Appendix H.6

ANIMAL SPECIES COMPLIANCE STATEMENT

MURA 3 SOLAR FACILITY

ANIMAL SPECIES COMPLIANCE STATEMENT

PRODUCED ON BEHALF RED CAP

3Foxes Biodiversity Solutions

Simon.Todd@3foxes.co.za

November 2022

MURA 3 SOLAR FACILITY

ANIMAL SPECIES COMPLIANCE STATEMENT

EXECUTIVE SUMMARY

Mura 3 (Pty) Ltd is proposing the construction and operation of the 320MW Mura 3 Solar Photovoltaic (PV) Energy Facility (SEF) south-east of Loxton in the Northern Cape Province. The development is currently in the EIA process and 3Foxes Biodiversity Solutions has been appointed to provide an Animal Species Compliance Statement for the development.

The DFFE Screening Tool identified the site as having medium sensitivity due to the possible presence of Karoo Dwarf Tortoise and Riverine Rabbit. The desktop study indicates that several other fauna SCC are known from the broad area and would potentially be present within the affected area. A desktop study, field assessment and camera trapping were used to characterize the fauna and associated habitats of the site. The Mura 3 Solar PV footprint lies entirely within the Eastern Upper Karoo vegetation type, with few notable features present. The vegetation within the footprint is typical for the area and consists of low shrubland on wide open plains. The habitat mapping, active searching and camera trapping across the site indicates that there is no suitable habitat for either the Karoo Dwarf Tortoise or Riverine Rabbit within the site. As such, the site can be considered low sensitivity for these two species. The field sampling and analysis indicates that none of the other fauna SCC that potentially occur in the area are likely to be present within the affected area on account of a lack of suitable habitat. The affected area is therefore considered to be low sensitivity from an Animal Species Theme perspective.

This Animal Species Theme Compliance Statement therefore finds that the footprint of the Mura 3 Solar PV Facility is restricted to low sensitivity areas with no observed animal species of conservation concern present, and as such, there are no reasons to oppose the Mura 3 Solar PV Facility.

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Mura 3 Solar Project

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.environment.gov.za/documents/forms.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1. SPECIALIST INFORMATION

Specialist Company Name:	3Foxes Biodiversity Solutions			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition	100%
Specialist name:	Simon Todd			
Specialist Qualifications:	BSc. (Zool. & Bot.), BSc Hons (Zool.), MSc (Cons. Biol.)			
Professional affiliation/registration:	SACNASP 400425/11			
Physical address:	23 De Villiers Road, Kommetjie 7975			
Postal address:	23 De Villiers Road, Kommetjie			
Postal code:	7975	Cell:	082 3326502	
Telephone:		Fax:		
E-mail:	Simon.Todd@3foxes.co.za			

2. DECLARATION BY THE SPECIALIST

I, ___Simon Todd_____, declare that –

- I act as the independent specialist in this application;
- I 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;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I 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;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I 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;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the Specialist

3Foxes Biodiversity Solutions

Name of Company:

25 October 2022

Date:

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, ___Simon Todd_____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

3Foxes Biodiversity Solutions

Name of Company

25 October 2022

Date

Signature of the Commissioner of Oaths

Date

SHORT CV/SUMMARY OF EXPERTISE – SIMON TODD

Simon Todd Pr.Sci.Nat
Director & Principle Scientist
C: 082 3326502
Simon.Todd@3foxes.co.za

23 De Villiers Road
Kommetjie
7975

Ecological Solutions for People & the Environment

Simon Todd is Director and principal scientist at 3Foxes Biodiversity Solutions and has over 20 years of experience in biodiversity measurement, management and assessment. He has provided specialist ecological input on more than 200 different developments distributed widely across the country, but with a focus on the three Cape provinces. This includes input on the Wind and Solar SEA (REDZ) as well as the Eskom Grid Infrastructure (EGI) SEA and Karoo Shale Gas SEA. He is on the National Vegetation Map Committee as representative of the Nama and Succulent Karoo Biomes. Simon Todd is a recognised ecological expert and is a past chairman and current deputy chair of the Arid-Zone Ecology Forum. He is registered with the South African Council for Natural Scientific Professions (No. 400425/11).

Skills & Primary Competencies

- Research & description of ecological patterns & processes in Nama Karoo, Succulent Karoo, Thicket, Arid Grassland, Fynbos and Savannah Ecosystems.
- Ecological Impacts of land use on biodiversity
- Vegetation surveys & degradation assessment & mapping
- Long-term vegetation monitoring
- Faunal surveys & assessment.
- GIS & remote sensing

Tertiary Education:

- 1992-1994 – BSc (Botany & Zoology), University of Cape Town
- 1995 – BSc Hons, Cum Laude (Zoology) University of Natal
- 1996-1997- MSc, Cum Laude (Conservation Biology) University of Cape Town

Employment History

- 2009 – Present – Sole Proprietor of Simon Todd Consulting, providing specialist ecological services for development and research.

