

**PROPOSED SALDANHA STEEL GAS-FIRED POWER PLANT
SALDANHA, WESTERN CAPE:
FAUNAL ECOLOGY SPECIALIST STUDY**



Produced for ERM South Africa

BY



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EXECUTIVE SUMMARY

The International Power Consortium South Africa (Pty) Ltd ("IPCSA") with Saldanha Steel (ArcelorMittal South Africa "AMSA") being the anchor off-taker, proposes to develop a 1400MW natural gas fired power plant to the east of the existing steel manufacturing facility in Saldanha Bay, Western Cape. The Project will use imported natural gas to generate electricity using advanced gas turbines. The Project will supply the needs of Saldanha Steel and the excess electricity will be made available to support and sustain existing industry and encourage economic growth in Saldanha Bay, West Coast District Municipality and the Western Cape Province. The infrastructure that forms the Project and will be included in the EIA includes a Combined Cycle Gas Turbine (CCGT) power plant, onshore natural gas pipeline and power transmission line to connect to an existing nearby substation.

A desktop review of the available ecological information in conjunction with a site visit and field assessment was conducted in order to characterise the site. The study suggests that although there are a variety of red-data listed fauna known from the area, it is not highly likely that they occur at the site, given their habitat requirements and the nature of the available habitats at the site and the fragmented nature of the surrounding landscape. The natural habitat along the powerline route has however been identified as a Critical Biodiversity Area within the Saldanha district, as well as a listed ecosystem at the national level, under the National List of Threatened Ecosystems. The current level of faunal activity at the site is fairly low given the degraded nature of the power plant site but the site still retains some degree of ecological function. The presence of larger mammals such as Steenbok and Porcupine suggest that the power plant site forms part of a larger habitat network in the area and still plays a role in the broader scale connectivity of the landscape.

It is unlikely that the development of the Saldanha Gas-Fired Power Plant and associated infrastructure would result in the significant impact on fauna and habitats at the site. The main impacts on fauna are likely to result from noise and physical disturbance during the construction phase and pollution and vehicular disturbance during the operation of the road and provided these impacts are mitigated, the significance of the impacts would be minor to negligible.

1 INTRODUCTION

The International Power Consortium South Africa (Pty) Ltd ("IPCSA") with Saldanha Steel (ArcelorMittal South Africa "AMSA") being the anchor off-taker, proposes to develop a 1400 MW natural gas fired power plant to the east of the existing steel manufacturing facility in Saldanha Bay, Western Cape. The Project will use imported natural gas to generate electricity using advanced gas turbines. The Project will supply the needs of Saldanha Steel and the excess electricity will be made available to support and sustain existing industry and encourage economic growth in Saldanha Bay, West Coast District Municipality and the Western Cape Province.

The infrastructure that forms the Project and will be included in the EIA includes:

- A Combined Cycle Gas Turbine (CCGT) power plant (1400MW with possible expansion to 3000MW)
- Onshore natural gas pipeline from the Port of Saldanha to the site (between 2.5 km and 5 km in length); and
- Power transmission line to connect to an existing nearby substation.

ERM Environmental Consultants (ERM), has been appointed by AMSA to undertake the requisite Environmental Assessment process for the proposed project. Due to the presence of indigenous flora and fauna on the proposed development site, a specialist ecological assessment (including a faunal impact assessment) is required to inform the Environmental Impact Assessment process. To these ends, ERM have appointed Simon Todd Consulting to provide specialist faunal ecological input. This study addresses the likely faunal impacts associated with the development and provides a baseline of the fauna and habitats present at the site and mitigation and avoidance measures that can be implemented in order to reduce the ecological impact of the development. The full details of the development as well as the scope of the current study are detailed below.

1.1 SCOPE OF STUDY

The following scope has been provided for the assessment:

- A description of the broad ecological characteristics of the site and its surrounds.
- Legal review, including local regulatory requirements, IFC Performance Standards and other relevant local and international regulations, including permit requirements.

- Undertake a faunal survey to describe the baseline faunal characteristics of the affected area and place this in a regional context.
- Using primary and secondary data, provide a detailed baseline assessment (including species lists) of faunal species and habitats found and expected at the site.
- Compile a sensitivity map depicting the distribution of faunal species, habitats and sensitive biological areas.
- Comment on faunal sensitivity in terms of Red Data Sensitivity Index Score of species, habitats, ecological corridors and linkages with other ecological systems on and adjacent to the site.
- Describe the existing impacts of current land use as they affect the fauna.
- Clarify species of special concern (SSC).
- A faunal sensitivity analysis which describes any risks posed by the project; and outlines possible avoidance and mitigation measures.
- Describe and assesses the impact to the terrestrial fauna present in the area.
- Assess cumulative impact of development with current and planned developments in the area.

Contents of this report in terms of Regulation GNR 982 of 2014, Appendix 6	Cross-reference in this report (page)
(a) details of— the specialist who prepared the report; and the expertise of that specialist to compile a specialist report including a curriculum vitae;	CV Attached
(b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Attached
(c) an indication of the scope of, and the purpose for which, the report was prepared;	Section 1.1
(d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	N/A
(e) a description of the methodology adopted in preparing the report or carrying out the specialised process;	Section 3
(f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;	Section 5
(g) an identification of any areas to be avoided, including buffers;	Section 5
(h) a map superimposing the activity including the associated structures and infrastructure on the environmental	Section 5 and Annex C of EIA Report

Contents of this report in terms of Regulation GNR 982 of 2014, Appendix 6	Cross-reference in this report (page)
sensitivities of the site including areas to be avoided, including buffers;	
(i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 3.4
(j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;	Section 6
(o) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Annex B of EIA
(p) any other information requested by the competent authority.	N/A

1.2 ASSESSMENT APPROACH & PHILOSOPHY

The assessment will be conducted according to the EIA Regulations, published by the Department of Environmental Affairs 2014) as well as within the best-practice guidelines and principles for biodiversity assessment as outlined by Brownlie (2005) and De Villiers et al. (2005).

This includes adherence to the following broad principles:

- That a precautionary and risk-averse approach be adopted towards projects which may result in substantial detrimental impacts on biodiversity and ecosystems, especially the irreversible loss of habitat and ecological functioning in threatened ecosystems or designated sensitive areas: i.e. Critical Biodiversity Areas (as identified by systematic conservation plans, Biodiversity Sector Plans or Bioregional Plans) and Freshwater Ecosystem Priority Areas.
- Demonstrate how the proponent intends complying with the principles contained in Section 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended (NEMA), which, amongst other things, indicates that environmental management should.

- In order of priority aim to: avoid, minimise or remedy disturbance of ecosystems and loss of biodiversity;
- Avoid degradation of the environment;
- Avoid jeopardising ecosystem integrity;
- Pursue the best practicable environmental option by means of integrated environmental management;
- Protect the environment as the people's common heritage;
- Control and minimise environmental damage; and
- Pay specific attention to management and planning procedures pertaining to sensitive, vulnerable, highly dynamic or stressed ecosystems.

These principles serve as guidelines for all decision-making concerning matters that may affect the environment. As such, it is incumbent upon the proponent to show how proposed activities would comply with these principles and thereby contribute towards the achievement of sustainable development as defined by the NEMA.

In order to adhere to the above principles and best-practice guidelines, the following approach forms the basis for the study approach and assessment philosophy:

The study will include data searches, desktop studies, site walkovers / field survey of the property and baseline data collection, describing:

- A description of the broad ecological characteristics of the site and its surrounds in terms of any mapped spatial components of ecological processes and/or patchiness, patch size, relative isolation of patches, connectivity, corridors, disturbance regimes, ecotones, buffering, viability, etc.

In terms of **pattern**, the following will be identified or described:

Community and ecosystem level

- Threatened or vulnerable ecosystems (*cf. SA vegetation map/National Spatial Biodiversity Assessment, fine-scale systematic conservation plans, etc*).

Fauna

- Describe and assess the terrestrial fauna present in the area that will be affected by the proposed development.
- Conduct a faunal assessment that can be integrated into the ecological study.
- Describe the existing impacts of current land use as they affect the fauna.

- Clarify species of special concern (SSC) and that are known to be:
 - endemic to the region;
 - that are considered to be of conservational concern;
 - that are in commercial trade (CITES listed species);
 - or, are of cultural significance.
- Provide monitoring requirements as input into the Environmental Management Programme (EMP) for faunal related issues.

Other pattern issues

- Any significant landscape features or rare or important vegetation associations such as seasonal wetlands, alluvium, seeps, quartz patches or salt marshes in the vicinity.
- The condition of the site in terms of current or previous land uses.

In terms of **process**, the following will be identified or described:

- Any mapped spatial component of an ecological process that may occur at the site or in its vicinity (i.e. *corridors* such as watercourses, upland-lowland gradients, migration routes, coastal linkages or inland-trending dunes, and *vegetation boundaries* such as edaphic interfaces, upland-lowland interfaces or biome boundaries)
- Any possible changes in key processes, e.g. increased fire frequency or drainage/artificial recharge of aquatic systems.
- Furthermore, any further studies that may be required during or after the EIA process will be outlined.
- All relevant legislation, permits and standards that would apply to the development will be identified.
- The opportunities and constraints for development will be described and shown graphically on an aerial photograph, satellite image or map delineated at an appropriate level of spatial accuracy.

1.3 RELEVANT ASPECTS OF THE DEVELOPMENT

The Project will be located on ArcelorMittal property adjacent to the existing Saldanha Steel plant on a portion of Yzervarkensrug 129/0 and Jackals Kloof 195/2. The Project will involve the construction and operation of a 1400 MW Combined Cycle Gas Turbine (CCGT) power plant with capacity to expand up to 3000 MW base load in future. The Project will support both imported Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) as its main fuel supply. CNG and LNG will be supplied by ship to the Port of Saldanha. The gas will be transported via the onshore landing to site through an underground pipeline. The infrastructure that forms the Project and will be included in the EIA includes:

- A CCGT power plant (1400MW with possible expansion to 3000MW)
- Onshore natural gas pipeline from the Port of Saldanha to the site (between 2.5 km and 5 km in length). The LNG pipeline and servitude will run from the pipeline entry point connecting to the power plant boundary. The gas pipeline will be buried to a depth of 3 to 4 m, cover a servitude width of approximately 15 – 20 m and be approximately 3900 m in length.
- Power transmission line to connect to an existing nearby substation. The feeder power line for the initial 160MW base load from the power plant to the ArcelorMittal Steel Works will be the first priority. This 132KV feeder line will be sized for a capacity of 400MW. The additional 1103MW (1400MVA) of power generated at the plant will be evacuated through the construction of a new 22 km High Voltage (HV) 400 kilo Volt (kV) line from the power plant's own switch yard to the existing Aurora 400 kV substation, following the existing Aurora to Blouwater 132 kV feeder servitude.

The associated infrastructure will include:

- Access road to site;
- 132 kV and 400 kV switchyard;
- Control and electrical building;
- Central control room, warehouse and administrative buildings;
- Firefighting systems;
- Fuel/gas/diesel storage facilities;
- Emergency backup generators (diesel or LPG); and
- Chemical storage facilities (Water treatment chemicals, and demineralizing resins, lubricants, grease and turbine cleaning detergents, fire extinguishing foams).



