ANIMAL SPECIES COMPLIANCE STATEMENT

FOR THE

PROPOSED WATER TREATMENT WORKS ON ERF RE/557 AND ERF 672 HEIDELBERG

Prepared by: Nicolaas Hanekom
Pri.Sci.Nat (Ecology) 004415
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Original Report Compiled September 2025
1st Revision Compiled February 2026

DECLARATION OF THE SPECIALIST

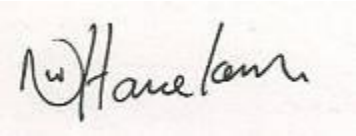
I **Nicolaas Willem Hanekom**, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or

- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;

- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and

- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.



Nicolaas Hanekom
Pri.Sci.Nat (Ecology) 004415 **28 February 2026**

Signature of the ~~EAP~~/ Specialist: Date:

Enviro-EAP (Pty) Ltd

Name of company (if applicable):

TABLE OF CONTENT

1. INTRODUCTION

Proposed development and area assessed.

The Department of Environmental Affairs screening report from the national web based environmental screening tool reported a high sensitivity for a small area for *Bradypterus sylvaticus* and “medium sensitivity for one animal species (*Aneuryphymus montanus*). The site sensitivity verification and specialist assessment does differ from the designation of “high and medium” animal species as identified in the national web based environmental screening tool. After the site sensitivity and verification, no species of Conservation Concern or the species listed in the Environmental Screen report were recorded on the development area and in close proximity to it. The species known distribution and habitat are also not present on site or in close proximity for it to be impacted. The development would have a **Low Negative** impact on animal species. This compliance statement report presents the findings of the animal species verification and site survey that was conducted by Nicolaas Hanekom.

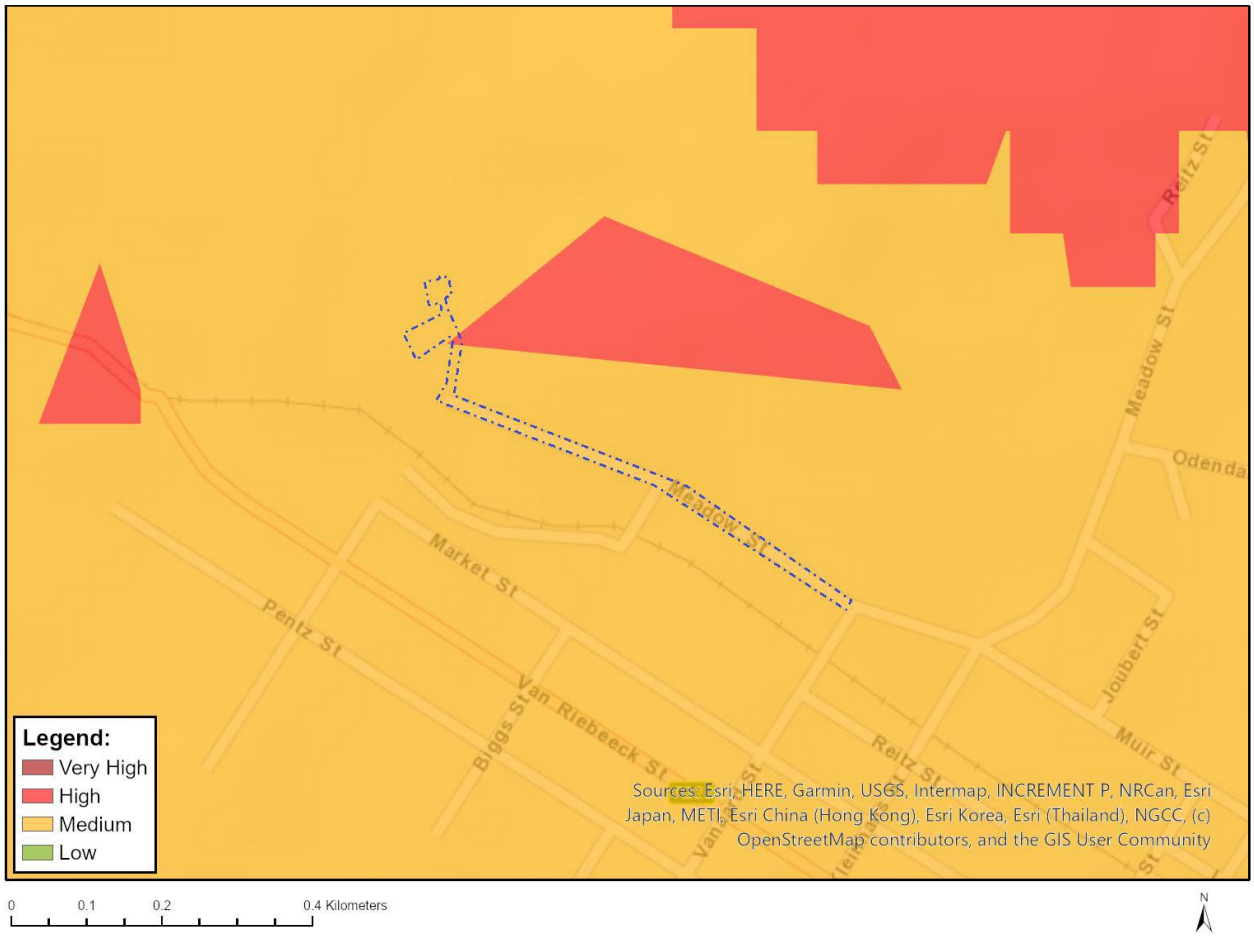


Figure 1: Project Area of Influence map relevant to animal species as per the environmental screen tool report.

