysum pandurifolium* | B | Myricaceae | *Morella quercifolia* | B |
| Asteraceae | *Helichrysum patulum* | B, GBIF | Myricaceae | *Morella serrata* | GBIF |
| Asteraceae | *Helichrysum petiolare* | B | Myrsinaceae | *Rapanea melanophloeos* | B, GBIF |
| Asteraceae | *Helichrysum pulchellum* | B | Myrtaceae | *Eucalyptus camaldulensis* | GBIF |
| Asteraceae | *Helichrysum retortum* | B | Myrtaceae | *Metrosideros angustifolia* | B, GBIF |
| Asteraceae | *Helichrysum rutilans* | B, GBIF | Neuradaceae | *Grielum humifusum* var. *humifusum* | B |
| Asteraceae | *Helichrysum spiralepis* | B | Oleaceae | *Olea europaea* | GBIF |

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|---|---|---|---|---|---|
| Asteraceae | *Helichrysum stoloniferum* | B | Oleaceae | *Olea europaea subsp. cuspidata* | GBIF |
| Asteraceae | *Helichrysum teretifolium* | B | Orchidaceae | *Acrolophia capensis* | B |
| Asteraceae | *Helichrysum tinctum* | B | Orchidaceae | *Bartholina burmanniana* | B, GBIF |
| Asteraceae | *Helichrysum zeyheri* | GBIF | Orchidaceae | *Bartholina etheliae* | GBIF |
| Asteraceae | *Heterolepis aliena* | B, GBIF | Orchidaceae | *Bonatea speciosa* | GBIF |
| Asteraceae | *Hippia frutescens* | GBIF | Orchidaceae | *Ceratandra globosa* | GBIF |
| Asteraceae | *Hymenolepis calva* | B, GBIF | Orchidaceae | *Disa atricapilla* | B |
| Asteraceae | *Hymenolepis crithmifolia* | GBIF | Orchidaceae | *Disa atrorubens* | GBIF |
| Asteraceae | *Hymenolepis dentata* | B | Orchidaceae | *Disa bifida* | VM |
| Asteraceae | *Hymenolepis gnidioides* | B, GBIF | Orchidaceae | *Disa bifida* | GBIF |
| Asteraceae | *Hymenolepis incisa* | B | Orchidaceae | *Disa bracteata* | GBIF |
| Asteraceae | *Hypochaeris radicata* | GBIF | Orchidaceae | *Disa comosa* | GBIF |
| Asteraceae | *Ifloga ambigua* | GBIF | Orchidaceae | *Disa cornuta* | GBIF |
| Asteraceae | *Lactuca serriola* | GBIF | Orchidaceae | *Disa densiflora* | GBIF |
| Asteraceae | *Lasiospermum bipinnatum* | B | Orchidaceae | *Disa graminifolia* | GBIF |
| Asteraceae | *Macledium spinosum* | GBIF | Orchidaceae | *Disa harveyana subsp. harveyana* | GBIF |
| Asteraceae | *Mairia burchellii* | GBIF | Orchidaceae | *Disa inflexa* | GBIF |
| Asteraceae | *Metalasia acuta* | B, GBIF | Orchidaceae | *Disa lineata* | GBIF |
| Asteraceae | *Metalasia brevifolia* | B | Orchidaceae | *Disa obliqua* | B |
| Asteraceae | *Metalasia cephalotes* | B | Orchidaceae | *Disa ovalifolia* | VM |
| Asteraceae | *Metalasia densa* | B, GBIF | Orchidaceae | *Disa ovalifolia* | GBIF |
| Asteraceae | *Metalasia eburnea* | GBIF | Orchidaceae | *Disa salteri* | GBIF |

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|---|---|---|---|---|---|
| Asteraceae | *Metalasia fastigiata* | B | Orchidaceae | *Disa spathulata subsp. spathulata* | GBIF |
| Asteraceae | *Metalasia helmei* | B, GBIF, ST | Orchidaceae | *Disa spathulata* subsp. *tripartita* | VM |
| Asteraceae | *Metalasia muricata* | B | Orchidaceae | *Disa vaginata* | GBIF |
| Asteraceae | *Metalasia phillipsii* subsp. *incurva* | B | Orchidaceae | *Disa venosa* | B |
| Asteraceae | *Monticapra pilosa* | B | Orchidaceae | *Disperis bolusiana* | VM |
| Asteraceae | *Muscosomorphe aretioides* | GBIF | Orchidaceae | *Disperis bolusiana* subsp. *bolusiana* | B, GBIF |
| Asteraceae | *Myrovernix glandulosus* | GBIF | Orchidaceae | *Disperis capensis* | GBIF |
| Asteraceae | *Myrovernix scaber* | B | Orchidaceae | *Disperis capensis var. capensis* | GBIF |
| Asteraceae | *Nidorella ivifolia* | GBIF | Orchidaceae | *Disperis purpurata subsp. purpurata* | GBIF |
| Asteraceae | *Oedera calycina* | GBIF | Orchidaceae | *Disperis villosa* | B, GBIF |
| Asteraceae | *Oedera capensis* | B, GBIF | Orchidaceae | *Holothrix aspera* | GBIF |
| Asteraceae | *Oedera genistifolia* | B, GBIF | Orchidaceae | *Holothrix brevipetala* | B |
| Asteraceae | *Oedera hirta* | B | Orchidaceae | *Holothrix cernua* | GBIF |
| Asteraceae | *Oedera pungens subsp. trinervis* | GBIF | Orchidaceae | *Holothrix exilis* | GBIF |
| Asteraceae | *Oedera resinifera* | B | Orchidaceae | *Holothrix grandiflora* | GBIF |
| Asteraceae | *Oedera sedifolia* | B | Orchidaceae | *Holothrix secunda* | B, GBIF |
| Asteraceae | *Oedera speciosa* | GBIF | Orchidaceae | *Holothrix villosa* | GBIF |
| Asteraceae | *Oedera squarrosa* | B, GBIF | Orchidaceae | *Holothrix villosa var. villosa* | GBIF |
| Asteraceae | *Oedera tricephala* | GBIF | Orchidaceae | *Orthochilus tabularis* | GBIF |

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|---|---|---|---|---|---|
| Asteraceae | *Oldenburgia paradoxa* | GBIF | Orchidaceae | *Pachites bodkinii* | ST |
| Asteraceae | *Oligocarpus calendulaceus* | B | Orchidaceae | *Pterygodium acutifolium* | GBIF |
| Asteraceae | *Oncosiphon pilulifer* | B | Orchidaceae | *Pterygodium catholicum* | B, GBIF |
| Asteraceae | *Osteospermum ilicifolium* | GBIF | Orchidaceae | *Pterygodium inversum* | GBIF |
| Asteraceae | *Osteospermum moniliferum* | GBIF | Orchidaceae | *Pterygodium orobanchoides* | GBIF |
| Asteraceae | *Osteospermum moniliferum subsp. moniliferum* | GBIF | Orchidaceae | *Pterygodium pentherianum* | B |
| Asteraceae | *Osteospermum polygaloides* | GBIF | Orchidaceae | *Pterygodium platypetalum* | VM |
| Asteraceae | *Osteospermum scariosum* | GBIF | Orchidaceae | *Pterygodium platypetalum* | B, GBIF |
| Asteraceae | *Osteospermum sinuatum* | GBIF | Orchidaceae | *Pterygodium schelpei* | B, GBIF |
| Asteraceae | *Othonna arbuscula* | B | Orchidaceae | *Pterygodium volucris* | B, GBIF |
| Asteraceae | *Othonna auriculifolia* | B, GBIF | Orchidaceae | *Satyrium bicorne* | GBIF |
| Asteraceae | *Othonna gymnodiscus* | GBIF | Orchidaceae | *Satyrium erectum* | B, GBIF |
| Asteraceae | *Othonna hederifolia* | GBIF | Orchidaceae | *Satyrium humile* | GBIF |
| Asteraceae | *Othonna lobata* | B | Orchidaceae | *Satyrium pumilum* | GBIF |
| Asteraceae | *Othonna oleracea* | GBIF | Orchidaceae | *Satyrium rupestre* | GBIF |
| Asteraceae | *Othonna parviflora* | B, GBIF | Orchidaceae | *Satyrium* sp. | GBIF |
| Asteraceae | *Othonna perfoliata* | GBIF | Orchidaceae | *Schizodium bifidum* | B |
| Asteraceae | *Othonna protecta* | B | Orobanchaceae | *Harveya bodkinii* | GBIF |
| Asteraceae | *Othonna quinquedentata* | B | Orobanchaceae | *Harveya purpurea* | GBIF |
| Asteraceae | *Othonna ramulosa* | B, GBIF | Orobanchaceae | *Harveya purpurea subsp. purpurea* | GBIF |