Figure 1. Satellite view of the proposed Saldanha Steel CCGT power plant site (red polygon), the natural gas pipeline corridor from the Port of Saldanha to the site (between 2.5 km and 5 km in length) (black polygon); and the site of the proposed transmission line (orange line). The Eskom Blouwater substation is indicated by the blue point, and the Eskom Aurora substation is indicated by the yellow point.

2 REGULATORY AND LEGISLATIVE OVERVIEW

A summary of the relevant portions of the Acts which govern the activities and potential impacts to the environment associated with the development are listed below. Provided that standard mitigation and impact avoidance measures are implemented, not all the activities listed in the Acts below would actually be triggered.

National Environmental Management Act (NEMA) (Act No 107, 1998):

NEMA requires that measures are taken that “prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.” In addition:

- That the disturbance of ecosystems and loss of biological diversity are avoided, or where they cannot be altogether avoided, are minimised and remedied:
- That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and
- Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

Environment Conservation Act (ECA) (No 73 of 1989 Amendment Notice No. R1183 of 1997)

This Act provides for the effective protection and controlled utilisation of the environment. This Act has been largely repealed by NEMA, but certain provisions remain, in particular provisions relating to environmental impact assessments. The ECA requires that developers must undertake Environmental Impact Assessments (EIA) for all projects listed as a Schedule 1 activity in the EIA regulations.

National Environmental Management: Biodiversity Act (NEMBA) (Act 10 of 2004):

The National Environmental Management: Biodiversity Act (Act 10 of 2004) (NEMBA) provides for listing threatened or protected ecosystems, in one of four categories: critically endangered (CR), endangered (EN), vulnerable (VU) or protected. The Draft National List of Threatened Ecosystems (Notice 1477 of 2009, Government Gazette No 32689, 6 November 2009) has been gazetted for public comment. The list of threatened terrestrial ecosystems supersedes the information regarding terrestrial ecosystem status in the NSBA 2004. In terms of the EIA regulations, a basic assessment report is required for the transformation or removal of indigenous vegetation in a critically endangered or endangered ecosystem regardless of the extent of transformation that will occur. However, all of the vegetation types within and surrounding the study site are classified as Least Threatened.

NEM:BA also deals with endangered, threatened and otherwise controlled species, under the TOPS Regulations (Threatened or Protected Species Regulations). The Act provides for listing of species as threatened or protected, under one of the following categories:

- **Critically Endangered:** any indigenous species facing an extremely high risk of extinction in the wild in the immediate future.

- **Endangered:** any indigenous species facing a high risk of extinction in the wild in the near future, although it is not a critically endangered species.
- **Vulnerable:** any indigenous species facing an extremely high risk of extinction in the wild in the medium-term future; although it is not a critically endangered species or an endangered species.
- **Protected species:** any species which is of such high conservation value or national importance that it requires national protection. Species listed in this category include, among others, species listed in terms of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

A TOPS permit is required for any activities involving any TOPS listed species.

Certain activities, known as Restricted Activities, are regulated by a set of permit regulations published under the Act. These activities may not proceed without environmental authorization. Those relevant to the current study are listed below.

Under **Environmental Impact Assessment Regulations Listing Notice 3** of 2010 (R.546):

Activity 13. The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation. Within:

- (a) Critical biodiversity areas and ecological support areas as identified in systematic biodiversity plans adopted by the competent authority.

It is important to note that the above thresholds and activities also apply to phased developments *"where any phase of the activity may be below a threshold but where a combination of the phases, including expansions or extensions, will exceed a specified threshold."*

National Forests Act (No. 84 of 1998):

The National Forests Act provides for the protection of forests as well as specific tree species, quoting directly from the Act: *"no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived*

from a protected tree, except under a licence or exemption granted by the Minister to an applicant and subject to such period and conditions as may be stipulated”.

No listed tree species were observed in the area and given the limited extent of the site, it can be said with certainty that no protected tree species occur at the site.

Conservation of Agricultural Resources Act (Act 43 of 1983):

The Conservation of Agricultural Resources Act provides for the regulation of control over the utilisation of the natural agricultural resources in order to promote the conservation of soil, water and vegetation and provides for combating weeds and invader plant species. The Conservation of Agricultural Resources Act defines different categories of alien plants and those listed under Category 1 are prohibited and must be controlled while those listed under Category 2 must be grown within a demarcated area under permit. Category 3 plants includes ornamental plants that may no longer be planted but existing plants may remain provided that all reasonable steps are taken to prevent the spreading thereof, except within the floodline of water courses and wetlands.

National Veld and Forest Fire Act (Act No. 101 of 1998)

The purpose of this Act is to prevent and combat veld, forest and mountain fires. The Act provides for a variety of institutions, methods and practices for achieving the purpose such as the formation of fire protection associations. It also places responsibility on landowners to develop and maintain firebreaks as well be sufficiently prepared to combat veld fires.

3 METHODOLOGY

3.1 DATA SOURCING AND REVIEW

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

- Threatened Ecosystems and their remaining extent were extracted from the National List of Threatened Ecosystems (2011), where relevant.
- Freshwater and wetland information was extracted from the National Freshwater Ecosystem Priority Areas assessment, NFEPA (Nel et al. 2011).
- Important catchments and protected areas expansion areas were extracted from the National Protected Areas Expansion Strategy 2008 (NPAES).

- Lists of mammals, reptiles and amphibians which are likely to occur at the site were derived based on distribution records from the literature and various spatial databases (ADU, SANBI's SIBIS and BGIS databases).
- Literature consulted includes Branch (1988) and Alexander and Marais (2007) for reptiles, Du Preez and Carruthers (2009) for amphibians, Friedmann and Daly (2004) and Skinner and Chimimba (2005) for mammals.
- The faunal species lists provided are based on species which are known to occur in the broad geographical area, as well as a preliminary assessment of the availability and quality of suitable habitat at the site.
- The conservation status of each species is also listed, based on the IUCN Red List Categories and Criteria version 2014.3 (See Figure 1) and where species have not been assessed under these criteria, the CITES status is reported where possible. These lists are adequate for mammals and amphibians, the majority of which have been assessed, however the majority of reptiles have not been assessed and therefore, it is not adequate to assess the potential impact of the development on reptiles, based on those with a listed conservation status alone. In order to address this shortcoming, the distribution of reptiles was also taken into account such that any narrow endemics or species with highly specialized habitat requirements occurring at the site were noted.

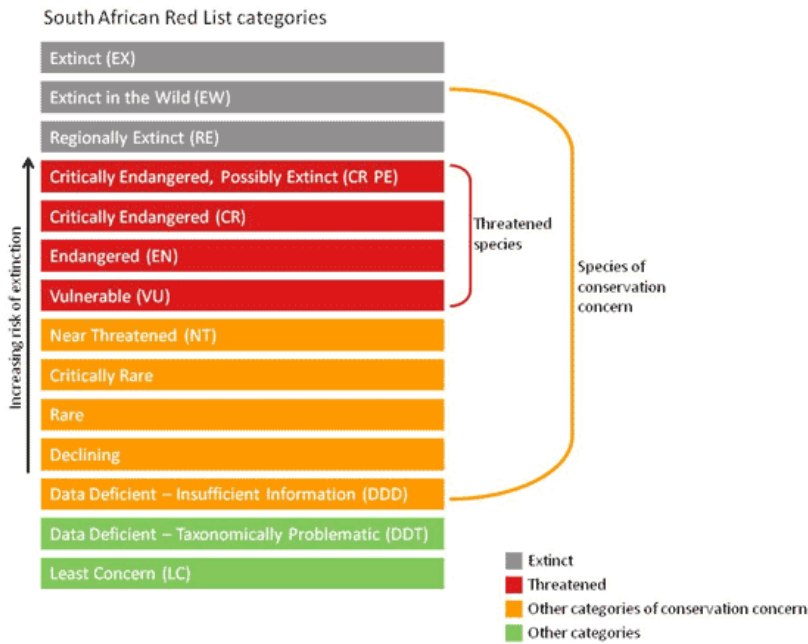


Figure 2. Schematic representation of the South African Red List categories. Taken from <http://redlist.sanbi.org/redcat.php>

3.2 SITE VISIT

The site visit took place on the 25th and 26th of June 2016. During the site visit, the route to be followed by the pipeline was walked and observations and searches for fauna were made at various points within intact vegetation along the route. Sensitive areas were mapped using a GPS and marked on satellite imagery of the site where appropriate and specific sensitive features or listed species were also recorded with waypoints as they occurred. Active searches for reptiles and amphibians were conducted within habitats likely to harbour or be important for such species within the power plant site as well as along the power line route. Small mammal live trapping was undertaken on the power plant site to provide an indication of the use of the site by small mammals. It was however fairly cold during the site visit and some faunal groups such as reptiles are likely to have been less apparent than they would be during the warmer times of the year. The power line route was investigated at various points along the route, with particular attention to intact areas and the potential presence of features and faunal habitats of concern or of limited extent.

3.3 SENSITIVITY MAPPING & ASSESSMENT

An ecological sensitivity map of the site was produced by integrating the information collected on-site with the available ecological and biodiversity information available in the literature and various spatial databases. This includes delineating the different habitat units identified in the field and assigning sensitivity values to the units based on their ecological properties, conservation value and the potential presence of species of conservation concern. The ecological sensitivity of the different units identified in the mapping procedure was rated according to the following scale:

- **Low** – Areas of natural or transformed habitat with a low sensitivity where there is likely to be a negligible impact on ecological processes and terrestrial biodiversity. Most types of development can proceed within these areas with little ecological impact.
- **Medium** – Areas of natural or previously transformed land where the impacts are likely to be largely local and the risk of secondary impact such as erosion low. These areas usually comprise the bulk of habitats within an area. Development within these areas can proceed with relatively little ecological impact provided that appropriate mitigation measures are taken.
- **High** – Areas of natural or transformed land where a high impact is anticipated due to the high biodiversity value, sensitivity or important ecological role of the area.

These areas may contain or be important habitat for faunal species or provide important ecological services such as water flow regulation or forage provision. Development within these areas is undesirable and should only proceed with caution as it may not be possible to mitigate all impacts appropriately.

- **Very High** – Critical and unique habitats that serve as habitat for rare/endangered species or perform critical ecological roles. These areas are essentially no-go areas from a developmental perspective and should be avoided as much as possible.

In some situations, areas were also classified between the above categories, such as Medium-High, where it was deemed that an area did not fit well into a certain category but rather fell most appropriately between two sensitivity categories.

3.4 SAMPLING LIMITATIONS AND ASSUMPTIONS

The major potential limitation associated with the sampling approach is the narrow temporal window of sampling. Ideally, a site should be visited several times during different seasons to ensure that the full complement of animal species present are captured. However, this is rarely possible due to time and cost constraints and therefore, the representivity of the species sampled at the time of the site visit should be critically evaluated.