Species	Threat status	Habitat requirements	Likelihood of occurrence based on habitat and current records
Bradypterus sylvaticus	VU	Decreasing (<2 500 adult individuals) Endemic to South Africa.	**Low** Was not recorded on site. Habitat in the project area is inappropriate for this species. This species habitat represents forest edges, riparian thickets and coastal thickets where *Sideroxylon inerme* is present. Also

			utilises thickets dominated by lantana and bramble.
Aneuryphymus montanus	VU	This species is only known from six localities in the Cape region of South Africa. Its estimated extent of occurrence (EOO) is ca 170,000 km², while its area of occupancy (AOO) is probably between 100 and 1,000 km². A record from Maclear (Armstrong and van Hensbergen 1999) is considered here uncertain as it is quite far away from the rest of the range. The species is associated with fynbos vegetation, where it has been collected "amongst partly burnt stands of evergreen Sclerophyll in rocky foothills" (Brown 1960). It prefers south-facing cool slopes (Kinvig 2005).	**Low** Was not recorded on site. Habitat in the project area is not appropriate for this species.

The animal species compliance statement, must contain, as a minimum, the following information:

- Contact details and curriculum vitae of the specialist including SACNASP registration number and field of expertise; **- Refer to cover page, section 1.1. and Appendix A of this report**
- A signed statement of independence by the specialist; **Refer to page 2 of this report**
- A statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment; **Refer to section 2.**
- A description of the methodology used to undertake the site survey and prepare the compliance statement, including equipment and modelling used where relevant; **Refer to section 3.**
- Where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMPr; **Refer to section 4.**
- A description of the assumptions made and any uncertainties or gaps in knowledge or data;

Refer to section 5.

- The mean density of observations/ number of samples sites per unit area; and **Refer to section 6.**
- Any conditions to which the compliance statement is subjected. **Refer to section 7.**

1.1. Background & Competency

Nicolaas Hanekom is a registered Professional Natural Scientist in the ecological science WITH the South African Council for Natural Scientific Professions ("SACNASP"), and a qualified registered Environmental Assessment Practitioner ("EAP") who holds a Masters Technologiae, Nature Conservation ("Vegetation, Animal, Ecology and Biodiversity Assessment") degree from the Cape Peninsula University of Technology (Refer to Appendix A, CV). Nicolaas Hanekom with its Professional Natural Scientist registration of ecology is suitably qualified SACNASP registered specialist. The protocols required that the specialist is registered with the South African Council for Natural Scientific Professions (SACNASP) with a field of practice relevant to the taxonomic group ("taxa") for which the assessment is being undertaken. In this case the relevant taxa are Avi-Fauna and invertebrates. The SACNASP does not have a specific registration field for Avi-fauna or invertebrates and therefore the experience of Nicolaas Hanekom become relevant. Nicolaas Hanekom has done fauna and biodiversity impact assessment (these fields cover both the avi-fauna, Herpetologist and invertebrates) since 2006 and the SACNASP registration under the ecology and conservation fields is a suitably qualified and registered field with the necessary experience in the animal species listed in the environmental screen tool report and knowledge of the field and area to conduct the specialist study.

1.2. Scope and Objectives

The protocol[1] provides the criteria for the reporting of requirements for the assessment and reporting of impacts on animal species for activities requiring environmental authorisation.

An applicant intending to undertake an activity identified in the Scope of this Protocol, on a site identified as being of "very high or high sensitivity" for an animal species on the national web based environmental screening tool must submit an Animal Species Impact Assessment Report. However, where the information gathered from the Initial Site Sensitivity Verification and the specialist assessment differs from the designation of "very high or high" animal species sensitivity from the national web based environmental screening tool and it is found to be of a

1 Published in Government Notice No. 1150. GOVERNMENT GAZETTE 43855 30 OCTOBER 2020.This gazette is also available free online at www.gpwonline.co.za

"medium or low" sensitivity, then animal species impact assessment is not required. Should this apply, an Animal Species Compliance Statement is to be provided.

1.3. Terms of Reference

The Animal Species Compliance Statement, must be prepared by a suitably qualified specialist in the field of Zoological Science or Ecological Science, on the site being submitted as the preferred development site and must verify:

- That the site is of "low" sensitivity for animal species; and
- Whether or not the proposed development will have any impact on the biodiversity feature.

2. BASELINE PROFILE DESCRIPTION OF BIODIVERSITY AND ECOSYSTEMS, INCLUDING A STATEMENT ON THE DURATION, DATE AND SEASON OF THE SITE INSPECTION AND THE RELEVANCE OF THE SEASON TO THE OUTCOME OF THE ASSESSMENT

The site survey was conducted on 7 August 2025 in the optimal season for approximately 4 hours. The site was visited late afternoon. It was partly clouded with a light northwestern wind and 160C during the survey. During the site visit, the different biodiversity features, habitat, vegetation and landscape units present were identified and surveyed. Adjacent Eastern Ruens Renosterveld in good ecological condition was also surveyed to obtain a comparison of good quality habitat for comparison purposes. Walk-through-surveys were conducted of representative habitats and impact areas in search of Species of conservation concern or the species listed in the environmental screen tool report. None were recorded.

Project and site description – The Hessequa Municipality proposes to construct a Water Treatment Works ("WTW") on the erven 672 and RE/557 just below the southern wall of the Bloekombos Dam at Heidelberg – Western Cape. Water will be pumped from the Bloekombos Dam and treated at the proposed Treatment Works from where it will be pumped along a new pipeline to be laid within the road reserve along Muir Street from where it will connect with existing bulk distribution system in Heidelberg. The proposed development site is accessed off Muir Street.