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|---|---|---|---|---|---|
| Asteraceae | *Othonna retrofracta* | GBIF | Orobanchaceae | *Hyobanche glabrata* | B, GBIF |
| Asteraceae | *Othonna undulosa* | GBIF | Orobanchaceae | *Hyobanche sanguinea* | B, GBIF |
| Asteraceae | *Pegolettia baccaridifolia* | GBIF | Orobanchaceae | *Phelipanche nana* | GBIF |
| Asteraceae | *Pentatrichia kuntzei* | GBIF | Osmundaceae | *Osmunda regalis* | B |
| Asteraceae | *Pentzia dentata* | GBIF | Osmundaceae | *Todea barbara* | GBIF |
| Asteraceae | *Pentzia elegans* | GBIF | Oxalidaceae | *Oxalis bifida* | GBIF |
| Asteraceae | *Pentzia incana* | GBIF | Oxalidaceae | *Oxalis burkei* | GBIF |
| Asteraceae | *Phymaspermum trifidum* | GBIF | Oxalidaceae | *Oxalis capillacea* | GBIF |
| Asteraceae | *Pteronia aspalatha* | B | Oxalidaceae | *Oxalis caprina* | GBIF |
| Asteraceae | *Pteronia aspera* | GBIF | Oxalidaceae | *Oxalis ciliaris* | B, GBIF |
| Asteraceae | *Pteronia bolusii* | B | Oxalidaceae | *Oxalis commutata* | GBIF |
| Asteraceae | *Pteronia cinerea* | B, GBIF | Oxalidaceae | *Oxalis convexula* | B, GBIF |
| Asteraceae | *Pteronia elongata* | GBIF | Oxalidaceae | *Oxalis depressa* | B, GBIF |
| Asteraceae | *Pteronia fasciculata* | GBIF | Oxalidaceae | *Oxalis dregei* | GBIF |
| Asteraceae | *Pteronia fastigiata* | B | Oxalidaceae | *Oxalis eckloniana* | B, GBIF |
| Asteraceae | *Pteronia flexicaulis* | GBIF | Oxalidaceae | *Oxalis eckloniana* var. *eckloniana* | B |
| Asteraceae | *Pteronia glauca* | B | Oxalidaceae | *Oxalis engleriana* | GBIF |
| Asteraceae | *Pteronia glomerata* | B, GBIF | Oxalidaceae | *Oxalis fergusoniae* | GBIF |
| Asteraceae | *Pteronia hutchinsoniana* | GBIF | Oxalidaceae | *Oxalis fibrosa* | B, GBIF |
| Asteraceae | *Pteronia incana* | GBIF | Oxalidaceae | *Oxalis flava* | GBIF |
| Asteraceae | *Pteronia membranacea* | B | Oxalidaceae | *Oxalis flava* var. *flava* | B, GBIF |
| Asteraceae | *Pteronia oblanceolata* | B | Oxalidaceae | *Oxalis heterophylla* | B, GBIF |

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|---|---|---|---|---|---|
| Asteraceae | *Pteronia paniculata* | B, GBIF | Oxalidaceae | *Oxalis inaequalis* | GBIF |
| Asteraceae | *Pulicaria scabra* | B, GBIF | Oxalidaceae | *Oxalis incarnata* | B |
| Asteraceae | *Relhania calycina* subsp. *apiculata* | B | Oxalidaceae | *Oxalis leptogramma* | GBIF |
| Asteraceae | *Relhania tricephala* | B | Oxalidaceae | *Oxalis lindaviana* | B |
| Asteraceae | *Rhynchopsidium sessiliflorum* | GBIF | Oxalidaceae | *Oxalis melanosticta* | GBIF |
| Asteraceae | *Rosenia humilis* | B | Oxalidaceae | *Oxalis melanosticta var. melanosticta* | GBIF |
| Asteraceae | *Schistostephium umbellatum* | B | Oxalidaceae | *Oxalis multicaulis* | B |
| Asteraceae | *Senecio abbreviatus* | GBIF | Oxalidaceae | *Oxalis obtusa* | B, GBIF |
| Asteraceae | *Senecio agapetes* | B | Oxalidaceae | *Oxalis orbicularis* | GBIF |
| Asteraceae | *Senecio albifolius* | B | Oxalidaceae | *Oxalis pardalis* | B |
| Asteraceae | *Senecio amabilis* | B | Oxalidaceae | *Oxalis pes-caprae* | GBIF |
| Asteraceae | *Senecio bipinnatus* | GBIF | Oxalidaceae | *Oxalis pes-caprae var. sericea* | GBIF |
| Asteraceae | *Senecio chrysocoma* | B | Oxalidaceae | *Oxalis pocockiae* | B, GBIF |
| Asteraceae | *Senecio comptonii* | GBIF | Oxalidaceae | *Oxalis polyphylla* | GBIF |
| Asteraceae | *Senecio cymbalariifolius* | GBIF | Oxalidaceae | *Oxalis polyphylla var. polyphylla* | GBIF |
| Asteraceae | *Senecio incertus* | B | Oxalidaceae | *Oxalis purpurea* | B |
| Asteraceae | *Senecio junceus* | GBIF | Oxalidaceae | *Oxalis* sp. | GBIF |
| Asteraceae | *Senecio lineatus* | GBIF | Oxalidaceae | *Oxalis stellata* | GBIF |
| Asteraceae | *Senecio paarlensis* | B | Oxalidaceae | *Oxalis stenorrhyncha* | B |
| Asteraceae | *Senecio paniculatus* | B, GBIF | Oxalidaceae | *Oxalis truncatula* | B |
| Asteraceae | *Senecio pinifolius* | B, GBIF | Papaveraceae | *Cysticapnos cracca* | GBIF |

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|---|---|---|---|---|---|
| Asteraceae | *Senecio pubigerus* | B | Papaveraceae | *Eschscholzia californica* subsp. *californica* | B |
| Asteraceae | *Senecio purpureus* | GBIF | Papaveraceae | *Fumaria muralis subsp. muralis* | GBIF |
| Asteraceae | *Senecio robertiifolius* | B | Peraceae | *Clutia alaternoides* | GBIF |
| Asteraceae | *Senecio sarcoides* | GBIF | Peraceae | *Clutia alaternoides* var. *alaternoides* | B |
| Asteraceae | *Senecio umbellatus* | B | Peraceae | *Clutia laxa* | GBIF |
| Asteraceae | *Seriphium plumosum* | B, GBIF | Peraceae | *Clutia marginata* | B, GBIF |
| Asteraceae | *Seriphium spirale* | GBIF | Peraceae | *Clutia rubricaulis* | B |
| Asteraceae | *Stoebe aethiopica* | B, GBIF | Peraceae | *Clutia tomentosa* | GBIF |
| Asteraceae | *Stoebe capitata* | GBIF | Phytolaccaceae | *Phytolacca dioica* | GBIF |
| Asteraceae | *Stoebe fusca* | B, GBIF | Pinaceae | *Pinus pinaster* | GBIF |
| Asteraceae | *Stoebe spiralis* | B | Pinaceae | *Pinus radiata* | GBIF |
| Asteraceae | *Syncarpha canescens* | GBIF | Piperaceae | *Peperomia retusa* | GBIF |
| Asteraceae | *Syncarpha canescens* subsp. *canescens* | B | Pittosporaceae | *Pittosporum undulatum* | GBIF |
| Asteraceae | *Syncarpha canescens subsp. tricolor* | GBIF | Plantaginaceae | *Misopates orontium* | B, GBIF |
| Asteraceae | *Syncarpha dregeana* | GBIF | Plantaginaceae | *Misopates orontium subsp. orontium* | GBIF |
| Asteraceae | *Syncarpha dykei* | B | Plantaginaceae | *Plantago cafra* | B |
| Asteraceae | *Syncarpha eximia* | GBIF | Plantaginaceae | *Veronica anagallis-aquatica* | GBIF |
| Asteraceae | *Syncarpha gnaphaloides* | GBIF | Plantaginaceae | *Veronica persica* | GBIF |
| Asteraceae | *Syncarpha loganiana* | B, GBIF | Plumbaginaceae | *Limonium amoenum* | B |

