BOTANICAL SCOPING REPORT

FOR PROPOSED NEW

ESKOM 400Kv POWER LINE

BETWEEN THE

GOURIKWA AND BLANCO

SUBSTATIONS

This report was prepared during April 2015 by:

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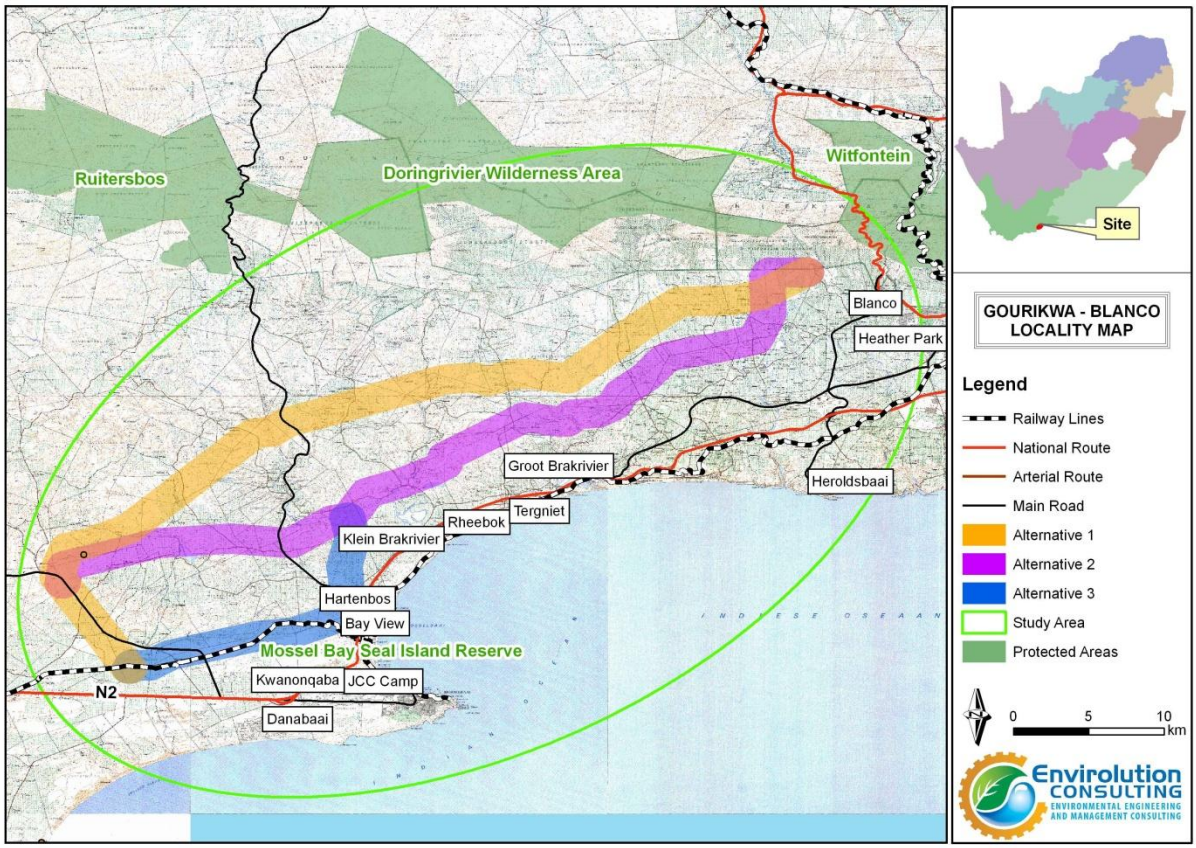
INTRODUCTION

Regalis Environmental Services was appointed to do a botanical scoping report for three alternative routes for an ESKOM 400Kv power line between the Gouriqua and Blanco substations in the southern Cape (See Map 1 for location of the three alternative routes).



Map 1: Location of the three alternative routes.

Jan Vlok of RES (Declaration of Independence and CV of consultant are provided as Appendages 1& 2) prepared this scoping report during April 2015 and the results of this desktop study are provided here.

METHODOLOGY AND UNCERTAINTY REGARDING STUDY AND RECOMMENDATIONS

The national status of the affected vegetation type was determined by means of consulting Mucina *et al (*2006) and the regional conservation status was determined by means of consulting Pence (2014). The conservation status of threatened species follows Raimondo *et al* (2009).

I am thus confident that the proposed recommendations carefully consider national and regional conservation planning principles.