The expected footprint for the WTW infrastructure will be approximately 0.5ha and consist of the following:

- WTW package plant with maximum capacity of 3 000m³/day (3Ml/day) 120m² footprint.
- Surface abstraction by floating pumps from Bloekombos Dam on a variable demand basis along an 60m long x 200mm uPVC pipeline above ground where it goes over and along the dam wall and below ground from the foot of the dam wall to the WTW.
- 2 x Sludge settling ponds (27m x 12m x 1.8m deep with 518m³ capacity each) for backwash water collections and sludge settlement.
- 1 x Artificial reed bed pond (27x 12m x 1.8m deep with 518m³ capacity) with aal the

backwash water from the two settling ponds passing through the reed bed and returned to the Bloekombos Dam via the canal.

- The proposed cut and fil construction of the three ponds will have 3m high support embankments with a total 1200m² footprint.
- A collector sump and pumps for return flow of supernatant from sludge dams back into Bloekombos dam via the canal to optimise water use. Return flow water to be pumped along an underground 170mm x 110m long uPVC pipe to the canal inlet point at the Dam.
- A pump station and 200mm x 620m uPVC pipeline for final water distribution from the WTW into the bulk distribution system in Heidelberg via Muir Street.
- Vehicle parking and materials storage area 280m²
- Stormwater Pipeline to western non-perennial drainage line of 85m x 450mm concrete class 100D outlet headwall within non-perennial drainage line. Only the site rainwater runoff will be piped into the non-perennial drainage line.
- Widening and re-alignment of existing 3m wide access road from Muir Street by 1m (84m long x 4m wide), and three 4m access roads total distance 72m to sludge dams.
- A 3 phase 400/230V nominal supply at 50hz from nearest transformer with 55m long underground cable.

The area just below the Bloekombos Dam where development is proposed contains disturbed pioneer indigenous vegetation species originally part of Endangered - Eastern Ruens Shale Renosterveld. A small portion of the proposed development area, mostly falling within the proposed road widening and realignment section, is mapped as Terrestrial CBA. It is expected that the development will lead to the clearance of ±1 200m² indigenous vegetation. The Boekombos Dam is identified as partially artificial and partially natural NFEPA wetland, however the western non-perennial drainage line has not been mapped as a NFEPA wetland. Significant transformation of the original natural features of the site and surrounds, including the non-perennial drainage line has taken place historically as significant encroachment and dense stands of Eucalyptus trees is present within the immediate site and its surrounds most likely caused due to previous agricultural crop planting, plantation and dam construction and maintenance activities.

Figure 2: Locality Map of proposed Heidelberg WTW at Bloekombos Dam

Topographically the site has a low slope from north to south.

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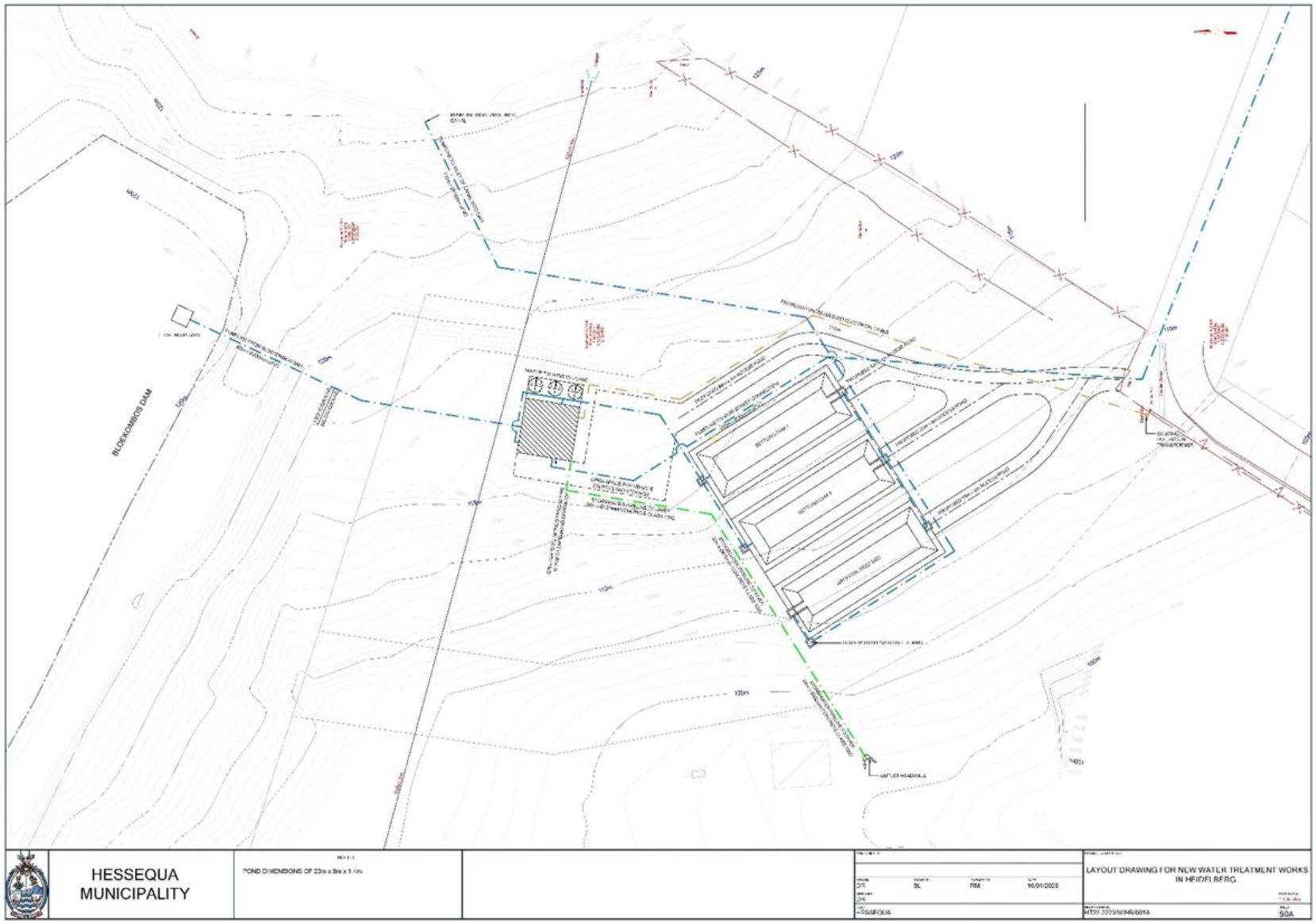

