



November 2022



THREATENED OR PROTECTED SPECIES COUNT

The Construction of the Beta Photovoltaic Solar Energy
Facility near Hertzogville, Free State Province

Project title: **Threatened or Protected Specie Count - The Construction of the Beta Photovoltaic Solar Energy Facility near Hertzogville, Free State Province**

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EXECUTIVE SUMMARY

Beta Solar Power Plant (RF) (Pty) Ltd appointed Donaway Environmental to conduct a Threatened or Protected Species count on the 115ha area set out for the construction of the Beta Photovoltaic Solar Energy Facility on the farm Talana No. 1241 near Hertzogville, Free State Province. 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. Beta 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 10th of November 2022.

The Environmental Authorisation for the project was issued on the 12th of June 2015 with **DEA Reference 14/12/16/3/3/2/674** and the last amendment on 24 May 2018.

RESULTS

Two ToPS were found (11 individuals) on the transect during the November 2022 survey done by Donaway Environmental. The species are protected according to the Free State Nature Conservation Ordinance 8 of 1969.

Table A: ToPS found during the November survey.

SPECIES NAME	FAMILY	NATIONAL THREAT STATUS	FREE STATE PROVINCE STATUS	COORDINATES	
				Lat	Lon
<i>Ammocharis corranica</i>	Amaryllidaceae	LC	Protected	-28.172876	25.674942
				-28.174191 (Cluster of 8)	25.675833
				-28.172449	25.677862
<i>Olea europaea subsp. africana</i>	Oleaceae	LC	Protected	-28.171695	25.689122
Total: 11					

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LIST OF ACRONYMS

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

Beta Solar Power Plant (RF) (Pty) Ltd appointed Donaway Environmental to conduct a Threatened or Protected Species (ToPS) count on the 115ha area set out for the construction of the Beta Photovoltaic Solar Energy Facility on the farm Talana No. 1241 near Hertzogville, 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. Beta 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 10th of November 2022.

The Environmental Authorisation for the project was issued on the 12th of June 2015 with **DEA Reference 14/12/16/3/3/2/674** and the last amendment on 24 May 2018.

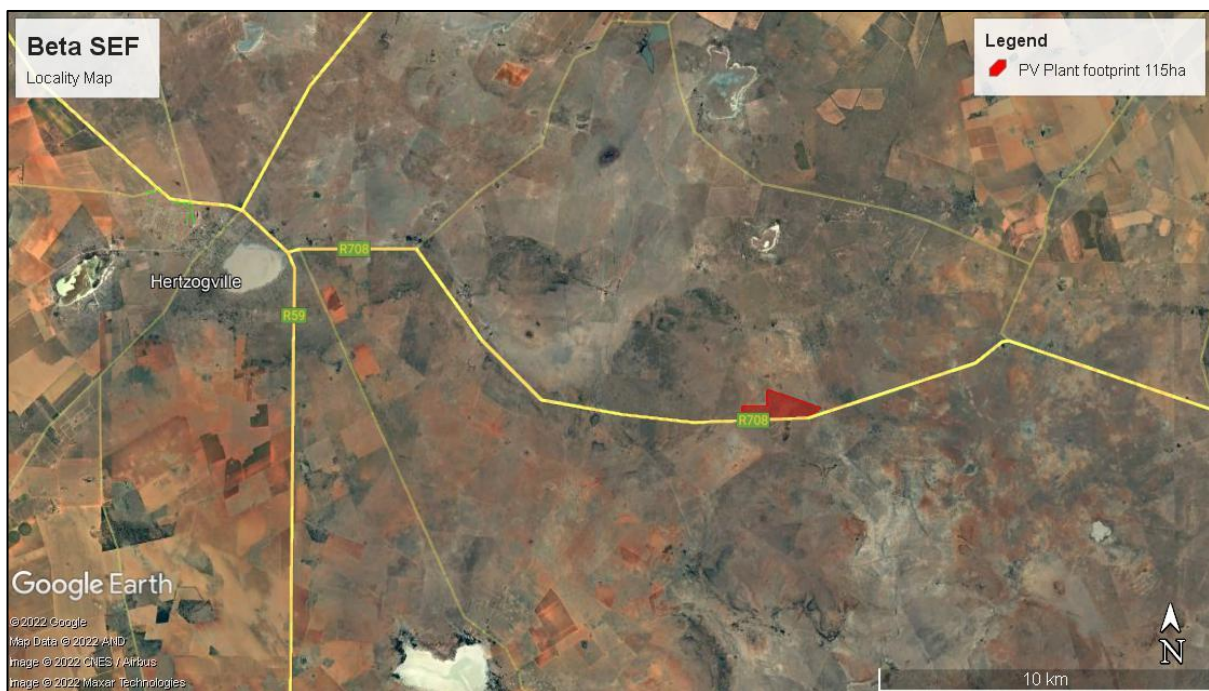


Figure 1: Locality Map

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 40+ Visual and Social Impact Assessments and Threatened and Protected Species counts. He has acquired the necessary skills to compile a threatened and protected species count report.