- 2007 Present – Senior Scientist (Associate) – Plant Conservation Unit, Department of Botany, University of Cape Town.
- 2004-2007 – Senior Scientist (Contract) – Plant Conservation Unit, Department of Botany, University of Cape Town
- 2000-2004 – Specialist Scientist (Contract) - South African National Biodiversity Institute
- 1997 – 1999 – Research Scientist (Contract) – South African National Biodiversity Institute

A selection of recent work is as follows:

Strategic Environmental Assessments

Co-Author. Chapter 7 - Biodiversity & Ecosystems - Shale Gas SEA. CSIR 2016.

Co-Author. Chapter 1 Scenarios and Activities – Shale Gas SEA. CSIR 2016.

Co-Author – Ecological Chapter – Wind and Solar SEA. CSIR 2014.

Co-Author – Ecological Chapter – Eskom Grid Infrastructure SEA. CSIR 2015.

Contributor – Ecological & Conservation components to SKA SEA. CSIR 2017.

Relevant Studies Related to the Current Project Area

- Nuweveld North, East and West WEFs. Fauna & Flora Specialist Study for EIA. Zutari 2021.
- Beaufort West PV Facility. Fauna & Flora Assessment. SiVest Evironmental 2022.
- San Solar PV Facility, Kathu. Fauna & Flora Assessment. Savannah Environmental 2022.
- Soventix Phase 3 PV Facility, De Aar. Fauna & Flora Assesment. Ecologes Environmental Consultants, 2022.
- Sadawa PV Facilities, Tankwa Karoo. Fauna & Flora Assessment. Savannah Environmental 2021.
- Kotulo Tsatsi PV 1 Facility near Kenhardt. Fauna & Flora Assessment. Savannah Environmental 2021.
- Hyperion 2 PV Facility, Kathu. Fauna & Flora Assessment. Savannah Environmental 2021.

Red Cap Energy (Pty) Ltd
MURA 3 SOLAR PV FACILITY
Animal Species Compliance Statement

Contents

List of Figures

MURA 3 SOLAR PV PROJECT

Animal Species Compliance Statement

1. INTRODUCTION

Red Cap Energy (Pty) Ltd has appointed WSP Group Africa (Pty) Ltd to undertake the required EIA Processes for the proposed construction of the Mura Solar Photovoltaic (PV) Energy Facility (SEF) and associated grid connection infrastructure southeast of Loxton in the Northern Cape Province. The project involves the development of a solar-energy facility with a total generation capacity of approximately 320 MWac electricity from renewable solar energy to be supplied to the national Eskom grid via the approved Nuweveld Collector Substation, west of the site. The necessary associated infrastructure, including BESS, access roads, substations and control building(s) form a part of this application.

As part of the required studies for the required S&EIA application for environmental authorisation, 3Foxes Biodiversity Solutions has been appointed to provide terrestrial ecological input for the development application. The DFFE Screening Tool indicates that the site has medium sensitivity due to the potential presence of the Karoo Dwarf Tortoise *Chersobius boulengeri* (EN) and Riverine Rabbit *Bunolagus monticularis* (CR) within the project site (Please see relevant Site Verification Report). However, the site verification indicates that there is no suitable habitat for either species within the PV development footprint indicating that the site can be considered low sensitivity in terms of this species. Consequently, an Animal Species Compliance Statement is the recommended level of study for the EIA process. To these ends, this Animal Species Compliance Statement for the Mura 3 Solar Project, addresses the potential impacts of the project on fauna species and their associated habitats and must be included in the EIA for the development and any mitigation and monitoring measures as identified, must be incorporated into the EMPr for the development.

1.1 Scope and Objectives

In terms of the GN 1150 30 October 2020, *Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(A) and (h) and 44 of the National Environmental Management Act, 1998, when applying for environmental authorisation*, the Terrestrial Animal Species Compliance Statement should include the following details:

- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of “medium sensitivity” for terrestrial animal species must submit either a Terrestrial Animal Species Specialist Assessment Report or a Terrestrial Animal Species Compliance Statement, depending on the outcome of a site inspection undertaken in accordance with paragraph 4.
- The compliance statement must be prepared by a SACNASP registered specialist under one of the two fields of practice (Zoological Science or Ecological Science).
- The compliance statement must:
  - be applicable within the study area;
  - confirm that the study area is of “low” sensitivity for terrestrial plant species; and
  - indicate whether or not the proposed development will have any impact on SCC.
- The compliance statement must contain, as a minimum, the following information:
  - contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the compliance statement including a curriculum vitae;
  - a signed statement of independence by the specialist;

- a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
- a description of the methodology used to undertake the site survey and prepare the compliance statement, including equipment and modelling used where relevant;
- where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMPr;
- a description of the assumptions made and any uncertainties or gaps in knowledge or data;
- the mean density of observations/ number of samples sites per unit area; and
- any conditions to which the compliance statement is subjected.

- A signed copy of the Terrestrial Animal Species Compliance Statement must be appended to the Basic Assessment Report or the Environmental Impact Assessment Report.

