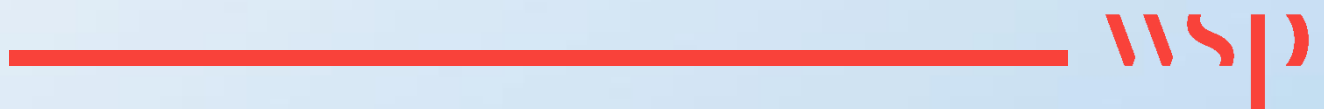


# Appendix F

## **SITE SENSITIVITY VERIFICATION REPORT**





# **SITE SENSITIVITY VERIFICATION REPORT – GROOTHOEK WIND ENERGY FACILITY LOCATED NEAR VERKYKERSKOP IN THE FREE STATE PROVINCE**

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## **1. INTRODUCTION**

Mulilo Renewable Project Developments (Pty) Ltd (Mulilo) are proposing the development of the Verkykerskop Wind Energy Facility (WEF) Cluster in the Free State Province.

The Verkykerskop WEF Cluster is divided into 3 projects that require a Scoping and Environmental Impact Reporting (S&EIR) process:

- Groothoek WEF;
- Kromhof WEF; and
- Normandien WEF.

The Groothoek WEF (The Project) forms the focus of this application. The Project will be developed to allow for an up to 300 MW for export from the facility. The Project footprint (buildable area) is approximately 150 hectares (ha) (subject to finalisation based on technical and environmental requirements), and the extent of the project area (i.e. area of applicable farm portions) is approximately 6 170 ha. The development footprint includes the wind turbines, and all associated infrastructures.

This Site Sensitivity Verification Report forms part of the Application for Environmental Authorisation in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA).

## **2. PURPOSE OF THE REPORT**

WSP Group Africa (Pty) Ltd (WSP) has been appointed by Mulilo as the independent Environmental Assessment Practitioner (EAP) to undertake the required S&EIR process.

The DFFE has developed the National Web-based Environmental Screening Tool in order to flag areas of potential environmental sensitivity related to a site as well as a development footprint and produces the screening report required in terms of regulation 16 (1)(v) of the EIA Regulations (2014, as amended). The Notice of the requirement to submit a report generated by the national web-based environmental screening tool in terms of section 24(5)(h) of the NEMA, 1998 (Act No 107 of 1998) and regulation 16(1)(b)(v) of the EIA regulations, 2014, as amended (GN 960 of July 2019) states that the submission of a report generated from the national web-based environmental screening tool, as contemplated in Regulation 16(1)(b)(v) of the EIA Regulations, 2014, published under Government Notice No. R982 in Government Gazette No. 38282 of 4 December 2014, as amended, is compulsory when submitting an application for environmental authorisation in terms of regulation 19 and regulation 21 of the EIA Regulations, 2014 as of 04 October 2019.

The Screening Report generated by the National Web-based Environmental Screening Tool contains a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development footprint as well as the most environmentally sensitive features on the footprint based on the footprint sensitivity screening results for the application classification that was selected.

A screening report for the proposed Groothoek WEF was generated on 30 September 2024 and is attached as **Appendix E** of the Draft Scoping Report. The Screening Report for the project identified various sensitivities for the site. The report also generated a list of specialist assessments that should form part of the legalisation process based on the development type and the environmental sensitivity of the site. Assessment Protocols in the report provide minimum information to be included in a specialist report to facilitate decision-making.

The Screening Report recognises that “it is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the footprint situation.” This report therefore addresses the findings of the Screening Report and provides a motivation for the proposed specialist studies identified to be conducted.

It also discusses whether the specialist studies forming part of this project are required to comply with the Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes in terms of Section 24(5) (a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation (“the Protocols”) (Government Notice No. 320 as published in Government Gazette No. 43110 on 20 March 2020 (GNR 320).

### 3. METHODOLOGY

In line with GNR 320, the site sensitivity verification requirements have been achieved as per **Table 1** below.

**Table 1: Site Sensitivity Verification and Minimum Report Content Requirements**

Requirement	Reference
1.1. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist.	This Site Sensitivity Verification was undertaken by Ashlea Strong, a registered Environmental Assessment Practitioner (EAP). Details of the EAP are provided in <b>Table 1-4</b> of the Draft Scoping Report. The CV of the EAP and The EAP declaration of interest and undertaking is included in <b>Appendix A.1</b> and <b>Appendix A.2</b> of the Scoping Report.
1.2. The site sensitivity verification must be undertaken through the use of: (a) a desk top analysis, using satellite imagery; (b) a preliminary on-site inspection; and (c) any other available and relevant information.	The Site Sensitivity Verification was undertaken through the use of the following: <ul style="list-style-type: none"> <li>• Available satellite imagery</li> <li>• Site inspections were undertaken by the specialists during the following period:</li> <li>• Supporting information supplied by specialists</li> </ul>
1.3. The outcome of the site sensitivity verification must be recorded in the form of a report that-- (a) confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;	A summary of the environmental sensitivities identified by the DFFE Screening Tool and the confirmed sensitivity is provided in <b>Table 3</b> . Motivation for the confirmed sensitivity rating is provided in <b>Section 4.4</b> .
(b) contains a motivation and evidence (e.g. photographs) of either the verified or different	Motivation for the confirmed sensitivity rating is provided in <b>Section 4.4</b> .

Requirement	Reference
use of the land and environmental sensitivity; and	
(c) is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations <sup>1</sup> (EIA Regulations).	This Site Sensitivity Verification Report is being submitted as <b>Appendix F</b> of the Draft Scoping Report. This information is also included in <b>Section 7</b> of the Draft Scoping Report.

## 4. FINDINGS

### 4.1 PROJECT AND SITE OVERVIEW

The proposed Groothoek WEF is located near the town of Verkykerskop in Ward 5 of the Phumelela Local Municipality (PLM) and in the Thabo Mofutsanyana District Municipality (TMDM) in the Free State Province (Figure 1-1).

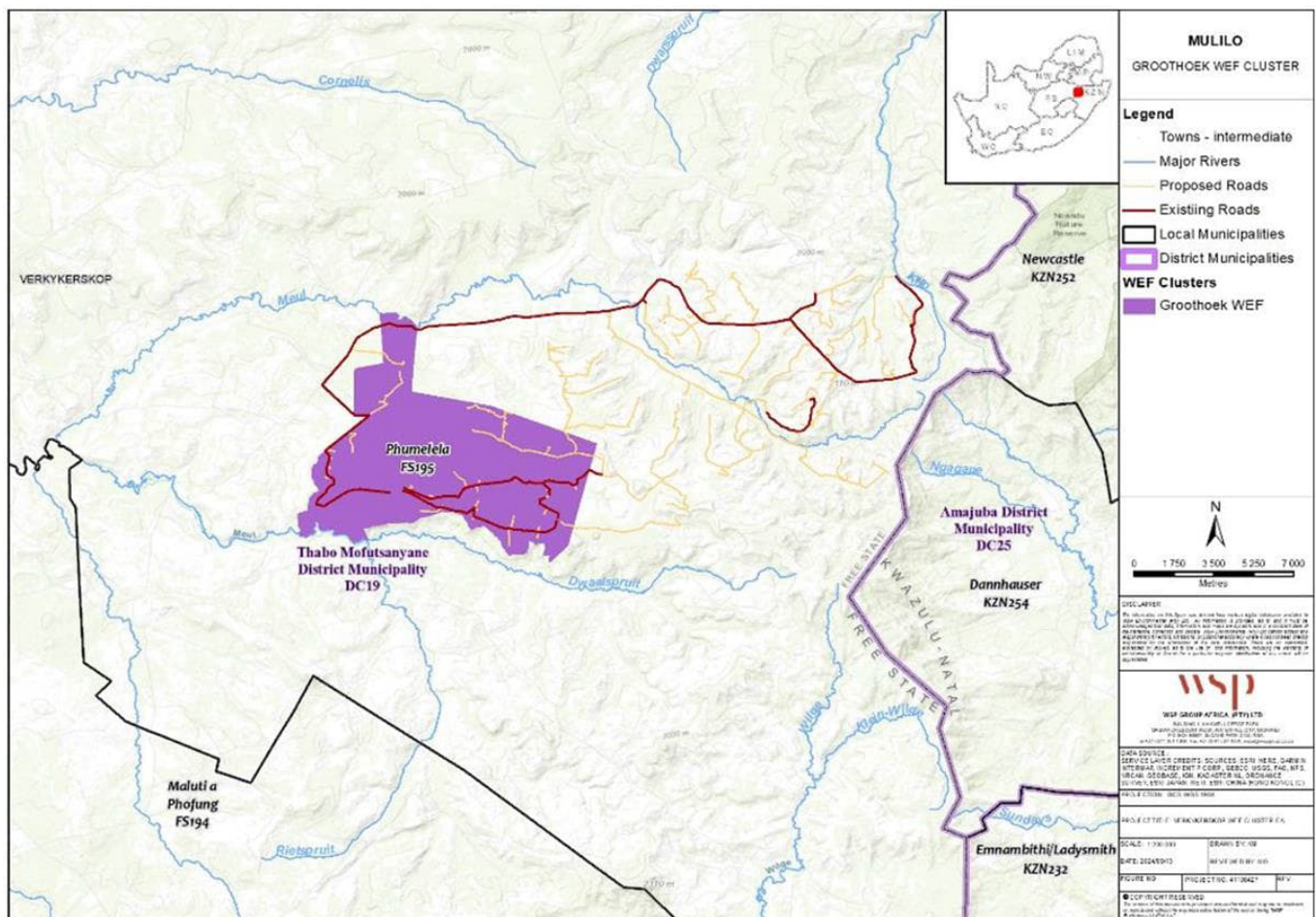


Figure 1: Regional locality map of Groothoek WEF

### 4.2 ENVIRONMENTAL SENSITIVITY

As per the Screening Tool Report (Appendix E of the Draft Scoping Report), the proposed site is indicated to be located within areas ranging from low to very high sensitivity. These are identified in

Table 2.

**Table 2: Sensitivities identified in the DFFE Screening Report**

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity
Agricultural Theme		X		
Animal Species Theme		X		
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Avian (Wind) Theme				X
Bats (Wind) Theme		X		
Civil Aviation (Wind) Theme				X
Defence (Wind) Theme				X
Flicker Theme				X
Landscape (Wind) Theme	X			
Palaeontology Theme	X			
Noise Theme				X
Plant Species Theme			X	
RFI (Wind) Theme				X
Terrestrial Biodiversity Theme	X			
Vulture Species Theme		X		

Based on information gathered through a desktop study and site assessment, not all of the identified sensitivities apply to the site in its current state. **Section 4.3** below serves to:

- Verify land use and sensitivities identified in the Screening Tool Report (as indicated above);
- Provide motivation and evidence of either the verified or different use of the land and environmental sensitivity; and
- Confirm /refute the need for the various specialist inputs recommended in terms of the Screening Tool Report.

### 4.3 SPECIALIST ASSESSMENTS

The specialist studies required for the proposed Project, as identified by the DFFE Screening Tool are included in

Table 3. The table also identifies the specialist studies commissioned and provides motivation for specialist studies not commissioned.

**Table 3: Specialist Studies identified by the DFFE Screening Tool**

Specialist Study Identified	Specialist Study Commissioned	Specialist and Report Reference	Motivation
Agricultural Impact Assessment	Yes	Johann Lanz	N/A
Landscape/Visual Impact Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Archaeological and Cultural Heritage Impact Assessment	Yes	Beyond heritage	N/A
Palaeontology Impact Assessment	Yes	Beyond heritage	N/A
Terrestrial Biodiversity Impact Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Aquatic Biodiversity Impact Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Bats Impact Assessment	Yes	Inkululeko Wildlife Services	N/A
Avian Impact Assessment	Yes	Andrew Husted	N/A
Civil Aviation Assessment	No	N/A	According to the DFFE Screening Tool Report, civil aviation is regarded as having low sensitivity. No major or other types of civil aviation aerodromes will be impacted by the proposed development. Therefore, a compliance statement is not required as per the protocol specifications. Nevertheless, the relevant Authorities have been included on the project stakeholder database. As of the 1st of May 2021, Air Traffic and Navigation Services (ATNS) has been appointed as the new Obstacle application Service Provider for Windfarms and later Solar Plants. Their responsibility would pertain to the assessments, maintenance, and all other related matters in respect to Windfarms and in due time Power Plant assessments. An Application for the Approval of Obstacles has been



Specialist Study Identified	Specialist Study Commissioned	Specialist and Report Reference	Motivation
			submitted to ATNS. The South African Civil Aviation Authority (SACAA) has been included on the project stakeholder database. They have been informed of the proposed Project, and comments have been sought from these authorities as applicable (Refer to <b>Appendix C</b> of the Draft Scoping Report for the proof). An application for the Approval of Obstacles has been submitted to ATNS/CAA and the required permits will be obtained prior to the development of the project.
Defence Assessment	No	N/A	According to the DFFE Screening Tool Report, Defence is regarded as having low sensitivity. Therefore, a compliance statement is not required as per the protocol specifications. The Department of Defence have been included on the project stakeholder database. They have been informed of the proposed Project, and comments have been sought from these authorities as applicable (Refer to <b>Appendix C</b> of the Draft Scoping Report for the proof).
RFI Assessment	No	N/A	Due to the low sensitivity identified by the Screening tool, a compliance statement is not required. A RFI Study will not be undertaken. However, the Square Kilometre Array (SKA), South African Radio Astronomy Observatory (SARAO), South African Weather Service (SAWS) and relevant telecommunications stakeholders will be engaged with as part of the Public Participation Process. (Refer to <b>Appendix C</b> of the Draft Scoping Report for the proof).
Noise Impact Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Traffic Impact Assessment	Yes	iWink Consulting (Pty) Ltd	N/A
Geotechnical Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Socio-Economic Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A

Specialist Study Identified	Specialist Study Commissioned	Specialist and Report Reference	Motivation
Plant Species Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A
Animal Species Assessment	Yes	WSP Group Africa (Pty) Ltd	N/A

Specialist assessments were conducted in accordance with the Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes, which were promulgated in Government Notice No. 320 of 20 March 2020 and in Government Notice No. 1150 of 30 October 2020 (i.e. “the Protocols”), or Appendix 6 of the EIA Regulations, depending on which legislation apply to the assessment under consideration. A summary of the DFFE screening tool, the applicable legislation as well as the specialist sensitivity verification are detailed in **Table 4** below. The motivation for the site sensitivity verification for each environmental theme is discussed in **Section 4.4** below.