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| Asteraceae | *Syncarpha staehelina* | B, GBIF | Plumbaginaceae | *Limonium sinuatum subsp. sinuatum* | GBIF |
| Asteraceae | *Syncarpha variegata* | GBIF | Poaceae | *Anthoxanthum dregeanum* | B |
| Asteraceae | *Syncarpha vestita* | B | Poaceae | *Aristida congesta* subsp. *congesta* | B |
| Asteraceae | *Tripteris aghillana* | B | Poaceae | *Arundo donax* | GBIF |
| Asteraceae | *Ursinia anethoides* | GBIF | Poaceae | *Briza maxima* | B, GBIF |
| Asteraceae | *Ursinia anthemoides* | GBIF | Poaceae | *Briza minor* | GBIF |
| Asteraceae | *Ursinia anthemoides* subsp. *anthemoides* | B, GBIF | Poaceae | *Bromus diandrus* | B |
| Asteraceae | *Ursinia calenduliflora* | B | Poaceae | *Bromus pectinatus* | B, GBIF |
| Asteraceae | *Ursinia macropoda* | B | Poaceae | *Capeochloa arundinacea* | GBIF |
| Asteraceae | *Ursinia nana* | GBIF | Poaceae | *Cenchrus caudatus* | GBIF |
| Asteraceae | *Ursinia oreogena* | B | Poaceae | *Cenchrus setaceus* | GBIF |
| Asteraceae | *Ursinia pilifera* | B, GBIF | Poaceae | *Chaetobromus involucratus* subsp. *dregeanus* | B |
| Asteraceae | *Zyrphelis microcephala* subsp. *microcephala* | B | Poaceae | *Cymbopogon marginatus* | GBIF |
| Bartramiaceae | *Anacolia breutelii* var. *breutelii* | B | Poaceae | *Cynodon dactylon* | GBIF |
| Bartramiaceae | *Bartramia hampeana* | B, GBIF | Poaceae | *Digitaria eriantha* | B |
| Bartramiaceae | *Breutelia substricta* | B | Poaceae | *Ehrharta calycina* | B, GBIF |
| Blechnaceae | *Blechnaceae* | GBIF | Poaceae | *Ehrharta delicatula* | B |
| Blechnaceae | *Blechnum inflexum* | B | Poaceae | *Ehrharta eburnea* | B |

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|---|---|---|---|---|---|
| Blechnaceae | *Blechnum punctulatum* var. *atherstonei* | B | Poaceae | *Ehrharta erecta* var. *erecta* | B |
| Blechnaceae | *Lomariocycas tabularis* | GBIF | Poaceae | *Ehrharta longiflora* | B |
| Boraginaceae | *Amsinckia menziesii* | GBIF | Poaceae | *Ehrharta melicoides* | B |
| Boraginaceae | *Anchusa capensis* | GBIF | Poaceae | *Ehrharta thunbergii* | B, GBIF |
| Boraginaceae | *Lobostemon echioides* | B, GBIF | Poaceae | *Eragrostis curvula* | B |
| Boraginaceae | *Lobostemon fruticosus* | B, GBIF | Poaceae | *Fingerhuthia africana* | B |
| Boraginaceae | *Lobostemon glaber* | B | Poaceae | *Hordeum capense* | B |
| Boraginaceae | *Lobostemon glaucophyllus* | GBIF | Poaceae | *Hyparrhenia hirta* | B, GBIF |
| Boraginaceae | *Lobostemon laevigatus* | B | Poaceae | *Karroochloa purpurea* | B |
| Boraginaceae | *Lobostemon oederiaefolius* | B | Poaceae | *Koeleria capensis* | B |
| Brassicaceae | *Alyssum minutum* | B, GBIF | Poaceae | *Melica racemosa* | B |
| Brassicaceae | *Brassica rapa* | GBIF | Poaceae | *Melinis repens* | GBIF |
| Brassicaceae | *Heliophila arenosa* | B | Poaceae | *Merxmuellera stricta* | B |
| Brassicaceae | *Heliophila bulbostyla* | B, GBIF | Poaceae | *Paspalum dilatatum* | GBIF |
| Brassicaceae | *Heliophila carnosa* | B, GBIF | Poaceae | *Pentameris acinosa* | B |
| Brassicaceae | *Heliophila cornuta* | GBIF | Poaceae | *Pentameris airoides* subsp. *airoides* | B |
| Brassicaceae | *Heliophila cornuta* var. *squamata* | B, GBIF | Poaceae | *Pentameris densifolia* | B |
| Brassicaceae | *Heliophila crithmifolia* | B, GBIF | Poaceae | *Pentameris eriostoma* | GBIF |
| Brassicaceae | *Heliophila dregeana* | B | Poaceae | *Pentameris horrida* | B |
| Brassicaceae | *Heliophila elata* | ST | Poaceae | *Pentameris pallida* | B |

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|---|---|---|---|---|---|
| Brassicaceae | *Heliophila juncea* | B, GBIF | Poaceae | *Pentameris rigidissima* | B |
| Brassicaceae | *Heliophila linearis var. linearifolia* | GBIF | Poaceae | *Pentaschistis airoides* subsp. *airoides* | B |
| Brassicaceae | *Heliophila meyeri* | GBIF | Poaceae | *Pentaschistis eriostoma* | B |
| Brassicaceae | *Heliophila pectinata* | B, GBIF | Poaceae | *Pentaschistis horrida* | B |
| Brassicaceae | *Heliophila pendula* | B, GBIF | Poaceae | *Pentaschistis pallida* | B |
| Brassicaceae | *Heliophila pinnata* | B, GBIF | Poaceae | *Pentaschistis rigidissima* | B |
| Brassicaceae | *Heliophila scoparia* | GBIF | Poaceae | *Phragmites australis* | GBIF |
| Brassicaceae | *Heliophila scoparia var. aspera* | GBIF | Poaceae | *Phragmites australis subsp. australis* | GBIF |
| Brassicaceae | *Heliophila squamata* | B | Poaceae | *Polypogon monspeliensis* | B |
| Brassicaceae | *Heliophila suavissima* | B | Poaceae | *Stipagrostis zeyheri* subsp. *macropus* | B |
| Brassicaceae | *Heliophila suborbicularis* | B | Poaceae | *Tenaxia stricta* | B, GBIF |
| Brassicaceae | *Heliophila subulata* | GBIF | Poaceae | *Themeda triandra* | GBIF |
| Brassicaceae | *Heliophila subulata subsp. subulata* | GBIF | Poaceae | *Tribolium hispidum* | B, GBIF |
| Brassicaceae | *Heliophila tricuspidata* | GBIF | Poaceae | *Tribolium obliterum* | B |
| Brassicaceae | *Heliophila xylopoda* | GBIF | Poaceae | *Tribolium obtusifolium* | B |
| Brassicaceae | *Lepidium africanum subsp. africanum* | GBIF | Poaceae | *Tribolium purpureum* | B |
| Brassicaceae | *Sisymbrium capense* | GBIF | Poaceae | *Urochloa serrata* | GBIF |
| Bruniaceae | *Audouinia esterhuyseniae* | B | Polygalaceae | *Muraltia alopecuroides* | B |
| Bruniaceae | *Berzelia abrotanoides* | GBIF | Polygalaceae | *Muraltia ericaefolia* | B |