2. TECHNICAL DESCRIPTION

2.1 Project Location

The project is located approximately 42km southeast of the town of Loxton within the Pixley ka Seme District Municipality, Northern Cape Province (**Figure 1**). The site falls outside of any REDZ zone with the result that a full S&EIA process is required for authorisation. The Mura 3 Solar project lies immediately adjacent to the Mura 4 Solar Project site and will share an access road.

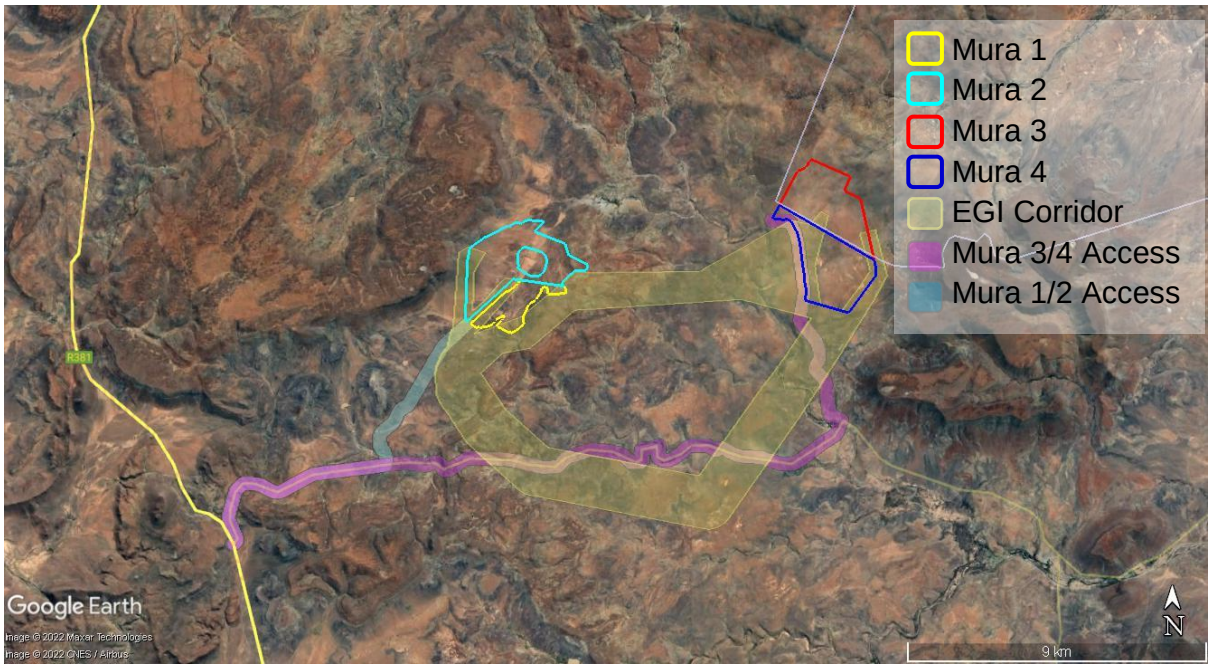

Figure 1: Locality Map of the Mura Series of PV developments and their associated EGI corridor, showing the location of the Mura 3 Solar project with the red boundary outline.

2.2 Project Description

The following are proposed as part of each project. It should be noted that the areas under consideration for each solar project site should be assumed to be wholly transformed and will contain the following:

A. Solar Field, comprising Solar Arrays:

- Maximum height of 6 m;
- PV Modules that are located on either single axis tracking structures or fixed tilt mounting structures or similar

B. Solar Farm Substation:

- Maximum height of 12m;
- Two up to 150 m x 75 m substation yards that will include:
  - Substation building; and
  - High voltage gantry.

C. Building Infrastructure:

- Maximum height of 8m;
- Offices;
- Operational and maintenance (O&M)/ control centre;
- Warehouse/workshop;
- Ablution facilities; and
- Converter/inverter stations.

D. Li-ion or similar solid state Battery Energy Storage System (BESS):

- Each solar farm will have up to a 4 ha area for a 240 MWac BESS;
- BESS substation (same specifications as the solar farm substations)
- Connected to the solar farm sub/switching stations via an underground high voltage cable.

E. Other Infrastructure located within the solar area footprint:

- Internal underground cables of up to 132 kV;
- Internal gravel roads;
- Fencing (between 2 – 3 m high) around the PV Facility;
- Panel maintenance and cleaning area;
- Storm water management system; and
- Up to two construction camps.

F. Associated Infrastructure (outside the solar area footprint but part of each solar project's application):

- Internal access gravel roads will have a 2-4 m wide driving surface and may require side drains on one or both sides. During construction the roads may be up to 12m wide but this will be a temporary impact and rehabilitated following the construction phase; and

- Up to two 2.2 ha construction camps located within the access road corridor.

