chepri scientific services

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Bergsig
Great Brak River
Western Cape
South Africa
6525

1 September 2021

To whom it may concern,

As author of the Animal Compliance Statement conducted for Zandhoogte Estate Tergniet (*Remainder of Farm 139 - Zandhoogte: Fauna Compliance Statement, March 19 2021*), I hereby confirm that the proposed interim holding/conservancy tanks for the site, as well as the upgrade of the existing waterline will pose no additional impacts or risks that will change the results, conclusions or recommendations contained within the abovementioned report.

Please contact me for any further confirmation or details pertaining to this statement or the study referred to above.

Best regards,

_____

Dr. Marius L. van der Vyver
tel. +027 (0)82 225 9317
email. marius@chepri.co.za

Remainder of Farm 139 (Zandhoogte): Fauna Compliance Statement

CHEPRI (PTY) LTD

March 19, 2021

Contents

1 Introduction

The construction of a residential development on Remainder of Farm 139 (Zandhoogte) has been proposed (henceforth the proposed site). The Screening Report of the site and its surroundings delineate the proposed development area as of medium sensitivity and lists only one fauna species (*sensitive species 5*) as potentially occurring on the site that justifies this sensitivity designation.

This document serves as an Animal Species Compliance Statement in the light of the screening tool delineation and the true situation as assessed on site during a four hour site visit on 1 and 4 March 2021 by a professional Ecologist, Dr. Marius van der Vyver (SACNASP: Ecological Science, 118303).

1.1 Animal Feature: Sensitive Species 5

This species is particularly tied to a specific habitat of increasingly diminished dune thicket and coastal forest habitat along the southern and eastern coast of Southern Africa. It is also a species of high economic value to human communities and thus vulnerable to overharvesting, hence the protection SANBI assigns to it by using a reference number rather than an overt species identification.

2 Methods

The findings of this report is primarily derived from a thorough search of the proposed site for signs of *sensitive species 5* on two consecutive mornings on the 1st and 4th of March 2021 of two hours each. The search was to establish the presence of any signs of the abovementioned species. Since the proposed site is mostly transformed dune vegetation, without any significant patches of the required habitat for *sensitive species 5* to inhabit, the focus was on establishing whether the proposed site acts as a corridor for movement of individuals of *sensitive species 5* between remaining patches of their required habitat. On both site-visits the site was surveyed through walking random transects covering the entire site. Remaining and regrown woody vegetation and thicket shrubs were targeted when choosing transect layouts in the field.

3 Results

No inidividuals of the listed sensitive species was found on site. This is likely due to too little of the remaining habitat for this species present on the porposed site. No sign of *sensitive species 5* were found on the proposed site and it is considered unlikely that the proposed site is used as a corridor for this species between remaining habitat patches in the local area.

3.1 Landscape description

The location map (Figure 1) and a map showing the proposed site in relation to the Western Cape Spatial Biodiversity Plan (WCSBP, 2017) delineation of the proposed site (Figure 2) reveal the high levels of fragmentation and transformation of primary natural dune vegetation, and the formal designation of the area by the WCSBP as an *Other Natural Area (ONA)*.

The proposed site has been stripped of its original primary dune vegetation, and is situated within a sea of established urban residential development, but still provides some habitat for a range of fauna species.

Two other natural areas, one to the East and one to the West of the proposed site are in better condition regarding remaining natural vegetation. These areas are approximately 900m and 600 metres from the proposed site, respectively.