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|---|---|---|---|---|---|
| Bruniaceae | *Brunia noduliflora* | B, GBIF | Polygalaceae | *Muraltia ericifolia* | GBIF |
| Bruniaceae | *Pseudobaeckea africana* | B | Polygalaceae | *Muraltia heisteria* | B, GBIF |
| Bruniaceae | *Staavia capitella* | B | Polygalaceae | *Muraltia macrocarpa* | B |
| Bryaceae | *Bryum canariense* | B | Polygalaceae | *Muraltia muraltioides* | GBIF |
| Cactaceae | *Cylindropuntia imbricata subsp. imbricata* | GBIF | Polygalaceae | *Muraltia parvifolia* | B, GBIF |
| Cactaceae | *Opuntia aurantiaca* | B | Polygalaceae | *Muraltia rhamnoides* | GBIF |
| Cactaceae | *Opuntia ficus-indica* | GBIF | Polygalaceae | *Muraltia spinosa* | B, GBIF |
| Cactaceae | *Trichocereus spachianus* | GBIF | Polygalaceae | *Polygala affinis* | GBIF |
| Campanulaceae | *Cyphia digitata* | GBIF | Polygalaceae | *Polygala bracteolata* | GBIF |
| Campanulaceae | *Cyphia volubilis* | GBIF | Polygalaceae | *Polygala fruticosa* | GBIF |
| Campanulaceae | *Grammatotheca bergiana* | GBIF | Polygalaceae | *Polygala microlopha* | GBIF |
| Campanulaceae | *Lobelia capillifolia* | GBIF | Polygalaceae | *Polygala microlopha var. microlopha* | GBIF |
| Campanulaceae | *Lobelia erinus* | GBIF | Polygalaceae | *Polygala scabra* | B |
| Campanulaceae | *Lobelia linearis* | GBIF | Polygalaceae | *Polygala teretifolia* | B, GBIF |
| Campanulaceae | *Lobelia pinifolia* | GBIF | Polygalaceae | *Polygala umbellata* | B |
| Campanulaceae | *Lobelia tomentosa* | GBIF | Polygalaceae | *Polygala wittebergensis* | B |
| Campanulaceae | *Prismatocarpus diffusus* | B, GBIF | Polygonaceae | *Persicaria decipiens* | GBIF |
| Campanulaceae | *Prismatocarpus pedunculatus* | B, GBIF | Polygonaceae | *Polygonum aviculare* | B |
| Campanulaceae | *Prismatocarpus sessilis* | B | Polygonaceae | *Polygonum plebeium* | GBIF |
| Campanulaceae | *Prismatocarpus sessilis* var. *sessilis* | B | Polygonaceae | *Rumex acetosella* | GBIF |

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| Campanulaceae | *Prismatocarpus tenerrimus* | B | Polygonaceae | *Rumex cordatus* | GBIF |
| Campanulaceae | *Wahlenbergia capensis* | GBIF | Pottiaceae | *Ephemerum namaquense* | B |
| Campanulaceae | *Wahlenbergia cernua* | GBIF | Pottiaceae | *Pseudocrossidium crinitum* | B |
| Campanulaceae | *Wahlenbergia neorigida* | B | Pottiaceae | *Tetrapterum tetragonum* | B |
| Campanulaceae | *Wahlenbergia nodosa* | GBIF | Pottiaceae | *Triquetrella mxinwana* | B, GBIF |
| Campanulaceae | *Wahlenbergia oxyphylla* | GBIF | Primulaceae | *Lysimachia arvensis* | GBIF |
| Capparaceae | *Cadaba aphylla* | B, GBIF | Primulaceae | *Lysimachia loeflingii* | GBIF |
| Caryophyllaceae | *Dianthus bolusii* | GBIF | Primulaceae | *Myrsine africana* | GBIF |
| Caryophyllaceae | *Herniaria pearsonii* | GBIF | Proteaceae | *Aulax pallasia* | B |
| Caryophyllaceae | *Petrorhagia dubia* | GBIF | Proteaceae | *Banksia speciosa* | B |
| Caryophyllaceae | *Petrorhagia prolifera* | GBIF | Proteaceae | *Brabejum stellatifolium* | GBIF |
| Caryophyllaceae | *Pollichia campestris* | GBIF | Proteaceae | *Hakea sericea* | GBIF |
| Caryophyllaceae | *Silene burchellii* | GBIF | Proteaceae | *Leucadendron arcuatum* | B |
| Caryophyllaceae | *Silene burchellii subsp. pilosellifolia* | GBIF | Proteaceae | *Leucadendron barkerae* | B, GBIF |
| Caryophyllaceae | *Silene gallica* | GBIF | Proteaceae | *Leucadendron comosum* | B |
| Caryophyllaceae | *Silene gallica var. quinquevulnera* | GBIF | Proteaceae | *Leucadendron comosum* subsp. *comosum* | B, GBIF |
| Caryophyllaceae | *Silene undulata* | B, GBIF | Proteaceae | *Leucadendron cordatum* | B, GBIF, ST |
| Caryophyllaceae | *Silene undulata subsp. undulata* | GBIF | Proteaceae | *Leucadendron eucalyptifolium* | GBIF |
| Caryophyllaceae | *Spergularia media* | GBIF | Proteaceae | *Leucadendron glaberrimum* subsp. *glaberrimum* | B |
| Caryophyllaceae | *Spergularia rubra* | GBIF | Proteaceae | *Leucadendron pubescens* | B |

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|---|---|---|---|---|---|
| Caryophyllaceae | *Stellaria media* | GBIF | Proteaceae | *Leucadendron rubrum* | B, GBIF |
| Celastraceae | *Gloveria integrifolia* | GBIF | Proteaceae | *Leucadendron salignum* | B, GBIF |
| Celastraceae | *Gymnosporia buxifolia* | GBIF | Proteaceae | *Leucadendron spissifolium* subsp. *spissifolium* | B, GBIF |
| Celastraceae | *Maytenus acuminata* | GBIF | Proteaceae | *Leucadendron teretifolium* | GBIF |
| Celastraceae | *Maytenus acuminata* var. *acuminata* | B, GBIF | Proteaceae | *Leucospermum calligerum* | B, GBIF |
| Celastraceae | *Maytenus oleoides* | B, GBIF | Proteaceae | *Leucospermum catherinae* | B |
| Celastraceae | *Pterocelastrus tricuspidatus* | GBIF | Proteaceae | *Leucospermum cordifolium* | GBIF |
| Colchicaceae | *Colchicum burchellii subsp. burchellii* | GBIF | Proteaceae | *Leucospermum reflexum* | GBIF |
| Colchicaceae | *Colchicum cuspidatum* | B, GBIF | Proteaceae | *Leucospermum spathulatum* | B |
| Colchicaceae | *Ornithoglossum undulatum* | GBIF | Proteaceae | *Leucospermum tottum* | B |
| Colchicaceae | *Wurmbea inusta* | GBIF | Proteaceae | *Mimetes cucullatus* | B, GBIF |
| Colchicaceae | *Wurmbea marginata* | GBIF | Proteaceae | *Paranomus candicans* | B |
| Colchicaceae | *Wurmbea variabilis* | GBIF | Proteaceae | *Protea acaulos* | B |
| Commelinaceae | *Commelina africana* | GBIF | Proteaceae | *Protea acuminata* | B |
| Commelinaceae | *Commelina africana subsp. africana* | GBIF | Proteaceae | *Protea amplexicaulis* | B |
| Convolvulaceae | *Ipomoea albivenia* | B | Proteaceae | *Protea aurea subsp. aurea* | GBIF |
| Crassulaceae | *Adromischus caryophyllaceus* | GBIF | Proteaceae | *Protea canaliculata* | B, GBIF |
| Crassulaceae | *Adromischus filicaulis* | B, GBIF | Proteaceae | *Protea coronata* | GBIF |
| Crassulaceae | *Adromischus filicaulis* subsp. *marlothii* | B, GBIF | Proteaceae | *Protea cynaroides* | GBIF |

