

Proposed development of a Fuel Station on Erf 7379 Pacaltsdorp, Western Cape

Terrestrial Animal Species Specialist Assessment:
Site Sensitivity Verification Report and Compliance Statement



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SACNASP: Professional Natural Scientist (Ecological
Sciences), 162841 (Application status-
Awaiting evaluation)

Reviewer: Dr J. Dabrowski

Date: November 2024

Version: Draft pending finalised SDP



DECLARATION OF SPECIALIST INDEPENDENCE

I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);

At the time of conducting the study and compiling this report I did not have any interest, hidden or otherwise, in the proposed development that this study has reference to, except for financial compensation for work done in a professional capacity;

Work performed for this study was done in an objective manner. Even if this study results in views and findings that are not favourable to the client/applicant, I will not be affected in any manner by the outcome of any environmental process of which this report may form a part, other than being members of the general public;

I declare that there are no circumstances that may compromise my objectivity in performing this specialist investigation. I do not necessarily object to or endorse any proposed developments, but aim to present facts, findings and recommendations based on relevant professional experience and scientific data;

I do not have any influence over decisions made by the governing authorities;

I undertake to disclose 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 a competent authority to such a relevant authority and the applicant;

I have the necessary qualifications and guidance from professional experts in conducting specialist reports relevant to this application, including knowledge of the relevant Act, regulations and any guidelines that have relevance to the proposed activity;

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All the particulars furnished by me in this document are true and correct.

A handwritten signature in black ink, appearing to read 'Kim Daniels', enclosed within a large, irregular oval scribble.

Kim Daniels (MSc)

December 2024

SUMMARY OF EXPERIENCE AND ABRIDGED CV
- KIM DANIELS

Core skills

- MSc. Biodiversity and Conservation Biology (University of Cape Town.) and 3 years of work experience (research assistance and education) for research projects aimed at investigating invertebrate diversity, plant diversity, insect ecology, disease ecology, invasive species, plant systematics, herpetology, and climate change impacts on a variety of taxa.
- Ecological and field work experience before, during, and after postgraduate degrees across a range of environments (mesic savanna, arid savanna, fynbos, succulent karoo, and Nama karoo) and taxa (plants, invertebrates, avifauna, amphibians, and small mammals).
- My postgraduate studies have been focused on vegetation change in the fynbos and parasitic plants as thermal refugia for savanna birds.

Work experience

- Teaching assistant at the Organization of Tropical Studies and Roots & Shoots
- Internships in Entomology, Horticulture, and Plant Conservation
- Research assistant at the Centre for Invasion Biology
- Field assistant at Valuing Orchard and Integrated Crop Ecosystem Services Project

Qualifications

- BSc. Biodiversity and Conservation Biology (2018, University of the Western Cape)
- BSc. Hons. Biodiversity and Conservation Biology (2021, University of the Western Cape)
- MSc. Conservation Biology (2023, University of Cape Town)

References

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ABBREVIATIONS AND ACCRONYMS

CBA	Critical Biodiversity Area
CD:NGI	Chief Directorate: National Geo-spatial Information
DFFE	Department of Forestry, Fisheries, and the Environment
ESA	Ecological Support Area
EWT	Endangered Wildlife Trust
NEMA	National Environmental Management Act
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
SDP	Site Development Plan
SSVR	Site Sensitivity Verification Report
WCBS	Western Cape Biodiversity Spatial Plan

1. INTRODUCTION

Confluent Environmental Pty (Ltd) was appointed by CapeEAPrac to provide Terrestrial Animal Specialist inputs for the proposed development of a filling station, and other associated facilities and infrastructure on Erf 7379, Pacaltsdorp, George, Western Cape.

1.1 General Site Location

Erf 7379 is ca. 0.47 hectares in extent and located west of Pacaltsdorp central, a developed landscape, and east of a less densely developed area. Currently, no development exists on the erf. The property falls within the larger Garden Route Biosphere Reserve with no watercourses mapped for the site. Topography is flat with the southeastern corner of the site having an elevation of 202masl (metres above sea level) and the centre of the site having an elevation of 201masl (Figure. 1).



Figure 1. Erf 7379, Pacaltsdorp, George (outlined in orange). Mapped watercourses and 1m contours are shown.

The site is intersected by a stormwater furrow, which descends from the northern boundary to the western boundary. This furrow enters the site from the northern direction via a stormwater

pipe beneath Church Street and subsequently departs from the site to the west through another box culvert positioned beneath Beach Road. Further to the west, the watercourse discharges into Erf 7387 according to the civil services report for the site.

1.2 Development Layout

At the time of writing this report the site development plan (SDP) (Figure. 2) included a filling station, drive-through restaurant, shop, and associated infrastructure and facilities. There is no indication of the proposed sewer system and electricity supply to the development in the current SDP but it is assumed that these connections are municipal given the location of the site.