3. ASSESSMENT METHODOLOGY

3.1 Site Visit

The site was visited twice for the current project. An initial field assessment took place on the 8th of June 2022 and a follow-up field assessment on the 19th of October 2022. During the initial field assessment, a broad area was investigated in the field and the primary aim was to survey the ecological features of the site to inform a sensitivity map of the whole project area that has been used to guide the final development footprint for the PV areas and grid connection. During the initial field assessment, four camera traps were located across the Mura 3 and Mura 4 site and recovered during the second field assessment, giving rise to four months of camera trapping at the site. During the walked transects conducted across the site, all animal species directly or indirectly observed were recorded. Within habitats likely to harbour species of concern, active searches were conducted which included looking under rocks, within dense bushes and other shelter sites. In addition, specific attention to the presence of dead tortoise carapaces was paid as this is frequently the only sign of less common species that can readily be observed; however, no carapaces of species of concern were found. If present, sensitive species locations and habitats within the footprint were recorded and mapped with a GPS. The track that was walked through the different PV footprint areas has a total length in excess of 8km (***Figure 2***).

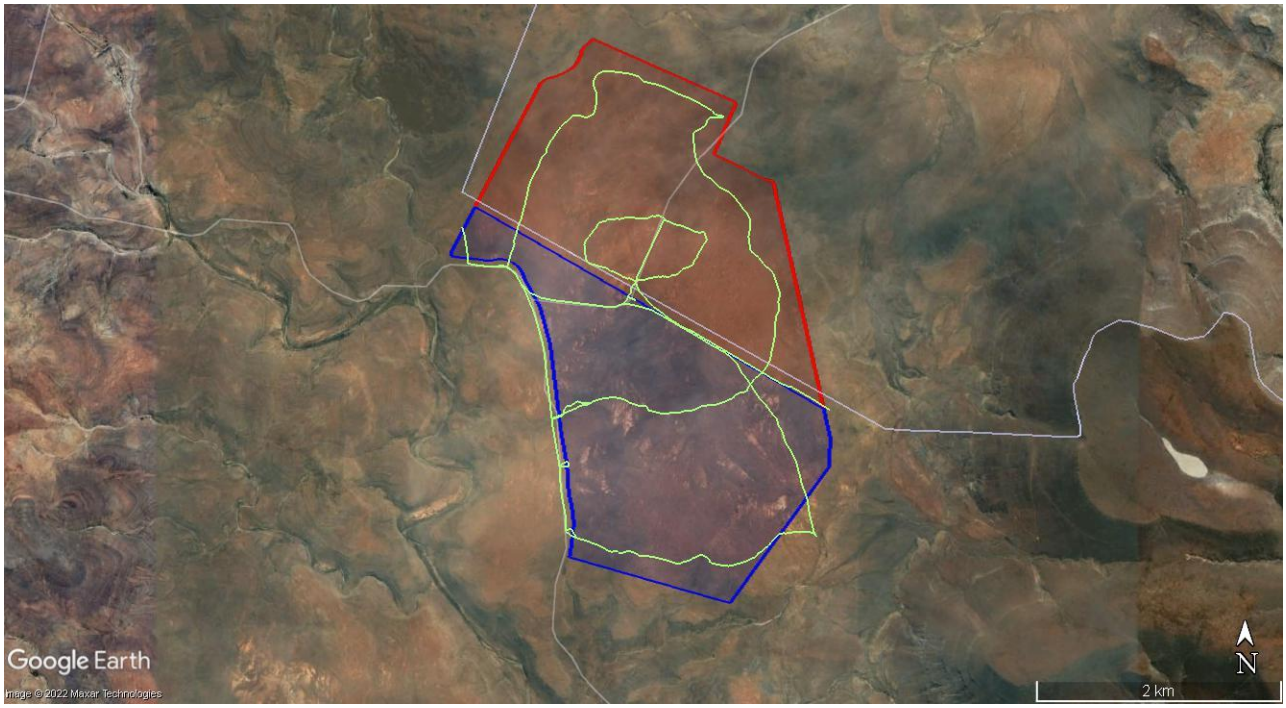

Figure 2. Map showing the sampling track (yellow line) that was walked through the Mura 3 (red) and Mura 4 (blue) PV footprint areas.

3.2 Data Sourcing and Review

Data sources from the literature consulted and used where necessary in the study includes the following:

- The following web-based sources were searched for faunal records from the broad area:

- Virtual Museum ReptileMap, MammalMap and FrogMap databases https://vmus.adu.org.za/vm_projects.php
- iNaturalist citizen science site https://www.inaturalist.org/
- Lists of mammals, reptiles and amphibians which are likely to occur at the site were derived based on distribution records from the literature and the ADU databases (ReptileMap, Frogmap and MammalMap) http://vmus.adu.org.za.
- Literature consulted includes Branch (1988) and Alexander and Marais (2007) for reptiles, Du Preez and Carruthers (2009) for amphibians, EWT & SANBI (2016) and Skinner and Chimimba (2005) for mammals.
- The faunal species considered likely to occur at the site are based on species which are known to occur in the broad geographical area, as well as an assessment of the availability and quality of suitable habitat at the site.
- The conservation status of mammals is based on the IUCN Red List Categories (EWT/SANBI 2016), while reptiles are based on the South African Reptile Conservation Assessment (Bates et al. 2013) and amphibians on Minter et al. (2004) as well as the IUCN (2022).