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|---|---|---|---|---|---|
| Crassulaceae | *Adromischus leucophyllus* | B | Proteaceae | *Protea effusa* | B |
| Crassulaceae | *Adromischus maculatus* | GBIF | Proteaceae | *Protea eximia* | B, GBIF |
| Crassulaceae | *Adromischus triflorus* | B, GBIF | Proteaceae | *Protea grandiceps* | GBIF |
| Crassulaceae | *Cotyledon cuneata* | GBIF | Proteaceae | *Protea holosericea* | ST |
| Crassulaceae | *Cotyledon orbiculata* | GBIF | Proteaceae | *Protea humiflora* | GBIF |
| Crassulaceae | *Cotyledon orbiculata var. orbiculata* | GBIF | Proteaceae | *Protea laevis* | B, GBIF |
| Crassulaceae | *Cotyledon orbiculata var. spuria* | GBIF | Proteaceae | *Protea lanceolata* | GBIF |
| Crassulaceae | *Cotyledon papillaris* | GBIF | Proteaceae | *Protea laurifolia* | B, GBIF |
| Crassulaceae | *Crassula arborescens* | GBIF | Proteaceae | *Protea lorifolia* | B, GBIF |
| Crassulaceae | *Crassula atropurpurea* | GBIF | Proteaceae | *Protea magnifica* | B, GBIF |
| Crassulaceae | *Crassula atropurpurea var. anomala* | GBIF | Proteaceae | *Protea neriifolia* | B, GBIF |
| Crassulaceae | *Crassula atropurpurea* var. *atropurpurea* | B | Proteaceae | *Protea nitida* | B, GBIF |
| Crassulaceae | *Crassula atropurpurea* var. *purcellii* | B | Proteaceae | *Protea pendula* | B |
| Crassulaceae | *Crassula atropurpurea* var. *watermeyeri* | B | Proteaceae | *Protea punctata* | B, GBIF |
| Crassulaceae | *Crassula barbata* | GBIF | Proteaceae | *Protea repens* | B, GBIF |
| Crassulaceae | *Crassula biplanata* | GBIF | Proteaceae | *Protea revoluta* | B, GBIF |
| Crassulaceae | *Crassula campestris* | GBIF | Proteaceae | *Protea rupicola* | ST |
| Crassulaceae | *Crassula capitella subsp. thyrsiflora* | GBIF | Proteaceae | *Protea scabriuscula* | B |

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| Crassulaceae | *Crassula ciliata* | GBIF | Proteaceae | *Protea scolopendriifolia* | B, GBIF |
| Crassulaceae | *Crassula clavata* | GBIF | Proteaceae | *Protea* sp. | GBIF |
| Crassulaceae | *Crassula columnaris* | GBIF | Proteaceae | *Protea subulifolia* | B |
| Crassulaceae | *Crassula columnaris subsp. columnaris* | GBIF | Proteaceae | *Protea sulphurea* | B, GBIF |
| Crassulaceae | *Crassula cotyledonis* | GBIF | Proteaceae | *Protea welwitschii* | B |
| Crassulaceae | *Crassula decumbens var. decumbens* | GBIF | Proteaceae | *Protea witzenbergiana* | B |
| Crassulaceae | *Crassula deltoidea* | GBIF | Proteaceae | *Serruria acrocarpa* | B |
| Crassulaceae | *Crassula dependens* | B | Proteaceae | *Serruria balanocephala* | GBIF |
| Crassulaceae | *Crassula expansa* | GBIF | Proteaceae | *Serruria decipiens* | B |
| Crassulaceae | *Crassula expansa subsp. expansa* | GBIF | Proteaceae | *Serruria dodii* | B |
| Crassulaceae | *Crassula hemisphaerica* | GBIF | Proteaceae | *Serruria gremialis* | B |
| Crassulaceae | *Crassula lanceolata subsp. lanceolata* | GBIF | Proteaceae | *Sorocephalus lanatus* | B |
| Crassulaceae | *Crassula montana* | GBIF | Proteaceae | *Spatalla incurva* | B |
| Crassulaceae | *Crassula montana subsp. montana* | GBIF | Proteaceae | *Vexatorella latebrosa* | GBIF |
| Crassulaceae | *Crassula multiflora* | GBIF | Proteaceae | *Vexatorella obtusata* | B |
| Crassulaceae | *Crassula multiflora subsp. multiflora* | GBIF | Proteaceae | *Vexatorella obtusata subsp. albomontana* | GBIF |
| Crassulaceae | *Crassula muricata* | GBIF | Proteaceae | *Vexatorella obtusata* subsp. *obtusata* | B, GBIF |
| Crassulaceae | *Crassula muscosa* | GBIF | Pteridaceae | *Adiantum aethiopicum* | B |
| Crassulaceae | *Crassula muscosa* var. *muscosa* | B, GBIF | Pteridaceae | *Cheilanthes capensis* | GBIF |

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| Crassulaceae | *Crassula natans* | GBIF | Pteridaceae | *Cheilanthes contracta* | B, GBIF |
| Crassulaceae | *Crassula natans var. natans* | GBIF | Pteridaceae | *Cheilanthes hastata* | GBIF |
| Crassulaceae | *Crassula nemorosa* | GBIF | Pteridaceae | *Cheilanthes parviloba* | GBIF |
| Crassulaceae | *Crassula nudicaulis* | B, GBIF | Pteridaceae | *Pellaea calomelanos* | GBIF |
| Crassulaceae | *Crassula nudicaulis var. platyphylla* | GBIF | Pteridaceae | *Pellaea pteroides* | GBIF |
| Crassulaceae | *Crassula obtusa* | GBIF | Pylaisiadelphaceae | *Isopterygium tenerum* | B |
| Crassulaceae | *Crassula orbicularis* | GBIF | Ranunculaceae | *Clematis brachiata* | GBIF |
| Crassulaceae | *Crassula pageae* | GBIF | Ranunculaceae | *Knowltonia tenuifolia* | GBIF |
| Crassulaceae | *Crassula pellucida* | GBIF | Ranunculaceae | *Knowltonia vesicatoria subsp. vesicatoria* | GBIF |
| Crassulaceae | *Crassula perforata* | GBIF | Ranunculaceae | *Myosurus minimus* | GBIF |
| Crassulaceae | *Crassula perforata subsp. perforata* | GBIF | Ranunculaceae | *Ranunculus multifidus* | GBIF |
| Crassulaceae | *Crassula pubescens* | GBIF | Restionaceae | *Anthochortus ecklonii* | B |
| Crassulaceae | *Crassula pubescens* subsp. *pubescens* | B | Restionaceae | *Askidiosperma capitatum* | B |
| Crassulaceae | *Crassula pyramidalis* | GBIF | Restionaceae | *Askidiosperma nitidum* | B |
| Crassulaceae | *Crassula rupestris* | GBIF | Restionaceae | *Cannomois aristata* | GBIF |
| Crassulaceae | *Crassula rupestris subsp. rupestris* | GBIF | Restionaceae | *Cannomois congesta* | GBIF |
| Crassulaceae | *Crassula saxifraga* | GBIF | Restionaceae | *Cannomois parviflora* | B, GBIF |
| Crassulaceae | *Crassula sebaeoides* | GBIF | Restionaceae | *Cannomois primosii* | B |
| Crassulaceae | *Crassula simulans* | GBIF | Restionaceae | *Cannomois robusta* | B |

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| Crassulaceae | *Crassula strigosa* | GBIF | Restionaceae | *Cannomois scirpoides* | B |
| Crassulaceae | *Crassula subaphylla* | GBIF | Restionaceae | *Cannomois virgata* | B |
| Crassulaceae | *Crassula subulata* | GBIF | Restionaceae | *Elegia asperiflora* | B |
| Crassulaceae | *Crassula subulata var. hispida* | GBIF | Restionaceae | *Elegia capensis* | B |
| Crassulaceae | *Crassula subulata var. subulata* | GBIF | Restionaceae | *Elegia filacea* | B |
| Crassulaceae | *Crassula tetragona* | GBIF | Restionaceae | *Elegia stokoei* | B |
| Crassulaceae | *Crassula tetragona subsp. lignescens* | GBIF | Restionaceae | *Hydrophilus rattrayi* | B |
| Crassulaceae | *Crassula tetragona subsp. tetragona* | GBIF | Restionaceae | *Hypodiscus laevigatus* | GBIF |
| Crassulaceae | *Crassula thunbergiana subsp. thunbergiana* | GBIF | Restionaceae | *Hypodiscus neesii* | B |
| Crassulaceae | *Crassula tomentosa* | GBIF | Restionaceae | *Hypodiscus striatus* | B |
| Crassulaceae | *Crassula tomentosa var. tomentosa* | GBIF | Restionaceae | *Ischyrolepis sieberi* | B |
| Crassulaceae | *Crassula umbella* | GBIF | Restionaceae | *Restio aridus* | B, ST |
| Crassulaceae | *Crassula umbellata* | GBIF | Restionaceae | *Restio capensis* | GBIF |
| Crassulaceae | *Crassula vaillantii* | GBIF | Restionaceae | *Restio distichus* | B |
| Crassulaceae | *Tylecodon cacalioides* | GBIF | Restionaceae | *Restio distractus* | B |
| Crassulaceae | *Tylecodon paniculatus* | B, GBIF | Restionaceae | *Restio distylis* | B |
| Crassulaceae | *Tylecodon reticulatus* | GBIF | Restionaceae | *Restio laniger* | B |
| Crassulaceae | *Tylecodon reticulatus subsp. reticulatus* | GBIF | Restionaceae | *Restio luxurians* | B, GBIF |
| Crassulaceae | *Tylecodon ventricosus* | GBIF | Restionaceae | *Restio nanus* | GBIF |
| Crassulaceae | *Tylecodon wallichii* | GBIF | Restionaceae | *Restio ocreatus* | B |
| Crassulaceae | *Tylecodon wallichii* subsp. *wallichii* | B, GBIF | Restionaceae | *Restio paniculatus* | B, GBIF |