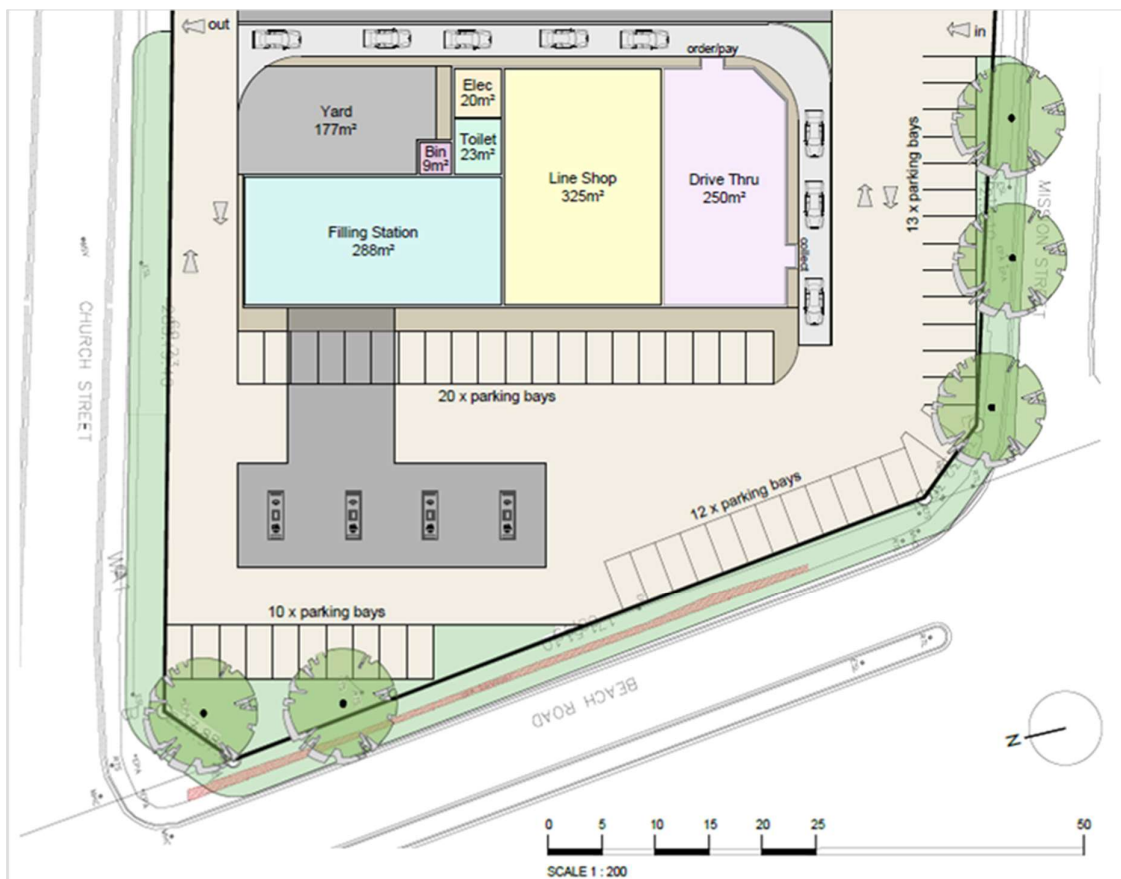


Figure 2. The Site Development Plans (SDP) Erf 7379 showing the proposed filling station, drive-through restaurant, shop, and associated infrastructure and facilities.

2. TERMS OF REFERENCE

2.1 Online Screening Tool

The scope of work for this report is guided by the legislative requirements of the National Environmental Management Act (NEMA; Act 107 of 1998).

The Department of Forestry, Fisheries and the Environment (DFFE) Screening Tool determined a **MEDIUM** sensitivity for the terrestrial animal species theme across Erf 7379 (Figure 3), with several animal Species of Conservation Concern (SCC) potentially present (Table 1).

As per Published Government Notice No. 1150 of the Government Gazette 43855 (30 October 2020) a **MEDIUM** sensitivity rating indicates:

1. Suspected habitat for SCC based either on historical records (prior to 2002) or being a natural area included in a habitat suitability model for this species.

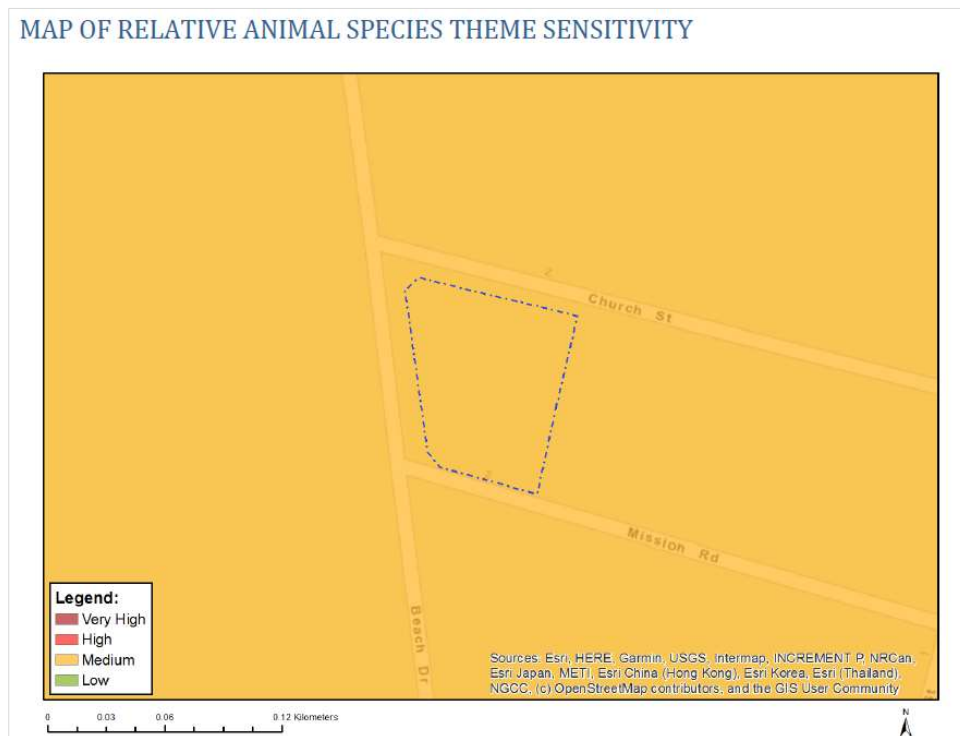


Figure 3. DFFE Online Screening Tool outcome for the terrestrial animal species theme for Erf 7379. The property boundary is indicated by the blue dashed line.

Table 1. Species of Conservation Concern highlighted by the DFFE Online Screening Tool for Erf 7379.

Sensitivity	Taxon	Scientific name	Common name	Red list status*
Medium	Amphibian	<i>Afrixalus knysnae</i>	Knysna leaf-folding frog	Endangered
Medium	Mammal	<i>Chlorotalpa duthieae</i>	Duthie's golden mole	Vulnerable
Medium	Mammal	Sensitive species 8		Vulnerable
Medium	Invertebrate	<i>Aneuryphymus montanus</i>	Yellow-winged agile grasshopper	Vulnerable

* Red list status as per SANBI's Red List of South African Species <http://speciesstatus.sanbi.org>

2.2 Scope of work

The purpose of this report is to verify the site sensitivity of Erf 7379 for the terrestrial animal species theme in accordance with the protocols specified in the Published Government Notice No. 1150, Government Gazette 43855 (30 October 2020).