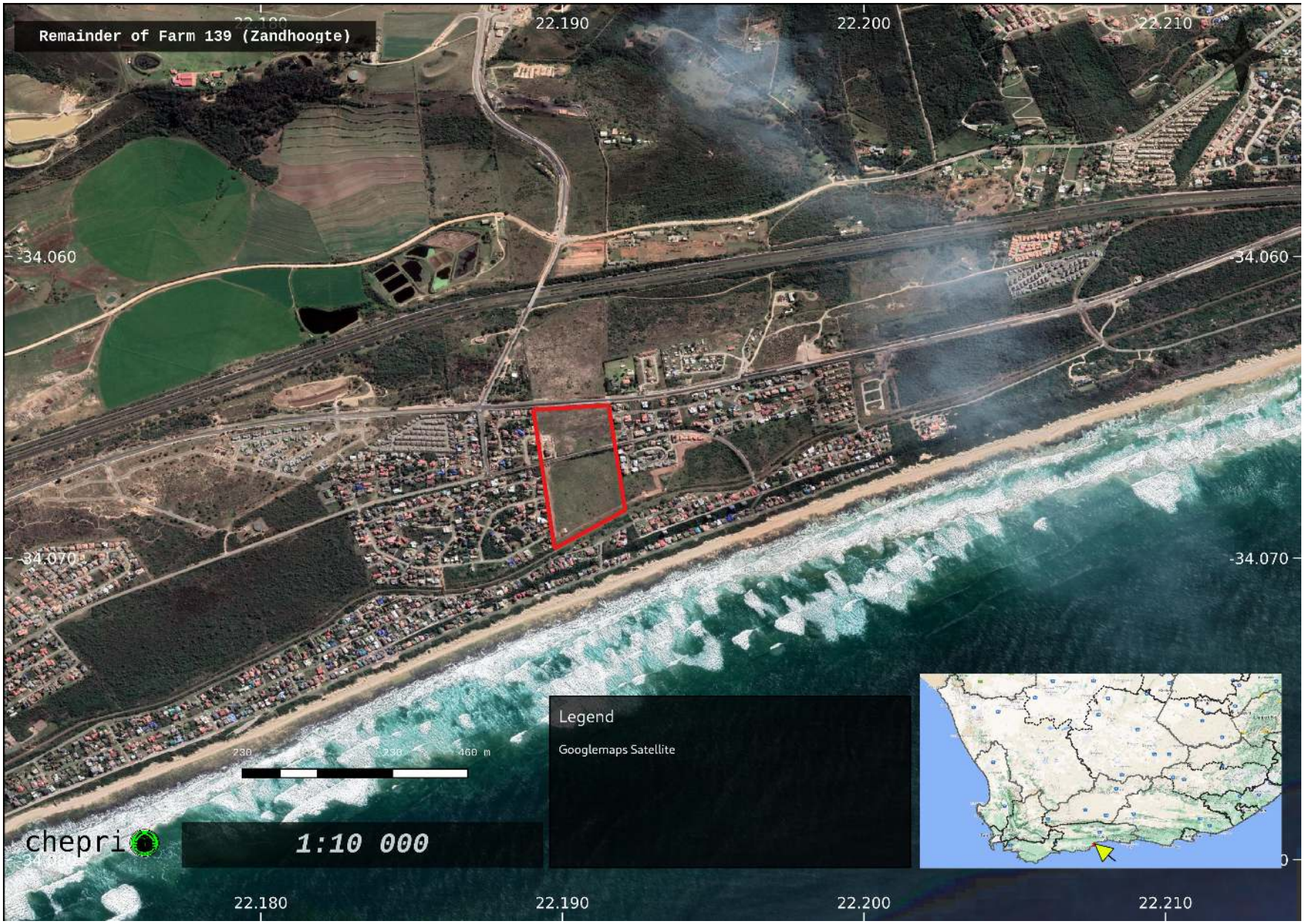


Figure 1: A location map of the proposed site

Figure 2: The proposed site in relation to the local spatial biodiversity planning (WCSBP, 2017).

3.2 Site descriptions and sensitivity

The proposed site is located mostly on a south-facing sandy dune slope, and bisected by a main access road to the village of Tergniet. On its southernmost boundary it is flanked by a railway line extending along the coastline in a northeasterly-southwesterly direction. The northern boundary of the proposed site is a main road (R102) running alongside the national highway (N2) a few hundred metres to the north. The proposed site is itself denuded of any natural primary dune vegetation, while its boundaries to the east, west and south is mostly occupied by suburban residential areas.

The only remaining area containing some significant habitat for *sensitive species 5* is a small strip along the road bi-secting the proposed site of thicket shrubs - all situated on a relatively steep slope. This small strip is too smalll to function as a habitat patch for *sensitive species 5*. Other possible corridors individuals of *sensitive species 5* may use include the railway track and its reserve which is mostly lined with thicket shrubs and trees. No tracks were found around the railway track reserve at the southern edge of the site.