**Table 4: Assessment Protocols and Site Sensitivity Verifications**

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
Agricultural Impact Assessment	Protocol for the specialist assessment and minimum report content requirements of environmental impacts on agricultural resources by onshore wind and/or solar photovoltaic energy generation facilities where the electricity output is 20 megawatts or more gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) of 4 NEMA, 1998).	High Sensitivity	<p>An Agricultural Agro-Ecosystem Specialist Assessment must be undertaken as the proposed activity is identified as high sensitivity for agricultural resources.</p> <p>The outcome of the site sensitivity verification can be found in Section 7 of the Agricultural Impact Assessment (<b>Appendix G.4</b> of this Draft Scoping Report).</p> <p>The results of the DFFE Screening Tool indicated that the Agricultural theme has a High Sensitivity, and the specialist confirmed that those parts of the site, on which there are currently viable croplands, as being of <b>High agricultural sensitivity</b> and the rest of the site as being of medium agricultural sensitivity.</p>
Landscape/Visual Impact Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.	Very High Sensitivity	<p>The outcome of the sensitivity verification can be found in Section 5 of the Visual Impact Assessment and Sensitivity Receptors are found in Section 7.</p> <p>The results DFFE Screening Tool indicates that large parts of the study area are of very high or high visual resource value, and that the areas of least concern are located along the lower-lying valley which was confirmed by specialist results that indicated that potential visual receptor base to the proposed development is somewhat limited but diverse. Furthermore, the visual resource value of the site within the context</p>



Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
			of the surrounding study area is very high, owing mainly to the low prevailing levels of development, highly characteristic topography, and largely intact Highveld grassland cover, and furthermore also has a low ability to absorb visual change.
Archaeological and Cultural Heritage Impact Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.	Low Sensitivity	<p>The outcome of the sensitivity verification can be found in Appendix A of the Heritage Scoping Assessment (<b>Appendix G.10</b> of the DSR).</p> <p>The results of the DFFE Screening Tool indicated that the Heritage theme has a Low Sensitivity, and the results of the specialist's desktop study indicated that the proposed site has a <b>Medium Sensitivity</b>.</p>
Palaeontology Impact Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.	Very High Sensitivity	<p>The outcome of the sensitivity verification for the palaeontological sensitivity can be found in Appendix A of the Heritage Scoping Assessment (<b>Appendix G.10</b> of the DSR).</p> <p>The results of the DFFE Screening Tool indicated that the Palaeontological theme has a Very High Sensitivity, and the results of the specialist's desktop study indicated that the proposed site has <b>Insignificant, Moderate to Very High Sensitivity</b>, and further studies will be required in the EIA phase.</p>
Terrestrial Biodiversity Impact Assessment	Protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial biodiversity where the site of the proposed activity is identified as very high sensitivity for terrestrial biodiversity, must submit a Terrestrial Biodiversity Specialist Assessment. gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) of 4 NEMA, 1998).	Very High Sensitivity	<p>The site sensitivity verification can be found in Section 3, 4 and 7 of the Terrestrial and Aquatic Biodiversity Assessment (<b>Appendix G.6</b> of this Draft Scoping report).</p> <p>The results DFFE Screening Tool indicated that the Terrestrial Biodiversity theme has a Very High Sensitivity due to its overlap with Critical Biodiversity Areas (CBA) 1 and 2, Ecological support Areas (ESA) 1 and 2, FEPA sub catchments and National Protected Areas Expansion Strategy (NPAES). However, this result was disputed by the results of the biodiversity study indicated that the terrestrial biodiversity would have a <b>Medium Sensitivity</b> in terms of ESA and <b>High Sensitivity</b> in terms of CBA. Although much of the Project area may be occupied by cultivated/secondary grasslands, areas that coincide with provincial conservation targets require special consideration in</p>

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
			design phase to minimise impacts and possible offset requirements
Aquatic Biodiversity Impact Assessment	Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for environmental authorisation (GN 320, 20 March 2020)) provides the criteria for the assessment and reporting of impacts on aquatic biodiversity for activities requiring environmental authorisation.	Very High Sensitivity	<p>The site sensitivity verification can be found in Section 5, 6 and 7 of the Freshwater Ecological (Aquatic Biodiversity) Assessment (<b>Appendix G.5</b> of this Draft Scoping Report).</p> <p>The results DFFE Screening Tool indicated that the Aquatic Biodiversity theme has a Very High Sensitivity due to the presence of FEPA sub-catchments, Rivers_AB, Wetlands_(Rivers) and Wetlands Mesic Highveld Grassland Bioregion: Depression; Floodplain and Valley Bottom. The specialist confirmed the overall sensitivity of the project area is considered to be <b>High</b> due to the presence of NFEPA wetland cluster, and rivers in good ecological condition within 500 m of Project area.</p>
Avian Impact Assessment	Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms Environmental Impact Assessment Regulations, as promulgated in terms of Section 24 (5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998)., when applying for environmental authorisation (GN 320, 20 March 2020)) provides the criteria for the assessment and reporting of impacts on avifaunal species associated with the development of onshore wind energy generation facilities, where the electricity output is 20 megawatts or more, which require environmental authorisation	Low Sensitivity	<p>The site sensitivity verification can be found in Section 5, of the avifauna Impact Assessment (<b>Appendix G.7</b> of this Draft Scoping Report).</p> <p>The results DFFE Screening Tool indicated that the Avian theme has a Low Sensitivity. However, this result was disputed by the results of the Avifauna study which indicate that the Avian theme has a <b>Very High Sensitivity</b> best be described as supporting an abundance of birds, of which a very high proportion are of conservation importance.</p>
Vulture Species Theme	Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms Environmental Impact Assessment Regulations, as promulgated in terms of Section 24 (5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998).,	Very High Sensitivity	<p>The site sensitivity verification can be found in Section 5, of the avifauna Impact Assessment (<b>Appendix G.7</b> of this Draft Scoping Report).</p> <p>The results DFFE Screening Tool indicated that the Vulture theme has a <b>Very High Sensitivity</b>, and this has been confirmed by the specialist results as a high number of priority species nests and roosts (including</p>

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
	when applying for environmental authorisation (GN 320, 20 March 2020)) provides the criteria for the assessment and reporting of impacts on avifaunal species associated with the development of onshore wind energy generation facilities, where the electricity output is 20 megawatts or more, which require environmental authorisation		three Cape Vulture roosts), it is apparent that the project area is situated in an area of high avifaunal importance and sensitivity, particularly from a threatened vulture perspective.
Bat Impact Assessment	Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Bats	High Sensitivity	The site sensitivity verification can be found in Section 6.2, of the Bat Impact Assessment ( <b>Appendix G.8</b> of this Draft Scoping Report).  The results DFFE Screening Tool indicated that the Bat (Wind) theme has a <b>High Sensitivity</b> . This result was confirmed by the specialist.
Civil Aviation Assessment	Protocol for the specialist assessment and minimum report content requirements for environmental impacts on civil aviation installations	Low Sensitivity	Low Sensitivity  The relevant stakeholders i.e. CAA and ATNS have been included on the project database. However, no comment has been received to date.
Defence Assessment	Protocol for the specialist assessment and minimum report content requirements for environmental impacts on civil aviation installations	Low Sensitivity	Low Sensitivity
RFI Assessment	Site Sensitivity Verification Requirements where a specialist Assessment is required but no Specific Assessment Protocol has been prescribed	Low Sensitivity	Low Sensitivity
Noise Impact Assessment	Protocol for specialist assessment and minimum report content requirements for noise impacts	Low Sensitivity	The results DFFE Screening Tool indicated that the noise theme has a Low Sensitivity. The specialist stated that the status of these receptors (inhabited or uninhabited) needs to be confirmed (ground-truthed) in the EIA phase in order to effectively quantify the noise impacts of the WEF. However, confirmed the overall impact of the project is considered to be <b>Medium Sensitivity</b> ( <b>Appendix G.3</b> of the DSR).
Flicker Impact Assessment	Where a specialist assessment is required and no specific	Low Sensitivity	The specialist has confirmed a low sensitivity.

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
	environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.		
Traffic Impact Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.	No sensitivity identified by the screening tool	
Geotechnical Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.	No sensitivity identified by the screening tool	
Socio Economic Assessment	Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.	No sensitivity identified by the screening tool	
Plant Species Assessment	Protocol (Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of sections 24(5)(a) and (h) and 44 of NEMA, gazetted on 30 October 2020), provides the criteria for the assessment and reporting of impacts on plant and animal species for activities requiring environmental authorisation.	Medium Sensitivity	<p>The executive summary and Section 3 of the specialist report outlines the specific sections of the report which align with the terrestrial biodiversity protocol. The site sensitivity verification is discussed in Section 3.3 section of the Terrestrial and Aquatic Species Assessment (<b>Appendix G.6</b>)</p> <p>The results DFFE Screening Tool indicated that the Plant Species theme indicated Medium Sensitivity on account of the potential presence of at least 2 flora species of conservation concern, namely, sensitive species 1252 and 998, whose</p>

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Specialist Sensitivity Verification
			<p>names have been withheld due to their vulnerability to illegal harvesting</p> <p>The specialist confirmed that the site has <b>Medium Sensitivity</b> since there is the presence of Primary and secondary grasslands could support plant Species of Conservation Concern (SCC).</p>
Animal Species Assessment	Protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial animal species gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) of 4 NEMA, 1998), provides the criteria for the assessment and reporting of impacts on plant and animal species for activities requiring environmental authorisation.	High Sensitivity	<p>The executive summary and Section 3 of the specialist report outlines the specific sections of the report which align with the terrestrial biodiversity protocol. The site sensitivity verification is discussed in Section 3.3 section of the Terrestrial and Aquatic Species Assessment (<b>Appendix G.6</b>)</p> <p>The results DFFE Screening Tool indicated that the Animal Species theme has a High Sensitivity due to the potential presence of due to the presence of 32 species (those identified in the screening report and the additional species identified from the literature review) that are likely to occur within the Project area. However, this result was disputed by the specialist who confirmed that the site has <b>Medium Sensitivity</b> due to the possible presence of protected species.</p>

## 4.4 SPECIALIST SITE SENSITIVITY VERIFICATION MOTIVATION

### 4.4.1 Agricultural Impact Assessment

The output of the DFFE Screening Tool for the Agricultural Theme is illustrated in **Figure 2** and indicates that the site is classified as High Sensitivity.