The site sensitivity verification includes:

- A desktop assessment, to:
 - o Characterize the vegetation, climate, general habitat features and topography of the property.
 - o Assess the property's location within the context of the Western Cape Biodiversity Spatial Plan (WCBSP).
 - o Conduct a historical assessment of the property and immediate surroundings for any disturbances, development and changes in land use or habitat characteristics over time.
 - o Provide information on the habitat requirements for Species of Conservation concern highlighted by the DFFE online screening tool, in addition to other SCC indicated through online resources (e.g. Virtual Museum, iNaturalist) for the property and surrounding areas.
- On-site inspection(s) and field assessments to:
 - o Verify the current land use and identify current impacts or disturbances on the property.
 - o Characterize faunal habitats, determine the habitat suitability and the likelihood of SCC occurring on the property.
 - o Conduct taxa-specific sampling for SCC in suitable habitats.
- Any other available and relevant information from

- Discussions with landowners/neighbours.
- Previous report findings for the property or surrounding areas.

Should the site sensitivity verification indicate a **LOW** sensitivity, then a Terrestrial Animal Species Compliance Statement will be issued.

Should the site sensitivity verification indicate a **HIGH** sensitivity, then a Terrestrial Animal Species Specialist Assessment will be compiled.

3. DESKTOP ASSESSMENT

3.1 Vegetation, Climate and General Habitat

George has moderately hot summers and cool winters. Climate in the region is described as temperate with no dry season and warm summers according to the Köppen-Geiger Climate Zone classification (Cfb). As such it receives a moderate amount of rainfall throughout the year (673mm mean annual rainfall) with peak precipitation occurring in November (57mm). The coldest month of the year is July (5°C daily minimum with 18°C daily maximum, on average) and the hottest months of the year are January and February (15°C daily minimum with 28°C daily maximum, on average) (Figure. 4).

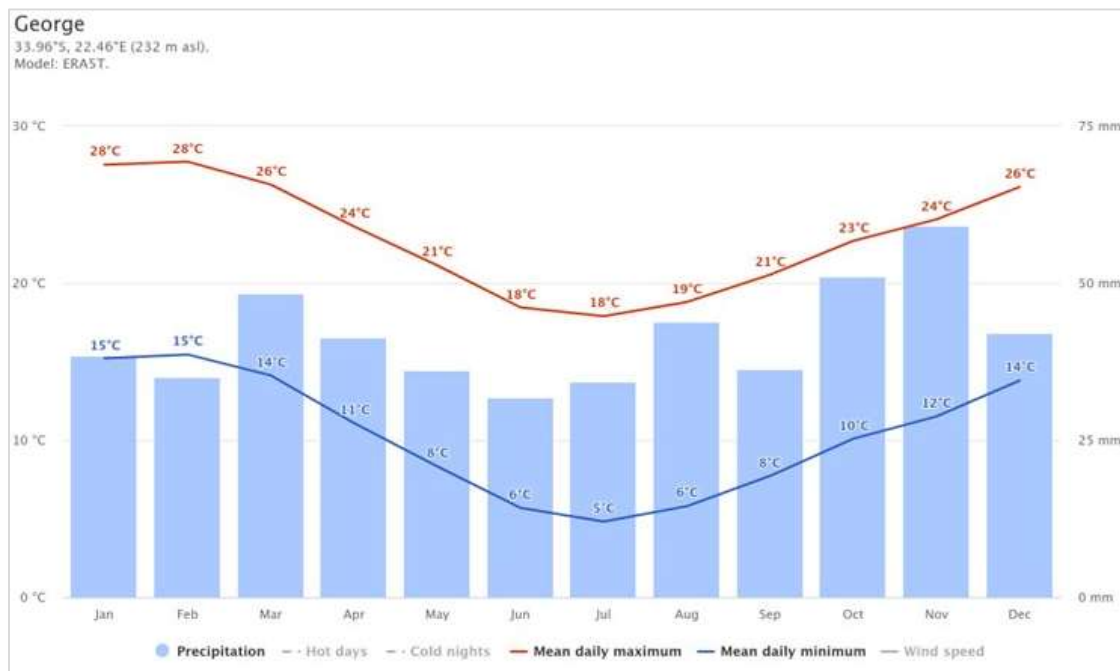


Figure 4: The climate of George indicating the daily maxima and minima averaged across the month, and precipitation from recent years (<https://www.meteoblue.com/>)

Satellite imagery from Google Earth and Cape Farm Mapper was used to assess general vegetation structure, within the project area. The vegetation at the site is mapped as Garden

Route Granite Fynbos by the National Vegetation map (2024 version). By observation, it comprises mainly grass with some herbaceous areas along the stormwater features. The site appears to be used as throughfare by pedestrians.

3.2 Western Cape Biodiversity Spatial Plan

Additional mapping layers were applied to Erf 7379 to include the Western Cape Biodiversity Spatial Plan (CapeNature 2017), with Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) assessed in Figure 5 and Table 2. The site does not fall within a zone designated by the WCBSP but a CBA 2 area is mapped to its west (Figure 5). The reasons for this assignment may apply to this site as well and are therefore included in this report. These reasons are as follows (grey entries either do not apply to the site or are outside of the scope of this report to provide comment on):

- Bontebok Extended Distribution Range: This indicates that the habitat is modelled to be suitable for Bontebok should the range of the species need to be expanded. Bontebok are currently not present outside of Bontebok National Park. A small site within an developed, fragmented, and open-access landscape such as this would not be suitable to house the species.
- Water source protection- Gwaing: This theme is not addressed by this report and no water sources are mapped for the site.
- Water source protection- Kaaimans: This theme is not addressed by this report and no water sources are mapped for the site.
- Watercourse protection- Southern Coastal Belt: This theme is not addressed by this report and no watercourses are mapped for the site.