The lists of amphibians, reptiles and mammals for the site are based on those observed at the site as well as those likely to occur in the area based on their distribution and habitat preferences. Several site visits have also been conducted in the wider area on adjacent properties at different times of the year and information on fauna observed in these areas is included where relevant. This represents a sufficiently conservative and cautious approach which takes the study limitations into account.

4 DESCRIPTION OF THE AFFECTED ENVIRONMENT

4.1 BROAD-SCALE VEGETATION PATTERNS

The vegetation of the site is specifically deal with in another report and the vegetation is described here only in broad terms in order to characterise and place the habitat at the site in context.

According to the national vegetation map (Mucina & Rutherford 2006), two vegetation types fall within the site, namely Saldanha Flats Strandveld and Saldanha Limestone Strandveld

(Figure 3). At the fine scale of the site the delineation of vegetation types is not highly accurate and the majority of the site appears to correspond to Saldanha Limestone Strandveld. However, in general, both vegetation types consist of a fairly dense shrubland of low to moderate height with graminoids. Of significance is the fact that Saldanha Flats Strandveld is listed in the National List of Threatened Ecosystems as Vulnerable on account of a large extent of transformation due to urbanisation, industrial development and agriculture. However most of the site area is previously transformed, and was previously ploughed.

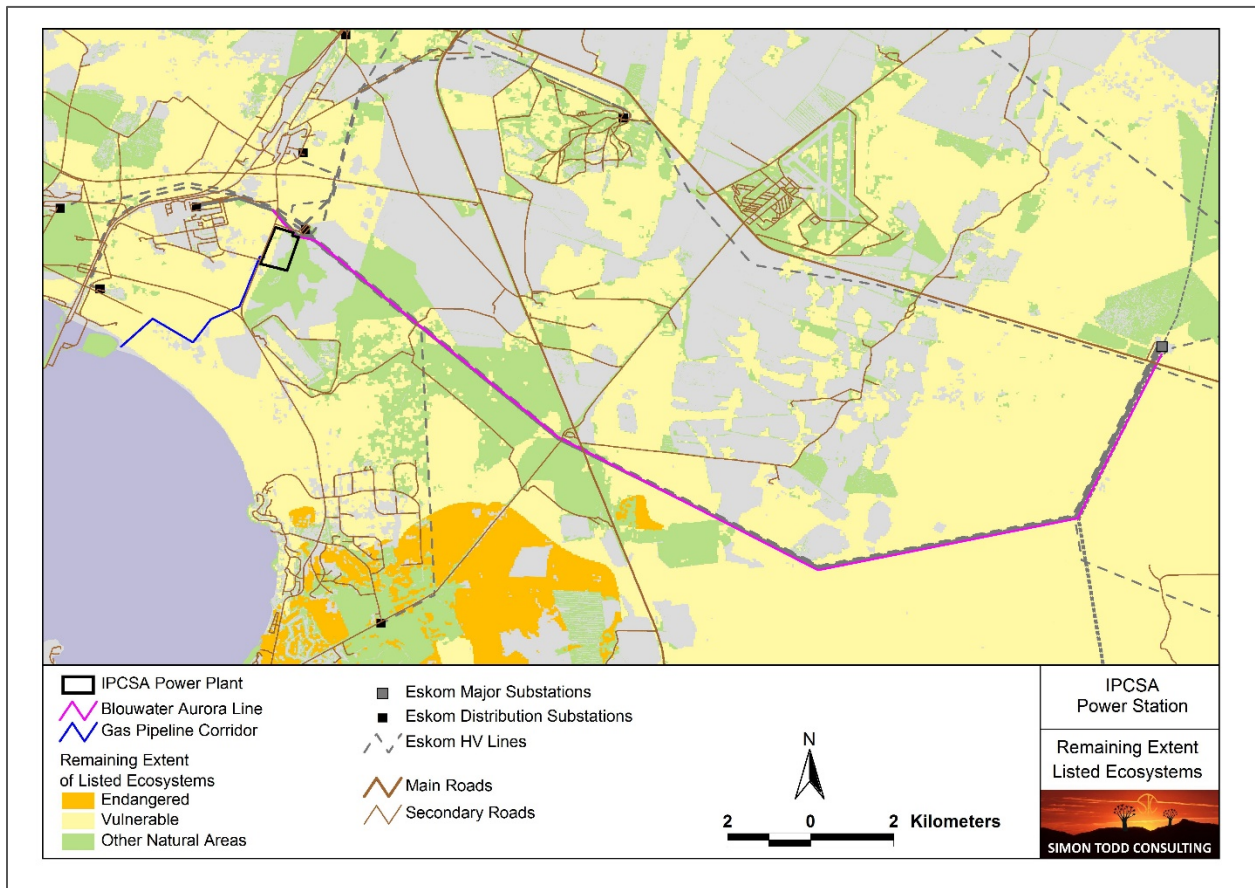


Figure 3. The conservation status of vegetation in and around the proposed Saldanha Steel gas-fired power plant, pipeline and powerline corridors based on the National List of Threatened Ecosystems.



Figure 4. The vegetation at the proposed Saldanha Steel gas-fired power plant site looking south-east.

4.2 CRITICAL BIODIVERSITY AREAS & BROAD-SCALE PROCESSES

The site lies within the planning domain of the Saldanha Bay Municipality Critical Biodiversity Areas map produced by the C.A.P.E. Fine-scale Biodiversity Planning Project. Such conservation planning identifies Critical Biodiversity Areas (CBAs) which represent biodiversity priority areas which should be maintained in a natural to near natural state. The CBA maps indicate the most efficient selection and classification of land portions requiring safeguarding in order to meet national biodiversity objectives. Such maps can also be used for proactive conservation management such as to prioritise management actions such as alien clearing or identify priority areas for stewardship.

The Critical Biodiversity Areas map for the study area is depicted below in Figure 4. There is a large intact area mapped as CBA within the power plant site, but this area has been previously transformed and there are only a few scattered shrubs present and it is not considered sensitive from a faunal perspective as it contains little intact habitat and is not

considered functional from the ecological perspective. The pipeline route is however largely within a CBA and it is confirmed that most of this area is within intact vegetation. The impact of the pipeline can be reduced by ensuring that the pipeline is located along existing lines of disturbance such as roads and existing cleared areas which are prevalent along most of the route. A large proportion of the power line is also within a CBA, especially towards the Aurora substation. However, the alignment is adjacent to existing lines and the total footprint can be kept to a sufficiently low level to generate low impact.

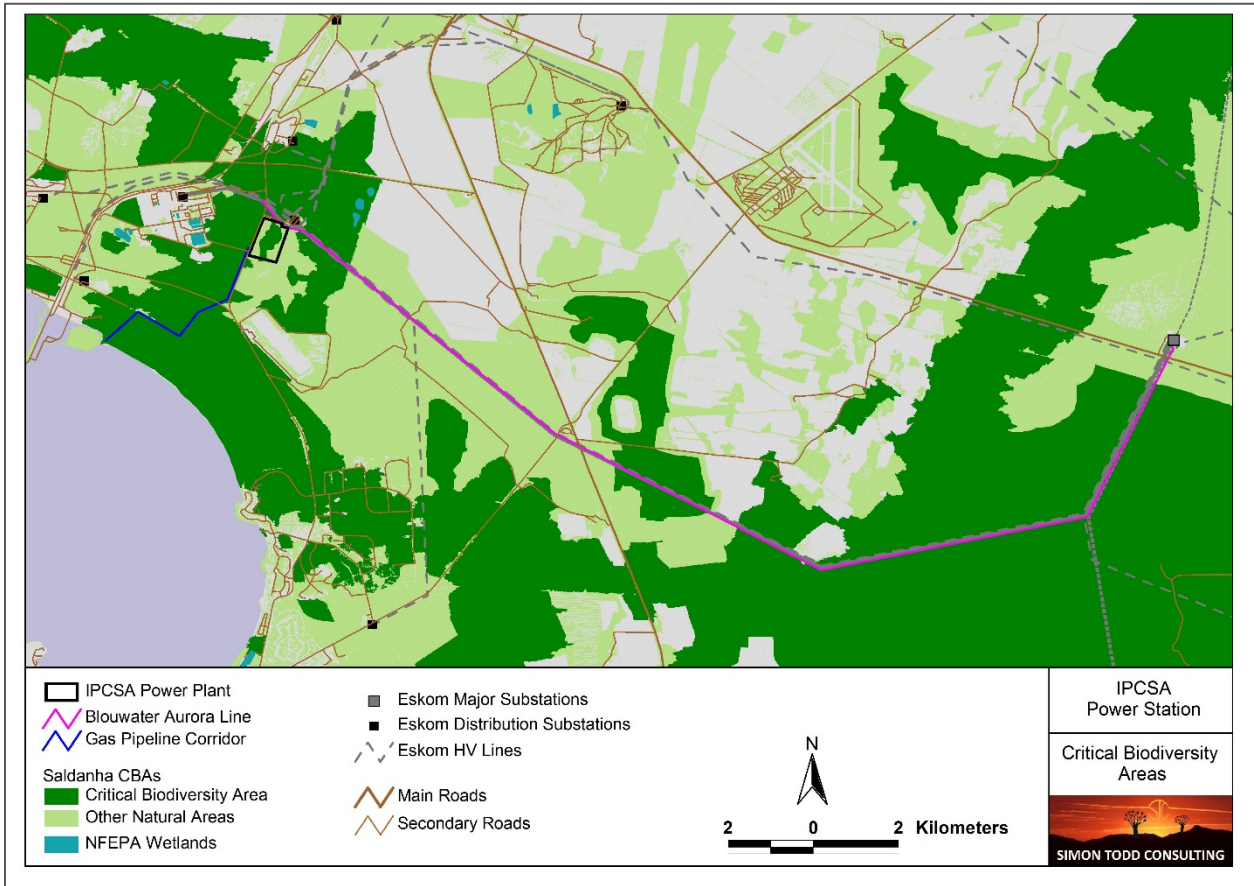


Figure 4. The Critical Biodiversity Areas map for the study area, illustrating that the majority of the site lies within a CBA.



Figure 5. Coastal dune shrubland habitat towards Langebaan along the pipeline route. This area is mapped as a CBA and is considered relatively high sensitivity.

4.3 FAUNAL COMMUNITIES

Mammals

Although as many as 52 different terrestrial mammals are known from the broad area surrounding the study site, the activity and transformation in the vicinity of the site, will have had a significant influence on this and a considerably lower number are likely to actually be present. Furthermore, the variety of habitats at the site is limited and there are no wetlands or rocky outcrops present and as a result, species associated with these habitats are not likely to occur at the site. Faunal activity at the site was however fairly high and a variety of mammals were observed during the site visit including Cape Golden Mole, Cape Dune Mole Rat, Cape Porcupine, Bush Vlei Rat, Cape Gerbil, Cape Grey Mongoose, Bat-Eared Fox, Four-striped Grass Mouse and Steenbok. The majority of species present at the site are smaller mammals which are fairly tolerant of habitat fragmentation

and are able to persist within relatively small habitat fragments or are opportunistic species which take advantage of the open space created by the past agricultural disturbance.