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| Cucurbitaceae | *Cucumis myriocarpus* | GBIF | Restionaceae | *Restio perplexus* | B |
| Cucurbitaceae | *Kedrostis capensis* | B, GBIF | Restionaceae | *Restio quadratus* | GBIF |
| Cucurbitaceae | *Kedrostis nana var. zeyheri* | GBIF | Restionaceae | *Restio rudolfii* | B |
| Cunoniaceae | *Cunonia capensis* | GBIF | Restionaceae | *Restio sieberi* | GBIF |
| Cupressaceae | *Widdringtonia nodiflora* | GBIF | Restionaceae | *Restio strobilifer* | B |
| Cyatheaceae | *Cyathea capensis* | GBIF | Restionaceae | *Restio triticeus* | GBIF |
| Cyperaceae | *Carex capensis* | GBIF | Restionaceae | *Restio venustulus* | B |
| Cyperaceae | *Cyperus marginatus* | B | Restionaceae | *Restio vimineus* | GBIF |
| Cyperaceae | *Cyperus nitidus* | GBIF | Restionaceae | *Restio virgeus* | GBIF |
| Cyperaceae | *Cyperus polystachyos var. polystachyos* | GBIF | Restionaceae | *Restio wittebergensis* | GBIF |
| Cyperaceae | *Cyperus thunbergii* | GBIF | Restionaceae | *Rhodocoma capensis* | GBIF |
| Cyperaceae | *Eleocharis limosa* | GBIF | Restionaceae | *Rhodocoma fruticosa* | GBIF |
| Cyperaceae | *Ficinia brevifolia* | GBIF | Restionaceae | *Staberoha cernua* | B |
| Cyperaceae | *Ficinia deusta* | GBIF | Restionaceae | *Staberoha distachyos* | B |
| Cyperaceae | *Ficinia esterhuyseniae* | B | Restionaceae | *Thamnochortus acuminatus* | B |
| Cyperaceae | *Ficinia marginata* | GBIF | Restionaceae | *Thamnochortus cinereus* | B |
| Cyperaceae | *Ficinia nigrescens* | GBIF | Restionaceae | *Thamnochortus fruticosus* | GBIF |
| Cyperaceae | *Ficinia nodosa* | GBIF | Restionaceae | *Thamnochortus platypteris* | B |
| Cyperaceae | *Ficinia stolonifera* | B | Restionaceae | *Thamnochortus schlechteri* | B |
| Cyperaceae | *Fuirena hirsuta* | GBIF | Restionaceae | *Willdenowia arescens* | GBIF |
| Cyperaceae | *Isolepis digitata* | GBIF | Restionaceae | *Willdenowia bolusii* | B |

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|---|---|---|---|---|---|
| Cyperaceae | *Isolepis prolifera* | B, GBIF | Rhamnaceae | *Noltea africana* | GBIF |
| Cyperaceae | *Tetraria involucrata* | GBIF | Rhamnaceae | *Phylica ambigua* | B |
| Cyperaceae | *Tetraria ustulata* | GBIF | Rhamnaceae | *Phylica buxifolia* | B |
| Cytinaceae | *Cytinus sanguineus* | B, GBIF | Rhamnaceae | *Phylica comptonii* | ST |
| Dennstaedtiaceae | *Pteridium aquilinum subsp. capense* | GBIF | Rhamnaceae | *Phylica debilis* | B |
| Dipsacaceae | *Scabiosa columbaria* | B, GBIF | Rhamnaceae | *Phylica excelsa* var. *excelsa* | B |
| Ditrichaceae | *Ceratodon purpureus* subsp. *stenocarpus* | B | Rhamnaceae | *Phylica odorata* | B, GBIF |
| Droseraceae | *Drosera acaulis* | B | Rosaceae | *Acaena latebrosa* | B, GBIF |
| Droseraceae | *Drosera aliciae* | GBIF | Rosaceae | *Cliffortia atrata* | B |
| Droseraceae | *Drosera capensis* | B | Rosaceae | *Cliffortia baccans* | B |
| Droseraceae | *Drosera cistiflora* | GBIF | Rosaceae | *Cliffortia crenata* | B, GBIF |
| Droseraceae | *Drosera ramentacea* | GBIF | Rosaceae | *Cliffortia cristata* | B |
| Droseraceae | *Drosera trinervia* | B, GBIF | Rosaceae | *Cliffortia erectisepala* | GBIF |
| Droseraceae | *Drosera zeyheri* | GBIF | Rosaceae | *Cliffortia gracillima* | GBIF |
| Ebenaceae | *Diospyros austroafricana* | GBIF | Rosaceae | *Cliffortia hantamensis* | GBIF |
| Ebenaceae | *Diospyros glabra* | B, GBIF | Rosaceae | *Cliffortia neglecta* | GBIF |
| Ebenaceae | *Euclea polyandra* | GBIF | Rosaceae | *Cliffortia odorata* | GBIF |
| Ebenaceae | *Euclea undulata* | GBIF | Rosaceae | *Cliffortia pulchella* | GBIF |
| Ericaceae | *Erica abietina* subsp. *aurantiaca* | B | Rosaceae | *Cliffortia ruscifolia* | GBIF |
| Ericaceae | *Erica anguliger* | B, GBIF | Rosaceae | *Cliffortia sericea* | GBIF |
| Ericaceae | *Erica arcuata* | B | Rosaceae | *Cliffortia strobilifera* | B, GBIF |

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|---|---|---|---|---|---|
| Ericaceae | *Erica areolata* | B | Rubiaceae | *Anthospermum galioides* | GBIF |
| Ericaceae | *Erica articularis* | GBIF | Rubiaceae | *Anthospermum spathulatum* | GBIF |
| Ericaceae | *Erica benthamiana* | B | Rubiaceae | *Carpacoce scabra* | GBIF |
| Ericaceae | *Erica bergiana* | GBIF | Rubiaceae | *Galium tomentosum* | GBIF |
| Ericaceae | *Erica bruniades* | B | Rubiaceae | *Rubia petiolaris* | GBIF |
| Ericaceae | *Erica caffra* | GBIF | Ruscaceae | *Eriospermum bayeri* | B |
| Ericaceae | *Erica caffra* var. *caffra* | B, GBIF | Rutaceae | *Acmadenia matroosbergensis* | B, GBIF, ST |
| Ericaceae | *Erica calycina* | GBIF | Rutaceae | *Acmadenia sheilae* | GBIF |
| Ericaceae | *Erica calycina* var. *calycina* | B | Rutaceae | *Acmadenia teretifolia* | B |
| Ericaceae | *Erica calycina* var. *longibracteata* | B | Rutaceae | *Adenandra mundiifolia* | GBIF |
| Ericaceae | *Erica cerinthoides* | GBIF | Rutaceae | *Agathosma adenandriflora* | B |
| Ericaceae | *Erica cerinthoides* var. *cerinthoides* | B, GBIF | Rutaceae | *Agathosma barnesiae* | B |
| Ericaceae | *Erica cetrata* | B | Rutaceae | *Agathosma capensis* | B |
| Ericaceae | *Erica coacervata* | B | Rutaceae | *Agathosma cerefolium* | B |
| Ericaceae | *Erica coccinea* | B, GBIF | Rutaceae | *Agathosma crassifolia* | B, GBIF |
| Ericaceae | *Erica coccinea subsp. coccinea* | GBIF | Rutaceae | *Agathosma divaricata* | B |
| Ericaceae | *Erica conspicua* subsp. *conspicua* | B | Rutaceae | *Agathosma foetidissima* | GBIF |
| Ericaceae | *Erica conspicua* subsp. *roseoflora* | B | Rutaceae | *Agathosma marlothii* | B |
| Ericaceae | *Erica constantia* | ST | Rutaceae | *Agathosma ovata* | B |
| Ericaceae | *Erica corifolia* var. *corifolia* | B | Rutaceae | *Agathosma pentachotoma* | B |