Figure 5. Site map of Erf 7379 with layers for the Western Cape Biodiversity Spatial Plan’s Critical Biodiversity Areas (CBA 2). It is noted that the CBA does not fall within the boundaries of the property.

Table 2. Definitions and objectives for conservation categories identified in the Western Cape Biodiversity Spatial Plan (CapeNature 2017).

WCBSP Category	Definition	Management Objective
Critical Biodiversity Area 2 (CBA 2)	Areas in a degraded or secondary condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.	Maintain in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land-uses are appropriate.

3.3 Historical Assessment of Project Area

Over the past 21 years from 2003 to 2024, the only major disturbance the site has seen has been the establishment of a dwelling at the site before 2003 and its demolition between 2006 and 2011. The vegetation shows a minor reduction in bushy elements over these 21 years

and the stormwater furrow has existed since before 2003. Development in the larger landscape shows no change (Figure. 6)



Figure 6. Historical imagery of Erf 7379 sourced from Google Earth.

3.4 Species of Conservation Concern

In addition to the SCC highlighted by the DFFE screening tool (Table 1), the following public resources were consulted to provide additional SCC for Erf 7379 and its immediate surroundings:

1. iNaturalist (all taxa) within 2 km x 2 km of the project area ([URL for iNaturalist search area](#)).

2. Virtual Museum for herpetofauna, mammals and invertebrate taxa within the Quarter Degree Squares (QDS) 3422AB: DungBeetleMAP, FrogMAP, LacewingMAP, LepiMAP, MammalMAP, OdonataMAP, ReptileMAP, ScorpionMAP, SpiderMAP.
3. South African Bird Atlas Project (SABAP2) for pentad 3400_2225.

Some SCC reported on the platforms were highly unlikely to occur at the site given either clearly unsuitable habitat or being deemed a vagrant/transient animal. For example, species that are fully adapted to marine environments would not occur at the site. For the purposes of this report these animals were excluded from further assessment (see also Section 4.2 for additional information and Appendix 1 for the full list of SCC).

The combined list of SCC (from DFFE Screening Tool and public resources) possibly occurring on Erf 7379, along with their habitat, breeding and feeding requirements are listed in Table 3. The information for each SCC presented in Table 3 stems largely from the online SANBI Red List of South African Species (<http://speciesstatus.sanbi.org>) in addition to a few key resources for each taxa:

4. Avifauna: Roberts Birds of Southern Africa VII (Roberts, et al. 2005)
5. Mammals: The Mammals of the Southern African Subregion (Skinner 2005)
6. Invertebrates:
 - Field guide to the insects of South Africa (Picker, Griffiths and Weaving 2019)
 - Field guide to the butterflies of South Africa (Woodhall 2005)
 - Field guide to the spiders of South Africa (Dippenaar-Schoeman 2023)
7. Amphibians: A complete guide to the frogs of Southern Africa (Du Preez and Carruthers 2015)

Any information presented from different sources is cited in the text.

Table 3. Summary of habitat, breeding and feeding requirements for animal SCC potentially occurring on Erf 7379.

Red list status	Species	Habitat	Breeding	Feeding
AMPHIBIANS				
Endangered	<i>Afrixalus knysnae</i> Knysna Leaf-folding Frog	Typically inhabit endorheic (inward draining) wetlands with shallow water (< 50cm), high clarity, and sufficient vegetation suitable for breeding (De Lange & Du Preez, 2018). No streaming or running water recorded at any of the sites where they have been recorded. The frog is associated with vegetation it can use for breeding which includes indigenous and exotic species. For example, slender knotweed (<i>Persicaria decipiens</i>) and kikuyu grass (<i>Cenchrus clandestinus</i>). It requires a habitat with diverse plant species, including shrubs, grasses, and ferns, providing shelter and breeding sites (De Lange and Du Preez, 2018).	Females lay eggs on leaves which are folded and sealed by males, creating a protected environment (Du Preez & Carruthers, 2017). Breeding occurs during warmer wetter months such as September to November (De Lange, 2019). Breeding takes place near deeper parts of the waterbody, but still close to the water's edge.	The Knysna Leaf-folding Frog is an insectivorous amphibian feeding on small invertebrates found in its habitat (e.g. insects and spiders). Foraging behaviour includes actively searching for prey on the forest/fynbos floor and in the leaf litter. The frog uses its sticky, projectile tongue to capture and quickly ingest prey. It is primarily active at night, relying on its vision to locate and capture prey in the darkness.
AVIFAUNA				
Vulnerable	<i>Bradypterus sylvaticus</i> Knysna warbler	Inhabits dense understorey vegetation along riverbanks in fynbos forest patches, riverine woodland and afro-montane forest and has even adapted to thickets of non-native brambles (e.g. <i>Rubus</i> sp.). (BirdLife International, 2016).	Breeds from August and December coinciding with the greatest abundance of invertebrate species (BirdLife International, 2016).	Mostly on ground, creeping through dense, matted vegetation and scratches in humus. Eats mostly grasshoppers, insect larvae, spiders, slugs, worms
TERRESTRIAL INVERTEBRATES				
Endangered	<i>Aloeides trimeni southeyae</i> Trimen's Copper Butterfly	Restricted range endemic to the southern coastal region in the Western Cape Province. Three widely separated (disjunct) populations between Albertinia in the west and Hartenbos in the east. Grassy Fynbos near Mossel Bay. Gentle north-facing slopes,	Two broods, Sep-Dec (peak Oct) and Jan-Apr (peak Feb).	Larval food includes <i>Aspalathus</i> sp. and <i>Hermannia depressa</i> .