Two listed species potentially occur at the site, namely the White-tailed Mouse *Mystromys albicaudatus* (EN) and Honey Badger *Mellivora capensis* (EN). Given the power station site is previously transformed, there is a lack of cover and adequate food resources for the Honey Badger. The White-tailed Mouse is potentially present with a low likelihood, given the low vegetation cover. The small footprint of the pipeline and powerline is not likely to have a high impact on mammal fauna.



Figure 6. The middle section of the power plant site. This area is previously disturbed and does not retain a large proportion of its former biodiversity, but is still likely to represent habitat for some fauna species.

Reptiles

According to the SARCA database, 45 reptiles have been recorded in the area, which corresponds well with distribution records from the literature (Appendix 3). The potential composition of the reptile fauna at the site comprises 1 tortoise, 1 terrapin, 18 snakes, 19 lizards and skinks and 5 geckos. As with mammals, a large proportion of these are not

likely to occur at the site on account of a lack of suitable habitat and in particular the lack of any rocky outcrops.

Although reptile searches were conducted at the site, few reptiles were encountered, which can be ascribed largely to the site visit being in the winter when many reptiles are not active. Species observed include Cape Skink *Mabuya capensis* and Angulate Tortoise *Chersina angulata*, which was observed to be abundant at the site. The Cape Girdled Lizard *Cordylus cordylus* (Figure 7) and the Brown House Snake were also observed at the site (title page of report).



Figure 7. The Cape Girdled Lizard was observed to be resident at the proposed Saldanha Steel gas-fired power plant site.

Of concern is the fact that five listed species are known from the area including the Large-scaled Girdled Lizard *Cordylus macropholis*, Black Girdled Lizard *Cordylus niger*, Gronovi's Dwarf Burrowing Skink *Scelotes gronovii*, Kasner's Dwarf Burrowing Skink *Scelotes kasneri* and Bloubergstrand Dwarf Burrowing Skink *Scelotes montispectus*, all of which are listed as Near Threatened. The majority of these are however not likely to occur at the site as they are associated with coastal dunes and in the case of the Large-scaled Girdled Lizard the strand line. This habitat at the power plant site has already been transformed and impacted

by development and there is little suitable habitat remaining. Although there are still some dunes remaining within the proposed pipeline corridor (Figure 5), the extent of the impact of the pipeline on this habitat is likely to be low, especially if the alignment can be placed within existing disturbance footprints. The Black Girdled Lizard is restricted to two isolated populations, one on the Cape Peninsula and the other on coastal rocks around Saldanha. Given the localised distribution of this species impact on it would be undesirable, but as there were no rocky outcrops within the site, it is not likely that this species occurs at the site or would be impacted by the development.

In general, as there do not appear to be any specific habitats at the site which are of particular significance for reptiles, the major threat to reptiles would be habitat loss as well as impact resulting from the large amount of traffic using the upgraded road. Tortoises and snakes are particularly vulnerable to being run over by motor vehicles and given the high density of vulnerable species such as the Angulate Tortoise at the site, some impact on these species is highly likely.

Amphibians

The site lies within or near the range of 8 amphibian species, which along with the general lack of water or wetlands at the site suggests that frog diversity is likely to be fairly low. The only listed species which may occur at the site is the Cape Caco *Cacosternum capense*, which is restricted to low lying flat or gently undulating areas with poorly drained clay or loamy soils. Given the sandy soils at the site and the lack of suitable pans for breeding, it is not likely that this species occurs at the site. Species which are likely to occur at the site are likely to those less dependent on perennial water including the Cape Sand Toad *Vandijkophrynus angusticeps*, Sand Rain Frog *Breviceps rosei rosei* and Cape Sand Frog *Tomopterna delalandii*. As with reptiles the major threats from the development would be habitat loss, vehicle impact during periods of movement as well as pollution from dirty runoff off the road or oil and fuel spillages along the road.

5 **SITE SENSITIVITY ASSESSMENT**

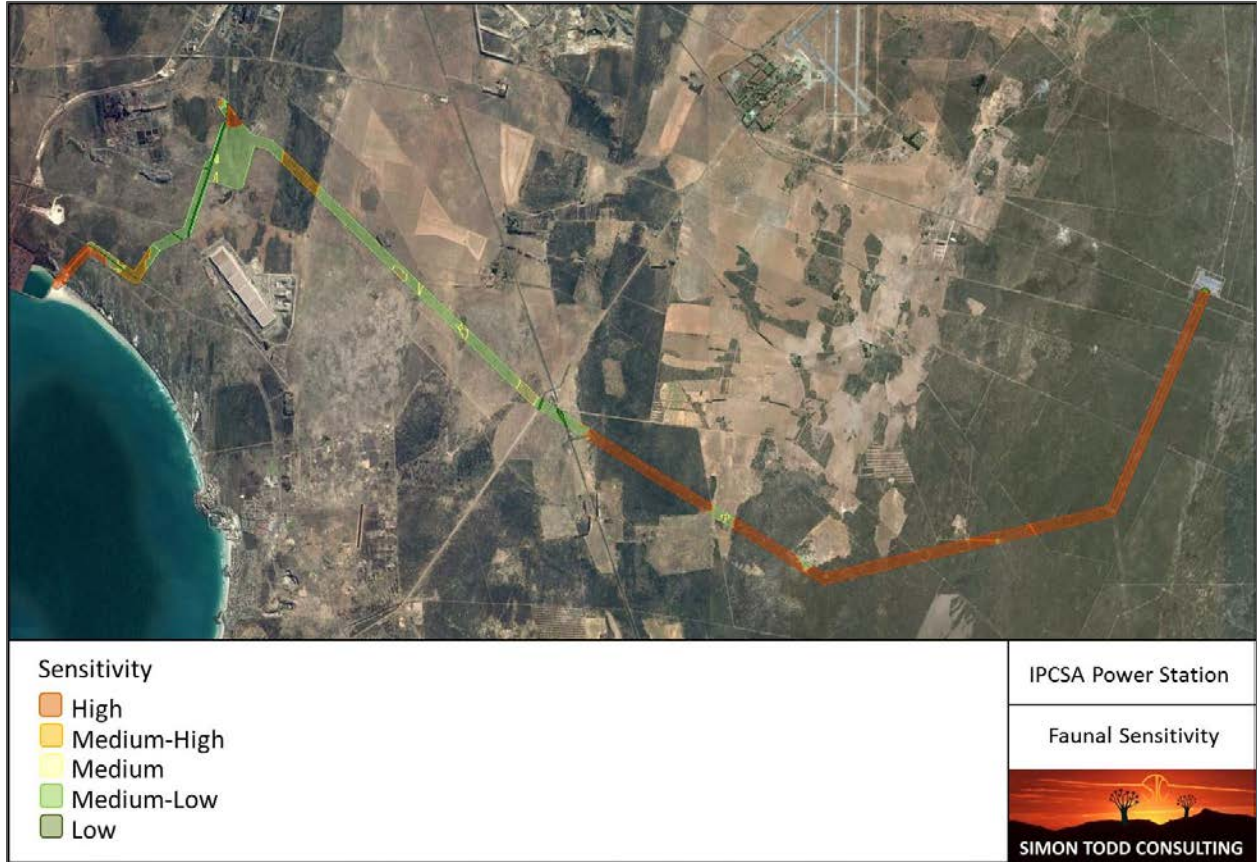


Figure 8. Faunal Sensitivity map of the proposed Saldanha Steel CCGT power plant site, the natural gas pipeline corridor from the Port of Saldanha to the site; and the site of the corridor for the proposed transmission line.

The sensitivity map for the proposed Saldanha Steel CCGT power plant site, pipeline corridor and transmission line corridor is depicted above in Figure 8. The gas pipeline follows an existing road for the large part, which means its impact is fairly low. The area towards the coast is deemed to have the highest sensitivity on account of the better condition of the vegetation and sensitivity of the habitat within this area, but the extent of sensitive dune area on the existing proposed route is low, and the remaining habitat is historically overgrazed and fairly degraded in places. The natural but highly disturbed and transformed vegetation of the power plant is considered low sensitivity, given the low cover and low diversity. The powerline crosses several areas of intact natural vegetation, many of

which are considered sensitive but cannot easily be avoided and the development footprint in these areas should be kept to a minimum.

6 IMPACT ASSESSMENT

6.1 IDENTIFICATION & NATURE OF IMPACTS

The Saldanha Steel Gas-fired Power Plant and associated infrastructure is likely to result in a number of different impacts on fauna during the construction, operation and decommissioning phases, which are summarized below. Potential faunal ecological impacts resulting from the development would stem from a variety of different activities and risk factors associated with the construction and operational phases of the project including the following:

Construction Phase

- Vegetation clearing & site preparation
- Operation of heavy machinery at the site
- Human presence

Operational Phase

- Site maintenance activities
- Human presence

Decommissioning Phase

- Operation of heavy machinery at the site
- Human presence

The above activities are likely to manifest themselves as the following impacts:

1. Loss of habitat for fauna
2. Direct faunal mortality due to vehicle collisions or human presence
3. Habitat degradation for fauna due to pollution & noise
4. Loss of habitat connectivity / isolation of habitat with impacts on broad-scale ecological processes such as dispersal ability or disruption of migration pathways.

Loss of habitat for fauna

Some loss of vegetation is an inevitable consequence of the development. Some habitat is no longer available for use as a result of transformation or the presence of permanent infrastructure. This potentially includes the habitat for 5 red-listed reptiles, two red data-listed mammals and one listed amphibian. Further loss of sensitive indigenous vegetation supporting habitat within the powerline corridor specifically could significantly reduce its ecological function and ability to support viable populations of the resident fauna.

Direct Faunal Impacts

Smaller fauna such as many reptiles would either seek shelter or not be able to move away from construction activity sufficiently quickly during construction and would be killed by vehicles and earth-moving machinery. In addition, the presence of a work force on the site during construction would pose a risk to species such as snakes, tortoises and mammals which would be vulnerable to poaching for food, trade or killed out of fear and superstition. During the operational phase, the activity would be much lower.

Habitat Degradation for Fauna

The noise and activity during the construction and operation of the pipeline and powerline would generate a lot of noise which will deter many animals from the area, or will curb the activity of those less able to move away, but in the long-term the operation of the pipeline and powerline would be of minimal disturbance to fauna. There is also the risk that construction would result in accidental spills of oil or chemicals and generate pollution. Amphibians in particular are very sensitive to such pollutants and should such pollution enter the breeding habitat the local amphibian population is highly likely to decline.

Cumulative Impacts: Loss of Landscape Connectivity and Impacts on Broad-Scale Ecological Processes

The increased level of transformation at the site and the presence of the linear infrastructure would potentially increase the level of habitat and population fragmentation in the area. This would reduce the connectivity of the landscape and impact on broad scale ecological processes such as dispersal and migration. Although the CBAs of natural vegetation remnants within the powerline sites are probably too small to support viable populations of many larger species, it may still play an important role as a refuge or habitat linkage between other larger intact vegetation fragments.