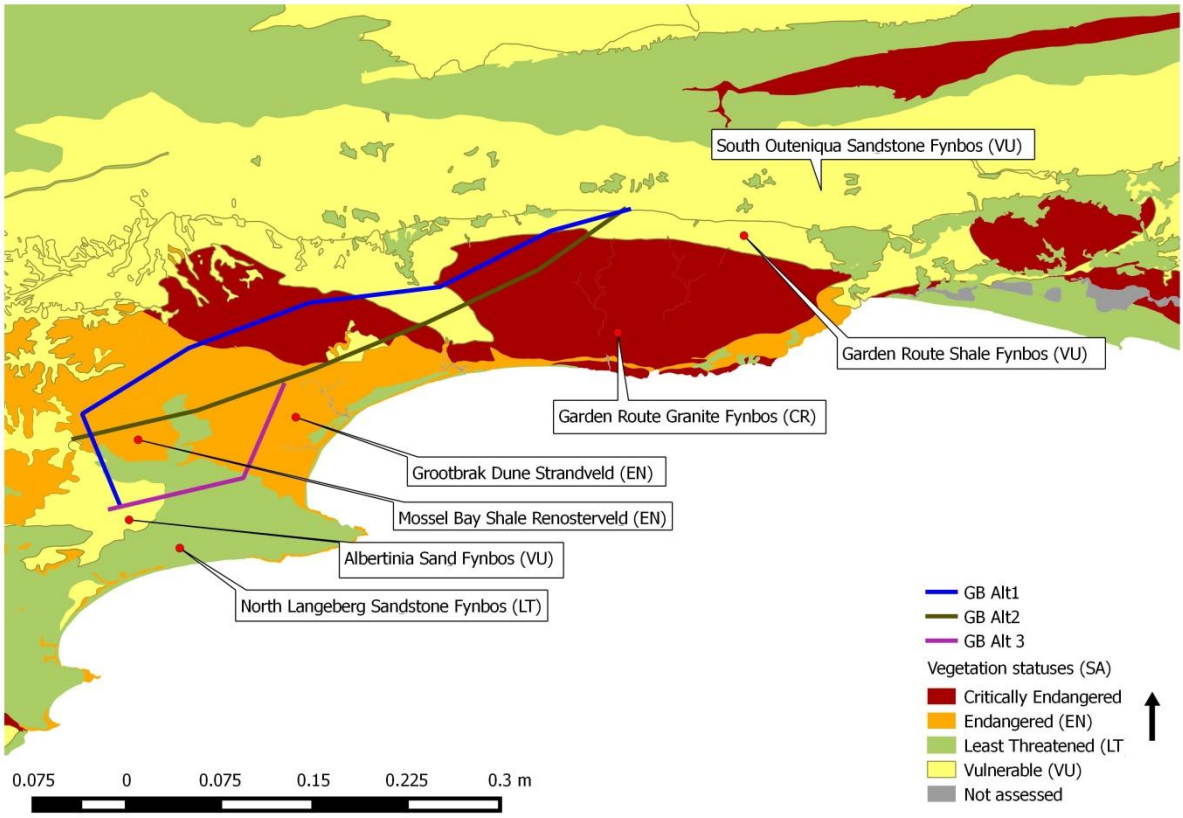
An important assumption is that the power line will have a direct impact on the affected vegetation along a corridor of approximately 100 m wide. Not yet known is to what extent associated activities (e.g. establishment of new access routes) would exacerbate the impact of the different alternatives.

What is clear is that each alternative will affect at least 10 ha over each 1 km section of the route. With all other factors set even, the shortest route will be the best alternative.

RESULTS OF STUDY

All three alternatives intersect threatened national vegetation types (See Map 1). Alternative 1 intersects critically endangered and endangered vegetation types most. There is little difference between the extent to which alternatives 2 and 3 intersect threatened vegetation types. This does, however, not imply that alternative 1 should be rejected as the affected vegetation along the route may be completely or largely transformed, whilst those of alternatives 2 and 3 may still be largely intact. In the latter case the potential impact of alternative 1 would be the least.

Also to be kept in mind is that the national vegetation map is at a very crude scale (1: 1 000 000) and that the boundaries of the mapped vegetation types are not always correct.