The secondary/pioneer vegetation on site consist mostly of grass and sedge species across the site, with small scattered shrubs and dwarf shrubs present. The bottomlands area on the southern edge of the site has been transformed recently through the recent installation of a sewer line (see Figure 3).

Figure 3: Bottomland recently disturbed area, note the abundance of mounds, likely made by the Cape Dune Mole-rat (*Bathyergus suillus*)

Figure 4: Bottomlands transformed by the recent installation of a sewer line.

(a) *Bathyergus suillus* (Cape dune mole-rat) mounds

(b) Likely vleirat (*Otomys irroratus*) droppings

(c) Signs of birds including the red-necked francolin and Cape Eagle Owl

(d) Likely *Bathyergus suillus* (Cape dune mole-rat) mounds

(e) Likely vleirat (*Otomys irroratus*) tracks

Figure 5: Photos of fauna tracks and signs found on the proposed site

4 Discussion and Recommendations

The targeted search for signs of *sensitive species 5* on site did not produce any results. This is not surprising since this species is tied to habitat requirements that is not found on site. The tracks and signs of a number of other fauna species were found on site. Of these the mammal species found in high densities were Cape Dune Molerat and what appears to be vleirat (*Otomys irroratus*).

5 Conclusion

After two 2-hour targeted searches of tracks and signs of *sensitive species 5* (no results) and an evaluation of the habitat quality, it is considered highly unlikely that this species is found on the proposed site.

6 Declaration of Independence

I, Dr. Marius L van der Vyver, hereby declare that I

- Act as the independent specialist in this application;
- Will perform the work relating to the application in an objective manner, even if this results in views

and findings that are not favourable to the applicant and that there are no circumstances that may compromise my objectivity in performing such work;

- Have expertise in conducting the specialist report relevant to this application, including knowledge of

the Act, regulations and any guidelines that have relevance to the proposed activity;

- Will comply with the Act, regulations and all other applicable legislation;
- Have no, and will not engage in, conflicting interests in the undertaking of the activity;
- Undertake to disclose to the applicant and the competent authority all material information in my

possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority; and the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority.

I further declare that all the particulars furnished by me in this form are true and correct; and acknowledge that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of Section 24F of the Act.

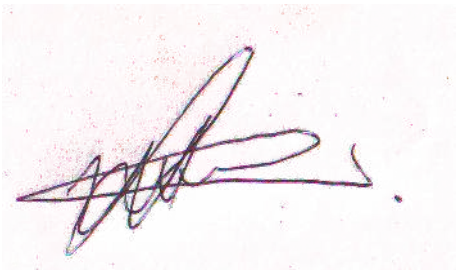
Name of Company

CHEPRI (PTY) LTD SCIENTIFIC SERVICES

Name of Specialist Consultant

DR. ML VAN DER VYVER

Signature of Specialist Consultant



Date

MARCH 19, 2021

7 Specialist details

Dr. Marius L. van der Vyver holds a PhD in Botany from Nelson Mandela University and has more than 15 years' experience as an ecologist and botanist. He is registered with the South African Council of Natural Scientific Professions (SACNASP) as an ecological scientist (reg.no. 118303) and a member of the South African Association of Botanists (SAAB).

Table 1: Project experience table: Dr. M.L. van der Vyver

Client	Name	Location	Description	Role	Year
Nelson Mandela University	Associate Researcher – NRM Restoration Research Group	Eastern and Western Cape	Research manager of a restoration team to investigate and promote spekboom restoration with funding from the Department of Environmental Affairs, Forestry and Fisheries' Natural Resoiuorce Management (NRM) division.	Project Scientist	2019
BMK consulting engineers	Rehabilitation Management Guidelines: Diepsloot Footbridge construction	Diepsloot, Johannesburg	Guidelines for rehabilitation after construction of a pedestrian footbridge over a wetland, Diepsloot, Gauteng	Restoration Ecologist	2019
Envirobalance (Pty) Ltd	Biodiversity Impact Assessment with specialist Vegetation and Mammal Studies for Calmera Estate, Cradel of Mankind.	Cradle of Mankind, Muldersdrift, Gauteng	Biodiversity Impact Study including a specialist Vegetation (botanical) and Mammal study for assessing the impacts of a low-impact residential development	Biodiversity Scientist	Ongoing
Wild Summit Group, Kamala Game Reserve	Ecological Risk Assessment for the introduction of Red Deer (Cervus elaphus) on Kamala Game Reserve.	Eastern Cape, South Africa	Determine the ecological risk involved with the introduction of a population of Red Deer on Kamala Game Reserve.	Ecological Scientist	2019
Integrated Data Management (IDM) (Pty.) Ltd.	Determining trends in Electricity usage from data provided by Maputo Hospital	Maputo, Mozambique	Statistical analyses of energy usage of electricity monitoring data	Statistical analyst	2018
IDM, Arcellor Mittal	Energy usage analysis from a steel factory, Arcellor Mittal	Port Elizabeth, South Africa	Statistical analyses of energy usage of electricity monitoring data	Statistical analyst	2018

