



Borutho-Nzhelele Powerline Project – Avifauna Letter

**Waterberg, Capricorn and Vhembe District
Municipality, Limpopo Province, South Africa**

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Prepared by:





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

1 Introduction

1.1 Background

The Biodiversity Company was appointed to conduct a comparative analysis of the findings from the "Avifauna Impact on the Proposed Construction of a 400kv 250 km Burotho-Nzhelele Powerlines" dated May 2013 and the "Borutho-Nzhelele Powerline Project – Avifauna Walkdown" dated May 2024. The project is located in Waterberg, Capricorn and Vhembe District Municipality, Limpopo Province, South Africa. This letter aims to highlight the key differences and implications for avifauna between the two reports.

The project area assessed in 2013 had three corridors (western, central and eastern), as seen in Figure 1-1.

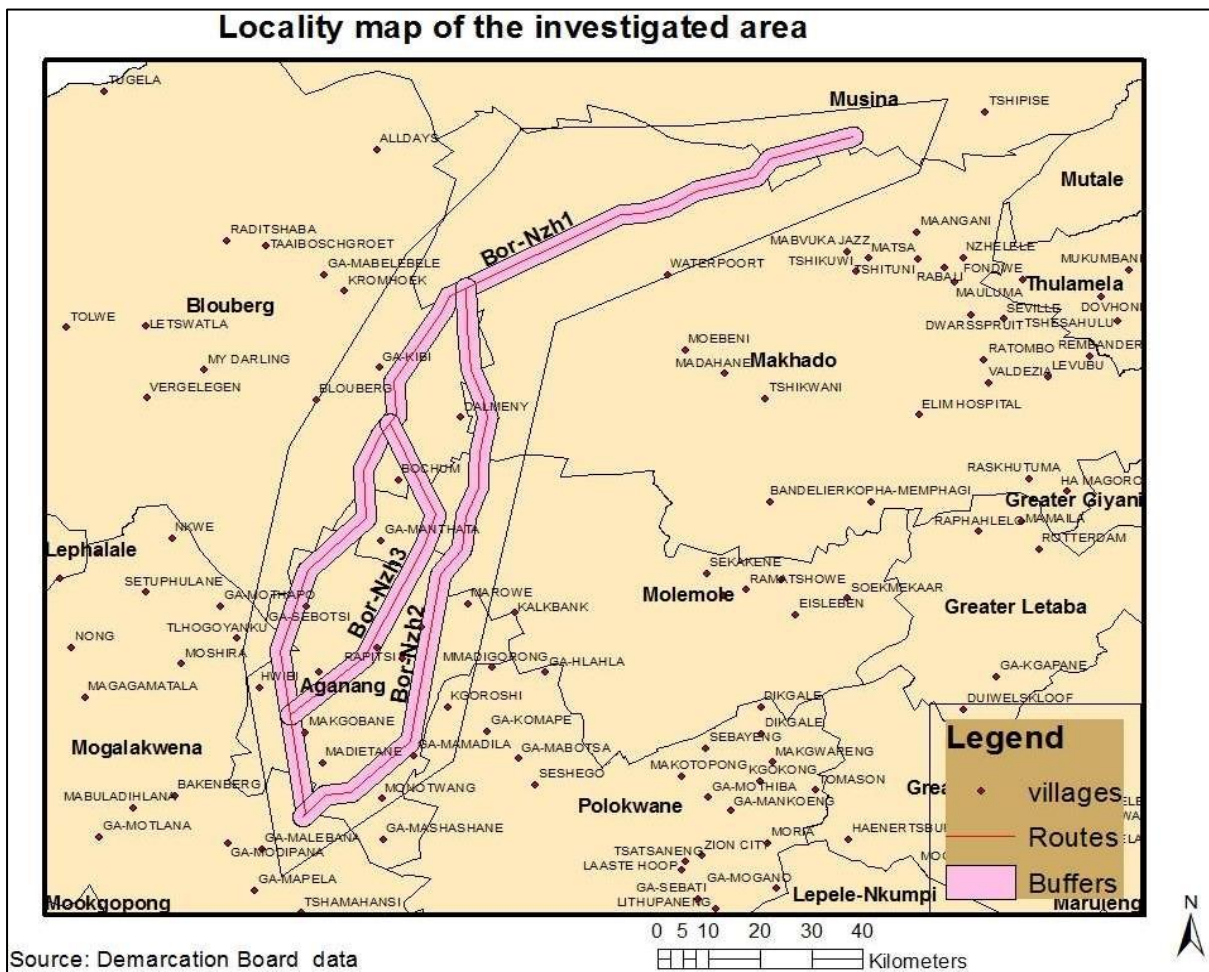


Figure 1-1 Project area 2013

The project area assessed during the walkdown in 2024 was a combination of the central and eastern corridors that were merged to form the project area (Figure 1-2).