4. ASSUMPTIONS AND LIMITATIONS

A number of limitations and assumptions are inherent in faunal studies generally and with the assessment of rare fauna. These include the following:

- It is not possible to confirm the absence of a species with 100% certainty. A species may be absent from an area during sampling but may move through the area occasionally or seasonally. This effect is however to a large degree mitigated through the use of the camera traps at the site which provide an effective characterisation of the medium sized and larger fauna of the site.
- Some species are rare or difficult to locate and it may be very difficult to confirm either the absence or presence of such species without long-term studies.
- The presence of such species are assessed in the current study based on observations of such species from the wider area in the various publicly available databases and citizen science websites (Virtual Museum & iNaturalist), as well as the habitat suitability, quality and condition as observed in the field.

5. LEGAL REQUIREMENT AND GUIDELINES

5.1 National Permitting

Threatened Or Protected Species (TOPS) permits for the carrying out of restricted activities in terms of the National Environmental Management: Biodiversity Act 2004 (No. 10 of 2004) may be required. However, TOPS permits are submitted to either the national minister or the provincial minister. In terms of the legislation, the relevant issuing authority for the current project would be the office of the MEC of the province.

The most recent lists of TOPS species and associated legislation is available in the National Environmental Management: Biodiversity Act, 2004 (ACT NO. 10 of 2004), Threatened or Protected Species Regulations Notice 255 of 2015. Any endangered (VU, EN, CR) species under this list are also subject to the TOPS regulations. However, practically, there should not be a need to interfere with TOPS regulated species for the current project.

5.2 Provincial Permitting

The Northern Cape Nature Conservation Act, 2009 provides lists of protected fauna that should not be harmed without a permit. Usually, important faunal features within the development footprint can be avoided. However, sometimes it is not possible to avoid burrows of protected species and it is necessary to trap and translocate the affected species. In such cases, a permit is also required from DENC for the capture and translocation of such protected species. Captured individuals of species should not be relocated to other areas, but released on the same property as they were captured.

6. DESCRIPTION OF THE RECEIVING ENVIRONMENT

The Mura 3 PV area falls entirely within the Eastern Upper Karoo vegetation type. Within the PV development area, the vegetation cover is generally fairly low, but varies depending on the soil depth and type (**Figure *3***). There are also some stony areas present where the vegetation cover tends to be low and some broad areas susceptible to sheet wash are evident where the cover has also been reduced.

In terms of the fauna that potentially occur at the site, the potential diversity is considered to be moderate and numbers approximately 38 mammals, 28 reptiles and about 6 frog and toads (See Appendix 1-3). Mammals observed at the site directly, indirectly or through the camera trapping include Steenbok, Kudu, Cape Hare, Cape Porcupine, Suricate, Bat-eared Fox, Cape Fox, Cape Mongoose, Yellow Mongoose, Common Genet, Aardwolf and Black-backed Jackal. Reptiles and amphibians observed on the site or in the immediate environment include Leopard Tortoise, Southern Tent Tortoise, Karoo Girdled Lizard, Spotted Sand Lizard, Southern Rock Agama, Cape Thick-toed Gecko, Variegated Skink, Ground Agama and Karoo Toad. Although the DFFE Screening Tool identified only the Karoo Dwarf Tortoise and Riverine Rabbit as being of potential concern at the site, there are several other fauna species of concern that occur in the wider area (**Table *1***). However, interrogation of these also suggests that none of these are likely to occur within the site as they all occur in habitats that are not represented within the PV footprint area.

In terms of the two species identified by the Screening Tool, the Karoo Dwarf Tortoise and the Riverine Rabbit, there is no suitable habitat for either species within the development footprint. The Riverine Rabbit is associated with well-vegetated alluvial floodplains of the ephemeral rivers of the central and upper Karoo and in the Upper Karoo at least, do not tend to stray far from this habitat. Since there is no alluvial floodplain habitat within the site, it can be confirmed that the site can considered low sensitivity for this species. The Karoo Dwarf Tortoise *Chersobius boulengeri* occurs in association with dolerite ridges and rocky outcrops of the southern Succulent and Nama Karoo biomes, and peripherally in the Albany Thicket biome in the southeast, at altitudes of approximately 800 to 1,500 m. The vegetation usually consists of dwarf shrubland that often contains succulent and grassy elements. The tortoises usually take shelter under rocks in vegetated areas or in rock crevices. However, these are quite specific in terms of their requirements with the result that suitable retreats for the species are not common. Due to their strong habitat association, populations are isolated on rocky outcrops with specialized vegetation (Hofmeyr et al. 2018). The typical dolerite outcrops associated with this species do not occur within the PV footprint areas and there are no other significant rocky outcrops present within the PV areas that would be likely to offer shelter for this species. As such, it is concluded that the Mura 3 Solar PV area can be considered low sensitivity for this species.