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|---|---|---|---|---|---|
| Ericaceae | *Erica cristiflora* var. *cristiflora* | B | Rutaceae | *Agathosma squamosa* | B |
| Ericaceae | *Erica curviflora* | B, GBIF | Rutaceae | *Agathosma subteretifolia* | B |
| Ericaceae | *Erica daphniflora* var. *daphniflora* | B | Rutaceae | *Diosma acmaeophylla* | B |
| Ericaceae | *Erica daphniflora* var. *muscari* | B | Rutaceae | *Diosma pedicellata* | B |
| Ericaceae | *Erica discolor* | GBIF | Rutaceae | *Diosma strumosa* | B |
| Ericaceae | *Erica dodii* | B | Rutaceae | *Euchaetis elsieae* | B, GBIF |
| Ericaceae | *Erica erasmia* | B | Rutaceae | *Macrostylis tenuis* | B |
| Ericaceae | *Erica eremioides* subsp. *eremioides* | B | Salicaceae | *Populus ×canescens* | GBIF |
| Ericaceae | *Erica glandulipila* | B, ST | Salicaceae | *Salix mucronata* | GBIF |
| Ericaceae | *Erica glauca* var. *glauca* | B | Santalaceae | *Colpoon compressum* | GBIF |
| Ericaceae | *Erica gnaphaloides* | B | Santalaceae | *Thesidium podocarpum* | B |
| Ericaceae | *Erica grandiflora* | GBIF | Santalaceae | *Thesium carinatum* | B |
| Ericaceae | *Erica grandiflora subsp. grandiflora* | GBIF | Santalaceae | *Thesium juncifolium* | B |
| Ericaceae | *Erica grata* | GBIF | Sapindaceae | *Dodonaea viscosa* | GBIF |
| Ericaceae | *Erica haemastoma* | B | Sapindaceae | *Dodonaea viscosa subsp. angustifolia* | GBIF |
| Ericaceae | *Erica haematosiphon* | B | Sapotaceae | *Sideroxylon inerme subsp. inerme* | GBIF |
| Ericaceae | *Erica hispiduloides* | B | Schizaeaceae | *Schizaea pectinata* | B, GBIF |
| Ericaceae | *Erica junonia var. junonia* | B | Scrophulariaceae | *Aptosimum indivisum* | GBIF |
| Ericaceae | *Erica junonia* var. *minor* | B | Scrophulariaceae | *Buddleja saligna* | GBIF |
| Ericaceae | *Erica lateralis* | B, GBIF | Scrophulariaceae | *Chaenostoma caeruleum* | B, GBIF |

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|---|---|---|---|---|---|
| Ericaceae | *Erica leptopus* | B | Scrophulariaceae | *Chaenostoma decipiens* | B |
| Ericaceae | *Erica leptopus* var. *leptopus* | B, GBIF | Scrophulariaceae | *Chaenostoma glabratum* | B |
| Ericaceae | *Erica leucanthera* | B, GBIF | Scrophulariaceae | *Chaenostoma macrosiphon* | B |
| Ericaceae | *Erica leucodesmia* | B, GBIF | Scrophulariaceae | *Chaenostoma uncinatum* | B |
| Ericaceae | *Erica leucopelta* | GBIF | Scrophulariaceae | *Chenopodiopsis hirta* | B |
| Ericaceae | *Erica leucopelta* var. *leucopelta* | B | Scrophulariaceae | *Cromidon varicalyx* | B |
| Ericaceae | *Erica maderi* | B | Scrophulariaceae | *Diascia hexensis* | B |
| Ericaceae | *Erica maesta* var. *maesta* | B | Scrophulariaceae | *Diascia humilis* | B |
| Ericaceae | *Erica mammosa* | B, GBIF | Scrophulariaceae | *Diascia maculata* | B |
| Ericaceae | *Erica maximiliani* | B | Scrophulariaceae | *Diascia parviflora* | B, GBIF |
| Ericaceae | *Erica mira* | B | Scrophulariaceae | *Diascia sacculata* | B |
| Ericaceae | *Erica monsoniana* | GBIF | Scrophulariaceae | *Freylinia lanceolata* | B, GBIF |
| Ericaceae | *Erica monsoniana* var. *monsoniana* | B, GBIF | Scrophulariaceae | *Freylinia undulata* | B |
| Ericaceae | *Erica nubigena* | B | Scrophulariaceae | *Hemimeris centrodes* | GBIF |
| Ericaceae | *Erica nudiflora* | GBIF | Scrophulariaceae | *Hemimeris racemosa* | B |
| Ericaceae | *Erica orculiflora* | B, GBIF | Scrophulariaceae | *Jamesbrittenia atropurpurea* | GBIF |
| Ericaceae | *Erica oresigena* | B | Scrophulariaceae | *Lyperia antirrhinoides* | B, GBIF |
| Ericaceae | *Erica palliiflora* | B | Scrophulariaceae | *Lyperia formosa* | B, GBIF |
| Ericaceae | *Erica parilis* | GBIF | Scrophulariaceae | *Lyperia tristis* | GBIF |
| Ericaceae | *Erica parilis* var. *parilis* | B, GBIF | Scrophulariaceae | *Manulea cheiranthus* | GBIF |
| Ericaceae | *Erica parilis* var. *parviflora* | B, GBIF | Scrophulariaceae | *Manulea minor* | B |

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|---|---|---|---|---|---|
| Ericaceae | *Erica penicilliformis* | GBIF | Scrophulariaceae | *Microdon dubius* | B, GBIF |
| Ericaceae | *Erica peziza* | GBIF | Scrophulariaceae | *Microdon parviflorus* | GBIF |
| Ericaceae | *Erica plukenetii* | B, GBIF | Scrophulariaceae | *Microdon polygaloides* | B |
| Ericaceae | *Erica plukenetii* subsp. *plukenetii* | B, GBIF | Scrophulariaceae | *Nemesia barbata* | GBIF |
| Ericaceae | *Erica polycoma* | B | Scrophulariaceae | *Nemesia diffusa* var. *diffusa* | B |
| Ericaceae | *Erica pubescens* | GBIF | Scrophulariaceae | *Nemesia leipoldtii* | B |
| Ericaceae | *Erica quadrangularis* | B | Scrophulariaceae | *Nemesia pageae* | B, GBIF |
| Ericaceae | *Erica racemosa* var. *racemosa* | B | Scrophulariaceae | *Oftia africana* | GBIF |
| Ericaceae | *Erica rigidula* | B | Scrophulariaceae | *Phyllopodium elegans* | GBIF |
| Ericaceae | *Erica setacea* | GBIF | Scrophulariaceae | *Polycarena aurea* | B |
| Ericaceae | *Erica setulosa* | B, ST | Scrophulariaceae | *Polycarena rariflora* | B |
| Ericaceae | *Erica sphaerocephala* | B | Scrophulariaceae | *Selago albida* | B |
| Ericaceae | *Erica steinbergiana* var. *steinbergiana* | B | Scrophulariaceae | *Selago corymbosa* | GBIF |
| Ericaceae | *Erica tegetiformis* | B, GBIF | Scrophulariaceae | *Selago dolosa* | GBIF |
| Ericaceae | *Erica tenuifolia* | B | Scrophulariaceae | *Selago eckloniana* | B, GBIF |
| Ericaceae | *Erica tenuis* | B | Scrophulariaceae | *Selago geniculata* | B |
| Ericaceae | *Erica terniflora* | B | Scrophulariaceae | *Selago gloiodes* | B |
| Ericaceae | *Erica totta* | B, GBIF | Scrophulariaceae | *Selago glutinosa* | B, GBIF |
| Ericaceae | *Erica transparens* | B | Scrophulariaceae | *Selago gracilis* | B |
| Ericaceae | *Erica tumida* var. *minor* | B | Scrophulariaceae | *Selago hispida* | GBIF |
| Ericaceae | *Erica tumida* var. *tumida* | B | Scrophulariaceae | *Selago triquetra* | B |