Transformation of intact habitat with CBAs could compromise the ecological functioning of the CBAs and would contribute to the fragmentation of the landscape and would potentially disrupt the connectivity of the landscape for fauna and flora and impair their ability to respond to environmental fluctuations.

6.2 ASSESSMENT OF IMPACTS

Impacts associated with the different components of the development are assessed below for the construction, operational and decommissioning phases of the project, for each of the Power Line, Gas Pipeline and Power Plant.

6.2.1 TRANSMISSION LINE

Construction Phase Impacts

Construction Impact 1: Loss of habitat for fauna

Impact 1. Loss of habitat for fauna during construction

Nature: The construction phase will require the clearing of vegetation for the pylons, and possibly some access roads as well. The loss of some vegetation from the development footprint is an unavoidable consequence of the development. The construction of the overhead transmission line will result in some habitat loss for resident fauna. During the operational phase, interactions between the transmission line operation and fauna is likely to be very low and therefore this impact is assessed only for the construction phase.

Impact Magnitude – Low

- **Extent:** **On-site**, the extent of the impact will be limited to the development footprint. The footprint of the development in terms of direct habitat transformation is small in extent.
- **Duration:** The duration of the impact will be **medium to long-term** as the disturbed areas will take some time recover and the pylons will remain until the project is decommissioned.
- **Intensity:** Since this results in the total loss of habitat, particularly highly sensitive vegetation types (CBAs) and associated habitat in the powerline corridors, the intensity is seen to be **Moderate to High**.

The magnitude of the pre-mitigation impact is assessed to be small/low and the sensitivity high.

Likelihood: As this infrastructure is required for the operation and construction of the powerplant, this impact will **likely (definitely)** occur.

Impact Significance:

Pre-Mitigation: **Moderate (-ve)**

Post-Mitigation: **Minor (-ve)**

Degree of Confidence: High. Based on the project description, this impact will **definitely** occur.

Mitigation:

- Preconstruction walk-through of the power line route to ensure that the sensitive habitat features are avoided.
- Demarcate all areas to be cleared with construction tape or similar material.
- ECO to provide supervision and oversight of vegetation clearing activities and other activities which may cause damage to the environment, especially in the vicinity of sensitive features.
- All vehicles to remain on demarcated roads and no driving in the veld should be allowed except where necessary along the power line route during construction when all vehicles should follow the same track.
- No fuelwood collection on site.
- No fires should be allowed on-site.

Construction Impact 2. Direct faunal impacts during construction

Impact 2. Direct Faunal Impacts Due To Construction Disturbance

Nature: Some slow-moving species (such as mole rats or blind snakes) may not be able to avoid the construction activities and might be killed. Some mammals and reptiles such as tortoises would be vulnerable to illegal collection or poaching during the construction phase as a result of increased human presence at the site.

Impact Magnitude - Small

- Extent: **Local**, the extent of the impact will be limited to the site and near surroundings.
- Duration: The duration of the impact will be **short term** or as long as construction is underway.
- Intensity: Activity and disturbance along the power line route and the associated clearing and construction will constitute a **Low to Moderate** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be small/low and the sensitivity medium.

Likelihood: There is a very high likelihood (**likely**) that this impact will occur in and around construction areas.

Impact Significance:

Pre-Mitigation: **Minor (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Definite. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- All vehicles at the site should adhere to a low speed limit to avoid collisions with fauna such as tortoises.
- Personnel should not be allowed to roam into the veld.
- All personnel should undergo environmental induction with regards to fauna and in particular awareness about not harming or collecting species such as snakes, tortoises and owls which are often persecuted out of superstition.
- No activity should be allowed in the veld between sunset and sunrise.
- Any dangerous fauna (snakes, scorpions etc) that are encountered during construction should not be handled or molested by the construction staff and the ECO or other suitably qualified persons should be contacted to remove the animals to safety.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.
- Holes and trenches should not be left open for extended periods of time and should only be dug when needed for immediate construction. Trenches that may stand open for some days, should have places where the loose material has been returned to the trench to form an escape ramp present at regular intervals to allow any fauna that fall in to escape.
- If there is any part of the site that needs to be lit at night for security reasons, then this should be with low-UV emitting types which do not attract insects.

Construction Impact 3. Habitat Degradation for Fauna

Impact 3. Habitat Degradation for Fauna During Construction

Nature: During construction, increased levels of noise, pollution, disturbance and human presence will degrade faunal habitat. Sensitive and shy fauna are likely to move away from the area during the construction phase as a result of the noise and human activities present.

Impact Magnitude – Small/Low

- Extent: **Local**, the extent of the impact will be limited to the site and near surroundings.
- Duration: The duration of the impact will be **short term** or as long as construction is underway.

- **Intensity:** Activity and disturbance along the power line route and the associated clearing and construction will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be small/low and the sensitivity medium.

Likelihood: There is a very high likelihood that this impact will occur in and around construction areas.

Impact Significance:

Pre-Mitigation: **Minor (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Definite. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- Personnel should not be allowed to roam into the veld.
- No activity should be allowed in the veld between sunset and sunrise.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.
- All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill.

Decommissioning Phase Impacts

Decommissioning Impact 1. Direct faunal impacts during decommissioning

Impact 1. Direct Faunal Impacts Due To Decommissioning Disturbance

Nature: Some slow-moving species may not be able to avoid the decommissioning activities and might be killed.

Impact Magnitude - Low

- **Extent:** **Local**, the extent of the impact will be limited to the site and near surroundings.
- **Duration:** The duration of the impact will be **short term** or as long as construction is underway.
- **Intensity:** Activity and disturbance associated with decommissioning will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be small/low and the sensitivity Low.

Likelihood: There is a low likelihood that this impact will occur in and around decommissioning areas.

Impact Significance:

Pre-Mitigation: **Negligible (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Probable/likely. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- Any individuals of protected species observed within the development footprint should be translocated under the supervision of the ECO.
- All vehicles at the site should adhere to a low speed limit to avoid collisions with fauna such as tortoises.
- Personnel should not be allowed to roam into the veld.
- All personnel should undergo environmental induction with regards to fauna and in particular awareness about not harming or collecting species such as snakes, tortoises and owls which are often persecuted out of superstition.
- No activity should be allowed in the veld between sunset and sunrise.
- Any dangerous fauna (snakes, scorpions etc) that are encountered should not be handled or molested by the construction staff and the ECO or other suitably qualified persons should be contacted to remove the animals to safety.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.
- Holes and trenches should not be left open for extended periods of time and should only be dug when needed. Trenches that may stand open for some days, should have places where the loose material has been returned to the trench to form an escape ramp present at regular intervals to allow any fauna that fall in to escape.

Decommissioning Impact 2. Habitat Degradation for Fauna

Impact 2. Habitat Degradation for Fauna During Decommissioning

Nature: Increased levels of noise, pollution, disturbance and human presence will degrade faunal habitat temporarily during decommissioning. Sensitive and shy fauna are likely to move away.

Impact Magnitude - Moderate

- **Extent: Local**, the extent of the impact will be limited to the site and near surroundings.
- **Duration:** The duration of the impact will be **short term** or as long as decommissioning is underway.
- **Intensity:** Activity and disturbance associated with clearing and decommissioning will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be medium and the sensitivity low.

Likelihood: There is a high likelihood (**likely**) that this impact will occur in and around decommissioning areas.

Impact Significance:

Pre-Mitigation: **Minor (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Probable. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- Personnel should not be allowed to roam into the veld.
- No activity should be allowed in the veld between sunset and sunrise.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.
- All hazardous materials and waste should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill.

6.2.2 GAS PIPELINE

The major impacts identified above are assessed below for the linear infrastructure of the proposed development, specifically the gas pipeline, during the construction, operational and decommissioning phases of the project.

Construction Phase Impacts

Construction Impact 1: Loss of habitat for fauna

Impact 1. Loss of habitat for fauna during construction

Nature: The construction phase will require the clearing of vegetation for the pipeline. The loss of some vegetation from the development footprint is an unavoidable consequence of the development. The construction of the gas pipeline will result in some habitat loss for resident fauna. During the operational phase, however, interactions between the pipeline infrastructure considered here and fauna is likely to be very low and therefore this impact is assessed only for the construction phase.

Impact Magnitude – Low

- **Extent:** **On-site**, the extent of the impact will be limited to the development footprint. The footprint of the development in terms of direct habitat transformation is small in extent. The pipeline follows an existing disturbed route for the most part.
- **Duration:** The duration of the impact will be **medium to long-term** as the disturbed areas will take some time recover and the gas pipeline will remain until the project is decommissioned.
- **Intensity:** Since this results in the loss of habitat, the intensity is seen to be **Moderate**.

The magnitude of the pre-mitigation impact is assessed to be small/low and the sensitivity medium.

Likelihood: As this infrastructure is required for the operation and construction of the powerplant, this impact will **likely (definitely)** occur.

Impact Significance:

Pre-Mitigation: **Minor (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: High. Based on the project description, this impact will **definitely** occur.

Mitigation:

- Preconstruction walk-through of the pipeline route to ensure that the sensitive habitat features are avoided.
- Demarcate all areas to be cleared with construction tape or similar material.
- ECO to provide supervision and oversight of vegetation clearing activities and other activities which may cause damage to the environment, especially in the vicinity of sensitive features.
- All vehicles to remain on demarcated roads and no driving in the veld should be allowed except where necessary along the pipeline route during construction when all vehicles should follow the same track.
- No fuelwood collection on site.
- No fires should be allowed on-site.

Construction Impact 2. Direct faunal impacts during construction

Impact 2. Direct Faunal Impacts Due To Construction Disturbance

Nature: Some slow-moving species (such as mole rats or blind snakes) may not be able to avoid the construction activities and might be killed. Some mammals and reptiles such as tortoises would be vulnerable to illegal collection or poaching during the construction phase as a result of increased human presence at the site.

Impact Magnitude - Small

- **Extent:** **Local**, the extent of the impact will be limited to the site and near surroundings.
- **Duration:** The duration of the impact will be **short term** or as long as construction is underway.
- **Intensity:** Activity and disturbance along the pipe line route and the associated clearing and construction will constitute a **Low to Moderate** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be small/low and the sensitivity medium.

Likelihood: There is a very high likelihood (**likely**) that this impact will occur in and around construction areas.

Impact Significance:

Pre-Mitigation: **Minor (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Definite. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- All vehicles at the site should adhere to a low speed limit to avoid collisions with fauna such as tortoises.
- Personnel should not be allowed to roam into the veld.
- All personnel should undergo environmental induction with regards to fauna and in particular awareness about not harming or collecting species such as snakes, tortoises and owls which are often persecuted out of superstition.
- No activity should be allowed in the veld between sunset and sunrise.
- Any dangerous fauna (snakes, scorpions etc) that are encountered during construction should not be handled or molested by the construction staff and the ECO or other suitably qualified persons should be contacted to remove the animals to safety.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.