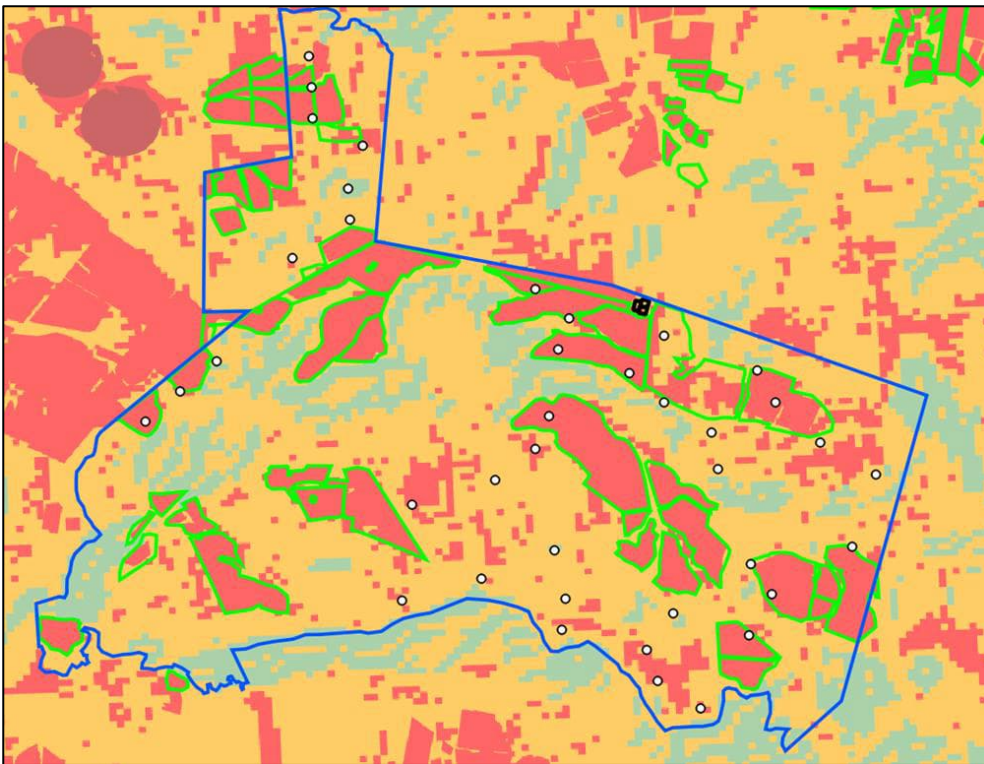
This verification of sensitivity addresses both components that determine it, namely cropping status (that is whether the land is currently or has recently been used for crop production) and land capability. The screening tool classifies the assessed area as ranging from low to high agricultural sensitivity. The high sensitivity classification is due to a combination of some land being classified as cropland and some being classified as high sensitivity because of its land capability rating. However, the data set used by the screening tool to classify cropping status is outdated. This assessment has verified all current areas of viable cropland, which differ from those classified as cropland by the screening tool. The verified areas of viable cropland are shown in **Figure 2** and **Figure 3**. This assessment therefore confirms the high sensitivity rating by the screening tool that is based on the cropping status component of sensitivity, but only for those areas that have been verified as viable cropland in this assessment.

The classified land capability of the site ranges from 3 to 10. The rating of land capability used by the screening tool is determined by an average soil capability value attributed to each land type. However,



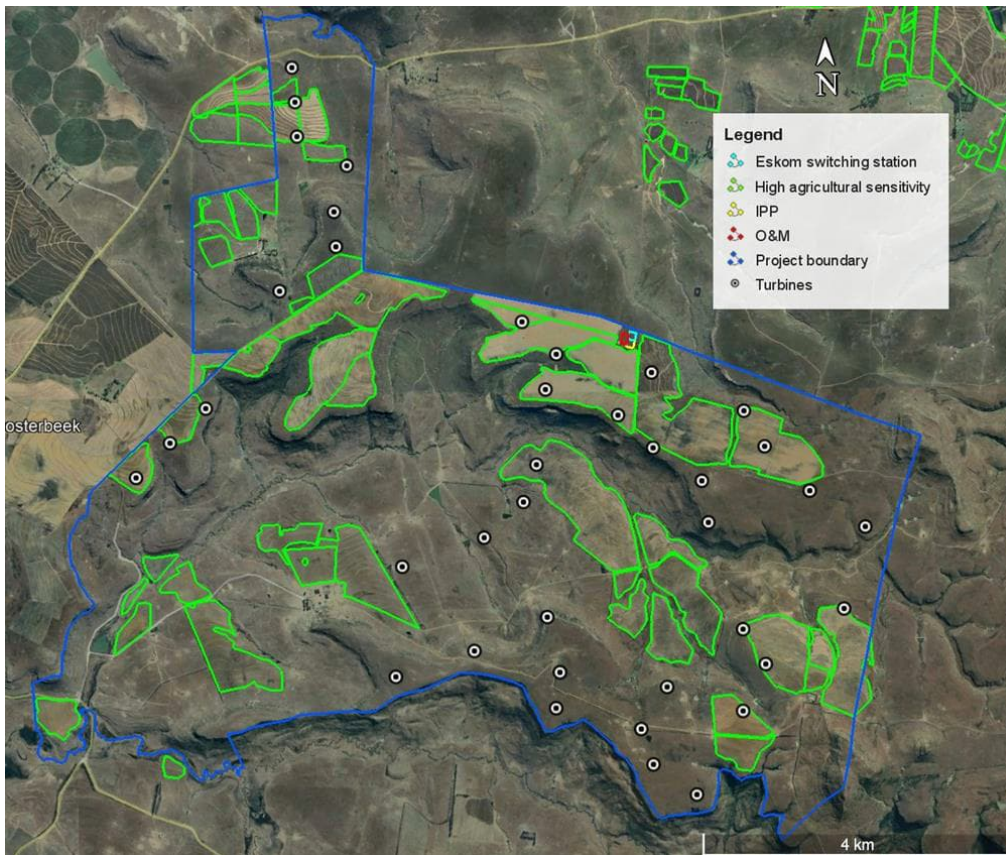
there are a range of soil capabilities within each land type, the detail of which the land capability data is unable to take account of and map. On the ground, the soils (and therefore the land capability) vary in a complex pattern across the landscape, which is not reflected at the scale of the land capability data. The most reliable indication of soil cropping potential or soil capability at a landscape scale in this environment is current and historical land use. The suitable versus the unsuitable soils have been identified over time through trial and error. In an agricultural environment like the one being assessed, all the suitable soils are generally cropped. Cropped soils have a real land capability of  $\geq 8$  because the relationship between land capability and agricultural production potential is such that a land capability of  $\geq 8$  should denote land that is suitable for viable rainfed crop production. Uncropped soils can fairly reliably be considered to have limitations that make them unsuitable for crop production with the result that their real land capability is less than 8.

The assessment confirmed the high sensitivity of the screening tool. The verified areas of high sensitivity across the site differ somewhat from those classified as high sensitivity by the screening tool. This assessment verifies those parts of the site which have been assessed as viable croplands, as shown in **Figure 2** and **Figure 3**, as being of high agricultural sensitivity and the rest of the site as being of medium agricultural sensitivity with a land capability of  $< 8$ .



**Figure 2: Map of Agriculture Sensitivity Source: The preliminary development footprint overlaid on agricultural sensitivity, as given by the screening tool** (green = low; yellow = medium; red = high; dark red = very high). All confirmed areas of high sensitivity (croplands) are shown in green outline. All areas outside of these are rated as medium sensitivity.  
Source: SoilZa (2024)





**Figure 3: Satellite image map of the assessed development**

Source: Agricultural Agro-Ecosystem Report, 2024

#### 4.4.2 Terrestrial Biodiversity Assessment

The output of the DFFE Screening Tool for the Terrestrial Biodiversity Theme is illustrated in **Figure 4** and indicates that the site is classified as Very High Sensitivity due to its overlap with land mapped as:

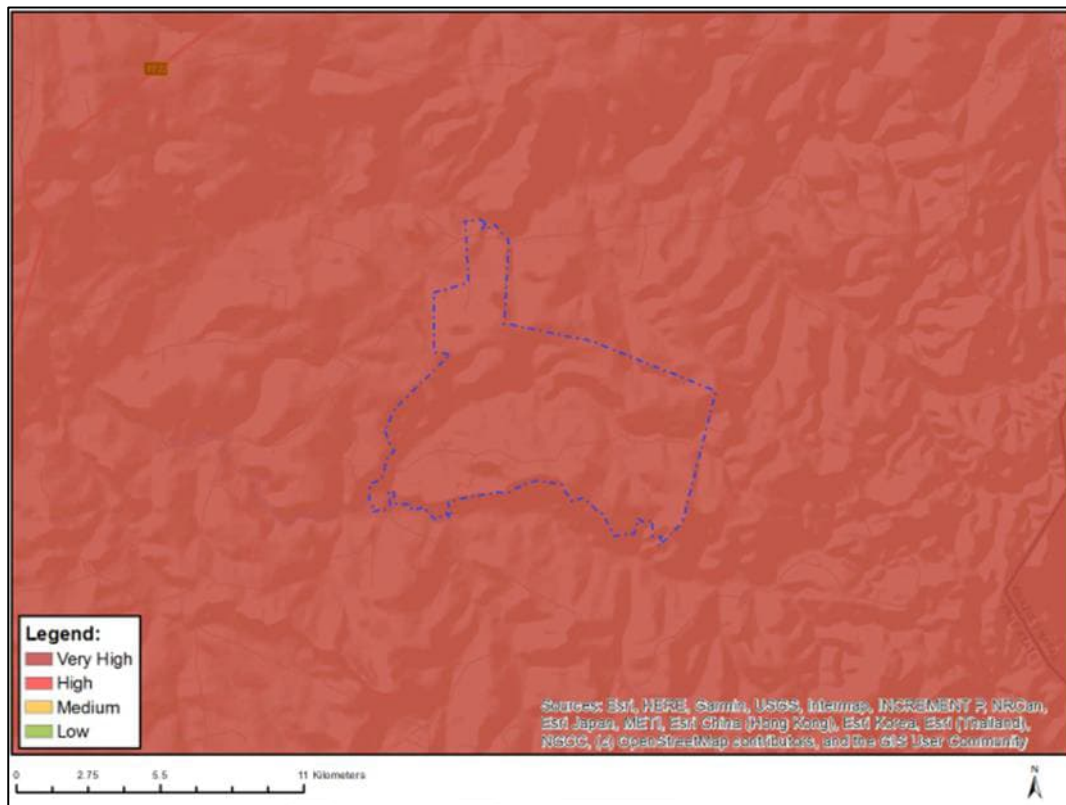
- Critical Biodiversity Areas (CBA) 1 and 2;
- Ecological support Areas (ESA) 1 and 2;
- FEPA sub catchments; and
- National Protected Areas Expansion Strategy (NPAES).

The National Web Based Screening Tool also indicated that the Project area is considered to be of 'Medium' sensitivity in terms of the Plant Species Theme on account of the potential presence of at least 2 flora species of conservation concern, namely; sensitive species 1252 and 998, who's names have been withheld due to their vulnerability to illegal harvesting.

The Project area is considered to be of 'High' sensitivity in terms of the Animal Species Theme, due to the potential presence of the range-restricted Lalande's Black-winged Clonia (*Clonia lalandei*) which is listed as Vulnerable on the SANBI red list (2014), the mammals Spotted-necked Otter (*Hydrictis maculicollis* – Vulnerable), and Oribi (*Ourebia ourebi ourebi* - Endangered), the birds Secretarybird (*Sagittarius serpentarius*-Vulnerable), Southern Bald Ibis (*Geronticus calvus*-Vulnerable), Denham's Bustard (*Neotis denhami*-Vulnerable), Yellow-breasted Pipit (*Anthus chloris*-Vulnerable), African Marsh Harrier (*Circus ranivorus*-Endangered), Grey Crowned Crane (*Balearica regulorum*-Endangered), Lanner Falcon (*Falco biarmicus*-Vulnerable), White-bellied Bustard (*Eupodotis senegalensis*-Vulnerable), Rudd's Lark (*Heteromira fra ruddi*-Endangered), Botha's Lark (*Spizocorys fringillaris*-Endangered), Black Stork (*Ciconia nigra*-Vulnerable), Caspian Tern (*Sterna caspia*-Vulnerable),

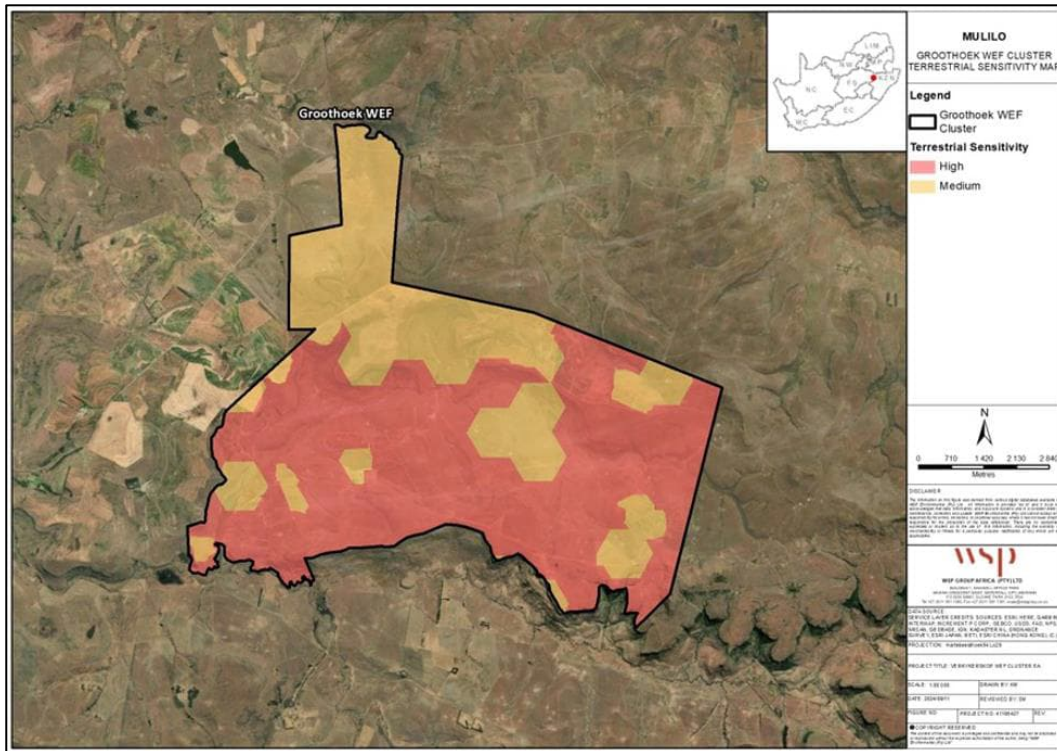
Verreaux's Eagle (*Aquila verreauxii*-Vulnerable), in addition to sensitive species 15 and 23, whose names have been withheld due to their vulnerability to illegal poaching.