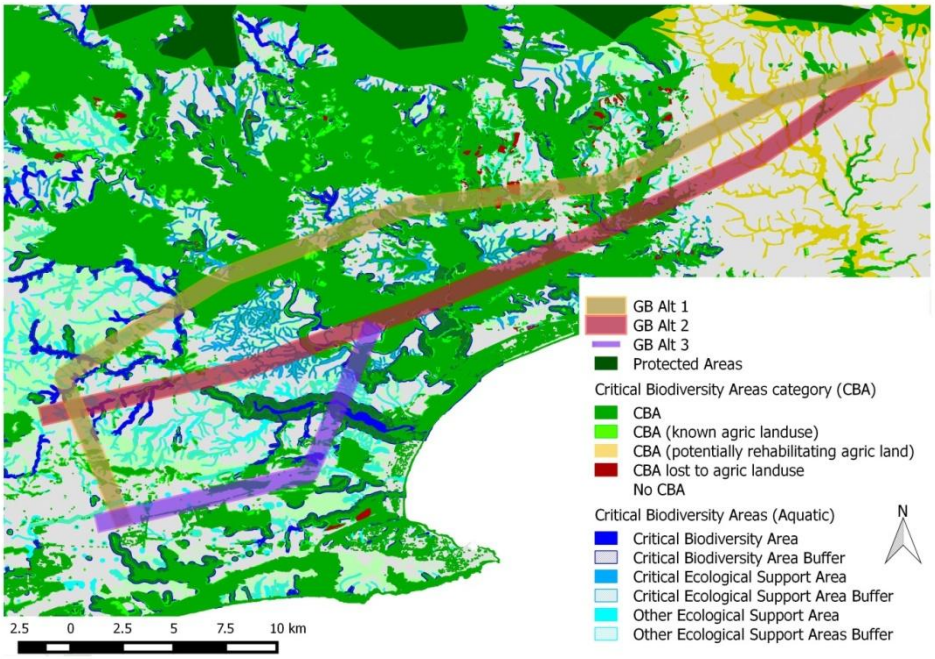


Map 1: Vegetation types and their statuses intersected by the three alternatives (data from Mucina *et al*, 2006).

The regional critical biodiversity area map provides some information on the ecological condition and the conservation status of the affected area. Sensitive areas are indicated as Critical Biodiversity Areas (CBA) on Map 2. The resolution of the regional map is also much better as it can be read to a scale of 1:30 000. This does, however, not imply that the data are flawless as the transformation data layer that was used to establish these maps was often incorrect. The actual ecological condition of the affected areas still needs to be ground-truthed.

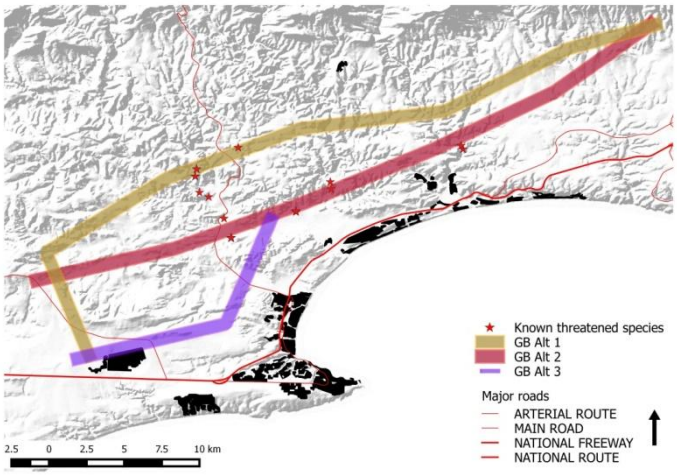
The regional data indicates that the extent of intersection of highly threatened aquatic and terrestrial vegetation types that are still ecologically intact will be highest in alternative 3.

Alternatives 1 and 2 do not differ much in terms of intersection of CBA's. Both Alternatives 1 and 2 intersect areas that contain known populations of threatened plant species (see Map 3). The data regarding occurrence of threatened species are not complete and several other threatened species populations may occur along the proposed corridors.



Map 2: Regional conservation status of the vegetation intersected by the three alternatives (data from Pence, 2014).

Alternatives 1 and 2 both intersect known populations of threatened plant species (see Map 3). Alternative 2 marginally intersects more populations than Alternative 1, but it should be kept in mind that the available data are not complete. A field study may show that the reverse is true.



Map 3: Occurrence of known populations of threatened plant species. Note that species identity may not me revealed in the public domain. (Data from unpublished SANBI: CREW database).

CONCLUSION AND RECOMMENDATIONS

All three alternative routes intersect vegetation types that are regarded as threatened on a national and regional level and vegetation types that contain threatened plant species.

Alternative 3 intersects the most Critical Biodiversity Areas, for which the land use recommendation is not to disturb any remaining natural vegetation and to retain important ecological processes (Pence, 2014). I hence propose that Alternative 3 is rejected at this early stage, with only Alternatives 1 and 2 being subjected to more detailed field studies.