Figure 3: Proposed Heidelberg Water Treatment Works Layout

Geology and Soils

Broad Soils Classification (ENPAT)
Soil Type: Prismacutanic and/or pedocutanic diagnostic horizons dominant. In addition, one or more of: vertic, melanic, red structured diagnostic horizons
Geology: Conglomerate, sandstone and mudstone of the Uitenhage Group as well as shale of the Bokkeveld Group, occasionally overlain by Tertiary silcrete.
Land Types
Land Type: Dc32
Description: In addition, one or more of: vertic, melanic, red structured diagnostic horizons
Class: PRISMACUTANIC AND/OR PEDOCUTANIC DIAGNOSTIC HORIZONS DOMINANT
Soil Types
Symbol: CA
Class: Soils with a strong texture contrast
Description: Soils with a marked clay accumulation, strongly structured and a non-reddish colour. In addition one or more of vertic, melanic and plinthic soils may be present
Depth: < 450 mm
Clay: < 15%
Soil Erodibility
Erodibility: Moderate
Erodibility Factor: 0.49
Soil Clay & Depth
Symbol: CA
Class: Soils with a strong texture contrast
Description: Soils with a marked clay accumulation, strongly structured and a non-reddish colour. In addition one or more of vertic, melanic and plinthic soils may be present
Depth: < 450 mm
Clay: < 15%
Source: CapeFarmMapper dated 1 September 2025.

Description of the Animal (Fauna) Species

The following animal species were recorded during the survey. *Duberria lutrix, Periplaneta americana, Amitermes hastatus, Numida meleagris, Bostrychia hagedash, Streptopelia capicola, Hirundo rustica, Threskiornis aethiopicus, Microcarbo africanus, Passer melanurus, Strongylopus grayii, Alopochen aegyptiaca, Sigelus silens, Elanus axillaris, Euplectes orix, Ploceus capensis* and *Apis mellifera capensis*.

Photograph 1: *Euplectes orix* nest recorded during survey.

Photograph 2: *Amitermes hastatus* nest recorded during survey.

Photograph 3: *Duberria lutrix* nest recorded during survey.

Photograph 4: *Periplaneta americana* recorded during survey.

The National Vegetation Map of South Africa (2018) identifies the remnants of natural vegetation occurring within the area as Eastern Ruens Shale Renosterveld, endangered (EN). During the site visit, it was evident that these remaining remnants have been significant transformed due to existing roads, earth moved platforms and Eucalyptus tree plantation. No Species of Conservation Concern was recorded. The following plant species were recorded on site during the survey on the development footprint. *Searsia glauca, Aloe forex, Asparagus burchellii, Ledebouria revoluta, Felicia amoena, Helichrysum patulum, Hypochaeris radicata, Aspalathus laricifolia subsp. Canescens, Oxalis pes-caprae, Digitaria eriantha* and *Haemanthus sp.*

Photograph 5: Proposed development area.

Photograph 6: Proposed development area.

Photograph 7: Proposed development area.

Photograph 8: Proposed development area.

Photograph 9: Proposed development area and access road

Photograph 10: Proposed pipeline connection route.

Photograph 11: Proposed pipeline connection route.

Photograph 12: View of protected area to the northeast of the site. The blomkombos dam is visible through the Eculaytus trees that are located above the WTW.

The site survey was conducted on 7 August 2025 for approximately 4 hours. The sampling and analysis of the site during the optimal season provides suitable data and results to present an informed decision on the local plant species. The Knysna Warbler is extremely secretive and its presence is normally revealed only during the breeding season when it sings which occurs from August to December. The survey in early August is in the optimum season. Since the habitat is not present on site, special attention was given to identifying this species by their call. None were recorded at the time of the survey. The habitat for *Aneuryphymus montanus* is associated with fynbos vegetation, where it has been collected "amongst partly burnt stands of evergreen Sclerophyll in rocky foothills and this habitat is not present on site.