The specialist studies dispute the screening tool and confirms the site is classified as Medium sensitivity. The Project area consists of secondary grasslands however ecological processes are occurring.



**Figure 4: Map of Terrestrial Biodiversity Sensitivity**

Source: DFFE Screening Report (2024)

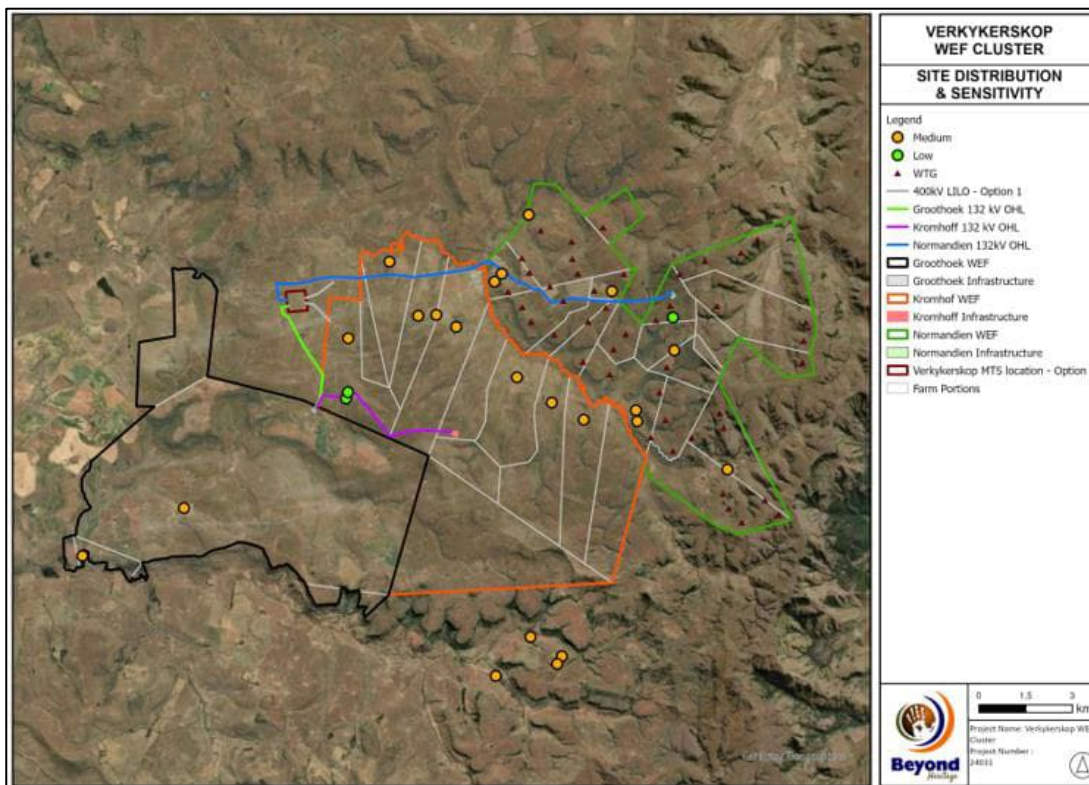




Source: DFFE Screening Report (2024)

Sensitivity Features: Sensitivity	Feature(s)
High	Within 150m of a Grade IIIa Heritage site
High	Within 100m of a Grade IIIb Heritage site
High	Within 50m of a Grade IIIc Heritage site
Low	Low sensitivity

The area has historically been occupied and although the cultural landscape attests to more recent occupation, heritage resources such as structures (including farmsteads/ruins and associated burial sites) and associated landscape elements older than 60 years are of importance and are protected by Section 34 & 36 of the NHRA. There are no fatal flaws and high significance sites are localised and can be mitigated.



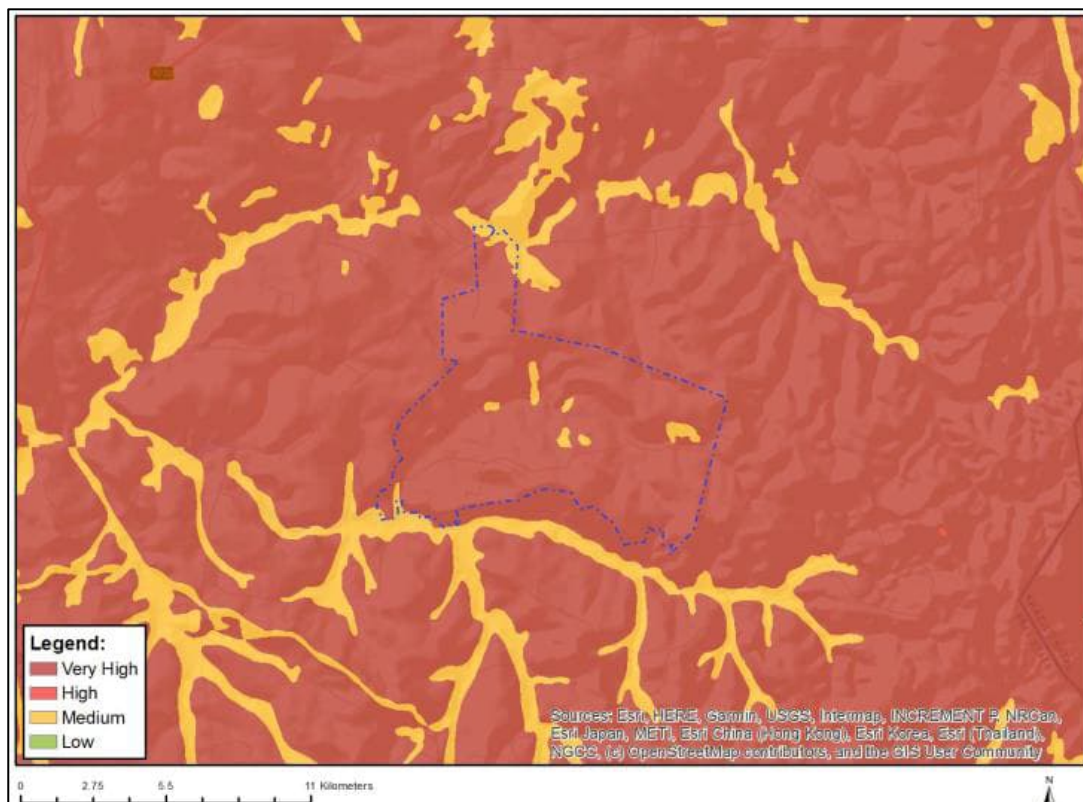
**Figure 7: Verified Heritage Sensitivities (Desktop Based) – Cultural Heritage**

Source: Beyond Heritage (2024)

#### 4.4.4 Palaeontology Impact Assessment

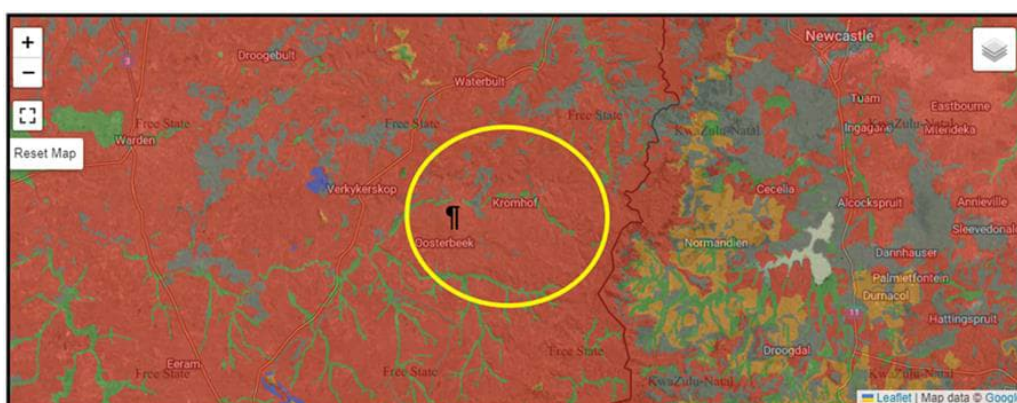
The output of the DFFE Screening Tool for the Palaeontology Theme is illustrated in **Figure 8** and indicates that the site is classified as Very High Sensitivity.

The study area is of insignificant, moderate, and very high paleontological sensitivity and further studies will be required in the EIA phase. An independent study will have to be conducted for this project in the EIA phase.



**Figure 8: Map of Palaeontology Sensitivity Source: DFFE Screening Report**  
Source: DFFE Screening Report (2024)

The study area is of insignificant, moderate, and very high paleontological sensitivity and further studies will be required in the EIA phase. An independent study will have to be conducted for this project in the EIA phase.



**Figure 9: Palaeontological sensitivity map of the approximate study areas (yellow polygon)**

Colour	Sensitivity	Required Action
RED	VERY HIGH	Field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	Desktop study is required and based on the outcome of the desktop study; a field assessment is likely
GREEN	MODERATE	Desktop study is required
BLUE	LOW	No palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	No palaeontological studies are required
WHITE/CLEAR	UNKNOWN	These areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

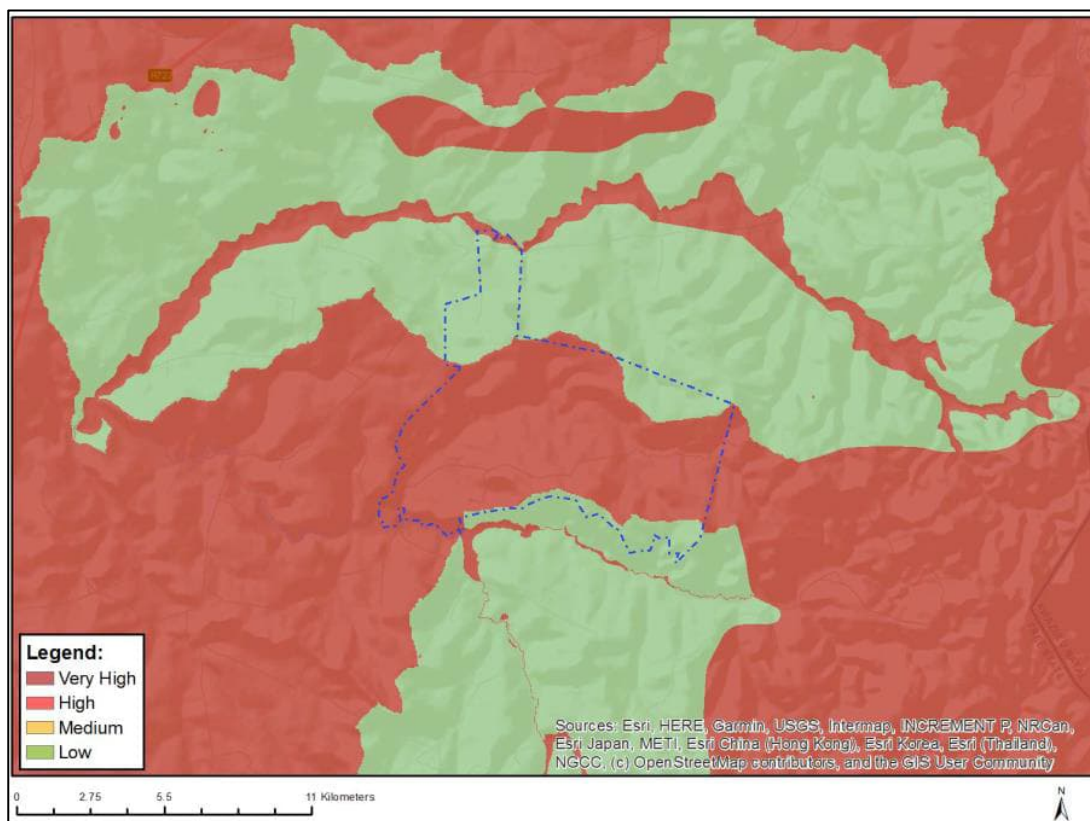
Source: Beyond Heritage (2024)

#### 4.4.5 Aquatic Biodiversity Impact Assessment

The output of the DFFE Screening Tool for the Aquatic Biodiversity Theme is illustrated in **Figure 10** and indicates that the site is classified as Very High Sensitivity due to the presence of:

- FEPA sub-catchments;
- Rivers\_AB;
- Wetlands\_(Rivers); and
- Wetlands Mesic Highveld Grassland Bioregion: Depression; Floodplain and Valley Bottom.