		sparingly covered by low shrubs with bare ground in between. Prefers flat lands.		
Vulnerable	<i>Aneuryphymus montanus</i> Yellow-winged Agile Grasshopper	Very low area of occupancy between 100 and 1000 km ² . Threatened by declining habitat due to invasion by aliens and habitat transformation. Strong association with sclerophyllous fynbos vegetation on the southern slopes of the Outeniqua mountains, post-fire. Threats to the species include habitat transformation and invasion by alien plants.	Not known	Not known
Near Threatened	<i>Aloeides pallida littoralis</i> Knysna Pale Copper Butterfly	Endemic taxon to the Western Cape Province. Relatively flat terrain near the coast, coastal Fynbos	Little known, but <i>Lepisiota capensis</i> ants are hosts for subspecies <i>A. p. grandis</i> .	Little is known, but larval food for the subspecies <i>A. p. pallida</i> and <i>A. p. jonathani</i> feed on <i>Aspalathus</i> species. The larvae of subspecies <i>A. p. grandis</i> are fed by trophallaxis by <i>Lepisiota capensis</i> ants and later feed on the eggs of these ants.
MAMMALS				
Vulnerable	<i>Chlorotalpa duthieae</i> Duthie's Golden Mole	Occur on alluvial sands and sandy loams in southern Cape Afrotemperate forests (Bronner, 2014). Preference for forest vegetation over fynbos. Narrow coastal band 275 km long between Wilderness and Port Elizabeth with disjunct populations. Can occur in gardens and pastures adjoining forests. Mainly active at night.	Little is known but a female was recorded with a litter of two young in November (Bronner, 2014).	Shallow subsurface foraging tunnels radiate outwards from beneath the roots of trees. Forages at night in tunnels and through the leaf litter. Diet includes earthworms.
Vulnerable	Sensitive Species 8	Specialised habitat requirements within a home range of ca. 0.75 ha (Skinner & Chimimba, 2005). Strong preference for dense vegetation with good undergrowth providing good cover into which to retreat. Forest, thicket and, dense coastal bush, independent of water. Can inhabit forest edges and	This species can breed throughout the year. Males establish territories and exhibit aggressive behaviours towards other males and to attract females.	Highly selective feeders, often feeding on food below troops of monkeys or frugivorous birds which drop lots of material. Preference for fruit, but also fallen leaves, flowers and insects. Seldom actively browse. Active in the early morning and late afternoon,

		transitional zones. Requires a diverse plant community with variety of tree and shrub species. Can adapt to fragmented habitat given sufficient cover and food availability. Actively avoids open grasslands, and areas with human disturbance.		foraging for around 8 hours a day within their territory.
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4. FIELD ASSESSMENT

4.1 Methods

Following the Species Environmental Assessment Guidelines (SANBI 2020) and Table 3, taxa-specific sampling techniques were conducted in habitats where SCC were likely to occur. Taxa-specific sampling was interspersed with a meander across the project area to collect additional opportunistic data for all fauna and inspect all habitat types (Table 4).

Table 4. Sampling techniques conducted for potential SCC occurring on Erf 7379.

Taxa	Field methods	Public platform where observations were reported
Avifauna	<ul style="list-style-type: none"> Meander* across site for direct observations. 	Birdclasser (species lists), iNaturalist (photos)
Mammals	<ul style="list-style-type: none"> Meander* across site for direct observations, tracks, scats and signs. 	iNaturalist (photos)
Amphibia	<ul style="list-style-type: none"> Meander* across site for direct observations. Active searching. 	iNaturalist (photos)
Invertebrates	<ul style="list-style-type: none"> Meander* across site for direct observations. Active searching. Sweep netting. 	iNaturalist (photos)

* Meandering involved ca. 2 km of slow walking across the site through various habitat types and key landscape features. Active observations took place for all fauna throughout this walk which was then supplemented by taxa specific sampling methods in habitats deemed most suitable for SCC.

4.2 Assumptions and Limitations

1. While the public platforms mentioned in Section 3.4 are excellent sources of additional information for animal species occurring within an area, these results require some expert interpretation to determine which of the SCC are relevant to include in the faunal assessment of the project area. For example, the coarse spatial scale of reporting within the Virtual Museum platforms (Quarter Degree Square level (27km x 27km) or SABAP2 pentad level (9km x 7 km)) can result in species records from habitats quite different to those present on site. Additionally, these platforms include sightings of vagrant or transient animals upon which an assessment cannot reasonably be based. Expert interpretation is therefore applied to the full list of SCC identified by the various public platforms (see Appendix 1) and some species are then excluded from further assessment due to the project area clearly lacking suitable habitat or the species

clearly representing a vagrant or transient animal outside its normal range. The SCC assessed in this report therefore represent those which may reasonably occur on site. However, there is always the possibility that some SCC (although highly unlikely to occur on site) are overlooked in this process.

2. One field visit took place to the site for the faunal assessment. The detectability of animal species increases with more visits. This assessment therefore only represents a “snap-shot” in time and it is possible that SCC occurring on site were not observed during the visit. These results should therefore be interpreted with this in mind and not be treated as an exhaustive list of species occurring on site.
3. Site visits took place during daylight hours so the likelihood of encountering nocturnal species was limited.
4. The site visit coincided with late spring. This may be of consequence for some species showing seasonal variation in breeding and activity patterns.
5. Evidence of animals in the form of tracks, scats, and signs always brings with it a level of uncertainty, but best efforts were made in this regard and uncertainties are highlighted in the report.

4.3 Site Inspection Details

One site visit took place to Erf 7379 on 22 November 2024. The weather was warm with no wind: suitable conditions for catching invertebrates using sweep netting. Habitat types found on the site consisted mainly of grassy cover and herbaceous areas associated with stormwater features (Figure. 7). An effort was made to cover the project area with the meander (Figure. 8).



Figure 7. Habitat types identified on Erf 7379 namely herbaceous vegetation associated with stormwater features (foreground) and grassy cover (background).