Bradypterus sylvaticus typically occurs in thick, tangled vegetation along the banks of watercourses, or covering drainage lines in fynbos forest patches, or on the edges of

afromontane forest[2]. It occurs at the base of vegetation, and appears to frequently forage on the ground. It has adapted well to thickets of non-native brambles *Rubus*, and on the Cape Peninsula has retreated from natural, protected forests and colonised narrow belts of suburban riverine woodland, which may provide the dense understorey vegetation which appears critical for nesting (Pryke et al. 2010). Despite this, there are absolutely no records of range extension, suggesting that it either has very poor dispersal ability or very poor reproductive capacity. It is insectivorous (Visser and Hockey 2002); and it breeds between August and December when local invertebrate abundance is highest (Smith 2005, Pryke and Samways 2008). Its closest known recording is to the north of the site. A sub-population persisting on the southern slopes of the Langeberg Mountains, near Swellendam (Berruti 2000).

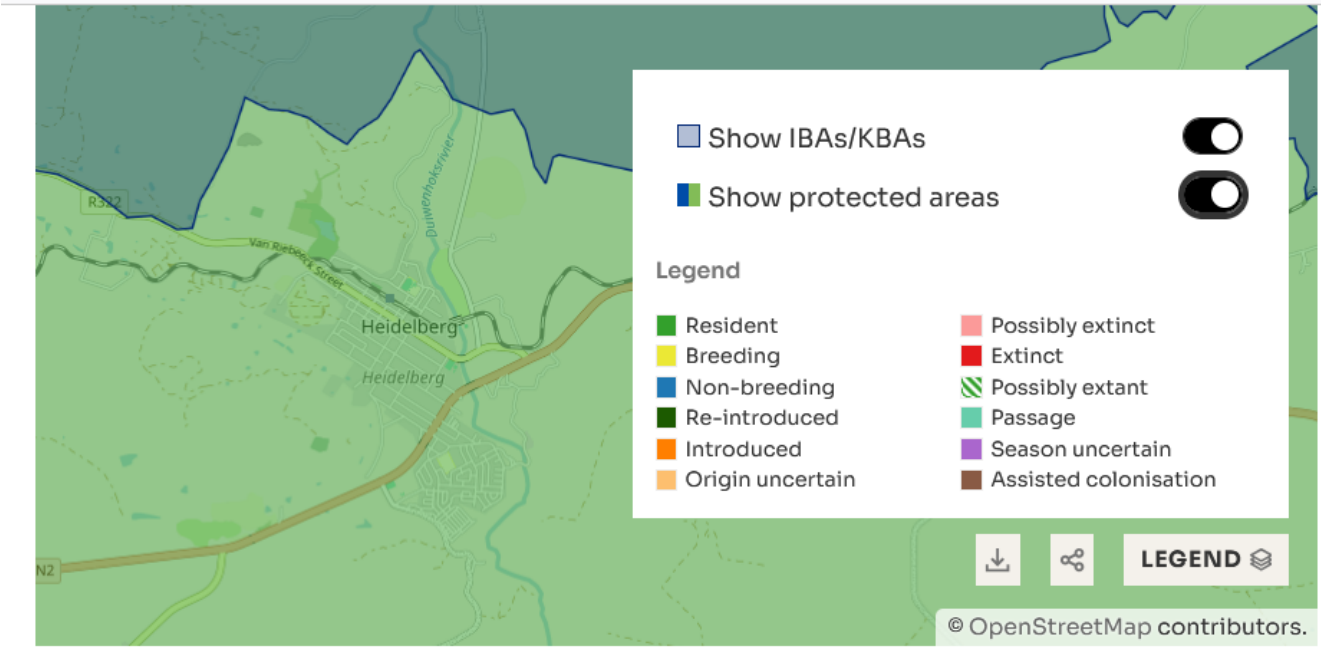

Figure 5: IBAs/KBAs location map of *Bradypterus sylvaticus*. [3]

The information gathered from the site sensitivity verification does differs from the environmental screen report. The development of the site would have a **Very Low** impact with no mitigations required standard good practice mitigation measures are however proposed and included under point 4 below. The proposed development is therefore supported from an animal species perspective.

[2&3] https://datazone.birdlife.org/species/factsheet/knysna-warbler-bradypterus-sylvaticus

3. A DESCRIPTION OF THE METHODOLOGY USED TO UNDERTAKE THE SITE SURVEY AND PREPARE THE COMPLIANCE STATEMENT, INCLUDING EQUIPMENT AND MODELLING USED WHERE RELEVANT

A literature review and desktop analysis were undertaken prior to the field investigation, utilizing various sources including the South African National Biodiversity Institute (SANBI) data and other relevant sources. The screen tool report species habitat requirements and distributions were researched. Recent and historical aerial imagery of the site was reviewed in order to identify points for investigation during the field survey. Utilising the above information, a field investigation was undertaken whereby:

- Sites of geomorphological or topographic variance were identified and subjected to an evaluation of species present within transects established across the selected site.
- Species were identified and collated.
- The species listed in the environmental screen habitat requirements, calls and background information was gathered before the survey to ensure that special attention is given to these habitats and calls during the survey.

The assessments entailed both a literature review of the region, as well as on site evaluations, during which specific primary data was collected and evaluated. In addition, the identification of key ecological features was undertaken allowing for the interpretation of the prevailing habitat form and associated processes.

All data collected in the field and during the literature review was evaluated and interpreted in order to provide an understanding of the nature of the prevailing environment at a landscape and habitat level. In addition, specific evaluation of data relating to habitat form and structure was undertaken, aiding in the identification of bio-physical anomalies within the prevailing environment. Such variance may be considered to be indicative of differing habitat forms, which under consideration, may be of higher order ecological value in relation of the prevailing environment.