It is not possible to find a route between the two ESKOM sub-stations that needs to be linked which will not intersect threatened vegetation types or Critical Biodiversity Areas. Alternatives 1 and 2 are reasonable options that should be investigated in further detail to determine the exact extent of their impact on extant natural vegetation and the occurrence of threatened plant species. The impact of the proposed approximately 100 m wide corridor development will mostly be;

1. High negative impact at a limited scale at the points where pylons will be located. Here the occurrence of threatened plant species should be considered.
2. High negative impact along new access routes that will have to be established to establish and service the power line. Here the occurrence of threatened plant species should also be considered.
3. Moderate negative impact along the entire route where it intersects flammable vegetation (mostly Renosterveld and Fynbos) as the vegetation will be slashed periodically to reduce fuel loads under the power line. Here the impact of disturbance of the proposed development on the remaining intact vegetation should be carefully considered.
4. Potential positive impacts of the proposed development are mostly limited to areas where alien vegetation will be cleared along the route.

A detailed field study may find mitigation actions that will limit the negative impacts of the proposed development along either alternative 1 or 2. Such a field study must establish;

1. The true ecological condition of the vegetation along the two alternatives, especially within the mapped Critical Biodiversity Areas.

2. The occurrence or potential occurrence of threatened plant species along the two alternatives.
3. Sound mitigation actions to ensure that the establishment of the power line will have a minimal negative impact on sensitive vegetation and threatened plant populations.

REFERENCES

Mucina, L., Rutherford, M.C. and Powrie, L.W. (eds.), 2006. Vegetation Map of South Africa, Lesotho and Swaziland. 1:1 000 000 scale sheet maps. SANBI, Pretoria.

Pence, G.Q.K., 2014. Western Cape Biodiversity Framework 2014. Status Update: Critical Biodiversity Areas of the Western Cape. Unpublished CapeNature report.

Raimondo, D., Von Staden, L., Foden, W., Victor, J.E., Helme, N.A., Turner, R.C.,

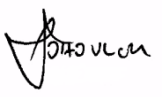
Kamundi, D.A. & Manyama, P.A., 2009. Red List of South African plants.

Strelitzia 25, SANBI, Pretoria.

Appendage 1: Declaration of independence

I, J.H.J. Vlok, as the appointed independent Specialist hereby declare that I:

- act/ed as an independent Specialist in this application / EIA process;
- regard the information contained in this report to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, environmental assessment practitioner and/or competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 and 32 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist report will be distributed or made available to any interested and affected parties registered in the EIA process, administered by the appointed environmental assessment practitioner, with a reasonable opportunity to participate and to provide comments;
- have provided the environmental assessment practitioner / competent authority with access to all information at my disposal regarding the application / EIA process, whether such information is favourable to the applicant or not.
- am aware that a false declaration is an offence in terms of regulation 71 of GN. No. R. 543.



Signature of the Specialist:

Regalis Environmental Services CC

Name of company:

30th April 2015

Date:

Appendage 2: CV of consultant.

CURRICULUM VITAE

Johannes Hendrik Jacobus Vlok

Biographical Information

Birth: 6th December 1957, Calvinia, South Africa.
Identity Number: 571206 5133 089
Criminal Record: None.
Married to Anne Lise Schutte-Vlok and we have one daughter, Marianne Helena Vlok.

Education

1975 Matriculated at Bellville High School.
1982 Diploma in Forestry, Saasveld Forestry College.
1997 MSc (*Cum Laude*), University of Natal.

Employment

1982-1990. Department of Forestry (later Water Affairs, Forestry and Environmental Affairs), as research technician.
1990-1997. Cape Nature Conservation, as regional botanist.
1997-present. Self employed as environmental advisor (Regalis Environmental Services).

Research Output

One book and more than 30 scientific and popular articles published in international & national journals as primary or as co-author. Delivered three keynote and >20 other verbal papers at scientific forums on ecological and floristic studies. Delivered >300 presentations to civil society in public meetings and *via* other media (radio, newspaper and television) on plant ecology and conservation.

Awards

2003. Leslie Hill medal. **Succulent Society of South Africa**.
2006. Gold award. **C.A.P.E.**
2006. Certificate of Appreciation. **Western Cape Conservation Stewardship Association**.
2008. Special Award. **CapeNature**
2010. Marloth medal. **Botanical Society of South Africa**.

Consultation & Advisory Capacity

Consultant to WWF-SA, Cape Nature and SANPARKS to determine conservation status of

land. Several of the studies resulted in the purchase of the properties, now amounting to a value of >R20 million.

Consultant to National, Provincial and private institutions for vegetation restoration projects, environmental impact assessment and environmental management plans. Some of these assignments won national awards.

Referee for international and national scientific articles and donor funded grants.

Classified, described and mapped Forest, Subtropical Thicket, Fynbos and Succulent Karoo vegetation units in four major donor funded projects.

Expert witness in Magistrate and Supreme Court cases.

Research associate and subject moderator for NMMU (Saasveld campus).