The specialist verified the site sensitivity as High Sensitivity due to the presence of wetland cluster and rivers in good ecological condition within 500 m of Project area.



**Figure 10: Map of Aquatic Biodiversity Sensitivity Source: DFFE Screening Report**

Source: DFFE Screening Report (2024)

#### 4.4.6 Avifauna

The output of the DFFE Screening Tool for the Avifauna Theme is illustrated in **Figure 11** and indicates that the site is classified as Low Sensitivity.

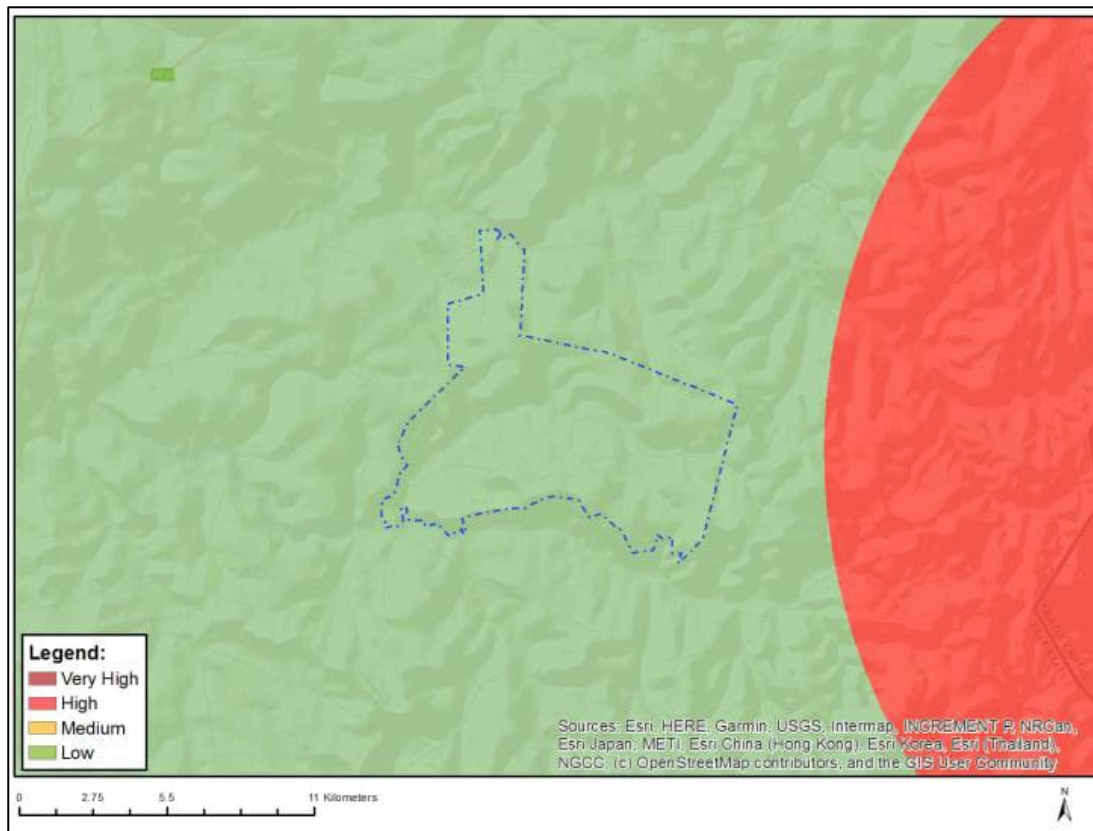
At a regional scale, the Verkykerskop WEF Cluster area is surrounded by five Important Bird Areas (IBAs) (within 30 km radius) including one that marginally overlaps the north-western corner of the project area (Grasslands SA020). Additionally, several well-established birding routes traverse the AOI. At a local scale the Groothoek WEF intersects 7 nest buffers of priority species and falls within the 50 km High sensitivity buffer of five Cape Vulture Roosts (one of which is a breeding roost). The presence of Martial Eagle Nest 2, Southern Bald Ibis Roosts 2, 4, 6, and especially 11, Jackal Buzzard Nest 1 all have significant buffer implications for the Groothoek WEF. Additionally, the project area supports one



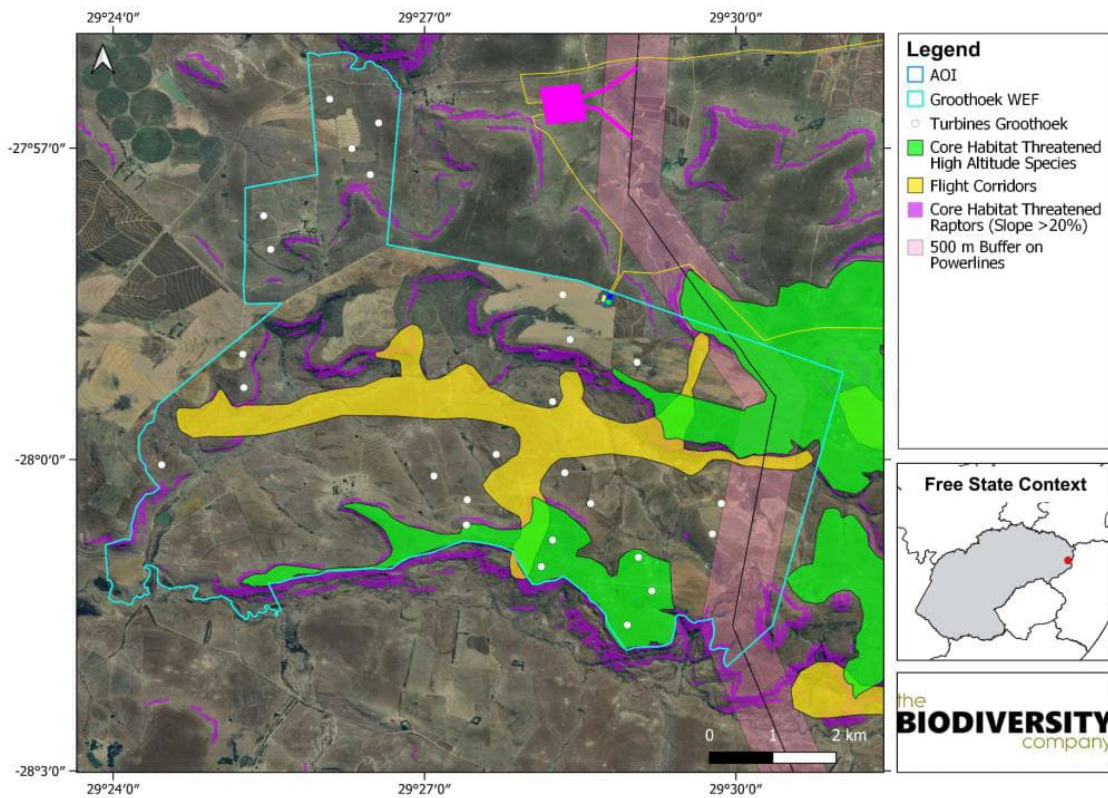
distinct plateau grassland core habitat for Threatened high altitude species (i.e. Rudd's Lark, Yellow-breasted Pipit, Southern Bald Ibis and Denham's Bustard), one high passage rate flight corridor for priority species and an abundance of rugged terrain for threatened raptors.

Most of the high-altitude, moist, plateau grasslands within the WEF represent highly sensitive and important habitat for montane grassland endemics. These higher lying areas and particularly those closer to the Escarpment were also associated with higher Cape Vulture activity. Bearded Vulture and Wattled Crane have been observed in the AOI and some of the wetlands may provide potential habitat for White-winged Flufftail which, are known to be present in the Memel area. All three are Critically Endangered in South Africa. These findings highlight the sensitivity of the project area.

The key receptors underpinning the sensitivity map are illustrated in **Figure 12**. These areas of avifaunal sensitivity within the project area spatially depicted in **Figure 13**.

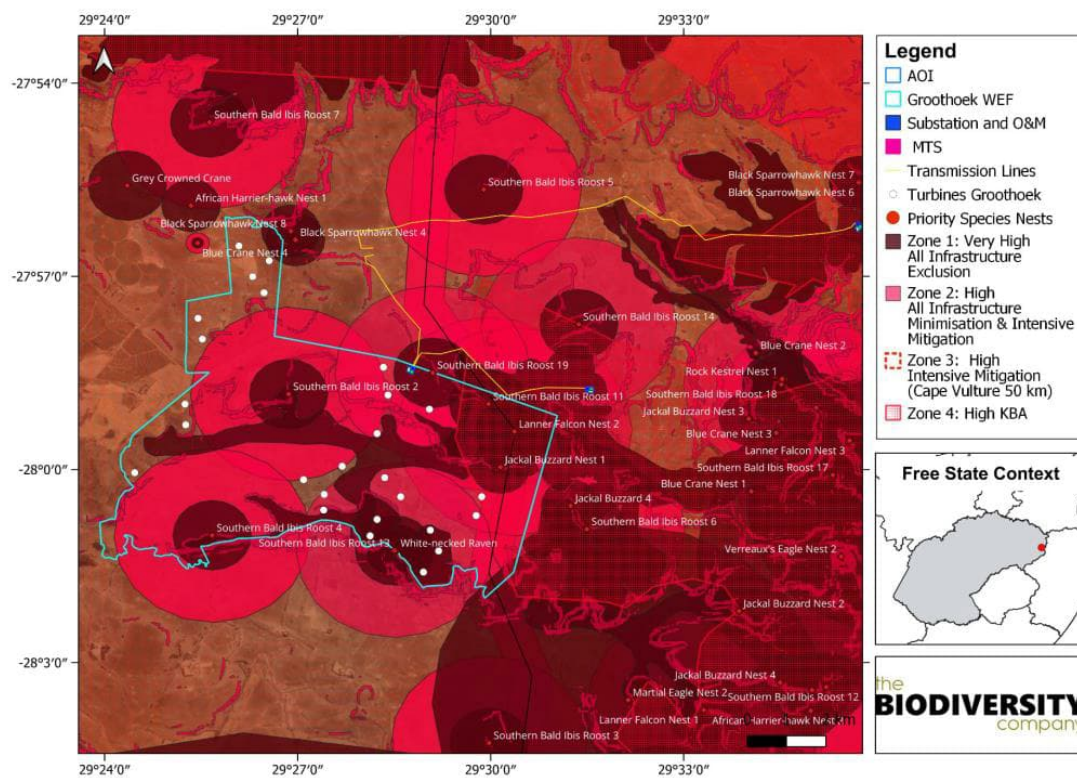


**Figure 11: Map of Avian Sensitivity Source: DFFE Screening Report**  
Source: DFFE Screening Report (2024)



**Figure 12: Map depicting key flight paths and core habitats for threatened high altitude, wetland and raptor species**

Source: The Biodiversity Company (2024)



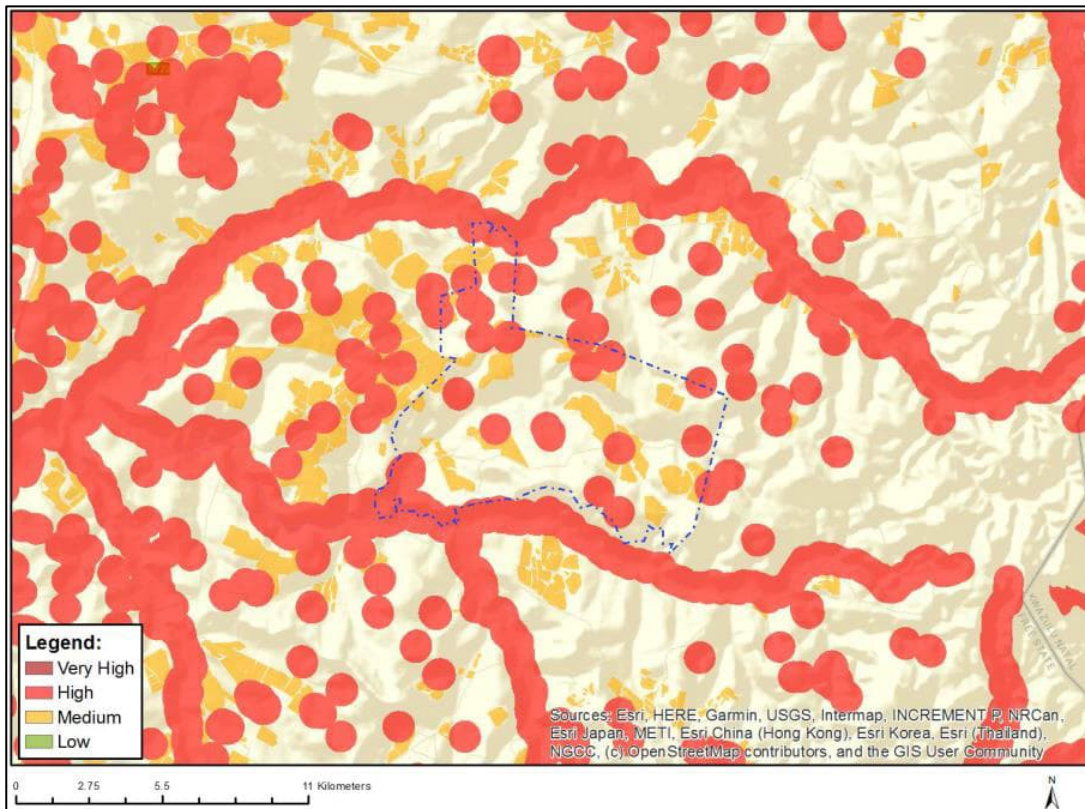
**Figure 13: Preliminary Avifaunal sensitivity map for Groothoek WEF**

Source: The Biodiversity Company (2024)



#### 4.4.7 Bats

The output of the DFFE Screening Tool for the Bats Theme is illustrated in **Figure 14** and indicates that the site is classified as High Sensitivity. Based on the preliminary identified bat sensitivities, IWS agrees with the “High” overall sensitivity rating of the four three WEF sites comprising the Verkykerskop Cluster as per the national Screening Tool. However, this is not only due to the presence of various hydrological features and croplands onsite, but due to the collective presence of local hydrological features, croplands, woody vegetation, and buildings (potentially including bat roosts), and nearby protected areas..