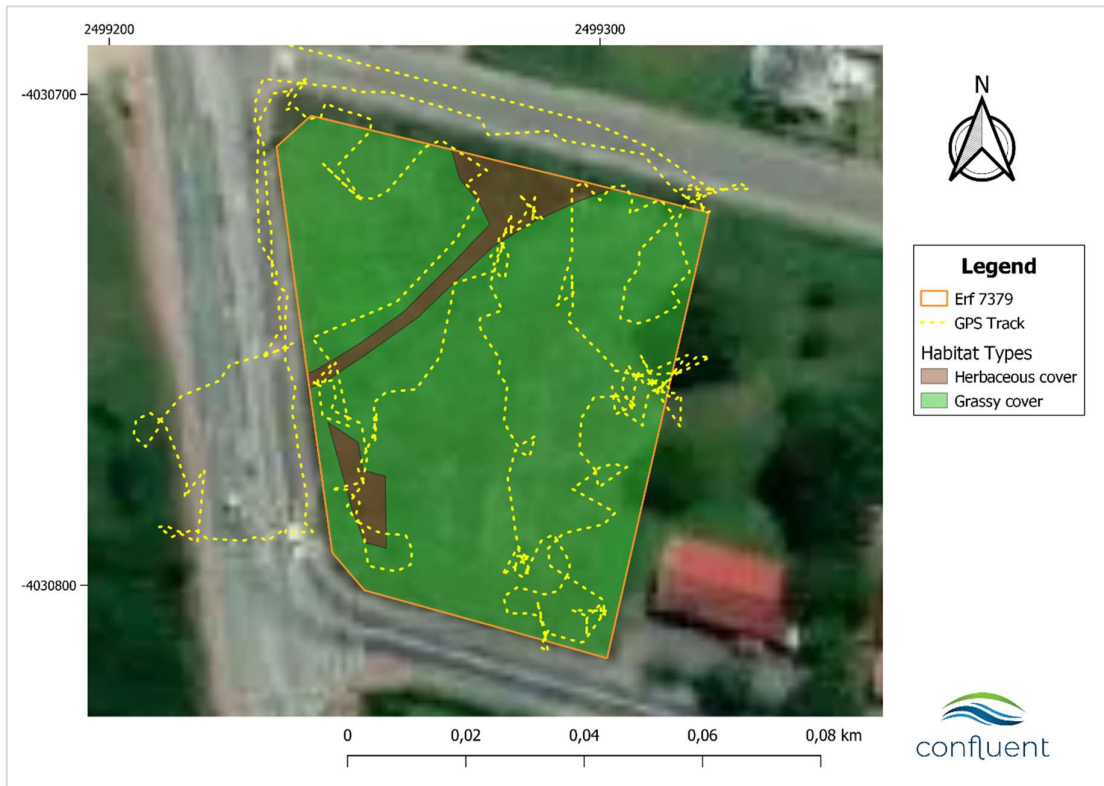


Figure 8. Habitats found on Erf 7379 and GPS tracks of the site visit conducted in November 2024.

4.4 Results

4.4.1 Avifauna

No SCC were encountered during the site visit but a total of 5 bird species were identified. The full list of vertebrate species list can be found in Appendix 2.

4.4.2 Mammals

No SCC were encountered during the site visit. Evidence of horses and mole rats were found across the property.

4.4.3 Terrestrial invertebrates

A number of insect species were caught during sweep net surveys conducted but none were SCC. An insect in the family Acrididae was captured (the same family as the Yellow-winged Agile Grasshopper (*Aneuryphymus montanus*)). It was determined that this individual was not the SCC based on the shape of the supra-anal plate (Figure. 9) among other characteristics. The full list of Invertebrate species can be found in Appendix. 3.