- Holes and trenches should not be left open for extended periods of time and should only be dug when needed for immediate construction. Trenches that may stand open for some days, should have places where the loose material has been returned to the trench to form an escape ramp present at regular intervals to allow any fauna that fall in to escape.
- If there is any part of the site that needs to be lit at night for security reasons, then this should be with low-UV emitting types which do not attract insects.

Construction Impact 3. Habitat Degradation for Fauna

Impact 3. Habitat Degradation for Fauna During Construction

Nature: During construction, increased levels of noise, pollution, disturbance and human presence will degrade faunal habitat. Sensitive and shy fauna are likely to move away from the area during the construction phase as a result of the noise and human activities present.

Impact Magnitude – Small/Low

- **Extent:** **Local**, the extent of the impact will be limited to the site and near surroundings.
- **Duration:** The duration of the impact will be **short term** or as long as construction is underway.
- **Intensity:** Activity and disturbance along the pipe line route and the associated clearing and construction will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be small/low and the sensitivity medium.

Likelihood: There is a very high likelihood that this impact will occur in and around construction areas.

Impact Significance:

Pre-Mitigation: **Minor (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Definite. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- Personnel should not be allowed to roam into the veld.
- No activity should be allowed in the veld between sunset and sunrise.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.

- All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill.

Decommissioning Phase Impacts

Decommissioning Impact 1. Direct faunal impacts during decommissioning

Impact 1. Direct Faunal Impacts Due To Decommissioning Disturbance

Nature: Some slow-moving species may not be able to avoid the decommissioning activities and might be killed.

Impact Magnitude - Low

- **Extent:** **Local**, the extent of the impact will be limited to the site and near surroundings.
- **Duration:** The duration of the impact will be **short term** or as long as construction is underway.
- **Intensity:** Activity and disturbance associated with the decommissioning will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be small/low and the sensitivity Low.

Likelihood: There is a low likelihood that this impact will occur in and around decommissioning areas.

Impact Significance:

Pre-Mitigation: **Negligible (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Probable/likely. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- Any individuals of protected species observed within the development footprint should be translocated under the supervision of the ECO.
- All vehicles at the site should adhere to a low speed limit to avoid collisions with fauna such as tortoises.
- Personnel should not be allowed to roam into the veld.
- All personnel should undergo environmental induction with regards to fauna and in particular awareness about not harming or collecting species such as snakes, tortoises and owls which are often persecuted out of superstition.

- No activity should be allowed in the veld between sunset and sunrise.
- Any dangerous fauna (snakes, scorpions etc) that are encountered should not be handled or molested by the construction staff and the ECO or other suitably qualified persons should be contacted to remove the animals to safety.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.
- Holes and trenches should not be left open for extended periods of time and should only be dug when needed. Trenches that may stand open for some days, should have places where the loose material has been returned to the trench to form an escape ramp present at regular intervals to allow any fauna that fall in to escape.

Decommissioning Impact 2. Habitat Degradation for Fauna

Impact 2. Habitat Degradation for Fauna During Decommissioning

Nature: Increased levels of noise, pollution, disturbance and human presence will degrade faunal habitat temporarily during decommissioning. Sensitive and shy fauna are likely to move away.

Impact Magnitude - Moderate

- Extent: **Local**, the extent of the impact will be limited to the site and near surroundings.
- Duration: The duration of the impact will be **short term** or as long as decommissioning is underway.
- Intensity: Activity and disturbance along the pipe line route and the associated clearing and decommissioning will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be medium and the sensitivity low.

Likelihood: There is a high likelihood (**likely**) that this impact will occur in and around construction areas.

Impact Significance:

Pre-Mitigation: **Minor (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Probable. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- Personnel should not be allowed to roam into the veld.
- No activity should be allowed in the veld between sunset and sunrise.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.
- All hazardous materials and waste should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill.

6.2.3 GAS-FIRED POWER PLANT

The major impacts identified above are assessed below for the proposed gas-fired power plant during the construction, operational and decommissioning phases of the project.

Construction Phase Impacts

Construction Impact 1: Loss of habitat for fauna

Impact 1. Loss of habitat for fauna during construction

Nature: The construction phase will require the clearing of vegetation for the power plant. The loss of some vegetation from the development footprint is an unavoidable consequence of the development. The construction of the power plant will result in some habitat loss for resident fauna.

Impact Magnitude – Moderate

- Extent: **Local**, the extent of the impact will be limited to the development footprint and near surroundings. The footprint of the development in terms of direct habitat transformation is fairly local in extent.
- Duration: The duration of the impact will be **medium to long-term** as the disturbed areas will take some time recover and the plant will remain until the project is decommissioned.
- Intensity: Since this results in the total loss of habitat, the intensity is seen to be **Moderate**.

The magnitude of the pre-mitigation impact is assessed to be moderate/medium and the sensitivity medium.

Likelihood: As this infrastructure is required for the operation and construction of the powerplant, this impact will **definitely** occur.

Impact Significance:

Pre-Mitigation: **Moderate (-ve)**

Post-Mitigation: **Minor (-ve)**

Degree of Confidence: High. Based on the project description, this impact will **definitely** occur.

Mitigation:

- Sensitive habitat features should be avoided.
- Demarcate all areas to be cleared with construction tape or similar material.
- ECO to provide supervision and oversight of vegetation clearing activities and other activities which may cause damage to the environment, especially in the vicinity of sensitive features.
- All vehicles to remain on demarcated roads and no driving in the veld should be allowed except where necessary during construction when all vehicles should follow the same track.
- No fires should be allowed on-site.

Construction Impact 2. Direct faunal impacts during construction

Impact 2. Direct Faunal Impacts Due To Construction Disturbance

Nature: Some slow-moving species (such as mole rats or blind snakes) may not be able to avoid the construction activities and might be killed. Some mammals and reptiles such as tortoises would be vulnerable to illegal collection or poaching during the construction phase as a result of increased human presence at the site.

Impact Magnitude – Minor/Medium

- Extent: **Local**, the extent of the impact will be limited to the site and near surroundings.
- Duration: The duration of the impact will be **short term** or as long as construction is underway.
- Intensity: Activity and disturbance at the power plant site and the associated clearing and construction will constitute a **Low to Moderate** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be medium and the sensitivity medium.

Likelihood: There is a very high likelihood that this impact will occur in and around construction areas.

Impact Significance:

Pre-Mitigation: **Moderate (-ve)**

Post-Mitigation: **Minor (-ve)**

Degree of Confidence: Definite. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- All vehicles at the site should adhere to a low speed limit to avoid collisions with fauna such as tortoises.
- Personnel should not be allowed to roam into the veld.
- All personnel should undergo environmental induction with regards to fauna and in particular awareness about not harming or collecting species such as snakes, tortoises and owls which are often persecuted out of superstition.
- Any dangerous fauna (snakes, scorpions etc) that are encountered during construction should not be handled or molested by the construction staff and the ECO or other suitably qualified persons should be contacted to remove the animals to safety.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.
- Holes and trenches should not be left open for extended periods of time and should only be dug when needed for immediate construction. Trenches that may stand open for some days, should have places where the loose material has been returned to the trench to form an escape ramp present at regular intervals to allow any fauna that fall in to escape.
- If there is any part of the site that needs to be lit at night for security reasons, then this should be with low-UV emitting types which do not attract insects.

Construction Impact 3. Habitat Degradation for Fauna

Impact 3. Habitat Degradation for Fauna During Construction

Nature: During construction, increased levels of noise, pollution, disturbance and human presence will degrade faunal habitat. Sensitive and shy fauna are likely to move away from the area during the construction phase as a result of the noise and human activities present.

Impact Magnitude - Low

- **Extent:** **Local**, the extent of the impact will be limited to the site and near surroundings.
- **Duration:** The duration of the impact will be **short term** or as long as construction is underway.
- **Intensity:** Activity and disturbance and the associated clearing and construction will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be Low and the sensitivity low.

Likelihood: There is a high likelihood that this impact will occur in and around construction areas.

Impact Significance:

Pre-Mitigation: **Minor (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Definite. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- Personnel should not be allowed to roam into the veld.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.
- All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill.

Operational Phase Impacts

Operational Impact 1. Direct faunal impacts during operation

Impact 1. Direct Faunal Impacts During Operation

Nature: Some slow-moving species may not be able to avoid the operational activities and might be killed. However most fauna will have migrated away from the site during the construction phase.

Impact Magnitude – Low

- Extent: **On-site**, the extent of the impact will be limited to the site.
- Duration: The duration of the impact will be **medium term** as long as the facility is operating.
- Intensity: Activity and disturbance during operation of the plant will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be Low and the sensitivity Low.

Likelihood: There are likely to be a few impacts on fauna during operation.

Impact Significance:

Pre-Mitigation: **Negligible (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Definite/likely. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- All vehicles at the site should adhere to a low speed limit to avoid collisions with fauna such as tortoises.
- Personnel should not be allowed to roam into the veld around the site.
- All personnel should undergo environmental induction with regards to fauna and in particular awareness about not harming or collecting species such as snakes, tortoises and owls which are often persecuted out of superstition.
- Any dangerous fauna (snakes, scorpions etc) that are encountered should not be handled or molested by the operation staff and the ECO or other suitably qualified persons should be contacted to remove the animals to safety.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.

Operation Impact 2. Habitat Degradation for Fauna

Impact 2. Habitat Degradation for Fauna During Operation

Nature: Increased levels of noise, pollution, disturbance and human presence will degrade faunal habitat on an ongoing basis during operation.

Impact Magnitude - Low

- Extent: **Local**, the extent of the impact will be limited to the site and near surroundings.
- Duration: The duration of the impact will be **medium term**
- Intensity: Activity and disturbance at the power plant site will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be small/low and the sensitivity low.

Likelihood: There is a likelihood that this impact will occur in and around the facility's vicinity.

Impact Significance:

Pre-Mitigation: **Negligible (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Probable. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- Personnel should not be allowed to roam into the veld around the site.
- All hazardous materials and waste should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill.

Decommissioning Phase Impacts

Decommissioning Impact 1. Direct faunal impacts during decommissioning

Impact 1. Direct Faunal Impacts Due To Decommissioning Disturbance

Nature: Some slow-moving species may not be able to avoid the decommissioning activities and might be killed.

Impact Magnitude – Medium

- **Extent:** **On-site**, the extent of the impact will be limited to the site and near surroundings.
- **Duration:** The duration of the impact will be **short term** or as long as decommissioning is underway.
- **Intensity:** Activity and disturbance at the power plant and the associated clearing and decommissioning will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be medium and the sensitivity low.

Likelihood: There is a high likelihood that this impact will occur in and around decommissioning areas.

Impact Significance:

Pre-Mitigation: **Minor (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Probable. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- Any individuals of protected species observed within the development footprint should be translocated under the supervision of the ECO.
- All vehicles at the site should adhere to a low speed limit to avoid collisions with fauna such as tortoises.
- Personnel should not be allowed to roam into the veld.