Table 1: Project experience table: Dr. M.L. van der Vyver *(continued)*

Client	Name	Location	Description	Role	Year
Wild Summit Group, Kamala Game Reserve	Ecological Risk Assessment for the maintenance of an existing population of Barbary Sheep on Kamala Game Reserve.	Eastern Cape, South Africa	Determine the ecological risk involved with the maintenance of an existing population of Barbary sheep on Kamala Game Reserve.	Ecological Scientist	2018
Resilience Environmental Advice, Enviro-mining, Suralco LCC	Monitoring system for the Revegetation Index – Suralco LCC Mine Closure Project.	Surinam, South America	Develop a monitoring system for the rehabilitation and revegetation of ferro-bauxite mines, based on the inputs of various Biodiversity specialists.	Restoration ecologist, Statistical analyst	2018
CSIR	Biomass estimation of subtropical thicket vegetation in Addo Elephant National Park for calibration with LiDAR and radiometric sensor data.	Addo Elephant National Park, Eastern Cape.	Biomass estimation of aboveground vegetation across Addo Elephant National Park for calibration with LiDAR and radiometric sensor data	Botanical specialist, Statistical analyst	2018
African Centre of Coastal Paleosciences, NMU	Vegetation community identification and plant species list for phytolith research on specific extant vegetation types in the Garden Route and Klein Karoo area	Southern Cape including Garden Route and Little Karoo	Botanical input to a post-doc researching phytolith composition in relation to extant vegetation types.	Botanical specialist	2018
Bothalia (academic journal)	Peer-review of a research paper on restoration ecology for publication in the academic journal Bothalia	NA	Peer-review of a research paper on restoration ecology for publication in the academic journal Bothalia	Restoration ecologist	2018

Table 1: Project experience table: Dr. M.L. van der Vyver *(continued)*

Client	Name	Location	Description	Role	Year
Rhodes University	Develop allometric models for estimating Biomass of Honeybush tea plants	NA	Specialist assistance to develop allometric models from commercially planted and wild honeybush plants sampled	Statistical analyst	2017
C4ES (Pty) Ltd	Statistical analysis and R code development for applying boundary line analysis to various soil datasets	NA	Develop new and debug existing R code to implement the boundary line analysis method and quantile regression to various soil datasets	Statistical analyst	2017
Envirobalance (Pty) Ltd	Biodiversity Screening Report for a proposed township development, Dunottar, Gauteng	Dunnottar, Gauteng	Biodiversity impact screening report on a closed-down gold mine site.	Biodiversity scientist	2017
KDS Consortium (Pty) Ltd	Biodiversity Screening Report for a proposed township development, Tshivhazwaulu Extension 1	Makhado area, Limpopo	Biodiversity impact screening report for township development	Biodiversity scientist	2017
Envirobalance (Pty) Ltd	Wetland delineation for Calmera Estate, Cradle of Mankind.	Cradle of Mankind, Muldersdrift, Gauteng	Wetland delineation for a proposed Basic Assessment for a housing development	Wetland specialist	2017
Journal of Applied Ecology (academic journal)	Peer-review of a research paper on restoration ecology for publication in the academic Journal of Applied Ecology	NA	Peer-review of a research paper on restoration ecology for publication in the academic Journal of Applied Ecology	Restoration ecologist	2017