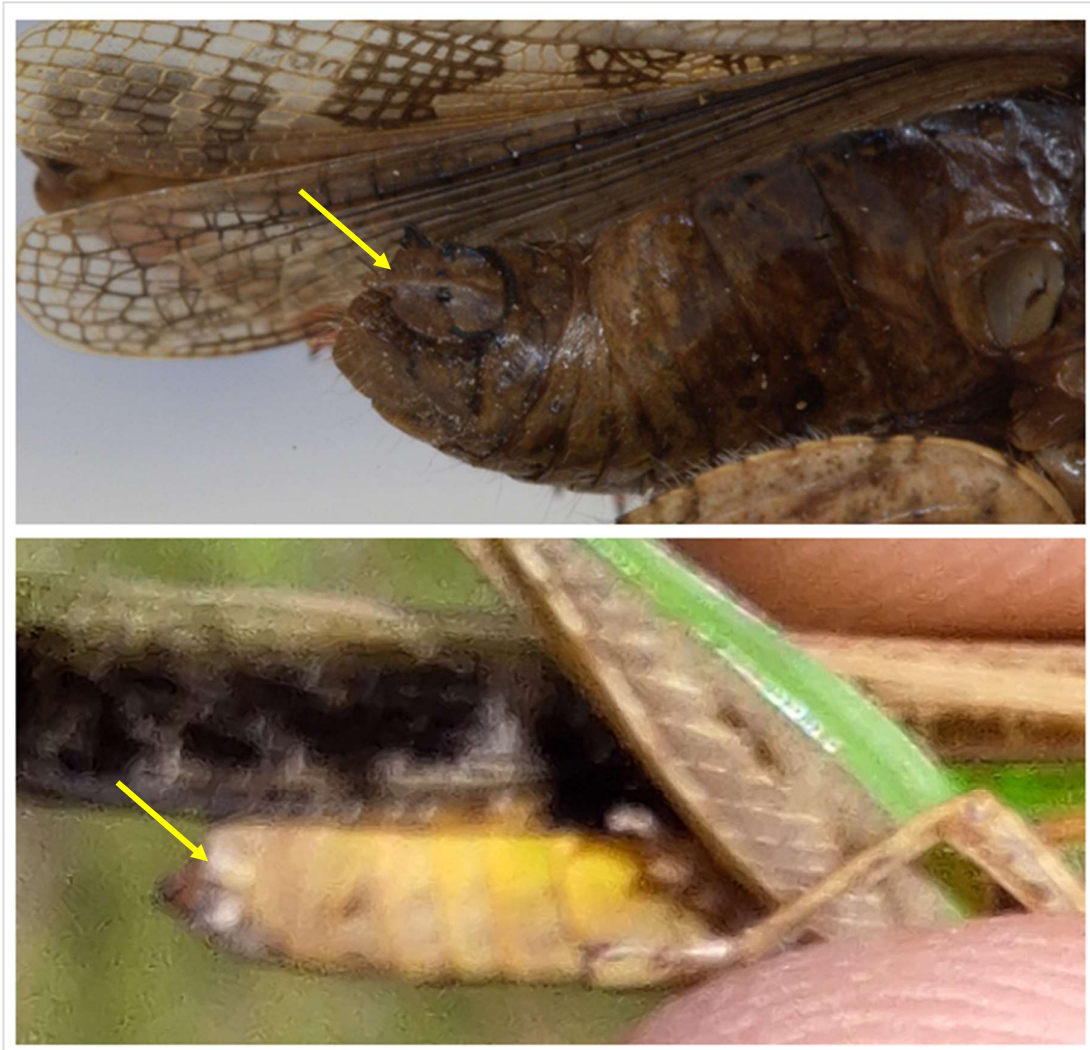


Figure 9. The dorsal, posterior end of the Yellow-winged Agile Grasshopper (*Aneuryphymus montanus*) (above) and the grasshopper caught at Erf 7379 (below). The SCC has a rounded supra-anal plate whilst the insect caught at the site has an angular supra-anal plate.

4.4.4 Amphibians

The lack of suitable waterbodies at the site means that Knysna Leaf-folding Frog (*Afrixalus knysnae*) was not found. A deceased frog was identified as Clicking Stream Frog (*Strongylopus grayii*).

4.4.5 Reptiles

No reptile SCC were highlighted for this site by the DFFE Screening Tool or any of the public platforms. As such, no targeted sampling took place for this group. No reptiles were encountered at the site.

4.4.6 Likelihood of Occurrence for SCC

Following the terrestrial fauna surveys and site inspection, the possible SCC occurring on Erf 7379 were evaluated according to their likelihood of occurrence. It is always possible that a species assessed as having a low probability of occurrence can still occur on the site, especially species which are listed as having a low likelihood of detection, and therefore this table should only be used as a guideline.

Table 5. Likelihood table for faunal SCC suspected to occur on Erf 7379.

Red list status	Species	Observed	Suitable habitat	Likelihood of occurrence	Reason
AMPHIBIANS					
Endangered	<i>Afrixalus knysnae</i> Knysna Leaf-folding Frog	No	No	Very Low	The stormwater channel is the only watercourse at the site and it is not preferred habitat for the species (not an endorheic wetland and heavily polluted).
AVIFAUNA					
Vulnerable	<i>Bradypterus sylvaticus</i> Knysna warbler	No	No	Very Low	No dense habitat is available to house the species.
TERRESTRIAL INVERTEBRATES					
Endangered	<i>Aloeides trimeni southeyae</i> Trimen's Copper Butterfly	No	No	Very Low	No natural vegetation used by the species is present (see Botanical Specialist Report (B. Fouche-Confluent Environmental))
Vulnerable	<i>Aneuryphymus montanus</i> Yellow-winged Agile Grasshopper	No	No	Very Low	An Acrididae grasshopper was found at the site but does not have the features necessary to be identified as this SCC. Acrididae is also a large and widespread family found across many different landscapes.
Near Threatened	<i>Aloeides pallida littoralis</i> Knysna Pale Copper Butterfly	No	No	Very Low	No natural vegetation used by the species is present (see Botanical Specialist Report (B. Fouche-Confluent Environmental))
MAMMALS					
Vulnerable	<i>Chlorotalpa duthieae</i> Duthie's Golden Mole	No	No	Very Low	No evidence of this species was found at the site and the area is not suitable to host this species since it is preferentially forest-dwelling.
Vulnerable	Sensitive Species 8	No	No	Very Low	The site is too small to be adequate habitat for the species and does not form a significant part of a natural landscape.

5. SITE SENSITIVITY VERIFICATION

After the site visit and fauna surveys, it is determined that the site sensitivity for the terrestrial animal theme of Erf 7379 is **LOW**. This is contrary to the **MEDIUM** sensitivity highlighted by the DFFE Screening tool for most of the property.

Based on the information in this report during the desktop and field assessment, the following reasons support this finding:

- The site is small (ca. 0.47 ha.) in a mostly developed landscape. Vegetation provides no refuge to animals and is somewhat polluted. It does not seem to provide critical habitat, breeding space, or forage to SCC or other animals.

As per the Published Government Notice No. 1150, Government Gazette 43855 (30 October 2020), the **LOW** sensitivity of the site allows for a Terrestrial Animal Species Compliance statement to be issued.

6. COMPLIANCE STATEMENT AND RECOMMENDATIONS

Following on from the site sensitivity verification for the Terrestrial Animal Species Theme, a compliance statement is issued for the proposed filling station. Some general recommendations for the project include:

- Comments on the management of the stormwater furrow as per the recommendations of the Aquatic Specialist's report (J. Dabrowski, Confluent Environmental) must be applied as must the recommendations made by the Botanical Specialist Report (B. Fouche, Confluent Environmental) to reduce impacts on any native vegetation and thereby associated fauna species.
- Stormwater flow in the greater landscape is compromised by litter and dense vegetation at this site and across the road (Figure. 10). This must be addressed to promote animal health in the greater landscape which may use this space for foraging (birds and mammals) or as habitat (amphibians, mammals, and invertebrates).



Figure 10. Litter and dense vegetation found at culverts across the road from the site. The poor quality of this water is a health risk for animals who use water in the landscape for their life functions.

