

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED LESAKA 1 AND 2 SOLAR RENEWABLE ENERGY FACILITIES, NEAR LOERIESFONTEIN, NORTHERN CAPE PROVINCE

**Comments on CBA from a Terrestrial Biodiversity
(including avifauna) Perspective**

4 APRIL 2023

For
SiVEST on behalf of
Enertrag South Africa (Pty) Ltd

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1 INTRODUCTION

Enviro-Insight CC was commissioned by SiVEST on behalf of Enertrag South Africa (Pty) Ltd to perform a Terrestrial Biodiversity Assessment for the proposed construction of the Lesaka 1 and 2 Solar Energy Facilities (SEF) located near Loeriesfontein in the Northern Cape Province, South Africa.

The distinct Environmental Authorisations that are required for each of the respective Projects Infrastructure are as follows:

- Lesaka SEF 1 (up to 240MW)
- Lesaka SEF 2 (up to 240MW)

The objective of this letter is to provide a professional opinion on the CBA and indicate whether the mitigation measures proposed are sufficient should the development proceed.

2 RESULTS: TERRESTRIAL BIODIVERSITY

2.1 VEGETATION AND SENSITIVE PLANT SPECIES

The study area is not located within one of the nine geographic priority areas within the Succulent Karoo Biodiversity Hotspot that highlights areas essential for achieving conservation targets as well as areas that require additional research for refining and defining finer-scale outcomes for the Succulent Karoo Ecosystem Planning (SKEP) process. The closest is the Bokkeveld-Hantam-Roggeveld towards the south. The Hantam Karoo vegetation type is located within the Succulent Karoo Biome.

The entire study area is located in the Hantam Karoo vegetation type (part of the Succulent Karoo Biome) as described by Mucina and Rutherford (2006, as amended). It is listed as Least threatened provincially as well as nationally with a conservation target of 18%. Only a small patch is statutorily conserved in Akkerendam Nature Reserve near Calvinia. It comprises of dwarf Karoo shrubland with nearly equal proportions of succulents (*Aloe*, *Antimima*, *Euphorbia*, *Ruschia*) and low karroid shrubs, particularly of the daisy family Asteraceae (*Eriocephalus*, *Pentzia*, *Pteronia*). The area has rich displays of spring annuals and geophytes. There are several endemic and biogeographically important taxa associated with this vegetation type, but the majority of them are associated with the Roggeveld-Hantam. It must be noted that the study area is at the northern most edge of this vegetation units range, and an ecotone exist between the Hantam Karoo and Bushmanland Basin Shrubland.

According to the Northern Cape CBA Map (2016), the study area is mainly located in CBA2, with sections of CBA1, ESA and "Other Natural Areas" (Figure 1). CBA2 are mainly due to the FEPA catchment, FEPA rivers and 500m buffer and the Hantam Karoo vegetation type (Figure 2). The CBA1 are the NFEPA Rivers, Klein-Rooiberg and Rooiberg, both considered largely natural. The ESA towards the western section is the Krom River and associated wetlands, while the smaller scattered ESAs towards the eastern boundary are koppies which are large high value climate resilience areas.

