



March 2023



THREATENED OR PROTECTED SPECIES COUNT

The development of the 150MW Springbok
Photovoltaic Solar Facility and Associated
Infrastructure, near Welkom/Virginia, Free State
Province

Project title: **Threatened or Protected Species Count** - The development of the 150MW Springbok Photovoltaic Solar Facility and Associated Infrastructure, near Welkom/Virginia, Free State Province.

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Report date: March 2023



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LIST OF ACRONYMS

| | |
|---------|---|
| AGL | Above Ground Level |
| DEA | Department of Environmental Affairs |
| DFFE | Department of Forestry Fisheries and the Environment |
| EIA | Environmental Impact Assessment |
| GIS | Geographic Information System |
| kV | Kilo Volt |
| LC | Least Concern |
| MW | Megawatt |
| NEMBA | National Environmental Management: Biodiversity Act |
| NERSA | National Energy Regulator of South Africa |
| NC | Northern Cape |
| POSA | Plants of Southern Africa |
| QDS | quarter degree square |
| REIPPPP | Renewable Energy Independent Power Producer Procurement Programme |
| SANBI | South African Biodiversity Institute |
| SPA | Special Protected Area |
| ToPS | Threatened or Protected Species |
| TOR | Terms of Reference |

1. INTRODUCTION

1.1. Project Background

Springbok Solar Power Plant (RF) (Pty) Ltd appointed Donaway Environmental to conduct a Threatened or Protected Species (ToPS) count on the 350ha area set out for the construction of the 150MW Springbok Photovoltaic Solar Energy Facility on the farm Weltevrede No. 638, Registration Division Theunissen, situated within the Matjhabeng Local Municipality in the Free State Province (**Figure 1: Locality Map**). The data of the TOPS count will form part of a permit application to remove, destroy or relocate any threatened or protected species found on site. Springbok Solar Power Plant (RF) (Pty) Ltd wishes to obtain the threatened or protected species removal permits from the Free State Department of Economic, Small Business Development, Tourism & Environmental Affairs. A field survey was conducted on the 14th of March 2023.

The Environmental Authorisation for the project was issued on the 25th of April 2022 with **DFFE Reference 14/12/16/3/3/2/2087**.

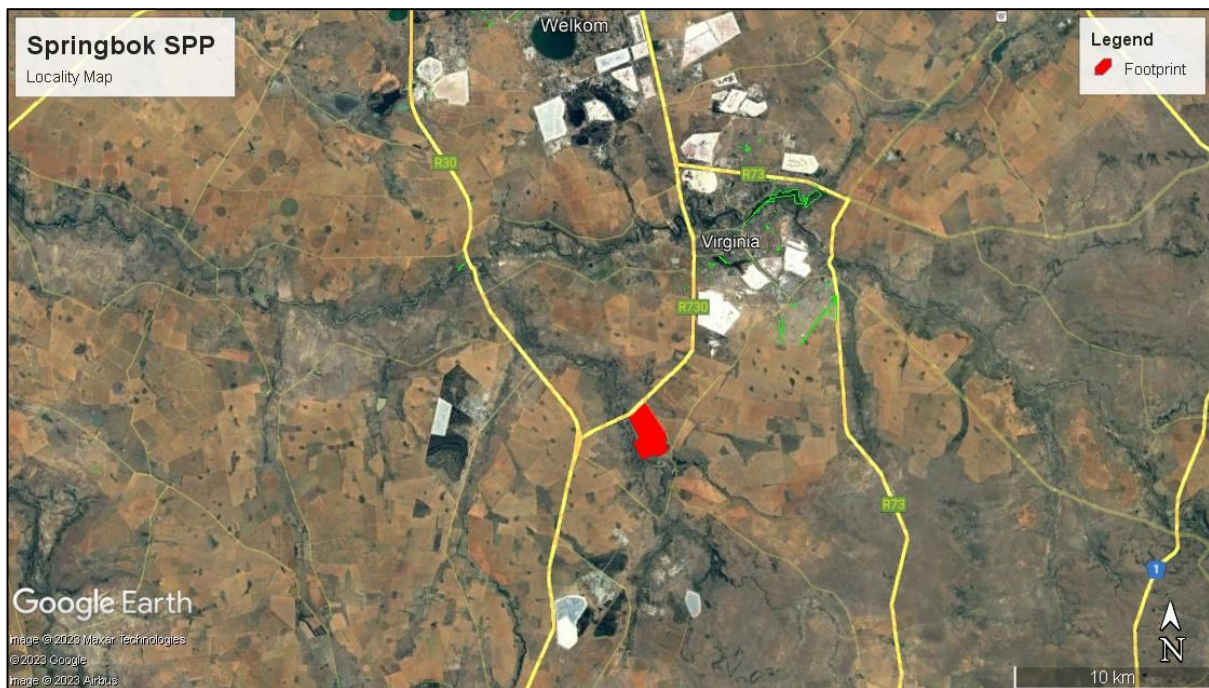


Figure 1: Locality Map

The photos below give a visual representation of the site:



Figure 2: Centre of site taken towards the north: AGL 100m



Figure 3: Centre of site taken towards the north-east: AGL 100m



Figure 4: Centre of site taken towards the east: AGL 100m



Figure 5: Centre of site taken towards the south-east: AGL 100m



Figure 6: Centre of site taken towards the south: AGL 100m



Figure 7: Centre of site taken towards the south-west: AGL 100m



Figure 8: Centre of site taken towards the west: AGL 100m



Figure 9: Centre of site taken towards the north-west: AGL 100m

1.2. Purpose and Objectives

The purpose and objectives of this report is to:

- Provide a detailed habitat survey of possible threatened or protected plant species.
- Take count of any threatened or protected plant species on site.

The scope of the assessment includes the proposed development area and its associated structures and infrastructure.

1.3. Project Team and Experience

The project team will consist of Johan Botha.

Johan Botha graduated with an Honours degree in 2010 from the North West University in the field of Environmental Sciences specialising in Geography and Environmental Management. He also has a bachelor's degree in Education Sciences. He has been involved in various power infrastructure projects throughout South Africa including expansions and construction of substations and power lines. He has also been involved in various projects regarding solar power plants and diamond mines where he conducted 100+ Visual and Social Impact Assessments and Threatened and Protected Specie counts. He has acquired the necessary skills to compile a threatened and protected species count report.

2. METHODOLOGY

Prior to visiting the site, the terrestrial biodiversity, plant and animal impact assessment done by AGES compiled for the project area in June 2021, was studied. In the study a list of threatened or protected species that could potentially occur at the site was listed. Any species of conservation concern was indicated in the list and was researched before the site visit in order to know what species of conservation concern should have been looked out for. Extra caution was taken, and the survey included the possibility of other ToPS.

A transect, covering the entire site of 350 hectare, was drawn on Google Maps, exported to a GPX file and imported into a Garmin Dakota 20 GPS handheld device. The GPS device was mounted onto the handles of a Yamaha TW200 motorcycle and the transect could be clearly followed while driving. Refer to **Figure 2** below.

Each ToPS was recorded onto the GPS device and downloaded onto a laptop PC from where the GPX data were opened in Microsoft Excel for coordinate purposes and converted to a KMZ file for use in Google Earth.

In the case of the Springbok SPP, some of the ToPS were too small and abundant to record accurately from the motorcycle. It was then recorded by walking approximate 10m x 10m grids and using the GPS to record the number of individuals.