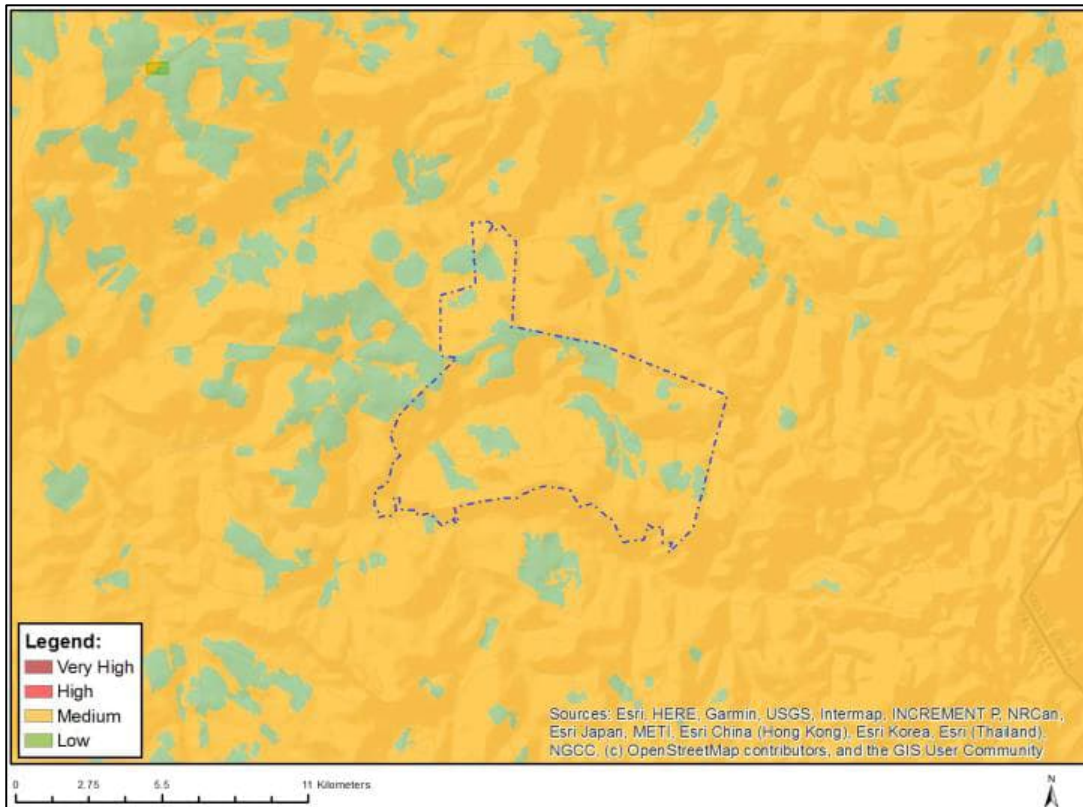


**Figure 14: Map of Bats Sensitivity Source: DFFE Screening Report**

Source: DFFE Screening Report (2024)

#### 4.4.8 Plant Species

The DFFE Screening Tool indicates that the site has a medium sensitivity (**Figure 15**). The majority of the Project area is considered to be of ‘Medium sensitivity’ in terms of the Plant Species Theme of the National Screening Tool, on account of the potential presence of at least two Vulnerable flora species namely the sensitive species 1252 and 998. An additional 10 species have been identified from desktop assessment. These include: Sensitive Species 1248 (Endangered); Sensitive Species 851 (Vulnerable). The medium sensitivity for the Plant Species Theme is confirmed due to the presence of primary and secondary grasslands could support plant SCC.



**Figure 15: Map of Plants Sensitivity Source: DFFE Screening Report**

Source: DFFE Screening Report (2024)

#### 4.5 Animal Species

The DFFE Screening Tool indicates that the site has a high sensitivity (**Figure 16**) due to the potential presence of the range-restricted Lalande's Black-winged Clonia (*Clonia lalandei*) which is listed as Vulnerable on the SANBI red list (2014), the mammals Spotted-necked Otter (*Hydrictis maculicollis* – Vulnerable), and Oribi (*Ourebia ourebi ourebi* - Endangered), the birds Secretarybird (*Sagittarius serpentarius*-Vulnerable), Southern Bald Ibis (*Geronticus calvus*-Vulnerable), Denham's bustard (*Neotis denhami*-Vulnerable), Yellow-breasted pipit (*Anthus chloris*-Vulnerable), African marsh harrier (*Circus ranivorus*-Endangered), Grey crowned crane (*Balearica regulorum*-Endangered), Lanner falcon (*Falco biarmicus*-Vulnerable), White-bellied bustard (*Eupodotis senegalensis*-Vulnerable), Rudd's lark (*Heteromira fra ruddi*-Endangered), Botha's lark (*Spizocorys fringillaris*-Endangered), Black stork (*Ciconia nigra*-Vulnerable), Caspian tern (*Sterna caspia*-Vulnerable), Verreaux's eagle (*Aquila verreauxii*-Vulnerable), in addition to sensitive species 15 and 23, who's names have been withheld due to their vulnerability to illegal poaching.

The high sensitivity for the Animal Species Theme is disputed by the specialist and the medium sensitivity is confirmed although there is possible presence of protected species.

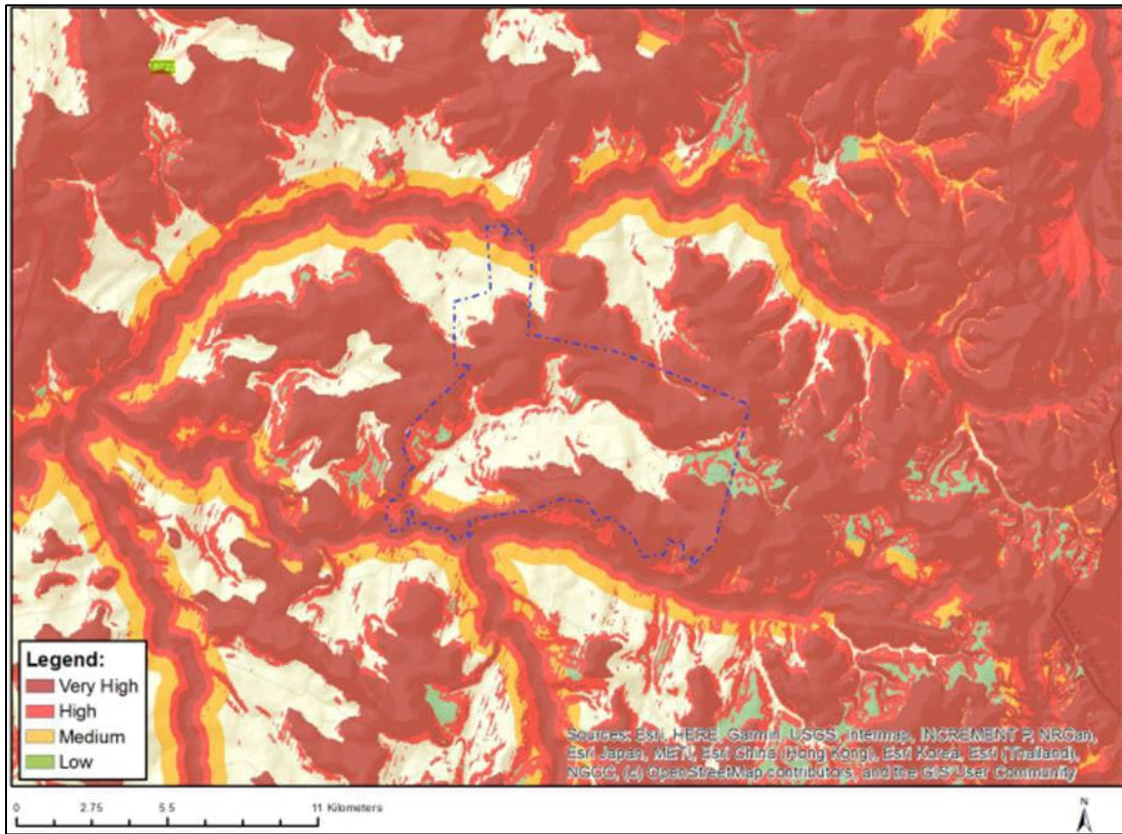


### Output of the DFF5 Screen

- Topography-3;
- Water bodies-3;

The areas of least concern are located along the lower-lying valley. The Project will have negative impacts on the visual environment, mainly due to the introduction of very tall, visible, and visually intrusive elements into the landscape, in the form of the turbines, as well as other associated support infrastructure. The significance of these impacts is expected to be moderate to high in the context of the existing visual setting, and limited visual mitigation is feasible and mainly relevant to the construction and decommissioning phases, as proposed in section 10 (**Appendix G.2** of the Draft Scoping Report). The significance of the identified visual impacts will be further evaluated during the impact assessment, and proposed mitigation measures revised/refined where required.





**Figure 17: Map of Landscape Sensitivity**

Source: DFFE Screening Report (2024)

#### 4.5.2 Noise

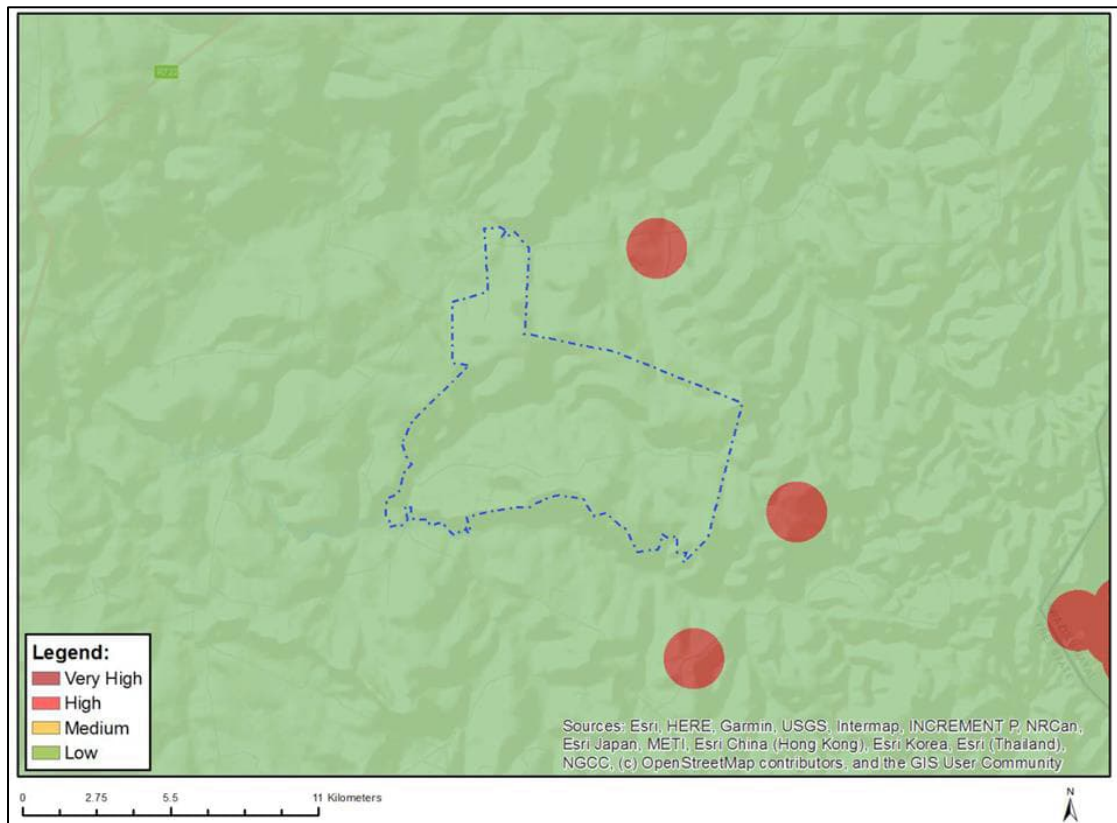
The output of the DFFE Screening Tool for the Noise Theme is illustrated in **Figure 18** and indicates that the site is classified as Low Sensitivity, as no temporary or permanently inhabited residences were identified within the site boundary.