The access road that leads to the site may require upgrading and resurfacing for the construction of the PV project. Since this road is already a public access route, there is some existing activity and disturbance along the route, but the development would increase the intensity of use. This may have some negative impact on fauna, particularly through roadkill. This can to some degree be mitigated through the implementation of speed limits for vehicles along the road, especially near river crossings.

Figure 3. Typical open plains on silty soils within the Mura 3 Solar PV Facility, representative of the Eastern Upper Karoo vegetation type, showing the relatively low cover and homogenous nature of the site.

Table 1. Faunal species conservation concern known from the broad area, and their likely presence within the site.

Species	Wider area	PV footprint
Vaal Rhebok (NT)	Present on higher ground, especially the Nuweveld mountains.	Not present within the site or within the PV areas.
Black-footed Cat (VU)	Previously recorded from within the Karoo National Park, but no recent records.	No recent records from the area. The habitat within the site is also considered sub-optimal for this species as the cover is very low and there are very few burrow refuge sites available.
Leopard (VU)	This species is generally confined to protected areas or mountainous terrain and may be present in the wider area.	The terrain within and near the site is highly unlikely to be attractive for this species which prefers rugged terrain with more cover than the site offers.
Riverine Rabbit (CR)	There are records from the Krom River and some of the larger tributaries.	There is no habitat within the site for this species and it is not present.
Littledale's Whistling Rat (NT)	Occurs in the wider area and the arid parts of the Nama and Succulent Karoo and Namibia.	This species is associated with sandy soils and makes characteristic burrows that are easily observed. There is no habitat for this species within the site.

Species	Wider area	PV footprint
Karoo Dwarf Tortoise (NT)	Occasional records from the broad area. Associated with dolerite outcrops.	There is no habitat considered suitable for this species within the PV development footprint.

Figure 4. Example of a camera trap image from the site, showing a Cape Hare which can easily be differentiated from a Riverine Rabit by the shape of the face and the black and white tail.

7. PROPOSED MITIGATION ACTIONS

The following avoidance and mitigation measures should be included in the EMPr for the Mura 3 Solar PV Facility in order to avoid, reduce and manage impacts on fauna and associated habitats:

- All vehicles should adhere to a low speed limit on site. Heavy vehicles should be restricted to 30km/h and light vehicles to 40km/h.
- Driving to the from the site between sunset and sunrise should be minimised and restricted to essential vehicles only.
- There should be speed reduction requirements along the sections of the public road between the R381 and the site, where the road traverses major drainage lines and nay other such places where faunal activity is likely to be higher.
- All laydown areas, construction sites etc with waste disposal bins, should be provided with lockable bins that are tamper proof by baboons, monkeys and other fauna.
- Search and rescue for reptiles and other vulnerable species during construction, before areas of intact vegetation are cleared. Such search and rescue should be conducted by relevant experts with experience in search and rescue of the faunal groups concerned.

- Limiting access to the site and ensuring that construction staff and machinery remain within the demarcated construction areas during the construction phase. Environmental induction for all staff and contractors on-site.
- No excavated holes or trenches should be left open for extended periods as fauna may fall in become trapped.
- The design should ensure that there is no electrical fencing around substations (and associated battery facilities) or other features within 30cm of the ground as tortoises become stuck against such fences and are electrocuted to death. Alternatively, a guard wire set at 20cm can be used to keep larger tortoises away from the fence.
- The Mura series of projects would potentially generate some negative cumulative impacts on fauna, particularly as a result of the increased levels of traffic into the area. As the Mura project is located within an area that has been identified as part of the core habitat for the Riverine Rabbit in the Upper Karoo and forms part of an increasing pressure from renewable energy development on this species, a contribution of the project towards the Riverine Rabbit conservation initiatives happening in the area is recommended. The following contribution from the project is recommended towards conservation initiatives or Riverine Rabbit monitoring being undertaken in the area:
    - R100 000 per year based on 2022 value must be made available for two years once construction has commenced. The way in which the funding is structured should be flexible, however, it is recommended that if Riverine Rabbit monitoring is still being undertaken on the Nuweveld Wind Farms and/or Hoogland Wind Farms, the project funding should prioritise contributing to these associated monitoring programmes or alternatively, contribute to the broader conservation initiative by any wind farms in the broader area.

The following monitoring and management actions should be included in the EMPr:

- A log should be kept detailing all fauna-related incidences or mortalities that occur on site, including roadkill, electrocutions etc. during construction and operation. These should be reviewed annually and used to inform operational management and mitigation measures.
- There should be on-going maintenance and monitoring of the perimeter fences of the PV areas to ensure that there is not sedimentation or vegetation build-up that brings the electrified strands closer to the ground than the recommended 30cm. Should some fauna burrow under the fence, such burrow access-points can be allowed to remain provided that the fauna accessing the facility are not causing problems inside the facility or would be endangered themselves.

7.1 Cumulative Impacts

Cumulative impacts associated with the Mura 3 Solar PV Facility are assessed in the Terrestrial Biodiversity Assessment and are not assessed in detail here. From a faunal species and associated habitat perspective, the Mura 3 Solar PV Facility would have very low impact on fauna SCC and the broader area has been little impacted by renewable energy development to date. As a result, the contribution of the Mura 3 Solar PV Facility to cumulative impact on fauna is considered acceptable.