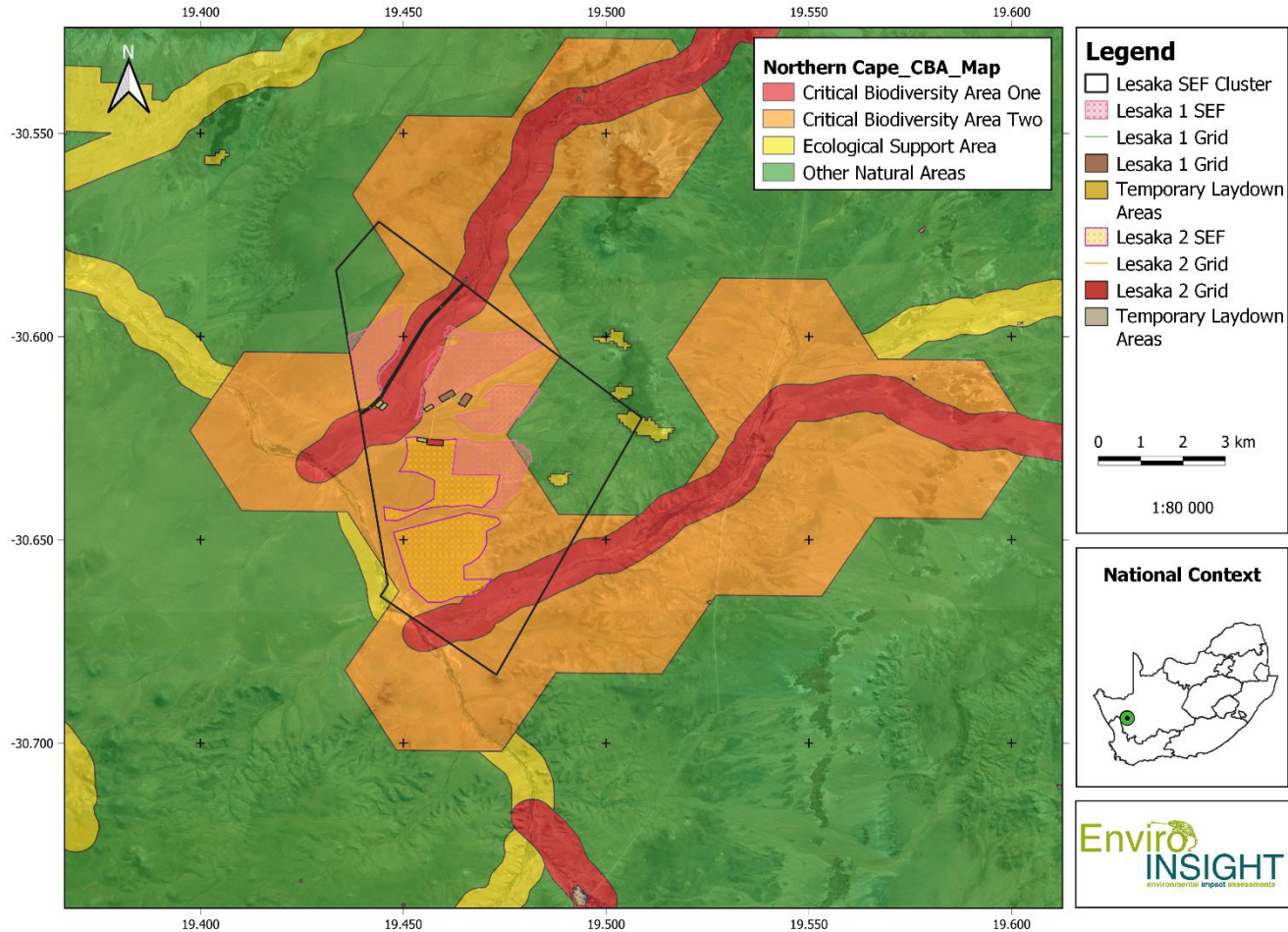


Figure 1: The study area in relation to the Northern Cape Critical Biodiversity Areas (2016).

The watercourses in the region represent the most important ecological processes, and if not protected it could lead to reduced ecosystem services and increased negative impacts could result in a cascading effect. The vegetation unit is not considered threatened or highly sensitive and there are limited sensitive features or important landscape features that, if disturbed or transformed, will result in a catastrophic collapse of the system.

The proposed layout must not impact on connectivity within the landscape by placing the PV arrays and associated infrastructure outside main watercourses and by not destroying the ridges. Where roads and powerlines cross watercourses and ridges, the necessary mitigation measures need to be implemented to reduce fauna mortality, and not restrict movement of fauna.

The proposed Lesaka SEF does not represent a significant impact on the ecosystem processes and services, except for the main river courses and wetland pans as well as Koppies located on the study area which needs to be excluded from construction activities.