It is understood that the proposed Groothoek WEF will consist of up to 55 wind turbines (3020 MW in total), with a hub height of 140 m and a maximum sound power level of 111.6 dB(A) each. The WEF will be located ~36.5 km northeast of the town of Harrismith, located sufficiently far away enough to not create noise impacts in the town itself, however, with a few on-site receptors identified, impacts are anticipated. From a desktop assessment of the site using Google EarthTM imagery (and input from the Client), eight farmhouse receptors have been identified within and adjacent to the site boundary, which will all be considered in this study. As per the International Finance Corporation (IFC) Environmental, Health and Safety (EHS) Guidelines for Wind Energy, receptors within 2 km of the proposed site are considered. Wind turbines have the ability to generate noise, causing disturbances for receptors within close proximity of the turbines.

Based on some basic initial modelling, in order to keep LA90 noise levels within the acceptable 35 dB(A) threshold stipulated by the IFC EHS guidance, a minimum buffer zone of 1,336 m from each turbine to the nearest receptor is recommended. Should receptors be financially vested in the Project, this LA90 threshold increases to 45 dB(A) and the suitable buffer for locating turbines will decrease to 543 m from each receptor. It must be noted that such calculations are based on a worst-case scenario of turbines with a hub height of 140 m and maximum sound power level of 111.6 dB(A).



There are a relatively low number of receptors within the Project site area, although some of these are within close proximity (~600 m) of the proposed wind turbines (based on the preliminary layout). The Groothoek WEF, therefore poses a “medium” noise sensitivity impact on such receptors, which does not correlate with the Department of Forestry, Fisheries and the Environment’s screening tool sensitivity results, which classifies the sensitivity impacts as “low” (the full Site Sensitivity Verification Report is available in Appendix A). The status of these receptors (inhabited or uninhabited) needs to be confirmed (ground-truthed) in the EIA phase in order to effectively quantify the noise impacts of the WEF.



**Figure 18: Map of relative noise theme sensitivity**

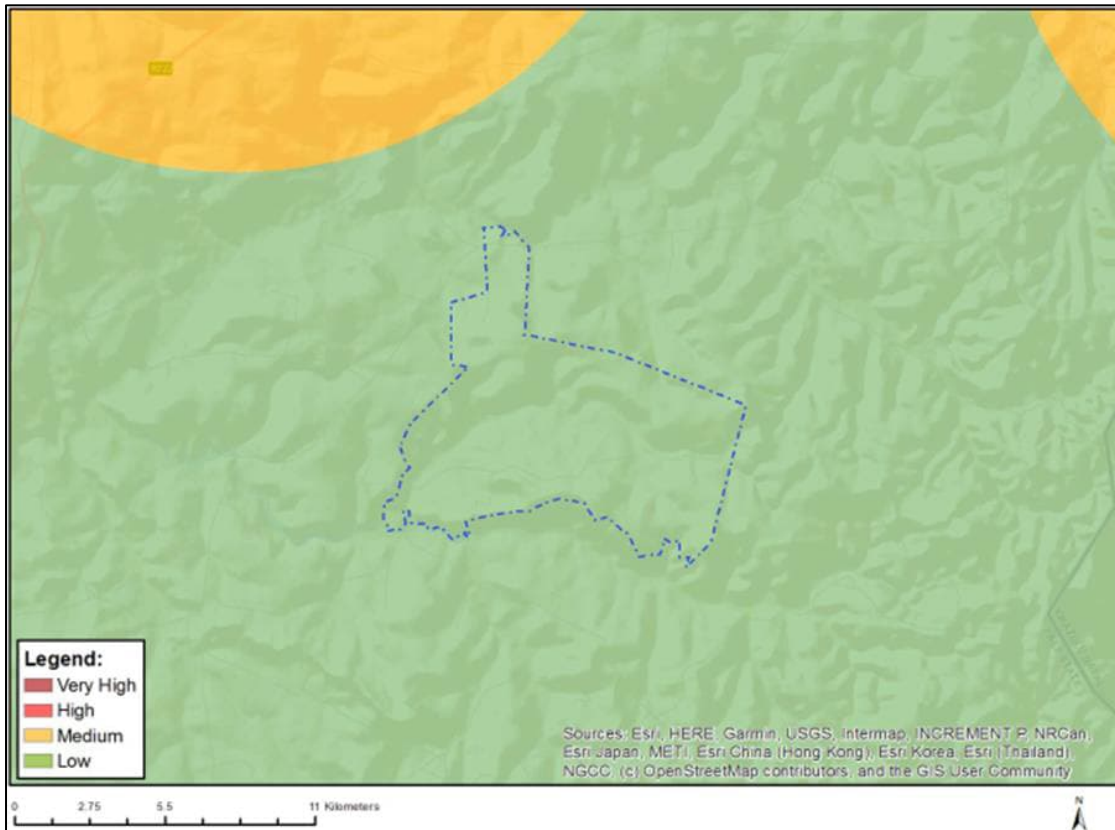
Source: DFFE Screening Report (2024)

To determine the acoustic impacts of the proposed Groothoek WEF, an Environmental Acoustic Impact Assessment will be conducted.

#### 4.5.3 Civil Aviation

The output of the DFFE Screening Tool for the Civil Aviation Theme is illustrated in **Figure 19** and indicates that the site is classified as Low Sensitivity. The DFFE sensitivity result is confirmed.

A compliance statement will not be required as part of the EIA phase.

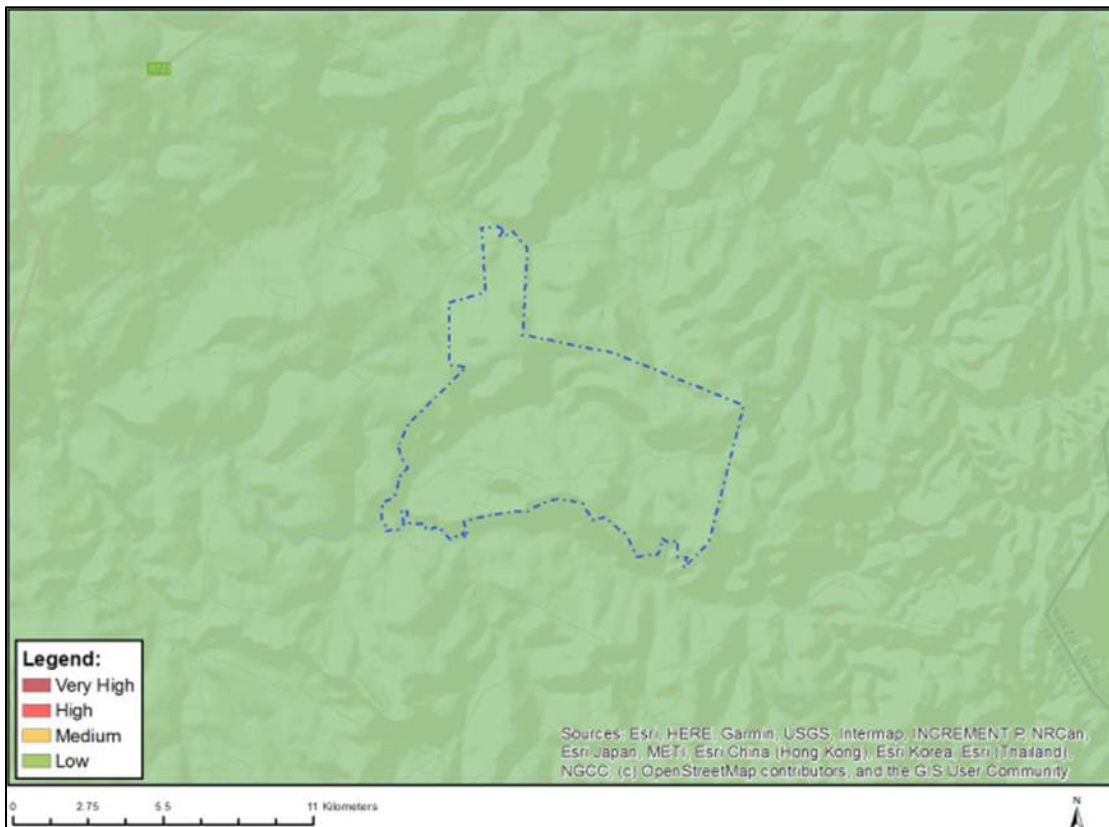


**Figure 19: Map of Civil Aviation Sensitivity**

Source: DFFE Screening Report (2024)

#### 4.5.4 Defence

The output of the DFFE Screening Tool for the Defence Theme is illustrated in **Figure 20** and indicates that the site is classified as Low Sensitivity. The DFFE sensitivity result is confirmed. A compliance statement will not be required as part of the EIA phase.



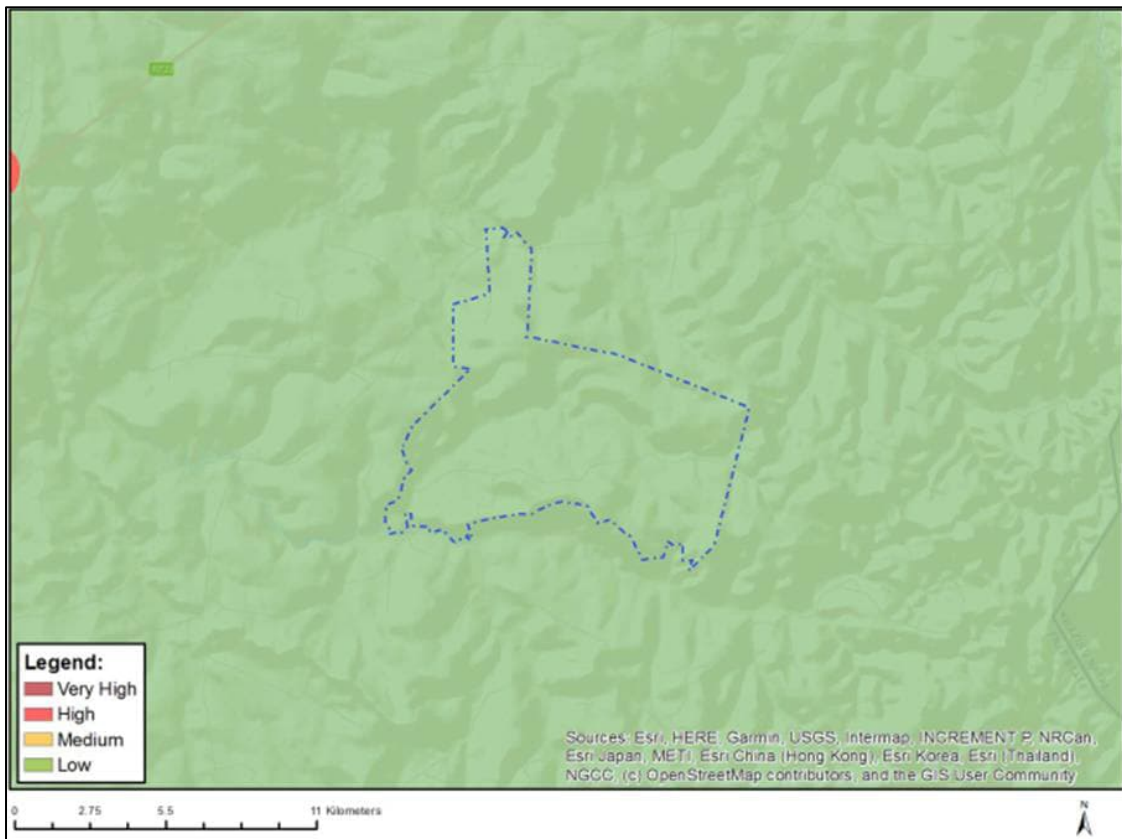
**Figure 20: Map of Defence Sensitivity**

Source: DFFE Screening Report (2024)

#### 4.5.5 Radio Frequency Interference

The output of the DFFE Screening Tool for the RFI Theme is illustrated in **Figure 21** and indicates that the site is classified as Low Sensitivity.