8. COMPARATIVE ASSESSMENT OF ALTERNATIVES

There are no alternatives to be considered with regards to the PV facility.

8.1 No-Go Alternative

Under the no-go alternative, the current land use consisting of extensive livestock grazing would continue. When applied correctly, such livestock grazing is considered to be largely compatible with long-term biodiversity conservation, although in practice there are some negative effects associated with such land use such as predator control and negative impacts on habitat availability for the larger ungulates that would historically have utilised the area. Under the current circumstances, the no-go alternative is considered to represent a low long-term negative impact on the environment, but has less impact than the loss of habitat resulting from the construction of the PV facility.

9. CONCLUSION

- This compliance statement is applicable to the Mura 3 Solar PV Facility development with specific reference to the layout as provided for the assessment.
- Although the DFFE Screening Tool identified the site as having medium sensitivity due to the possible presence of the Karoo Dwarf Tortoise and Riverine Rabbit, the field assessment indicates that there is no suitable habitat within the PV footprint areas for either species.
- A desktop analysis indicates that there are several other fauna of concern that are confirmed present in the wider area. However, interrogation of the available information and the observed features of the PV footprint areas indicates that none of these species are likely to occur within the affected area.
- No fauna species of concern, were observed within the site despite sampling the site with camera trapping over more than four months and walked transects across the PV area, confirming the low sensitivity of the project footprint.
- Given the above results, the site is therefore considered low sensitivity from an Animal Species Theme perspective.

9.1 Impact Statement

The footprint of the Mura 3 Solar PV Facility is restricted to low sensitivity areas with no observed faunal species of conservation concern present or likely to be present. As such, from a faunal species perspective there are no reasons to oppose the Mura 3 Solar PV Facility.

10. REFERENCES

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Annex 1. List of Mammals

List of mammals known to occur in the broader area based on the MammalMap database for the quarter degree squares 3122CB, 3122CD, 3122DA, 3122DC, 3122CA, 3122CC, 3122DB, 3122DD.

Family	Scientific name	Common name	Red list category	Number of records
Bathyergidae	*Bathyergus suillus*	Cape Dune Mole-rat	Least Concern (2016)	1
Bovidae	*Raphicerus campestris*	Steenbok	Least Concern (2016)	6
Bovidae	*Sylvicapra grimmia*	Bush Duiker	Least Concern (2016)	2
Canidae	*Canis mesomelas*	Black-backed Jackal	Least Concern (2016)	38
Canidae	*Otocyon megalotis*	Bat-eared Fox	Least Concern (2016)	20
Canidae	*Vulpes chama*	Cape Fox	Least Concern (2016)	2
Cercopithecidae	*Papio ursinus*	Chacma Baboon	Least Concern (2016)	30
Equidae	*Equus zebra*	Mountain Zebra		1
Felidae	*Caracal caracal*	Caracal	Least Concern (2016)	35
Felidae	*Felis nigripes*	Black-footed Cat	**Vulnerable (2016)**	9
Felidae	*Felis silvestris*	Wildcat	Least Concern (2016)	26
Felidae	*Panthera pardus*	Leopard	**Vulnerable (2016)**	1
Herpestidae	*Atilax paludinosus*	Marsh Mongoose	Least Concern (2016)	2
Herpestidae	*Cynictis penicillata*	Yellow Mongoose	Least Concern (2016)	1
Herpestidae	*Herpestes pulverulentus*	Cape Gray Mongoose	Least Concern (2016)	2
Herpestidae	*Suricata suricatta*	Meerkat	Least Concern (2016)	3
Hystricidae	*Hystrix africaeaustralis*	Cape Porcupine	Least Concern	1
Leporidae	*Bunolagus monticularis*	Riverine Rabbit	**Critically Endangered (2016)**	42
Leporidae	*Lepus saxatilis*	Scrub Hare	Least Concern	5
Macroscelididae	*Elephantulus edwardii*	Cape Elephant Shrew	Least Concern (2016)	3
Macroscelididae	*Elephantulus rupestris*	Western Rock Elephant Shrew	Least Concern (2016)	5
Muridae	*Aethomys granti*	Grant's Rock Mouse	Least Concern	10
Muridae	*Aethomys namaquensis*	Namaqua Rock Mouse	Least Concern	1
Muridae	*Mastomys coucha*	Southern African Mastomys	Least Concern (2016)	1
Muridae	*Mastomys natalensis*	Natal Mastomys	Least Concern (2016)	1
Muridae	*Otomys unisulcatus*	Karoo Bush Rat	Least Concern (2016)	8
Muridae	*Parotomys brantsii*	Brants's Whistling Rat	Least Concern (2016)	2
Muridae	*Parotomys littledalei*	Littledale's Whistling Rat	**Near Threatened (2016)**	1
Muridae	*Rhabdomys pumilio*	Xeric Four-striped Grass Rat	Least Concern (2016)	11
Mustelidae	*Ictonyx striatus*	Striped Polecat	Least Concern (2016)	1