Table 1: Project experience table: Dr. M.L. van der Vyver *(continued)*

Client	Name	Location	Description	Role	Year
Arid Land Research and Management (academic journal)	Peer-review of a research paper on restoration ecology for publication in the academic Journal of Arid Land Research and Management	NA	Peer-review of a research paper on restoration ecology for publication in the academic Journal of Arid Land Research and Management	Restoration ecologist	2016
Sigwela and Associates (Pty) Ltd / DEA (National Resource Management Programmes)	Restoration of Forest Vegetation in Matiwane, near Port St. Johns, Eastern Cape	Port St. Johns area, Eastern Cape.	Monitoring of ongoing forest restoration project and establish research sites to ascertain the feasibility of different clearing protocols and treatments for the restoration of grassland habitat after alien plant clearing by WfW teams.	Restoration ecologist	2016
PeerJ (academic journal)	Peer-review of a research paper on restoration ecology for publication in the academic journal PeerJ	NA	Peer-review of a research paper on restoration ecology for publication in the academic journal PeerJ	Restoration ecologist	2015
Forests, Trees and Livelihoods (academic Journal)	Peer-review of a research paper on restoration ecology for publication in the academic journal Forests, Trees and Livelihoods	NA	Peer-review of a research paper on restoration ecology for publication in the academic journal Forests, Trees and Livelihoods	Botanical specialist	2014
Gamtoos Irrigation Board	Develop allometric models for biomass estimation of 5 major alien invasive plants in the Nelson Mandela Metropolitan area.	Port Elizabeth	Develop allometric models by destructively harvesting a number of prominent Invasive Alien Plant Species	Botanical specialist, Statistical analyst	2013-2014

Table 1: Project experience table: Dr. M.L. van der Vyver *(continued)*

Client	Name	Location	Description	Role	Year
USK Consulting (Pty) Ltd	Ecological Impact Assessment for the proposed Swartwater Solar Energy Facility, Northern Cape	Swartwater, Northern Cape	Botanical and Fauna specialist study	Biodiversity scientist	2013
USK Consulting (Pty) Ltd	Ecological Impact Assessment for the proposed Wesley Wind Energy Facility, Eastern Cape	Wesley, Eastern Cape	Biodiversity (Flora and Fauna) impact specialist study of a proposed Wind Energy Project	Biodiversity scientist	2012
Envirobalance (Pty) Ltd	Ecological Impact Assessment for the proposed Albert Luthuli (Badplaas) Landfill Site	Badplaas, Mpumulanga	Biodiversity (Flora and Fauna) impact specialist study for a proposed landfill site	Biodiversity scientist	2012
Envirobalance (Pty) Ltd	Ecological Screening Report – Kuruman Housing Development and Wastewater Treatment Works	Kuruman, Northern Cape	Biodiversity (Flora and Fauna) screening study for a proposed landfill site	Biodiversity scientist	2012
USK Consulting (Pty) Ltd	Air Quality monitoring at East London Port Harbour	East London, Eastern Cape	Procure, install maintain and manage air quality monitoring instruments and weather stations and analyse data	Environmental scientist	2010-2011
NMU Restoration Research Group	Active restoration of woody canopy dominants in degraded south african semi-arid thicket is neither ecologically nor economically feasible	Krompoort, Rhinosterhoek Eastern Cape	Experiment with planting nursery-grown propagules in spekboom restoration stands of diffent ages. Analysis and reporting on the ecological and economic implications of results. Publish results in Journal of Applied Vegetation Science.	Restoration ecologist	2011-2012