2. METHODOLOGY

Prior to visiting the site, the ecological fauna and flora habitat survey done by Renier F. Terblanche compiled for the project area in September 2014, was studied. In the study a list of threatened or protected species that could potentially occur at the site was included from "Red list of South African plants 2009" by *Raimondo et al.* 2009. The list often includes many species that may not be found at the proposed site. However, 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 115 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.



Figure 2: 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 ecological fauna and flora habitat survey done by Renier F. Terblanche compiled for the project area in September 2014 did not find any ToPS on site, however, two ToPS were found (11 individuals) on the transect during the November 2022 survey done by Donaway Environmental. The species are protected according to the Free State Nature Conservation Ordinance 8 of 1969. The results are reflected in the **Table 2** and **Figure 3** below:

Table 1: ToPS found during the November survey.

SPECIES NAME	FAMILY	NATIONAL THREAT STATUS	FREE STATE PROVINCE STATUS	COORDINATES	
				Lat	Lon
<i>Ammocharis corranica</i>	Amaryllidaceae	LC	Protected	-28.172876	25.674942
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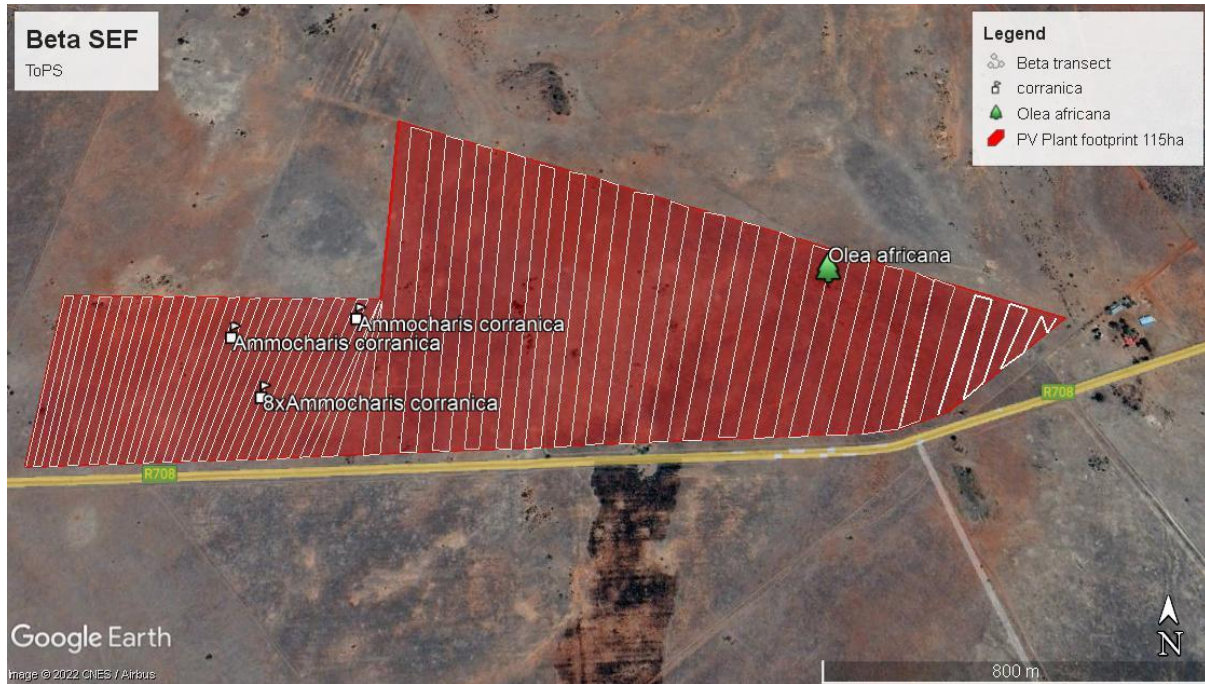


Figure 3: ToPS wyapoints.



Figure 4: *Olea europaea subsp. africana*.



Figure 5: *Ammocharis corranica*

There could be various reasons why the 2014 study did not result in ToPS species found on site. The study is however eight years old. The following reasons may apply, but are not limited to:

- Different time of year.
- Establishment of new plants.
- Grazing patterns by cattle managed by the landowner.
- Weather patterns.

4. REFERENCES

Free State Nature Conservation Ordinance 8 of 1969

SANBI.org

TERBLANCHE, R.F. 2014. Ecological Habitat Survey: Proposed Beta Photovoltaic Solar Energy Facility near Hertzogville, Free State Province.