The DFFE sensitivity result is confirmed. A compliance statement will not be required as part of the EIA phase.

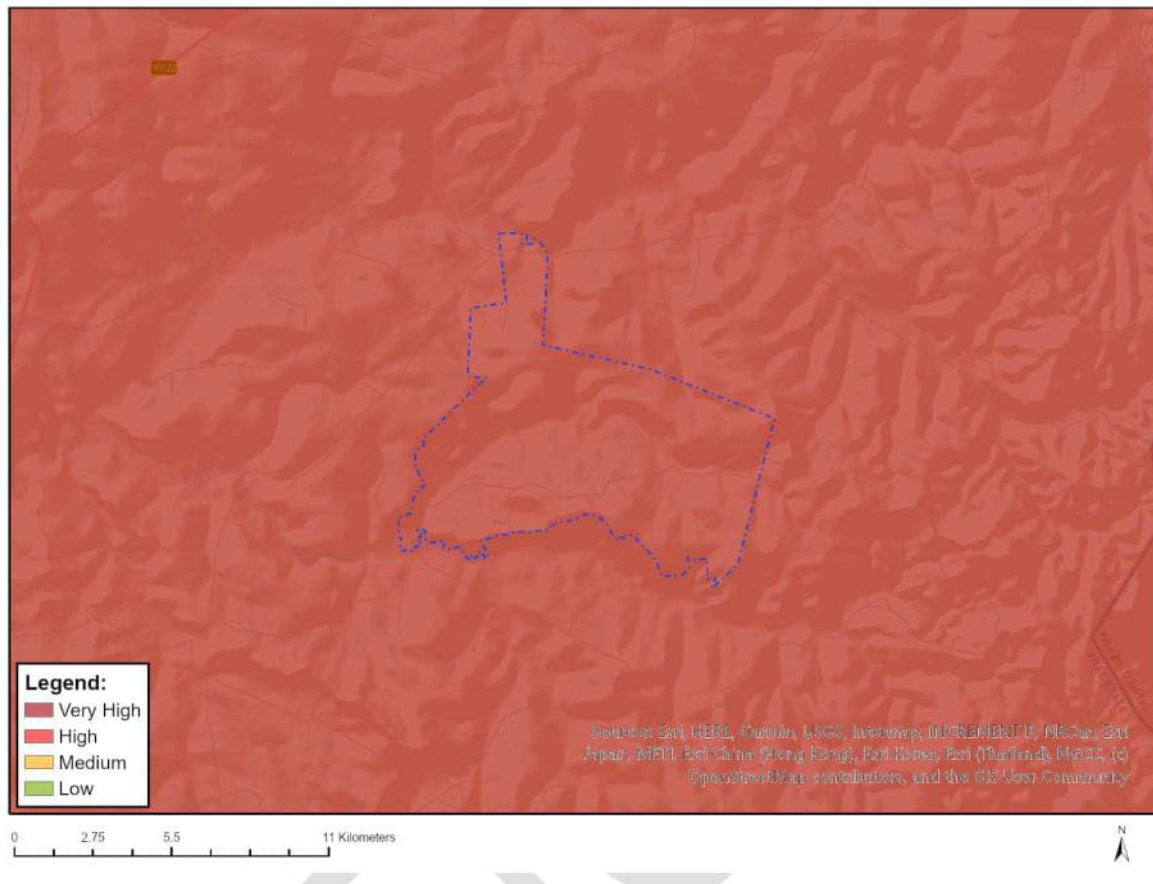


**Figure 21: Map of RFI Sensitivity**

Source: DFFE Screening Report (2024)

#### 4.5.6 Vulture Theme Sensitivity

The output of the DFFE Screening Tool for the Vulture Theme is illustrated in **Figure 22** and indicates that the site is classified as Very High Sensitivity. The specialist has confirmed this very high sensitivity result.



**Figure 22: Map of Vulture Sensitivity – Vulture Species Theme**  
Source: DFFE Screening Report (2024)

## 5. CONSOLIDATED SITE SENSITIVITY – SCOPING PHASE

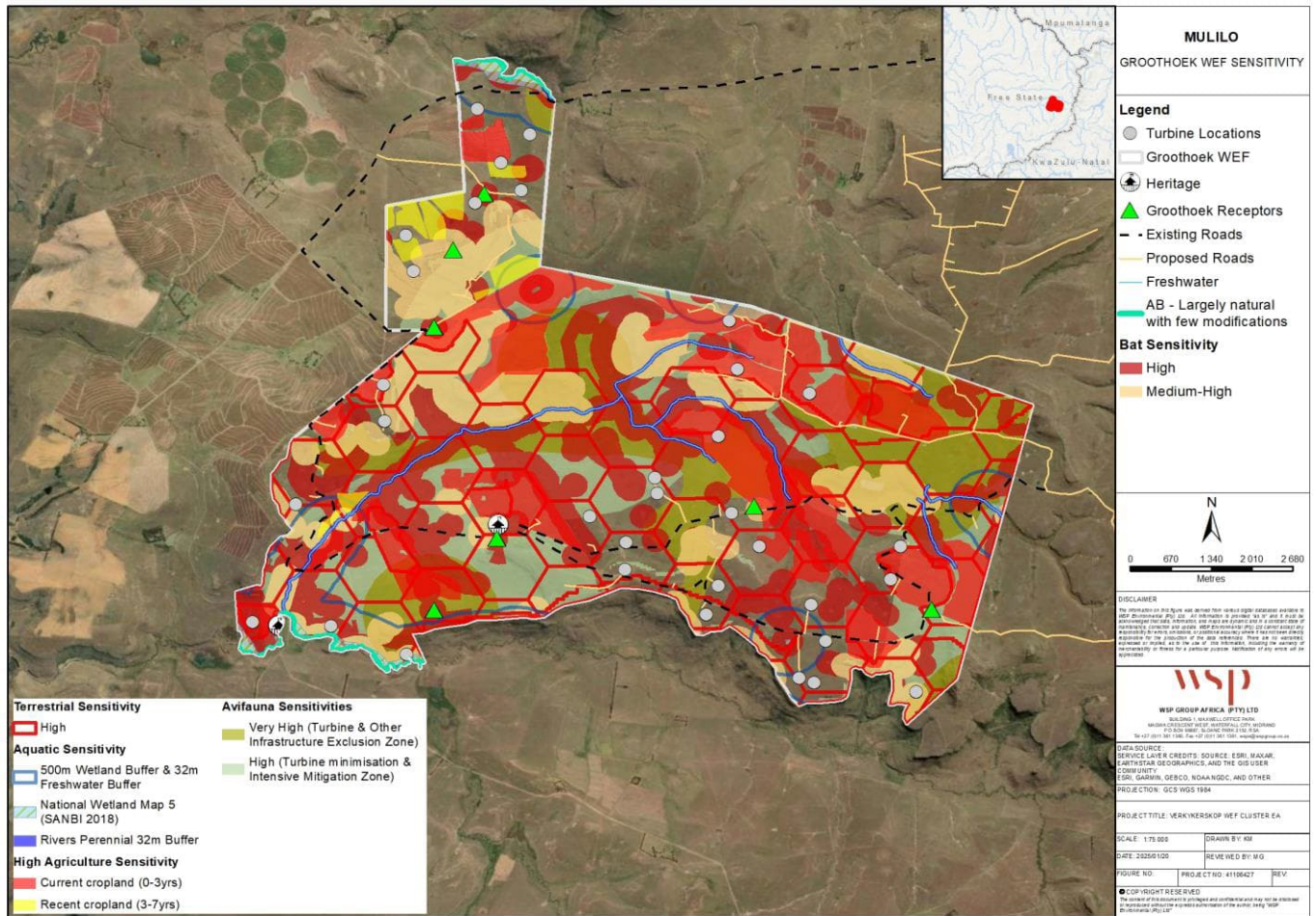
**Figure 23** illustrates the consolidated sensitivity map for the preliminary layout, while **Figure 24** illustrates the consolidated sensitivity map overlain by the optimised layout. **Figure 25** illustrates both the Preliminary and optimised layouts for comparison purposes.

The “optimised” layout will be further assessed by the specialists during the EIA Phase, and amended and further optimised as required.

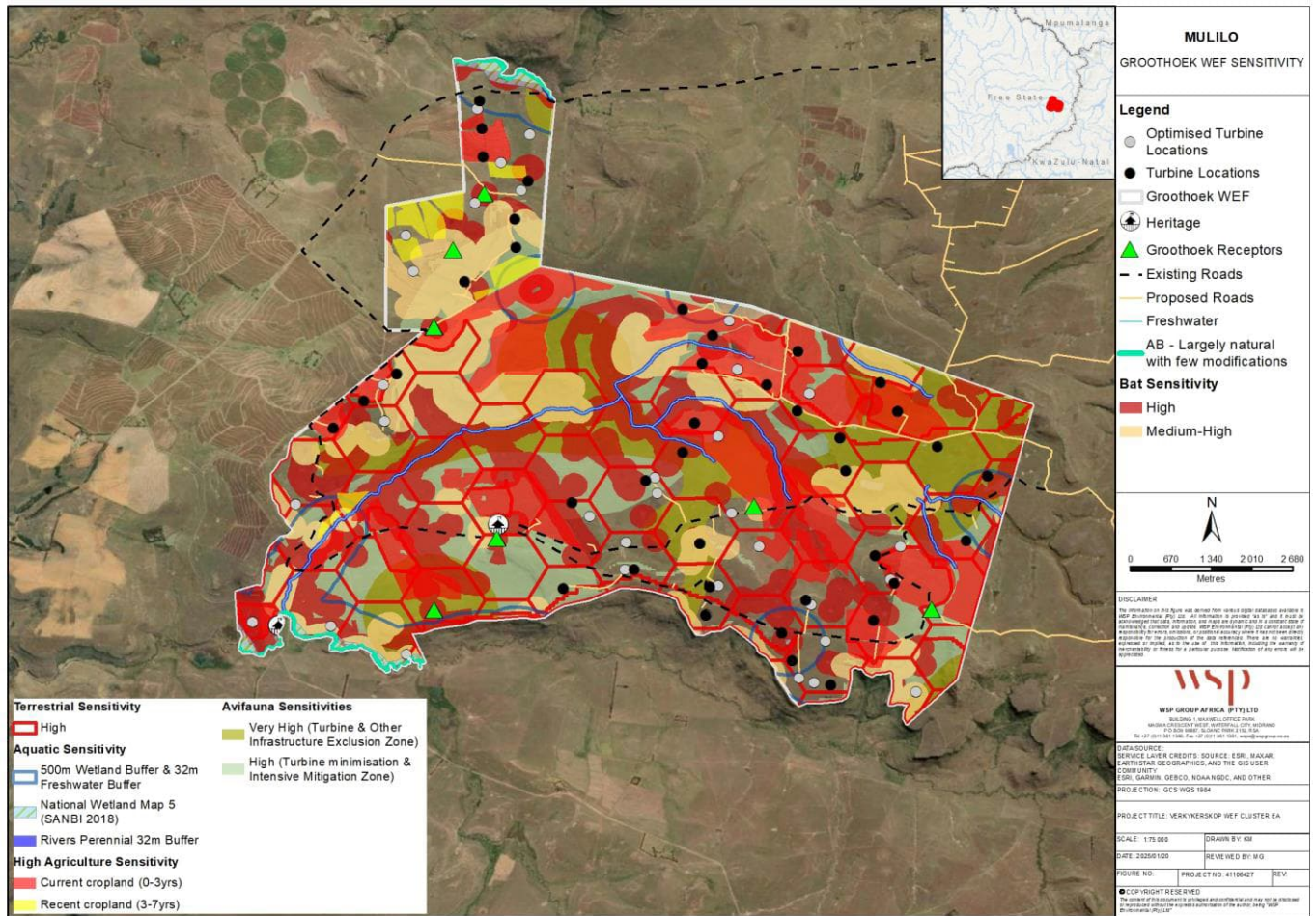








**Figure 24: Consolidated Sensitivity Map overlain by the Optimised Site Layout for the proposed Groothoek WEF**





- Noise Theme (Verified Medium Sensitivity)

The following environmental themes were disputed against the DFFE Screening Tool Rating, and found to be a lower sensitivity than what was identified by the DFFE Screening Tool:

- Terrestrial Biodiversity (Verified Medium to High Sensitivity)
- Aquatic Biodiversity (Verified High Sensitivity)
- Animal Species (Verified Medium Sensitivity)

Kind Regards,

A handwritten signature in blue ink, appearing to read 'Ashlea Strong'.

Digitally signed by Ashlea Strong  
DN: cn=Ashlea Strong, c=ZA,  
o=WSP Group Africa, ou=Earth and  
Environment,  
email=ashlea.strong@wsp.com  
Date: 2025.01.20 11:53:10 +02'00'

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Ashlea Strong

Registered EAP