Table 1: Project experience table: Dr. M.L. van der Vyver *(continued)*

Client	Name	Location	Description	Role	Year
NMU Restoration Research Group, DEA	Spontaneous return of biodiversity in restored subtropical thicket: Portulacaria afra as an ecosystem engineer.	Krompoort, Rhinosterhoek Eastern Cape	Survey plant biodiversity and above and belowground carbon pools in different stands ranging from 0-50 years under spekboom restoration treatment and intact stands, and compare results to gauge restoration success in terms of biodiversity. Publish results in the journal Restoration Ecology.	Restoration ecologist	2011-2012
USK Consulting (Pty) Ltd / BCM	Water quality monitoring at Roundhill municipal landfill site in Buffalo City Municipality	East London, Eastern Cape	Water sampling from various locations around and inside the municipal landfill site and lab analysis interpretation and reporting against norms and allowable limits.	Environmental scientist	2010-2011
DEA (National Resource Management Programmes), NMU	Habitat and herbivory impact efficient ecological restoration of spekboom (Portulacaria afra)-rich subtropical thicket.	Various locations within the Southern and Eastern Cape	Assessment of local environmental and management factors affecting spekbooom restoration efficacy on 275 experimental restoration plots on a biome-wide scale (Thicket-wide Plot Experiment)	Restoration ecologist, Statistical analyst	2011-2017
DEA (National Resource Management Programmes), NMU	Plant larger truncheons deeper: more effective spekboom (Portulacaria afra) thicket restoration protocol.	Various locations within the Southern and Eastern Cape	Assessment of various propagule treatments and planting protocols affecting spekbooom restoration efficacy on 275 experimental restoration plots on a biome-wide scale (Thicket-wide Plot Experiment)	Restoration ecologist, Statistical analyst	2011-2017

Table 1: Project experience table: Dr. M.L. van der Vyver *(continued)*

Client	Name	Location	Description	Role	Year
DEA (National Resource Management Programmes), NMU	Contrasted aboveground carbon pool estimations of intact and degraded (Portulacaria afra)-rich subtropical thicket show terrestrial carbon offset potential.	Various locations within the Southern and Eastern Cape	I developed 40 different species-specific allometric models for estimating abovegroound biomass of subtropical thicket vegetation	Botanical specialist, Statistical analyst	2011-2017
C4ES (academic journal) / PrimaKlima (academic journal)	Monitoring of aboveground carbon pools on rehabilitated spekboomveld for three sites in the Eastern Cape.	Kaboega, Klipplaat, Jansenville and Uitenhage areas, Eastern Cape	Monitor and quantify aboveground carbon of spekboom restoration plots as terrestrial carbon offsets	Restoration ecologist	2011-2014
USK Consulting (Pty) Ltd	Strategic Environmental Assessment (SEA) for Mnquma Municipality, Eastern Cape.	Mnquma Municipality, Transkei, Eastern Cape	I was responible for the biodiversity (Fauna and Flora) component including extensive mapping and verification/ground-truthing of areas delineated by the Eastern Cape Biodiversity Plan. I managed the GIS component of the project.	Biodiversity scientist and GIS analyst	2011
Envirobalance (Pty) Ltd	Weltevreden Park Wetland Delineation Study, Centurion.	Weltevreden Park, Gauteng	Wetland delineation and map for a BA for proposed housing development	Wetland specialist	2011

Table 1: Project experience table: Dr. M.L. van der Vyver *(continued)*

Client	Name	Location	Description	Role	Year
USK Consulting (Pty) Ltd / Afrisam	Biodiversity Management Plan for Afrisam Dudfield Mine, Lichtenburg	Lichtenburg, North West	A biodiversity management plan including a vegetation map an alien plant control plan and an ecological management plan of a small protected area adjacent to the mining area with plant checklist, botanical baseline, veld condition assessment, game and stocking rate recommendation	Biodiversity scientist	2010
Envirobalance (Pty) Ltd	Vegetation Screening Report: Kuruman Housing development and Wastewater treatment works	Kuruman, Northern Cape	Botanical screening study for a proposed landfill site	Botanical specialist	2010
Envirobalance (Pty) Ltd	Ecological Impact Assessment: Ga-Oria to Tsate road – Sekhukhuneland, Limpopo	Steelpoort area, Mpumulanga	Biodiversity (Flora and Fauna) impact study for a proposed road.	Biodiversity scientist	2010
Envirobalance (Pty) Ltd	Karino Wetland Rehabilitation and Management Plan.	Nelspruit, Mpumulanga	Wetland delineation and rehabilitation plan	Wetland specialist	2010
USK Consulting (Pty) Ltd	Ecological Screening for Tsolo Junction Development, Eastern Cape	Tsolo, Transkei, Eastern Cape	Biodiversity (Flora and Fauna) screening study for a proposed road	Biodiversity specialist	2010
USK Consulting (Pty) Ltd	A number of Basic Assessments Reports	East London Area, Eastern Cape	Standard Basic Assessments and various inputs to EIA reports.	Environmental consultant	2009-2011
USK Consulting (Pty) Ltd	Ecological screening report - Riverland Orchard Farm 799/37 Gonubie	Gonubie, Eastern Cape	Biodiversity (Flora and Fauna) screening study for a proposed agricultural clearing	Botanical specialist	2008