- General recommendations and best practice guidelines should be followed for all animal species encountered (regardless of whether they are SCC or not) during any stage of construction at the site. These are summarised in Box 1 below:

Box 1: Best practice principles for ALL fauna encounters during construction or operational phases of projects

If any animals are seen on site, a photo or a video should be taken if possible (to assist in identification) and all fauna encountered on site should be reported to the EO or ECO immediately. This is particularly important when:

- An animal is harmed or compromised in any way during construction.
- Ground-dwelling animals their nests or eggs are unearthed during construction (e.g. moles, tortoise eggs, terrapins/frogs estivating).
- Any animal with limited mobility is found on site (e.g. tortoises, moles, chameleons).
- Any potentially dangerous animal is encountered. This includes any potentially venomous animal (e.g. snakes, scorpions) or any medium-large animal that has become cornered in an enclosed area such that it cannot escape (e.g. porcupines, monkeys, baboons, antelope). It is critical in the case of snakes/ scorpions o get pictures/videos to aid in identification and appropriate treatment of anyone needing medical assistance.
- Any animal that shows a reluctance to escape or move away from the construction site thereby increasing its exposure to harm or increasing the risk of injuring people on site.

The EO or ECO should provide guidance or assistance to get all animals to safety, treating any injured animals, and issuing instructions on when to continue with construction (once they are satisfied that all animals have been removed from site) or put additional mitigation measures in place to protect animals on the site from harm.

For any injured animals or animals to be removed from site (domestic or wild):

A local SPCA or animal welfare society can collect and treat most animals and should be the first point of call for assistance. If they cannot directly assist, they will revert and notify the relevant authorities/vets.

For any assistance with snake removals/relocations, identifications, or bite treatment contact the African Snakebite Institute. The contact details of a suitably qualified snake handler can be found at the following link: <https://snakeremoval.co.za/george>

SNAKEBITE EMERGENCIES:

Poisons Information Helpline	+27 861 555 777
Dr Jenna Taylor	+27 83 631 4816
Dr Christoff Bell	+27 73 174 0199
Johan Marais	+27 82 494 2039
Jason Seale	+27 82 781 8498
Arno Naude	+27 83 739 9303
Dr PJC Buys	+26 481 127 5109 (Namibia)

GET THE FREE APP:



(Scan this code with your phone's camera.)

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APPENDIX 1: SCC IDENTIFIED FROM PUBLIC PLATFORMS FOR THE PROJECT AREA.

SCC were included or excluded from further analysis in this report based on expert interpretation for the presence/absence of key landscape and habitat features on site. See Section 4.2 Assumptions and Limitations for more information.

Species	Common name	Regional and Global Assessment status	Source	Assessed in report Y/N
AMPHIBIAN				
<i>Afrixalus knysnae</i>	Knysna leaf-folding frog	Endangered	Screening Tool	Y
AVIFAUNA				
<i>Bradypterus sylvaticus</i>	Knysna Warbler	Vulnerable	SABAP	Y
<i>Buteo trizonatus</i>	Forest Buzzard	Least Concern, Near Threatened	SABAP	N
<i>Campethera notata</i>	Knysna Woodpecker	Near Threatened	SABAP	N
<i>Circus maurus</i>	Black Harrier	Endangered	SABAP	N
<i>Falco biarmicus</i>	Lanner Falcon	Vulnerable, Least Concern	SABAP	N
<i>Grus paradisea</i>	Blue Crane	Near Threatened, Vulnerable	SABAP	N
<i>Morus capensis</i>	Cape Gannet	Vulnerable, Endangered	SABAP	N
<i>Neotis denhami</i>	Denham's Bustard	Vulnerable, Near Threatened	SABAP	N
<i>Phalacrocorax capensis</i>	Cape Cormorant	Endangered	SABAP	N
<i>Polemaetus bellicosus</i>	Martial Eagle	Endangered	SABAP	N
<i>Sagittarius serpentarius</i>	Secretarybird	Vulnerable, Endangered	SABAP	N
TERRESTRIAL INVERTEBRATES				
<i>Aloeides pallida littoralis</i>	Knysna Pale Copper	Near Threatened	Virtual Museum	Y
<i>Aloeides trimeni southeyae</i>	Trimen's Copper	Endangered	Virtual Museum	Y
<i>Aneuryphymus montanus</i>	Yellow-winged agile grasshopper	Vulnerable	Screening Tool	Y
MAMMALS				
<i>Chlorotalpa duthieae</i>	Duthie's golden mole	Vulnerable	Screening Tool	Y
<i>Damaliscus pygargus pygargus</i>	Bontebok	Vulnerable	Virtual Museum	N
<i>Panthera pardus</i>	Leopard	Vulnerable	iNaturalist	N
Sensitive species 8		Vulnerable	Screening Tool; Virtual Museum	Y

APPENDIX 2: VERTEBRATE SPECIES OBSERVED DURING THE SITE VISIT

Common name	Scientific name
AMPHIBIANS	
Clicking stream frog	<i>Strongylopus grayii</i>
AVIFAUNA	
Western cattle-egret	<i>Ardea ibis</i>
Pied crow	<i>Corvus albus</i>
Cape crow	<i>Corvus capensis</i>
Cape wagtail	<i>Motacilla capensis</i>
European starling	<i>Sturnis vulgaris</i>
MAMMALS	
Mole rat	Bathyergidae
Domestic horse	<i>Equus caballus</i>

APPENDIX 3: INVERTEBRATE SPECIES OBSERVED DURING THE SITE VISIT

Order	Family	Common name	Scientific name
Araneae	Agelenidae	Grass funnel-web spider	<i>Agelena</i> sp.
Coleoptera	Anthicidae	Ant-like flower beetle	Anthicidae
Coleoptera	Cerambycidae	Common metallic longhorn beetle	<i>Promeces longipes</i>
Diptera	Asilidae	Robberfly	Asilidae
Diptera	Syrphidae	Hoverfly	Syrphidae
Hemiptera	Cercopidae	Spotted red spittlebug	<i>Locris arithmetica</i>
Hymenoptera	Apidae	Honeybee	<i>Apis mellifera</i>
Lepidoptera	Lycaenidae	Blues	Lycaenidae
Lepidoptera	Nymphalidae	Rainforest brown	<i>Cassionympha casssius</i>
Lepidoptera	Pieridae	Meadow white	<i>Pontia helice</i>
Orthoptera	Gryllidae	Southern field cricket	<i>Gryllus bimaculatus</i>