The study area was surveyed on foot, and all animal species, activities or footprints in the greater study area were noted. Surveys of the bigger surrounding area was also conducted. Particular attention was paid to potential fauna and flora Species of Conservation Concern that could have been present. Various photographs were taken.

4. WHERE REQUIRED, PROPOSED IMPACT MANAGEMENT ACTIONS AND OUTCOMES OR ANY MONITORING REQUIREMENTS FOR INCLUSION IN THE EMPR

Development within a rural setting can have both direct and indirect impacts on animal species of the development sites and surrounds. Direct impacts are those that destroys indigenous animal species habitats. Indirect impacts are those that may overtime lead to degradation or transformation of indigenous animal species habitats such as erosion.

The proposed development activities can have the following potential impacts on indigenous animal species of the site and surrounds:

- Habitat destruction or degradation
- Disturbance during breeding season and foraging for food
- Physical death of species

The following impact management measures must be implemented and included in the EMPr, and should they be implemented the proposed development activities should not have any significant negative impacts on any indigenous animal present on the site or surrounds:

- Development activities must be limited to identified and demarcated development footprint areas and only existing roads may be used to gain access to the site.
- Invasive vegetation to be removed during construction activities to be disposed of at landfill site in such a manner that seeds must not be able to spread from the disposal site or during transportation.
- No trapping or hunting of any fauna or avifauna species may take place on the property.
- Any tortoises or fauna or avifauna species present on the site when construction activities are taking place must be safely moved to the northeastern indigenous vegetation areas not to be impacted upon. This must be done in a manner not to harm the animals/birds and any relocation must be recorded and reported to the Environmental Control Officer.
- No disturbance should be allowed outside of the proposed 0.5ha development area. This includes no excavations; no storage of topsoil no new or widened roads, and all forms of temporary disturbance.
- Implement erosion and storm water runoff management measures to prevent (or if prevention is not possible limit) any erosion from occurring on the development areas and surrounds.
- Should areas outside of the proposed development footprint area be disturbed this must be actively rehabilitated with indigenous vegetation.

5. A DESCRIPTION OF THE ASSUMPTIONS MADE AND ANY UNCERTAINTIES OR GAPS IN KNOWLEDGE OR DATA

The site survey was conducted on 7 August 2025 for approximately 4 hours. The timing of the survey for animal species is regarded as optimal in terms of accurately assessing the fauna of the site. A fairly accurate idea of the priority conservation areas and animal species was gained, due to the use of a combined habitat and species based approach, and confidence in the accuracy of the findings is fairly high. The overall confidence in the completeness and accuracy of the animal species findings at this point in time is considered to be good. A follow-up survey is not considered essential for decision-making.

6. THE MEAN DENSITY OF OBSERVATIONS/ NUMBER OF SAMPLES SITES PER UNIT AREA

No animal species of conservation concern or the species listed in the environmental screen tool report, or their habitats were observed on the site during the time of the surveys. Due to the size of the development impact area, surveys were concentrated on the impact areas and its surrounding areas and included a survey of the areas to the northeast.

The presence of fauna must be evaluated based on the literature and available databases but in many cases, these databases are not intended for fine-scale use and the reliability and adequacy of these data sources relies heavily on the extent to which the area has been sampled in the past. Many areas have not been well sampled with the result that the species lists derived for the area do not always adequately reflect the actual fauna and flora present at the site. Cryptic/nocturnal animals might not have been sampled and encountered. This is acknowledged as a limitation of the study, however it is substantially reduced through extracting the species lists for a substantially larger area than the site and through the inclusion of information from previous experience in the wider area. The assessment was undertaken using sampling methods appropriate to the protocols, terms of reference and methodologies described above.

For the Avi-Fauna point counts, which involve standing at designated locations to record birds seen or heard, walking transects, walk along predefined lines, observations when in the area and historical recordings were used as sampling methods. Sampling was done throughout the year and within the months recommended in the Species Environmental Assessment Guidelines.