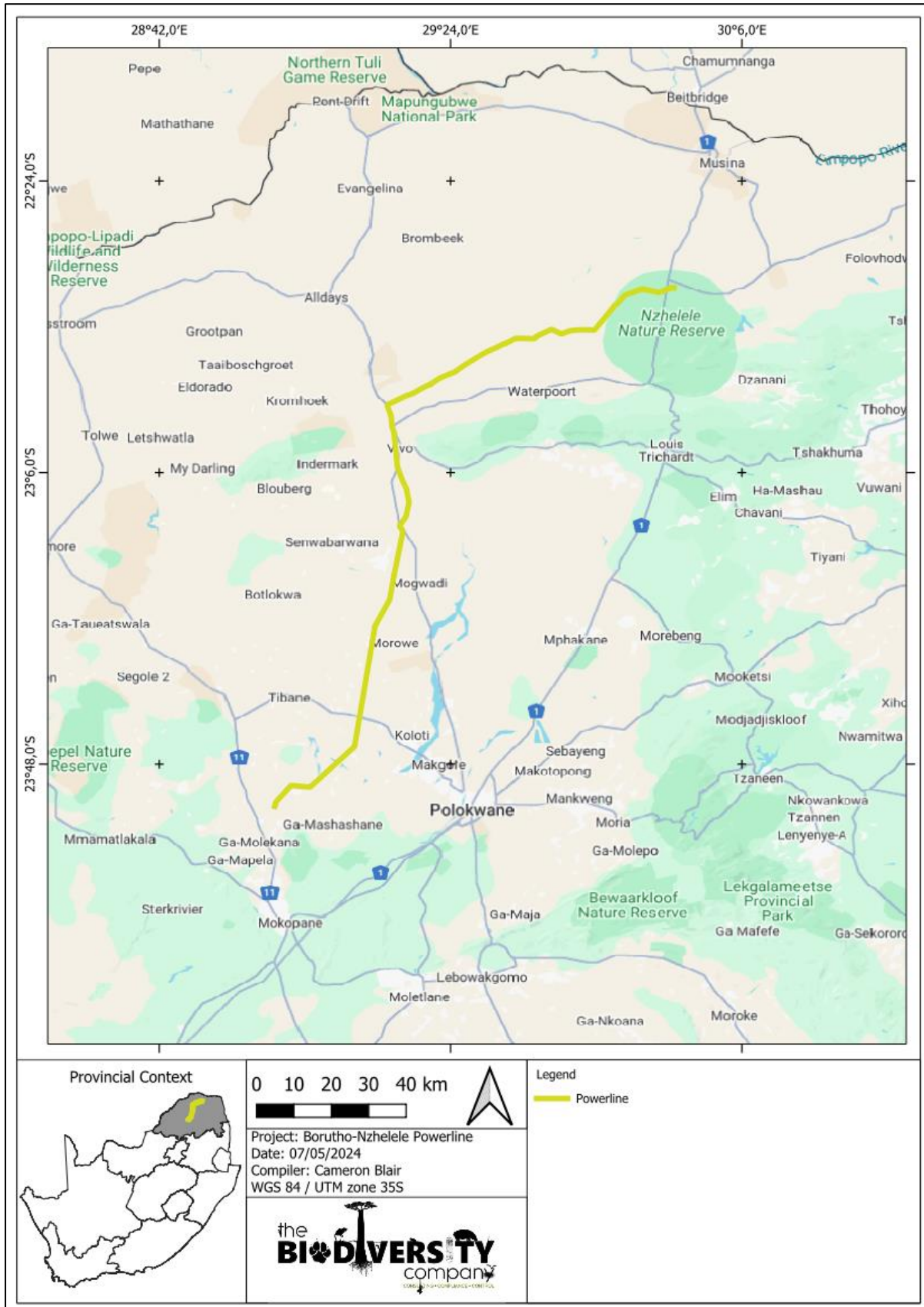


Figure 1-2 Project area 2024

1.2 Key Findings from Agricultural Impact Studies (April 2012)

1.2.1 Soil Forms and Agricultural Potential

1.2.1.1 2012 Findings

The Avifaunal Specialist Study conducted by Jon Smallie from WildSkies Ecological Services in May 2013 provides a comprehensive assessment of the potential impacts of the proposed Borutho-Nzhelele 400kV power line on bird species in the area. The study was commissioned by Nzumbululo Heritage Solutions as part of the environmental impact assessment for Eskom's proposed power line project. The key findings of the study are summarized below:

Overview of the Study Area

The proposed power line spans approximately 230 kilometers from the Borutho substation west of Polokwane to the Nzhelele substation north of Makhado. The study area encompasses 14 quarter degree squares, which have recorded up to 494 bird species, including 29 Red Listed species. These species include one "Regionally Extinct," one "Endangered," 15 "Vulnerable," and 12 "Near-threatened" species. Additionally, three species—White Stork, Abdim's Stork, and Hamerkop—are considered threatened for the purpose of this study due to their conservation status and international protection under the Bonn Convention on Migratory Species.

Key Avifaunal Features

The study highlights several key avifaunal features within the study area, including the Blouberg Nature Reserve and the Soutpansberg mountain range. The Blouberg Nature Reserve is home to the world's largest Cape Vulture breeding colony, with 800-868 breeding pairs recorded in June 2012. The Soutpansberg also hosts a Cape Vulture breeding colony with 173 breeding pairs. These colonies are significant because Cape Vultures are known to forage widely and frequently cross between the two mountain ranges, increasing their risk of collision with the proposed power line.