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|---|---|---|---|---|---|
| Ericaceae | *Erica verecunda* | B | Scrophulariaceae | *Sutera foetida* | GBIF |
| Ericaceae | *Erica vestita* | GBIF | Scrophulariaceae | *Sutera glabrata* | B |
| Ericaceae | *Erica viscaria* | B | Scrophulariaceae | *Teedia lucida* | B, GBIF |
| Euphorbiaceae | *Euphorbia clandestina* | GBIF | Scrophulariaceae | *Zaluzianskya capensis* | GBIF |
| Euphorbiaceae | *Euphorbia eustacei* | B | Scrophulariaceae | *Zaluzianskya ovata* | B |
| Euphorbiaceae | *Euphorbia genistoides* | B, GBIF | Solanaceae | *Datura stramonium* | GBIF |
| Euphorbiaceae | *Euphorbia hamata* | B | Solanaceae | *Solanum guineense* | GBIF |
| Euphorbiaceae | *Euphorbia heptagona* | GBIF | Solanaceae | *Solanum linnaeanum* | GBIF |
| Euphorbiaceae | *Euphorbia mauritanica* | GBIF | Solanaceae | *Solanum mauritianum* | GBIF |
| Euphorbiaceae | *Euphorbia nesemannii* | GBIF | Solanaceae | *Solanum nigrum* | GBIF |
| Euphorbiaceae | *Euphorbia rhombifolia* | GBIF | Solanaceae | *Solanum retroflexum* | GBIF |
| Euphorbiaceae | *Euphorbia silenifolia* | GBIF | Solanaceae | *Solanum tomentosum* | GBIF |
| Euphorbiaceae | *Euphorbia stolonifera* | GBIF | Stilbaceae | *Halleria elliptica* | GBIF |
| Euphorbiaceae | *Euphorbia tenax* | GBIF | Stilbaceae | *Halleria lucida* | GBIF |
| Euphorbiaceae | *Euphorbia tuberosa* | B, GBIF | Stilbaceae | *Halleria ovata* | B |
| Euphorbiaceae | *Ricinus communis* | GBIF | Stilbaceae | *Ixianthes retzioides* | B |
| Fabaceae | *Acacia mearnsii* | GBIF | Targioniaceae | *Targionia hypophylla* | B |
| Fabaceae | *Acacia saligna* | GBIF | Tecophilaeaceae | *Cyanella hyacinthoides* | GBIF |
| Fabaceae | *Amphithalea ciliaris* | B | Tecophilaeaceae | *Cyanella lutea* | GBIF |
| Fabaceae | *Amphithalea dahlgrenii* | ST | Tecophilaeaceae | *Cyanella lutea subsp. lutea* | GBIF |
| Fabaceae | *Amphithalea muraltioides* | B | Thesiaceae | *Lacomucinaea lineata* | GBIF |
| Fabaceae | *Amphithalea pageae* | GBIF, ST | Thesiaceae | *Thesium funale* | GBIF |

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|---|---|---|---|---|---|
| Fabaceae | *Amphithalea spinosa* | B, GBIF, ST | Thesiaceae | *Thesium strictum* | GBIF |
| Fabaceae | *Amphithalea villosa* | B, GBIF | Thurniaceae | *Prionium serratum* | GBIF |
| Fabaceae | *Amphithalea violacea* | GBIF | Thymelaeaceae | *Gnidia anomala* | B |
| Fabaceae | *Argyrolobium argenteum* | GBIF | Thymelaeaceae | *Gnidia clavata* | B |
| Fabaceae | *Aspalathus acuminata* subsp. *acuminata* | B, GBIF | Thymelaeaceae | *Gnidia geminiflora* | B |
| Fabaceae | *Aspalathus aemula* | B | Thymelaeaceae | *Gnidia juniperifolia* | GBIF |
| Fabaceae | *Aspalathus alpestris* | B, GBIF | Thymelaeaceae | *Gnidia laxa* | GBIF |
| Fabaceae | *Aspalathus angustifolia* subsp. *angustifolia* | B | Thymelaeaceae | *Gnidia nitida* | B |
| Fabaceae | *Aspalathus angustifolia* subsp. *robusta* | B | Thymelaeaceae | *Gnidia oppositifolia* | B, GBIF |
| Fabaceae | *Aspalathus arida* subsp. *arida* | B | Thymelaeaceae | *Lachnaea eriocephala* | B |
| Fabaceae | *Aspalathus bracteata* | B | Thymelaeaceae | *Lachnaea oliverorum* | B, GBIF |
| Fabaceae | *Aspalathus candicans* | GBIF | Thymelaeaceae | *Passerina comosa* | B |
| Fabaceae | *Aspalathus cliffortioides* | B | Thymelaeaceae | *Passerina filiformis* subsp. *filiformis* | B |
| Fabaceae | *Aspalathus corrudifolia* | B | Thymelaeaceae | *Passerina obtusifolia* | GBIF |
| Fabaceae | *Aspalathus costulata* | B | Thymelaeaceae | *Passerina truncata* subsp. *truncata* | B |
| Fabaceae | *Aspalathus cymbiformis* | B | Thymelaeaceae | *Struthiola ciliata* | GBIF |
| Fabaceae | *Aspalathus divaricata* subsp. *divaricata* | B | Thymelaeaceae | *Struthiola eckloniana* | GBIF |
| Fabaceae | *Aspalathus filicaulis* | B | Thymelaeaceae | *Struthiola leptantha* | B |

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|---|---|---|---|---|---|
| Fabaceae | *Aspalathus grandiflora* | B | Urticaceae | *Urtica lobulata* | B |
| Fabaceae | *Aspalathus hirta* subsp. *hirta* | B, GBIF | Viscaceae | *Viscum capense* | GBIF |
| Fabaceae | *Aspalathus hispida* | GBIF | Viscaceae | *Viscum rotundifolium* | GBIF |
| Fabaceae | *Aspalathus intricata* subsp. *oxyclada* | ST | Vitaceae | *Cyphostemma sandersonii* | B |
| Fabaceae | *Aspalathus nigra* | B, GBIF | Withheld | Sensitive Species 1209 | ST |
| Fabaceae | *Aspalathus nudiflora* | B | Withheld | Sensitive Species 142 | ST |
| Fabaceae | *Aspalathus pachyloba* subsp. *pachyloba* | B, GBIF | Withheld | Sensitive Species 207 | B, ST |
| Fabaceae | *Aspalathus pedicellata* | GBIF | Withheld | Sensitive Species 654 | ST |
| Fabaceae | *Aspalathus perfoliata* subsp. *phillipsii* | B | Withheld | Sensitive Species 692 | ST |
| Fabaceae | *Aspalathus perforata* | B, GBIF | Withheld | Sensitive Species 871 | B, ST |
| Fabaceae | *Aspalathus pigmentosa* | B | Withheld | Senstive Species 521 | GBIF, ST |
| Fabaceae | *Aspalathus rigidifolia* | GBIF | Zygophyllaceae | *Roepera flexuosa* | B |
| Fabaceae | *Aspalathus rostrata* | B, GBIF, ST | Zygophyllaceae | *Roepera foetida* | GBIF |
| Fabaceae | *Aspalathus rugosa* | B | Zygophyllaceae | *Roepera fulva* | B, GBIF |
| Fabaceae | *Aspalathus shawii* | B, GBIF | Zygophyllaceae | *Roepera pygmaea* | B |
| Fabaceae | *Aspalathus shawii subsp. glabripetala* | GBIF | Zygophyllaceae | *Tribulus terrestris* | GBIF |
| Fabaceae | *Aspalathus shawii* subsp. *longispica* | GBIF, ST | | | |

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