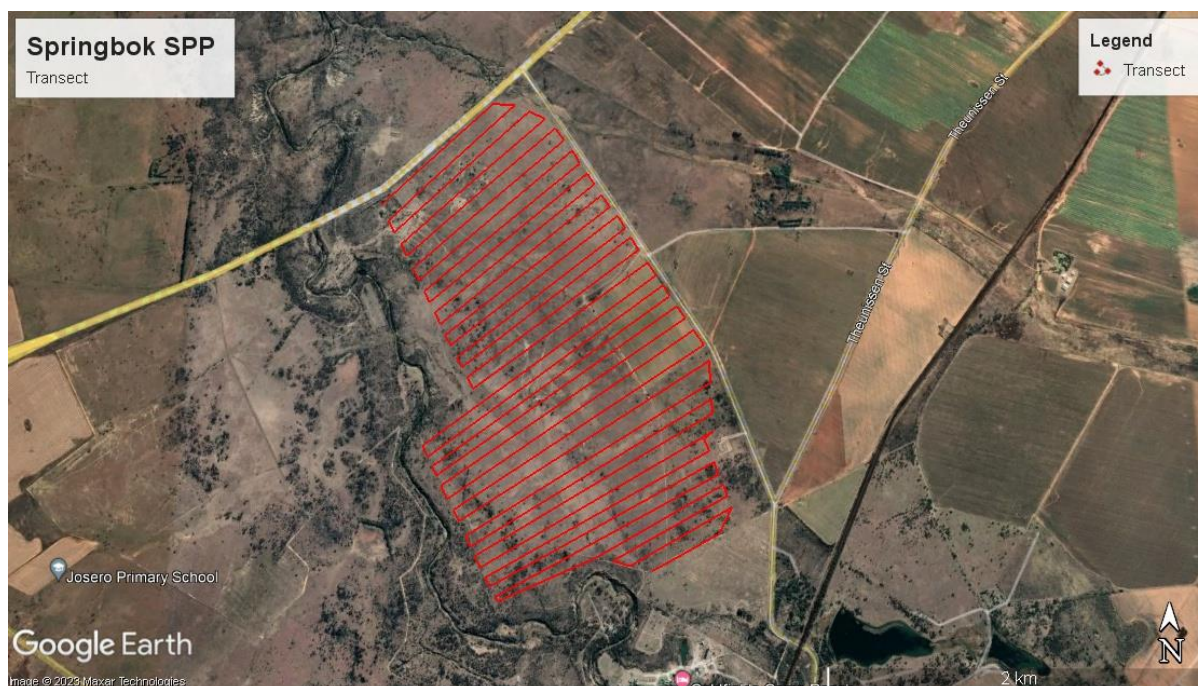


Figure 10: Transect.

2.1. Assumptions and Limitations

- It is assumed that plant species flowering only during specific times of the year could be confused with a very similar species of the same genus.
- Some plant species that emerge and bloom during another time of the year or under very specific circumstances may have been missed entirely.
- Some of the species found are very small and the possibility also exist that some could have been missed during the survey.

3. RESULTS

The terrestrial biodiversity, plant and animal impact assessment done by AGES identified four ToPS on site of which three were found during the walkthrough. The three species found occur in abundance throughout the site and large parts of the Free State Province at this time of year. The species found could not be recorded individually but rather as an estimate due to the large number of individuals for each species. The number were then extrapolated to cover the entire site. The species are protected according to the Free State Nature Conservation Ordinance 8 of 1969, but nationally classified as “Least Concern”. The results are reflected in the **Table 1** below:

Table 1: ToPS found during the walkthrough

| SPECIES NAME | FAMILY | NATIONAL THREAT STATUS | FREE STATE PROVINCE STATUS | COORDINATES | |
|--------------------------------|---------------|------------------------|----------------------------|-------------|-----------|
| | | | | Lat / Lon | |
| <i>Euphorbia inaequilatera</i> | Euphorbiaceae | LC | Protected | -28.185618 | 26.80898 |
| | | | | -28.185617 | 26.808985 |
| | | | | -28.185607 | 26.809 |
| | | | | -28.1856 | 26.80901 |
| | | | | -28.185594 | 26.809028 |
| | | | | | |

| | | | | | |
|---|------------|----|-----------|------------|-----------|
| | | | | -28.185612 | 26.809071 |
| | | | | -28.185626 | 26.809082 |
| | | | | -28.185635 | 26.809089 |
| | | | | -28.185682 | 26.809113 |
| | | | | -28.185686 | 26.809104 |
| | | | | -28.185696 | 26.809088 |
| | | | | -28.185711 | 26.809057 |
| | | | | -28.185712 | 26.809055 |
| | | | | -28.1857 | 26.809032 |
| | | | | -28.185668 | 26.808996 |
| | | | | -28.18561 | 26.809027 |
| | | | | -28.185607 | 26.809033 |
| | | | | -28.185614 | 26.809044 |
| | | | | -28.185621 | 26.809035 |
| | | | | -28.185629 | 26.80902 |
| | | | | -28.185614 | 26.809055 |
| | | | | -28.185607 | 26.809071 |
| | | | | -28.185669 | 26.80904 |
| | | | | -28.185661 | 26.80905 |
| | | | | -28.18566 | 26.80905 |
| | | | | -28.185666 | 26.809065 |
| | | | | -28.185687 | 26.809057 |
| | | | | -28.18568 | 26.809054 |
| | | | | -28.185675 | 26.809067 |
| | | | | -28.185671 | 26.809078 |
| | | | | -28.185669 | 26.809091 |
| | | | | -28.185684 | 26.809077 |
| | | | | -28.185695 | 26.809093 |
| | | | | -28.185688 | 26.809088 |
| | | | | -28.185703 | 26.80908 |
| | | | | -28.185711 | 26.809066 |
| Total 10m x 10m: 36 | | | | | |
| Total extrapolated for the entire site (350ha): 1 260 000 | | | | | |
| <i>Helichrysum aureonitens</i> | Asteraceae | LC | Protected | -28.194807 | 26.8102 |
| | | | | -28.194812 | 26.810214 |
| | | | | -28.194815 | 26.810215 |
| | | | | -28.194835 | 26.810213 |
| | | | | -28.194838 | 26.81021 |
| | | | | -28.194844 | 26.810231 |
| | | | | -28.194851 | 26.810239 |
| | | | | -28.194877 | 26.810245 |
| | | | | -28.194903 | 26.810272 |
| | | | | -28.194908 | 26.810277 |
| | | | | -28.194903 | 26.810285 |