- All personnel should undergo environmental induction with regards to fauna and in particular awareness about not harming or collecting species such as snakes, tortoises and owls which are often persecuted out of superstition.
- Any dangerous fauna (snakes, scorpions etc) that are encountered should not be handled or molested by the construction staff and the ECO or other suitably qualified persons should be contacted to remove the animals to safety.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.
- Holes and trenches should not be left open for extended periods of time and should only be dug when needed. Trenches that may stand open for some days, should have places where the loose material has been returned to the trench to form an escape ramp present at regular intervals to allow any fauna that fall in to escape.

Decommissioning Impact 2. Habitat Degradation for Fauna

Impact 2. Habitat Degradation for Fauna During Decommissioning

Nature: Increased levels of noise, pollution, disturbance and human presence will degrade faunal habitat temporarily during decommissioning. Sensitive and shy fauna are likely to move away.

Impact Magnitude - Medium

- Extent: **Local**, the extent of the impact will be limited to the site and near surroundings.
- Duration: The duration of the impact will be **short term** or as long as construction is underway.
- Intensity: Activity and disturbance associated with the decommissioning activity will constitute a **Low** disturbance intensity.

The magnitude of the pre-mitigation impact is assessed to be Medium and the sensitivity low.

Likelihood: There is a very high likelihood that this impact will occur in and around construction areas.

Impact Significance:

Pre-Mitigation: **Minor (-ve)**

Post-Mitigation: **Negligible (-ve)**

Degree of Confidence: Probable. Based on the project description, this impact will occur to a greater or lesser extent.

Mitigation:

- Personnel should not be allowed to roam into the veld.
- No litter, food or other foreign material should be thrown or left around the site and should be placed in demarcated and fenced rubbish and litter areas.
- All hazardous materials and waste should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill.

6.2.4 Cumulative Impact

Cumulative impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. The Project will be located on ArcelorMittal property adjacent to the existing Saldanha Steel plant, and is located within an area identified for industrial development according to the Saldanha Bay Municipal Spatial Development Framework and as such, the area has already experienced high levels of disturbance and degradation due to industry as well as past and present agricultural practises in the surrounding areas. Future proposed developments are detailed below and will contribute to the cumulative impacts on fauna in the study area and broader impact zone of the development. These developments include:

- The IDZ development;
- Afrisam Cement Plant;
- LPG storage facilities – Sunrise and Avidia;
- Vredenburg Industrial Development
 - Frontier Separation Plant
 - Chlor-Alkali Facility
- Desalination plant; and
- One additional 1 000 MW gas-fired power plant.

Impact Nature

The cumulative impact of all development in the study area and surrounds is likely to impact on fauna through increased habitat loss and fragmentation. Habitat fragmentation can result in the disruption of ecological corridors which aid in faunal dispersal, ensure ecosystem resilience, maintain population connectivity and provide refuge areas.

Pre-Mitigation								
Impact	Nature	Extent	Duration	Intensity	Probability	Reversibility	Irreplaceability	Significance
Cumulative Impacts	Negative	Regional	Long term	Medium-High	Probable	Low	Low	Moderate
Post Mitigation								
Impact	Nature	Extent	Duration	Intensity	Probability	Reversibility	Irreplaceability	Significance
Cumulative Impacts	Negative	Regional	Long term	Medium-Low	Probable	Medium	Low	Minor

Mitigation

Each present and future development will impact on fauna in a different way and in order to ensure the cumulative impacts of the various developments do not exponentially impact on fauna, each development in isolation should abide by the prescribed mitigation measures set by the specialist working on the impact assessment. Therefore future developments in the area should incorporate existing landscape-scale mitigation measures into their cumulative impact assessments.

In the long-term the vegetation remnants and habitats in the area are likely to come under increasing pressure and the area of Saldanha Bay Municipal Spatial Development Framework would benefit from an integrated biodiversity and development management plan which manages cumulative impacts. Strategically, the Saldanha Bay authorities should maintain corridors of remnant natural vegetation in the landscape which new developments must avoid and which would provide for increased ecosystem resilience.

The main impacts on fauna from the project are likely to result from noise and physical disturbance during the construction phase, but will be predominantly be local in nature and would thus not be of broader significance. The major impact from a cumulative perspective is the ongoing loss of landscape corridors, which provide connectivity to fragmented faunal habitat and also allow for movement of wildlife when dispersing or under times of stress, such as droughts. Disturbance and vegetation clearing should therefore be kept to a minimum at all developments and, in order to prevent future loss of habitat, the invasion of alien plant species should be controlled on a regular basis.

The proposed development would, however, contribute to a relatively small disruption of habitat loss of fauna across the greater landscape, as the footprint is relatively low. Provided the mitigation measures in the report are implemented, there would not be high impacts on a cumulative scale. As such, the cumulative impact of this development is considered to have a moderate significance without mitigation, and a minor significance if all proposed developments abide by the various mitigation measures prescribed by the respective specialists.

Key mitigation measures which must be implemented by Project are:

- Ensure that sensitive habitats are avoided and that species of conservation concern can be translocated where they cannot be avoided.
- Minimise the development footprint as far as possible.
- Stringent construction-phase monitoring of activities at the site to ensure that mitigation measures are adhered to and that the overall ecological impact of the development is maintained at a low level.
- The use of structures which may inhibit movement of fauna, such as mesh and electric fencing should be avoided.

CONCLUSIONS

The proposed ArcelorMittal CCGT power plant, power line and 4.6 km underground pipeline to the Port of Saldanha has been assessed to have little long-term impact on the fauna of the wider area, especially after mitigation, and as such, is considered to have acceptable levels of impact overall.

Summary Assessment

The summary assessment for the Saldanha Steel Gas-fire plant and associated infrastructure is provided below. All of the impacts assessed can be reduced to a low level through mitigation and there are no impacts present which are likely to represent a red-flag for the development. The main contributing factors to the low post-mitigation impact assessment is the relatively small extent of the development, its main footprint being on degraded vegetation/habitat and the low number of sensitive faunal species in the vicinity.

Table 1. Summary assessment of the pre- and post-mitigation impacts associated with the construction, operation and decommissioning phases of the project.

Phase & Impact	Before Mitigation	Post Mitigation
Powerline		
Construction		
Loss of habitat for fauna during construction	Moderate (-ve)	Minor (-ve)
Direct Faunal Impacts Due To Construction Disturbance	Minor (-ve)	Negligible (-ve)
Habitat Degradation for Fauna During Construction.	Minor (-ve)	Negligible (-ve)

Decommissioning		
Direct faunal impacts during decommissioning	Negligible (-ve)	Negligible (-ve)
Habitat Degradation for Fauna During Decommissioning	Minor (-ve)	Negligible (-ve)
Gas Pipeline		
Construction		
Loss of habitat for fauna during construction	Minor (-ve)	Negligible (-ve)
Direct Faunal Impacts Due To Construction Disturbance	Minor (-ve)	Negligible (-ve)
Habitat Degradation for Fauna During Construction.	Minor (-ve)	Negligible (-ve)
Decommissioning		
Direct faunal impacts during decommissioning	Negligible (-ve)	Negligible (-ve)
Habitat Degradation for Fauna During Decommissioning	Minor (-ve)	Negligible (-ve)
Power Plant		
Construction		
Loss of habitat for fauna during construction	Moderate (-ve)	Minor (-ve)
Direct Faunal Impacts Due To Construction Disturbance	Moderate (-ve)	Minor (-ve)
Habitat Degradation for Fauna During Construction.	Minor (-ve)	Negligible (-ve)
Operation		
Direct Faunal Impacts During Operation	Negligible (-ve)	Negligible (-ve)
Habitat Degradation for Fauna During Operation	Negligible (-ve)	Negligible (-ve)
Decommissioning		
Direct Faunal Impacts Due To Decommissioning	Minor (-ve)	Negligible (-ve)
Cumulative Impact		
Impact on critical biodiversity areas and broad-scale ecological processes	Negligible (-ve)	Negligible (-ve)

7 CONCLUSION & RECOMMENDATIONS

The development would have a significant but local negative impact on the local environment if not constructed in a sensitive manner. In particular the further loss of intact vegetation within the CBAs associated with the powerline to the east should be avoided as much as possible. This area is ecologically sensitive and represents habitat that considered important enough to qualify as a Critical Biodiversity Area and is also an example of an

ecosystem listed under the National List of Threatened Ecosystems (2011). There were however no specific areas or habitats within the site that were identified as being of particular importance for fauna. The current level of faunal activity at the site is fairly low given the degraded nature of the power plant site but the site still retains some degree of ecological function. In addition, the presence of larger mammals such as Steenbok and Porcupine suggest that the power plant site forms part of a larger habitat network in the area and still plays a role in the broader scale connectivity of the landscape. Although a number of listed fauna are known to occur in the area, the probability that any of them occur within the site is relatively low and it is even less likely that the site represents an important habitat location for any of them.

It is unlikely that the development of the Saldanha Gas-Fired Power Plant and associated infrastructure would result in the significant impact on fauna and habitats at the site. The extent of the development is low and the area is already degraded and overgrazed in context of the surrounding landscape. The primary goal of mitigation at the site should focus first on avoidance of the sensitive receptors at the site, and then minimising the footprint and impact of the construction process and long-term operation. The main impacts on fauna are likely to result from noise and physical disturbance during the construction phase and pollution and vehicular disturbance during the operation of the road, but are likely to be local in nature and would not be of broader significance.

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9 ANNEX 1. LIST OF MAMMALS

List of mammals which are likely to occur in the broad vicinity of the Saldanha Steel Gas-Fired Plant. Habitat notes and distribution records are based on Skinner & Chimimba (2005), while conservation status is from the IUCN Red Lists 2013.

Scientific Name	Common Name	Status	Habitat	Saldanha
Afrosoricida (Golden Moles):				
<i>Chrysochloris asiatica</i>	Cape Golden Mole	LC	Coastal parts of the Northern and Western Cape	Confirmed
Macroscledidea (Elephant Shrews):				
<i>Macroscelides proboscideus</i>	Round-eared Elephant Shrew	LC	Species of open country, with preference for shrub bush and sparse grass cover, also occur on hard gravel plains with sparse boulders for shelter, and on loose sandy soil provided there is some bush cover	High
<i>Elephantulus myurus</i>	Eastern Rock Elephant Shrew	LC	Confined to rocky koppies and piles of boulders	Low
Tubulentata:				
<i>Orycteropus afer</i>	Aardvark	LC	Wide habitat tolerance, being found in open woodland, scrub and grassland, especially associated with sandy soil	Low
Hyracoidea (Hyraxes)				
<i>Procavia capensis</i>	Rock Hyrax	LC	Outcrops of rocks, especially granite formations and dolomite intrusions in the Karoo. Also erosion gullies	Low
Lagomorpha (Hares and Rabbits):				
<i>Pronolagus rupestris</i>	Smith's Red Rock Rabbit	LC	Confined to areas of krantzes, rocky hillsides, boulder-strewn koppies and rocky ravines	Low
<i>Lepus capensis</i>	Cape Hare	LC	Dry, open regions, with palatable bush and grass	High
<i>Lepus saxatilis</i>	Scrub Hare	LC	Common in agriculturally developed areas, especially in crop-growing areas or in fallow	High

lands where there is some bush development.