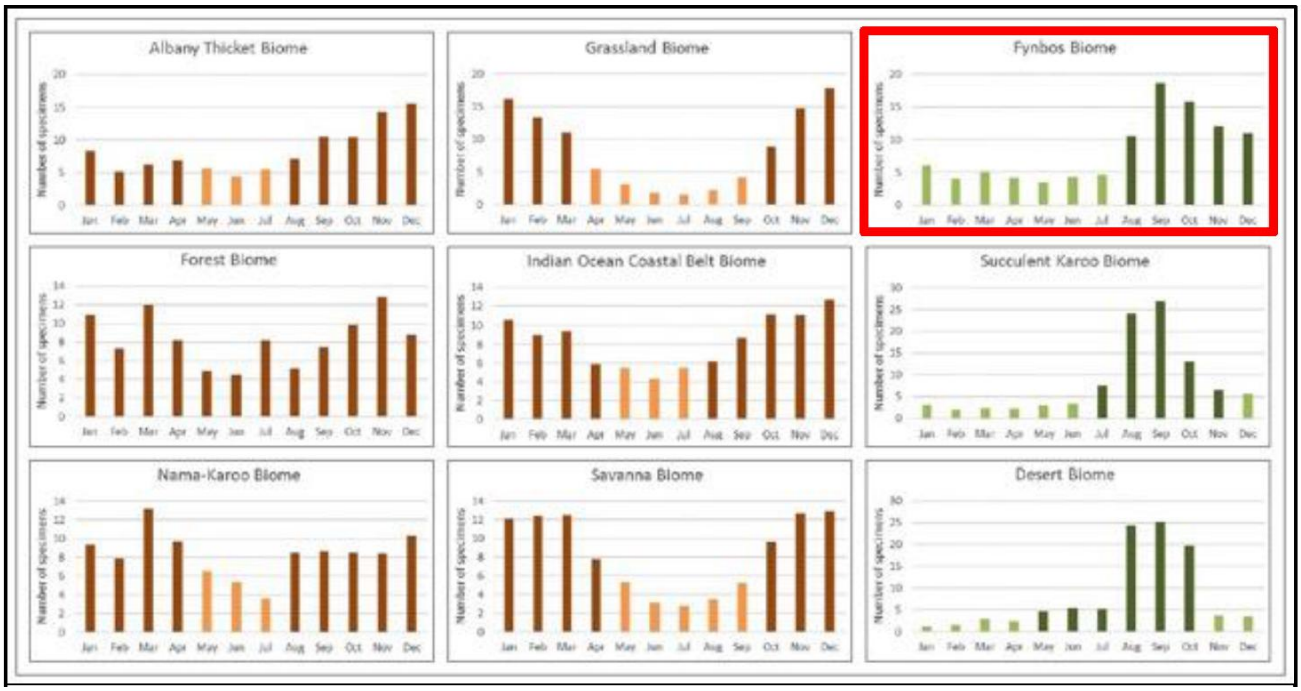

Figure 6: Recommended survey periods for different biomes (Species Environmental Assessment Guidelines). The site is within the fynbos biome.

The timing of the survey is therefore regarded as optimal in terms of accurately assessing the fauna of the site. The overall condition of the vegetation can still be determined with a high degree of confidence. An accurate idea of the priority conservation areas, animals and botanical species was gained, due to the use of a combined habitat and species-based approach, and confidence in the accuracy of the findings is high. The overall confidence in the completeness and accuracy of the animal species findings at this point in time is considered to be good. A follow-up survey is not considered essential for decision-making.

7. ANY CONDITIONS TO WHICH THE COMPLIANCE STATEMENT IS SUBJECTED

The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information and knowledge of the area.

It was concluded that should the proposed mitigation measures as listed under point 4 above be implemented that the overall significance of the impacts on animal sensitivity of the site and surrounds will be of overall low negative significance. All of the mitigation and monitoring measures as listed under point 4 above must he included as part of the Environmental Management Programme conditions to be adhered to before, during and after the proposed development activities.

This report may not be altered or added to without the prior written consent of the author. This restraint also refers to electronic copies of this report which are supplied as sub portion of other reports, including main reports. Similarly, any recommendations, statements, or conclusions drawn from or based on this report must specifically refer to this report. If such comments form part of a main report for this investigation, the report must be included in its entirety as an appendix or separate section to the main report.

8. REFERENCES

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APPENDIX A
SPECIALIST CV

CURRICULUM VITAE – NICOLAAS WILLEM HANEKOM

Profession: Environmental Scientist and Environmental Assessment Practitioner

Date of Birth: 01/02/1967

BIOGRAPHICAL SKETCH

Nicolaas Hanekom is a registered Professional Natural Scientist in the ecological science, aquatic science (animal species applicable to freshwater ecological features) and conservation science with the South African Council for Natural Scientific Professions ("SACNASP"), and a qualified registered Environmental Assessment Practitioner ("EAP") who holds a Masters Technologiae, Nature Conservation ("Vegetation, Animal, Ecology and Biodiversity Assessment") degree from the Cape Peninsula University of Technology (Refer to Appendix A, CV). Nicolaas Hanekom is suitably qualified SACNASP registered specialist. The protocols required that the specialist is registered with the South African Council for Natural Scientific Professions (SACNASP) with a field of practice relevant to the taxonomic group ("taxa") for which the assessment is being undertaken. The SACNASP does not have a specific registration field for Avi-fauna or invertebrates and therefore the experience of Nicolaas Hanekom become relevant. Nicolaas Hanekom has done fauna and biodiversity impact assessment (these fields cover both the avi-fauna, Herpetologist and invertebrates) since 2006 and the SACNASP registration under the ecology and conservation fields is a suitably qualified and registered field with the necessary experience in the animal species listed in the environmental screen tool report and knowledge of the field and area to conduct the specialist study.

He has also completed the suite of Greener Governance courses with certificates in;

- An Overview of Environmental Management at the Local Government Level, Centre for Environmental Management, North-West University;
- Greener Governance for Local Authorities, Centre for Environmental Management, North-West University;
- Tools for Integrated Environmental Management and Governance, Centre for Environmental Management, North-West University.

He further attended and obtained a certificate on Integrated Protected Area Planning at the Centre for Environmental Development, University of Kwa Zulu Natal and a certificate in Project Management (Theory and Practical), through CS Holdings. Nicolaas has lectured in two subjects at the Cape Peninsula University of Technology. He has 26 years of environmental planning experience, working for Free State and Western Cape departments of environmental affairs, where he reviewed and commented on development (EIA) applications, in the West Coast Region.

He has, as practising EAP been responsible for many environmental impact assessments and EIA applications, waste license and atmospheric emission license applications.

He has also been involved in the implementation of several environmental management systems. He has engaged successfully with various clients as set out below.