Table 1: Project experience table: Dr. M.L. van der Vyver *(continued)*

Client	Name	Location	Description	Role	Year
Savannah Environmental (Pty) Ltd / Eskom	Scoping report: Ankerlig Power Station Conversion and transmission integration project, Western Cape.	Mossel Bay LM	I co-authored the scoping report and made two site visits and attended public meetings.	Environmental consultant	2008
Savannah Environmental (Pty) Ltd / Eskom	Environmental Management Plan for Ingula Transmission line	Ingula, Ladysmith area, KwaZulu Natal	I developed an environmental management plan for the construction of a large transmission line across sensitive ecologal communities in the KwaZulu Natal midlands.	Environmental scientist	2008
Savannah Environmental (Pty) Ltd / Eskom	Environmental Impact Assessment for building water infrastructure at Medupi Power Plant	Medupi, Limpopo Province	EIA and scoping for a proposed water infrastructure including extensive pipelines and reservoirs	Environmental consultant	2008
Savannah Environmental (Pty) Ltd / Eskom	Environmental Compliance Officer (ECO) for construction of pipeline for disposal of waste water and ash at Duvha Power Station, Witbank	Witbank, Mpumulanga	Environmental compliance project auditing the construction activities of a pipeline for the disposal of waste water and ash at Duvha Power Station, Witbank.	Environmental Compliance Officer	2008
Savannah Environmental (Pty) Ltd / DWAF	On-site ECO for construction of the De Hoop Dam and realignment of the provincial road	Steelpoort area, Mpumulanga	Independent Environmental Compliance Monitoring of a large dam construction project (DWAF) and an associated project involving the consequent realignment of the provincial road	Environmental Compliance Officer	2007-2008

Table 1: Project experience table: Dr. M.L. van der Vyver *(continued)*

Client	Name	Location	Description	Role	Year
Pidwa Conservation Projects (Pty) Ltd	Research and Monitoring support to Pidwa Reserve Management, part of the Greater Makalali Conservation Area, with paying volunteers.	Greater Makalali Conservation Area near Gravelotte, Limpopo	Research and monitoring within a large big-5 game reserve, specifically in terms of Elephant impacts on vegetation, leopard population and home range study, game monitoring and census, alien plant control, predation preferences of lions and management of international paying volunteers and post graduate students	Project and research manager	2006-2007
Siyafunda Conservation Projects (Pty) Ltd	Research and Monitoring support to Makalali Reserve Management, part of the Greater Makalali Conservation Area, with paying volunteers.	Greater Makalali Conservation Area near Hoedspruit, Limpopo	Research and monitoring within a large big-5 game reserve, specifically elephant group behaviour with regards to the reserve immuno-contraception program, predation preferences of predators on reserve, hyaena monitoring and home range calculations, elephant impacts on vegetation, leopard population and home range study, game monitoring and census, alien plant control and management of international paying volunteers and post graduate students	Volunteer facilitator, Monitoring officer	2004-2006
Tshwane University of Technology	Botanical surveys, vegetation condition assessments and game stocking recommendation on tribal lands in view of the potential establishment of a reserve.	Greater Giyani region, Limpopo	Botanical surveys, vegetation condition assessments and game stocking recommendation on tribal lands in view of the potential establishment of a reserve (3-month contract).	Botanical specialist	2004

Table 1: Project experience table: Dr. M.L. van der Vyver *(continued)*

Client	Name	Location	Description	Role	Year
Cambridge University, Kalahari Meerkat Project	International research station on small reserve focussed mostly on the behavioural ecology of Meerkats.	Kuruman River Reserve, Van Zylsrus, Northern Cape	Reserve management and research technician	Research technician, Reserve infrastructure manager.	2003-2004
SANParks	Field ranger	Kgalagadi Transfrontier Park	Reserve management duty, 4x4 trail guide, field guide	Field ranger, Field guide, 4x4 trail guide	2003