1.2.1.2 2024 Findings

The Avifaunal Walkdown Report for the Borutho-Nzhelele Powerline Project, conducted by The Biodiversity Company in May 2024, provides a detailed assessment of the potential impacts of the proposed power line on bird species in the area. The report was prepared by Sam van Zwieteren and Cameron Blair, with reviews by Dr. Lindi Steyn and Andrew Husted. The key findings of the report are summarized below:

Overview of the Study Area

The proposed power line spans approximately 230 kilometers from the Borutho substation west of Polokwane to the Nzhelele substation north of Makhado. The study area encompasses three district municipalities: Waterberg, Capricorn, and Vhembe in the Limpopo Province. The project involves the erection of 441 towers along the power line route.

Key Avifaunal Features

The study highlights several key avifaunal features within the study area, including the Blouberg Nature Reserve and the Soutpansberg mountain range. The Blouberg Nature Reserve is home to the world's largest Cape Vulture breeding colony, with approximately 300 vultures observed in the air around the colony during the site visit. The Soutpansberg also hosts a Cape Vulture breeding colony with around 50 vultures observed. These colonies are significant because Cape Vultures are known to forage widely and frequently cross between the two mountain ranges, increasing their risk of collision with the proposed power line.

2 Recommendations and Mitigation:

2.1 Collision Mitigation

Avifaunal Specialist Study:

- Install Eskom-approved anti-bird collision marking devices on high-risk sections.
- Conduct annual monitoring to detect and mitigate collision hotspots.

Avifaunal Walkdown Report:

- Install bird diverters every 2 meters across the entire line due to the high presence of Species of Conservation Concern (SCC).
- Follow guidelines from the “Generic Environmental Management Programme” and recommendations from Birdlife South Africa.

2.2 Habitat Destruction Mitigation

Avifaunal Specialist Study:

- Follow standard construction best practices.
- Develop and implement a construction Environmental Management Plan (EMP) by an on-site environmental control officer.

Avifaunal Walkdown Report:

- Minimize clearing of vegetation and avoid fragmentation.
- Demarcate development areas to restrict activities to designated zones.
- Rehabilitate and re-vegetate disturbed areas with indigenous species.

2.3 Disturbance Mitigation

Avifaunal Specialist Study:

- Implement a standard construction EMP.
- Take care if breeding sensitive species are encountered, with advice from an avifaunal consultant.
- Prefer the eastern alternative route to avoid disturbing the Blouberg Cape Vulture colony during breeding.

Avifaunal Walkdown Report:

- Minimize construction duration to reduce disturbance.
- Design and limit outside lighting to minimize impacts on avifauna.
- Restrict construction to daylight hours and minimize noise during evenings and nights.

2.4 Electrical Faulting Mitigation

Avifaunal Specialist Study:

- Fit bird guards reactively if faulting by birds is found to be a problem post-construction.

Avifaunal Walkdown Report:

- Conduct post-construction monitoring as described in the original avifauna specialist report.
- Install bird guards on towers where high avifaunal utilization is observed.

2.5 General Environmental Management

Avifaunal Walkdown Report:

- Implement an alien vegetation management plan.
- Ensure waste management, dust control, and erosion prevention measures are in place.
- Conduct environmental awareness training for all personnel and contractors.

3 Comparison of Mitigations

Both documents emphasize the importance of mitigating impacts on avifauna through various measures. However, there are some differences and additional details in the second document:

3.1 Collision Mitigation

Both documents recommend the installation of bird diverters, but the second document specifies placing diverters every 2 meters across the entire line due to the high presence of SCC.

3.2 Habitat Destruction Mitigation

Both documents stress minimizing habitat destruction and following best practices, but the second document provides more detailed guidelines on demarcating development areas and rehabilitating disturbed zones.

3.3 Disturbance Mitigation

Both documents recommend minimizing disturbance, but the second document includes specific measures for lighting and noise control.

3.4 Electrical Faulting Mitigation

Both documents suggest installing bird guards reactively, but the second document also emphasizes post-construction monitoring and specific placement of bird guards on high-utilization towers.

3.5 General Environmental Management

The second document includes additional measures for managing alien vegetation, waste, dust, and erosion, as well as conducting environmental awareness training.

4 Conclusion

In conclusion, both the Avifaunal Specialist Study and the Avifaunal Walkdown Report provide valuable recommendations and mitigation measures to minimize the impacts of the proposed Borutho-Nzhelele

power line on bird species. The Walkdown Report offers more detailed and specific guidelines, particularly in areas such as collision mitigation, habitat destruction, and disturbance. It also includes broader environmental management measures that are not explicitly covered in the Specialist Study. Both reports agree on the preferred route to minimize impacts on the Blouberg Cape Vulture colony. By implementing the recommendations from both reports, the project can proceed with a comprehensive approach to minimizing avifaunal impacts.