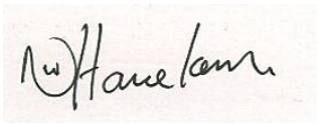
Areas of specialisation:	• Ecosystem (terrestrial and aquatic) monitoring and assessments • Design of monitoring programmes for ecosystems (terrestrial and aquatic) • Environmental Impact Assessments • River classification and environmental water requirements • Wetlands Delineation • River and Wetlands management • Water Use Authorization Applications • Water quality management • River Health Assessments
Countries of Work Experience:	South Africa (Northern Cape, Western Cape, Free State, Mpumalanga, Gauteng)
Employment Record	• Student at Bontebok National Park (1992) • Assistant Reserve Manager at Gariep Dam Nature Reserve, Free State (1993 - 1998) • Reserve Manager, Conservation Services Manager for Western Cape Nature Conservation Board (1998 - 2006) • External Lecturer at Cape Peninsula University of Technology (2003 - 2005) • Director: Environmental Management at Cape Lowlands Environmental Services (2006 – 2010) • Director, Environmental Management and lead Environmental Impact Assessment Practitioner at Eco Impact (Pty) Ltd (2010 – to August 2019) • Director, Environmental Management and lead Environmental Impact Assessment Practitioner at Enviro-EAP (Pty) Ltd (September 2019 – to date)
Professional membership, accreditations and courses	• South African Council for Natural Scientists Professions Pri.Sci.Nat (Ecological Science) • Riparian vegetation identification and health assessment. Internal Western Cape Nature Conservation short course presented by Dr C Boucher (Stellenbosch University) in 2000. • SASS5 Aquatic Biomonitoring Training Course. 2 to 5 September 2013. Ground Truth Water and Environmental Engineering consultancy in partnership with the Department of Water Affairs. • Workshop on “Section 21(c) and (i) Water Use Training: Understanding Watercourses and Managing Impacts to their Characteristics”. 10 May 2017. Presented by Dr Wietsche Roets of the Department of Water and Sanitation (Sub-Directorate: Instream Water Use).

Summary of experience	1992: South African National Parks. Student at Bontebok National Park with management and monitoring actions related to the Breede River. 1993 -1998: Free State Nature Conservation. Ecological management and monitoring actions related to the Gariep Dam, Orange and Caledon Rivers. 1998 -2006: CapeNature. Ecological management and monitoring actions related to the Berg River Estuary, Verlorenvlei, Lamberts bay's Jackalsvlei, Wadrift Soutpanne, Oliphant's River mouth, Rocherpan Nature Reserve, etc. Review and assessment of EIA applications, inclusive of Freshwater ecology. Did some site visits with Department of Water Affairs and Forestry (Hester Lyons) to confirm the presence of aquatic ecological features during EIA water use registration applications. 2006 to date: Cape Lowland Environmental Services, Eco Impact Legal Consultant and Enviro-EAP. Ecological (Freshwater and aquatic) Specialist input, assessment, monitoring and reports.
Publications and assessment reports	Just to name a few. Was involved in many Ecological Assessments, monitoring and inputs in EIA applications. • Elandskloof Farm 475 Citrusdal Biodiversity Baseline Survey. August 2010. This Biodiversity Assessment Covering Terrestrial and Aquatic Aspects to Inform Decisions Regarding The Proposed Elandskloof Weir Flood Damage Project On Farm 475, In The Citrusdal Area. • Cape Solar Energy Electricity Generation Facility. Farm 187/3 & 187/13 Kenhardt. Biodiversity And Ecological Baseline Survey. January 2011. (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Prieska Photvoltaic Power Generation Project. Prieska Commonage Northern Cape. Biodiversity And Ecological Baseline Survey. July 2011. (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Witteklip Erf 123 Extension, Vredenburg. Biodiversity Baseline Survey. Updated - October 2012 (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Baseline Biodiversity Survey And Wetland Delineation for ECCA Holdings: Cape Bentonite Mine on Erf 1412 Near Heidelberg. Prepared for: Shangoni Management Services Pry (Ltd). October 2014. • Freshwater Impact Assessment Laingsburg Flood Damage Repairs & Storm Water Infrastructure. 18 February 2016. • Ecological Assessment for Swartland Municipality - Upgrades To Voortrekker/Bokomo Road And Voortrekker/Rozenburg Road

	Intersections and Upgrade to the Diep River Bridge, Malmesbury on A Portion Of Erf 327, Malmesbury (Road) Erf 1530, Diep River Bridge Crossing, and Erf 1528, Property South of Diep River where Road Widening and Turning Circle Will Be Constructed. March 2016. (Freshwater Ecology Inputs and Water Use Registration) • Freshwater Impact Assessment. McGregor Bridge, Robertson Bridge and Willem Nels River Maintenance Management Plan. 24 June 2016. (Freshwater Ecology assessment and input as well as Water Use Registration) • Water Use Authorization Application Risk Matrix. Orange Grove Trust Vegetation Clearing and Agricultural Development on Portion 4 of Farm Glen Heatlie No 316, Worcester. 12 June 2017. (Freshwater ecological inputs in EIA process and Water Use Registration). • Water Use Authorization Application Risk Matrix Prepared For: Witzenberg Municipality Sand Mine Farm 1 Prince Alfred Hamlet. 28 March 2017. (Freshwater ecological inputs in EIA process and Water Use Registration). • Proposed Hartmanshoop Agri Vegetation Clearing Project and Irrigation on Erf 686, Laingsburg. 12 August 2017. (Freshwater ecological inputs in Water Use Registration). • County Fair: Hocraft Abattoir And Rendering Facility Waste Water Treatment Works “CF Hocraft WWTW” Mosselbank River Second Quarter 2018 Biomonitoring Report. June 2018. (Done quarterly biomonitoring for the last three years).

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe my qualifications, my experience, and me.



Nicolaas Hanekom Pri Sci Nat (Ecology).
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