Mustelidae	*Mellivora capensis*	Honey Badger	Least Concern (2016)	7
Mustelidae	*Poecilogale albinucha*	African Striped Weasel	Near Threatened (2016)	1
Orycteropodidae	*Orycteropus afer*	Aardvark	Least Concern (2016)	2
Procaviidae	*Procavia capensis*	Cape Rock Hyrax	Least Concern (2016)	19
Sciuridae	*Xerus inauris*	South African Ground Squirrel	Least Concern	1
Soricidae	*Myosorex varius*	Forest Shrew	Least Concern (2016)	18
Viverridae	*Genetta genetta*	Common Genet	Least Concern (2016)	1
Viverridae	*Genetta tigrina*	Cape Genet (Cape Large-spotted Genet)	Least Concern (2016)	3

Annex 2. List of Reptiles

List of reptiles known to occur in the broader area based on the ReptileMap database for the quarter degree squares 3122CB, 3122CD, 3122DA, 3122DC, 3122CA, 3122CC, 3122DB, 3122DD.

Family	Scientific name	Common name	Red list category	Number of records
Agamidae	*Agama aculeata aculeata*	Common Ground Agama	Least Concern	3
Agamidae	*Agama atra*	Southern Rock Agama	Least Concern	12
Chamaeleonidae	*Bradypodion ventrale*	Eastern Cape Dwarf Chameleon	Least Concern	3
Colubridae	*Dasypeltis scabra*	Rhombic Egg-eater	Least Concern	1
Cordylidae	*Karusasaurus polyzonus*	Karoo Girdled Lizard	Least Concern	4
Cordylidae	*Pseudocordylus microlepidotus namaquensis*	Nuweveldberg Crag Lizard	Least Concern	2
Elapidae	*Aspidelaps lubricus lubricus*	Coral Shield Cobra		1
Elapidae	*Naja nivea*	Cape Cobra	Least Concern	3
Gekkonidae	*Afroedura karroica*	Karoo Flat Gecko	Least Concern (IUCN 2018)	1
Gekkonidae	*Chondrodactylus bibronii*	Bibron's Gecko	Least Concern	3
Gekkonidae	*Pachydactylus kladaroderma*	Thin-skinned Gecko	Least Concern	4
Gekkonidae	*Pachydactylus oculatus*	Golden Spotted Gecko	Least Concern	1
Gerrhosauridae	*Gerrhosaurus typicus*	Karoo Plated Lizard	Least Concern	2
Lacertidae	*Pedioplanis burchelli*	Burchell's Sand Lizard	Least Concern	1
Lacertidae	*Pedioplanis laticeps*	Karoo Sand Lizard	Least Concern	7
Lacertidae	*Pedioplanis lineoocellata pulchella*	Common Sand Lizard	Least Concern	19
Lacertidae	*Pedioplanis namaquensis*	Namaqua Sand Lizard	Least Concern	6
Lamprophiidae	*Psammophis notostictus*	Karoo Sand Snake	Least Concern	3
Pelomedusidae	*Pelomedusa galeata*	South African Marsh Terrapin	Not evaluated	2
Scincidae	*Trachylepis capensis*	Cape Skink	Least Concern	2
Scincidae	*Trachylepis occidentalis*	Western Three-striped Skink	Least Concern	6
Scincidae	*Trachylepis sulcata sulcata*	Western Rock Skink	Least Concern	1
Scincidae	*Trachylepis variegata*	Variegated Skink	Least Concern	4
Testudinidae	*Chersobius boulengeri*	Karoo Padloper	Near Threatened	3
Testudinidae	*Homopus femoralis*	Greater Padloper	Least Concern	9

Testudinidae	*Psammobates tentorius subsp. ?*	Tent Tortoise (subsp. ?)	Least Concern	29
Testudinidae	*Psammobates tentorius verroxii*	Verrox's Tent Tortoise		3
Testudinidae	*Stigmochelys pardalis*	Leopard Tortoise	Least Concern	

Annex 3. List of Amphibians

List of Amphibians known to occur in the broader area based on the FrogMap database for the quarter degree squares 3122CB, 3122CD, 3122DA, 3122DC, 3122CA, 3122CC, 3122DB, 3122DD.

Family	Scientific name	Common name	Red list category	Number of records
Bufonidae	*Vandijkophrynus gariepensis gariepensis*	Karoo Toad (subsp. gariepensis)		5
Pipidae	*Xenopus laevis*	Common Platanna	Least Concern	4
Pyxicephalidae	*Amietia fuscigula*	Cape River Frog	Least Concern (2017)	7
Pyxicephalidae	*Amietia poyntoni*	Poynton's River Frog	Least Concern (2017)	1
Pyxicephalidae	*Cacosternum boettgeri*	Common Caco	Least Concern (2013)	6
Bufonidae	*Vandijkophrynus gariepensis gariepensis*	Karoo Toad (subsp. gariepensis)		5
Pipidae	*Xenopus laevis*	Common Platanna	Least Concern	4