| | | | | | |
|---|------------|----|-----------|------------|-----------|
| | | | | -28.194903 | 26.810296 |
| | | | | -28.194918 | 26.81028 |
| | | | | -28.194925 | 26.810268 |
| | | | | -28.194925 | 26.810258 |
| | | | | -28.194931 | 26.810252 |
| | | | | -28.194938 | 26.810251 |
| | | | | -28.194941 | 26.810252 |
| | | | | -28.194896 | 26.810171 |
| | | | | -28.194895 | 26.810166 |
| | | | | -28.194885 | 26.810134 |
| | | | | -28.194885 | 26.810124 |
| | | | | -28.194884 | 26.810125 |
| | | | | -28.194888 | 26.81013 |
| | | | | -28.194876 | 26.810114 |
| | | | | -28.194878 | 26.810111 |
| | | | | -28.194893 | 26.810107 |
| | | | | -28.194902 | 26.810095 |
| | | | | -28.194915 | 26.810095 |
| | | | | -28.19492 | 26.810093 |
| | | | | -28.194957 | 26.810132 |
| | | | | -28.194967 | 26.810137 |
| | | | | -28.194995 | 26.810168 |
| | | | | -28.194998 | 26.810182 |
| | | | | -28.194995 | 26.810191 |
| | | | | -28.194981 | 26.810196 |
| Total 10m x 10m: 36 | | | | | |
| Total extrapolated for the entire site (350ha): 1 260 000 | | | | | |
| <i>Helichrysum</i> | Asteraceae | LC | Protected | -28.189047 | 26.807625 |
| <i>rugulosum</i> | | | | -28.189038 | 26.807625 |
| | | | | -28.189032 | 26.807628 |
| | | | | -28.188954 | 26.807703 |
| | | | | -28.188954 | 26.807704 |
| | | | | -28.188953 | 26.807706 |
| | | | | -28.188951 | 26.807708 |
| | | | | -28.18895 | 26.807711 |
| | | | | -28.188946 | 26.80771 |
| | | | | -28.188943 | 26.807711 |
| | | | | -28.188948 | 26.807718 |
| | | | | -28.188947 | 26.807722 |
| | | | | -28.188944 | 26.807725 |
| | | | | -28.188937 | 26.807703 |
| | | | | -28.188935 | 26.807695 |
| | | | | -28.188934 | 26.807601 |
| | | | | -28.188931 | 26.807599 |

| | | | | | |
|---|--|--|--|------------|-----------|
| | | | | -28.188958 | 26.807611 |
| | | | | -28.18896 | 26.807614 |
| | | | | -28.188965 | 26.807611 |
| | | | | -28.188967 | 26.807613 |
| | | | | -28.188981 | 26.807617 |
| | | | | -28.188982 | 26.807617 |
| | | | | -28.188989 | 26.807617 |
| | | | | -28.188993 | 26.807616 |
| | | | | -28.18899 | 26.80763 |
| | | | | -28.188988 | 26.807641 |
| | | | | -28.188991 | 26.807644 |
| Total 10m x 10m: 28 | | | | | |
| Total extrapolated for the entire site (350ha): 980 000 | | | | | |

4. CONCLUSION

The three ToPS found occur in abundance throughout the site and large parts of the Free State Province at this time of year. They are classified as protected according to the Free State Nature Conservation Ordinance 8 of 1969. The species found could not be recorded individually but rather as an estimate due to the large number of individuals for each species. No protected species were found listed in the National Forest Act No. 84 of 1998.

It is recommended that the project proponent apply for a general clearing permit.

5. REFERENCES

AGES. 2021. Terrestrial biodiversity impact assessment (including plant and animal species assessment) for the proposed Springbok Solar Power Plant on the farm Weltevrede 638, near Virginia, Free State Province. 87p.

Free State Nature Conservation Ordinance 8 of 1969

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