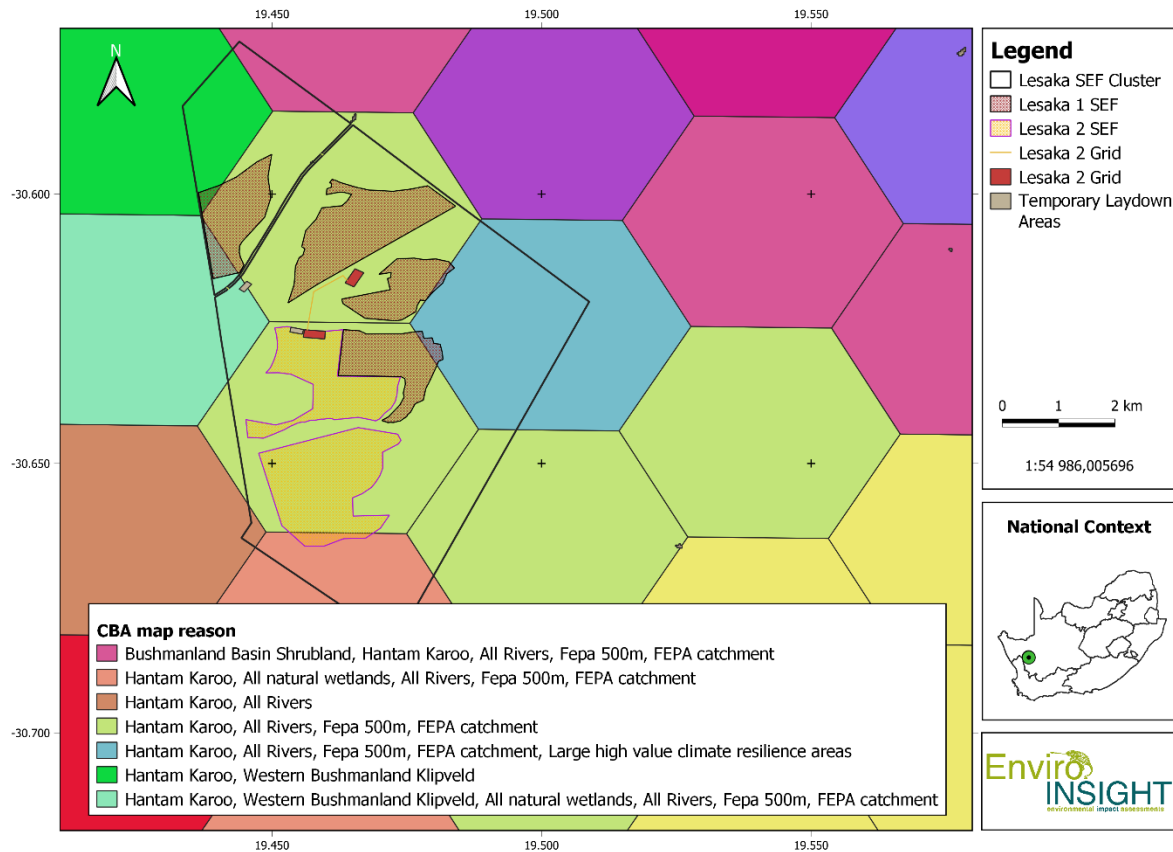


Figure 2: Sensitivity map of the study area.

The development of the Lesaka SEF is likely to result in a variety of impacts, associated largely with the disturbance and transformation of intact vegetation and faunal habitat to hard infrastructure for the PV array foundations and associated infrastructure such as service areas, access roads, operations and maintenance buildings, and laydown areas during the construction phase.

2.2 AVIFAUNA

The study area mostly consists of Open Grassland and Karoo Shale habitats with some drainage line and koppies found in parts of the proposed project footprint. The Sandy Grassland and Koppie vegetation provides potential nesting habitat for bird species such as Ludwig’s Bustard, Raptors, Red Larks, Cisticola’s and Karoo Korhaan, and possibly includes hunting/foraging habitat for species such as Lanner Falcon, Secretarybird and other larger raptors.

The associated powerlines within the study area footprint showed significant signs of priority bird species nests and could lead to possible recolonisation in the future for species such as Martial Eagle. Accordingly, preliminary sensitivities indicates that the entire north-western area, as well as smaller pockets to the south and east, are “high sensitivity” areas, while the nest

buffers towards the south-west and beyond the north-east border are “no-go” areas. The drainage line running across the site has also been marked as a “no-go”.

The study area is not anticipated to support breeding populations of several large terrestrial bird species such as cranes and large raptor species in sufficiently large densities or within breeding habitat that may be considered a fatal flaw. However, given the size of the area, the proximity to a very large areas of suitable habitat, the high-density presence of Red Lark, Ludwig’s Bustard and Karoo Korhaan is deemed to be a significant concern. Thus, in order to confirm that the study area is of low sensitivity in terms of conservation of these type of bird species., final conclusions cannot be documented until the full data set has been obtained and presented in the final EIA.

3 CONCLUSION AND PROFESSIONAL OPINION

Large sections of the affected area are not considered highly sensitive and there are no specific features of the affected area which would indicate that it is of broad-scale significance for faunal movement or landscape connectivity. The CBA are mainly aquatic related, and as indicated the Hantam Karoo is not a threatened system or highly sensitive, accordingly the CBA is not justified for this, unless certain elements or endemism, rarity or important ecosystem processes have been identified, which this assessment has not.

One individual of a sensitive plant species was recorded on site which should be protected in situ as it can be avoided by the proposed development. A 200m buffer has been placed around its location. For other provincially listed species which are affected by the proposed development, a permit application for their removal must be applied for with the provincial authority prior to the commencement of construction activities.

Some of the priority bird species are not habitat-bound to the area for nesting and/or foraging purposes and is therefore important to focus on the some of the most significant cumulative impacts for the proposed solar project. Possible primary impacts of the proposed study area on avifauna included:

1. Potential habitat loss through the establishment of solar panel infrastructure.
2. The inclusion of livestock agriculture that might attract more avifauna species to the area.
3. Collision with solar panel infrastructure is possible albeit less likely than secondary collision risk.
4. Secondary collision risks are represented by supporting powerline infrastructure which are connected to solar panel infrastructure.

There is accordingly no reason based on the collected data to indicate that the CBA1 and CBA2 areas are from a Terrestrial Biodiversity perspective. Should the sensitive areas, specifically the no-go areas with the indicated buffers, be avoided by the proposed development and the indicated mitigation measures in the specialist reports implemented, the proposed Lesaka 1 and 2 SEFs can proceed.