Rodentia (Rodents):

<i>Bathyergus suillus</i>	Cape Dune Mole Rat	LC	Restricted to sandy habitats along the coast or alluvial sand	Confirmed
<i>Cryptomys hottentotus</i>	African Mole Rat	LC	Wide diversity of substrates, from sandy soils to heavier compact substrates such as decomposed schists and stony soils	High
<i>Georchus capensis</i>	Cape Mole Rat	LC	Sandy soils, in coastal dunes, in sandy alluvium along river systems and montane regions of the Western Cape	High
<i>Hystrix africaeaustralis</i>	Cape Porcupine	LC	Catholic in habitat requirements.	Confirmed
<i>Graphiurus ocellaris</i>	Spectacled Dormouse	LC	Associated with sandstones of Cape Fold mountains, which have many vertical and horizontal crevices.	Low
<i>Acomys subspinosus</i>	Cape Spiny Mouse	LC	Associated with rocky areas on mountain slopes in Fynbos	Low
<i>Rhabdomys pumilio</i>	Four-striped Grass Mouse	LC	Essentially a grassland species, occurs in wide variety of habitats where there is good grass cover.	Confirmed
<i>Mus minutoides</i>	Pygmy Mouse	LC	Wide habitat tolerance	High
<i>Myomyscus verreauxii</i>	Verreaux's Mouse	LC	Scrub on grassy hillsides and riverine forest	High
<i>Aethomys namaquensis</i>	Namaqua Rock Mouse	LC	Catholic in their habitat requirements, but where there are rocky koppies, outcrops or boulder-strewn hillsides they use these preferentially	Low
<i>Otomys irroratus</i>	Vlei Rat	LC	Abundant in habitats associated with damp soil in vleis or along streams and rivers.	High
<i>Otomys unisulcatus</i>	Bush Vlei Rat	LC	Shrub and fynbos associations in areas with rocky outcrops Tend to avoid damp situations but exploit the semi-arid Karoo through behavioural adaptation.	Confirmed
<i>Gerbillurus paeba</i>	Hairy-footed Gerbil	LC	Gerbils associated with Nama and Succulent Karoo preferring sandy soil or sandy alluvium	High

			with a grass, scrub or light woodland cover	
<i>Gerbilliscus afra</i>	Cape Gerbil	LC	Confined to areas of loose, sandy soils of sandy alluvium. Common on cultivated lands.	Confirmed
<i>Mystromys albicaudatus</i>	White-tailed Mouse	EN	Variable vegetation, but live in cracks or burrows in the soil	Low
<i>Malacothrix typica</i>	Gerbil Mouse	LC	Found predominantly in Nama and Succulent Karoo biomes, in areas with a mean annual rainfall of 150-500 mm.	Low
<i>Dendromus melanotis</i>	Grey Climbing Mouse	LC	Often associated with stands of tall grass especially if thickened with bushes and other vegetation	High
<i>Steatomys krebsii</i>	Krebs's Fat Mouse	LC	Prefer a sandy substrate.	High

Primates:

<i>Papio ursinus</i>	Chacma Baboon	LC	Can exploit fynbos, montane grasslands, riverine courses in deserts, and simply need water and access to refuges.	Low
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Eulipotyphla (Shrews):

<i>Myosorex varius</i>	Forest Shrew	LC	Prefers moist, densely vegetated habitat	Low
<i>Suncus varilla</i>	Lesser Dwarf Shrew	LC	Often associated with termitaria, little else known	High
<i>Crocidura cyanea</i>	Reddish-Grey Musk Shrew	LC	Occurs in relatively dry terrain, with a mean annual rainfall of less than 500 mm. Occur in karroid scrub and in fynbos often in association with rocks.	Low
<i>Crocidura flavescens</i>	Greater Red Musk Shrew	LC	Wide habitat tolerance	Low

Carnivora:

<i>Proteles cristata</i>	Aardwolf	LC	Common in the 100-600mm rainfall range of country, Nama-Karoo, Succulent Karoo Grassland and Savanna biomes	Low
<i>Caracal caracal</i>	Caracal	LC	Caracals tolerate arid regions, occur in semi-desert and karroid conditions	Low
<i>Felis silvestris</i>	African Wild Cat	LC	Wide habitat tolerance.	High

<i>Genetta genetta</i>	Small-spotted genet	LC	Occur in open arid associations	High
<i>Genetta tigrina</i>	Large-spotted genet	LC	Fynbos and savanna particularly along riverine areas	High
<i>Suricata suricatta</i>	Meerkat	LC	Open arid country where substrate is hard and stony. Occur in Nama and Succulent Karoo but also fynbos	Low
<i>Cynictis penicillata</i>	Yellow Mongoose	LC	Semi-arid country on a sandy substrate	High
<i>Herpestes pulverulentus</i>	Cape Grey Mongoose	LC	Wide habitat tolerance	Confirmed
<i>Atilax paludinosus</i>	Marsh Mongoose	LC	Associated with well-watered terrain, living in close association with rivers, streams, marshes, etc.	High
<i>Vulpes chama</i>	Cape Fox	LC	Associated with open country, open grassland, grassland with scattered thickets and coastal or semi-desert scrub	Low
<i>Canis mesomelas</i>	Black-backed Jackal	LC	Wide habitat tolerance, more common in drier areas.	Low
<i>Otocyon megalotis</i>	Bat-eared Fox	LC	Open country with mean annual rainfall of 100-600 mm	High
<i>Aonyx capensis</i>	African Clawless Otter	LC	Predominantly aquatic and do not occur far from permanent water	Low
<i>Ictonyx striatus</i>	Striped Polecat	LC	Widely distributed throughout the sub-region	High
<i>Mellivora capensis</i>	Ratel/Honey Badger	IUCN LC/SA RDB EN	Catholic habitat requirements	Low
Rumanantia (Antelope):				
<i>Sylvicapra grimmia</i>	Common Duiker	LC	Presence of bushes is essential	High
<i>Pelea capreolus</i>	Grey Rhebok	LC	Associated with rocky hills, rocky mountainsides, mountain plateaux with good grass cover.	Low
<i>Raphicerus</i>	Steenbok	LC	Inhabits open country,	Confirmed

<i>campestris</i>				
<i>Raphicerus melanotis</i>	Cape Grysbok	LC	Thick scrub bush, particularly along the lower levels of hills	Low
<i>Oreotragus oreotragus</i>	Klipspringer	LC	Closely confined to rocky habitat.	Low

10 ANNEX 2. LIST OF REPTILES

List of reptiles which are likely to occur in the vicinity of the Saldanha Steel Gas-fired plant, according to the SARCA database.

Family	Genus	Species	Subspecies	Common name	Red list category
Chamaeleonidae	<i>Bradypodion</i>	<i>occidentale</i>		Western Dwarf Chameleon	Least Concern
Gekkonidae	<i>Afrogecko</i>	<i>porphyreus</i>		Marbled Leaf-toed Gecko	Least Concern
Gekkonidae	<i>Chondrodactylus</i>	<i>bibronii</i>		Bibron's Gecko	Least Concern
Gekkonidae	<i>Goggia</i>	<i>lineata</i>		Striped Pygmy Gecko	Least Concern
Gekkonidae	<i>Pachydactylus</i>	<i>austeni</i>		Austen's Gecko	Least Concern
Gekkonidae	<i>Pachydactylus</i>	<i>geitje</i>		Ocellated Gecko	Least Concern
Agamidae	<i>Agama</i>	<i>hispida</i>		Spiny Ground Agama	Least Concern
Cordylidae	<i>Chamaesaura</i>	<i>anguina</i>	<i>anguina</i>	Cape Grass Lizard	Least Concern
Cordylidae	<i>Cordylus</i>	<i>cordylus</i>		Cape Girdled Lizard	Least Concern
Cordylidae	<i>Cordylus</i>	<i>macropholis</i>		Large-scaled Girdled Lizard	Near Threatened
Cordylidae	<i>Cordylus</i>	<i>niger</i>		Black Girdled Lizard	Near Threatened
Cordylidae	<i>Karusasaurus</i>	<i>polyzonus</i>		Karoo Girdled Lizard	Least Concern
Gerrhosauridae	<i>Tetradactylus</i>	<i>seps</i>		Short-legged Seps	Least Concern
Lacertidae	<i>Meroles</i>	<i>knoxii</i>		Knox's Desert Lizard	Least Concern
Scincidae	<i>Acontias</i>	<i>grayi</i>		Gray's Dwarf Legless Skink	Least Concern

Scincidae	<i>Acontias</i>	<i>meleagris</i>		Cape Legless Skink	Least Concern
Scincidae	<i>Microacontias</i>	<i>lineatus</i>		Striped Dwarf Legless Skink	Not listed
Scincidae	<i>Scelotes</i>	<i>bipes</i>		Silvery Dwarf Burrowing Skink	Least Concern
Scincidae	<i>Scelotes</i>	<i>gronovii</i>		Gronovi's Dwarf Burrowing Skink	Near Threatened
Scincidae	<i>Scelotes</i>	<i>kasneri</i>		Kasner's Dwarf Burrowing Skink	Near Threatened
Scincidae	<i>Scelotes</i>	<i>montispectus</i>		Bloubergstrand Dwarf Burrowing Skink	Near Threatened
Scincidae	<i>Trachylepis</i>	<i>capensis</i>		Cape Skink	Least Concern
Scincidae	<i>Trachylepis</i>	<i>homalocephala</i>		Red-sided Skink	Least Concern
Scincidae	<i>Trachylepis</i>	<i>variegata</i>		Variiegated Skink	Least Concern
Scincidae	<i>Typhlosaurus</i>	<i>caecus</i>		Southern Blind Legless Skink	Least Concern
Atractaspididae	<i>Homoroselaps</i>	<i>lacteus</i>		Spotted Harlequin Snake	Least Concern
Colubridae	<i>Crotaphopeltis</i>	<i>hotamboeia</i>		Red-lipped Snake	Least Concern
Colubridae	<i>Dasypeltis</i>	<i>scabra</i>		Rhombic Egg-eater	Least Concern
Colubridae	<i>Dispholidus</i>	<i>typus</i>	<i>typus</i>	Boomslang	Least Concern
Colubridae	<i>Duberria</i>	<i>lutrix</i>	<i>lutrix</i>	South African Slug-eater	Least Concern

Colubridae	<i>Lamprophis</i>	<i>aurora</i>		Aurora House Snake	Least Concern
Colubridae	<i>Lamprophis</i>	<i>guttatus</i>		Spotted House Snake	Least Concern
Colubridae	<i>Lycodonomorphus</i>	<i>inornatus</i>		Olive House Snake	Least Concern
Colubridae	<i>Lycodonomorphus</i>	<i>rufulus</i>		Brown Water Snake	Least Concern
Colubridae	<i>Psammophis</i>	<i>crucifer</i>		Cross-marked Grass Snake	Least Concern
Colubridae	<i>Psammophis</i>	<i>leightoni</i>		Cape Sand Snake	Least Concern
Colubridae	<i>Psammophis</i>	<i>notostictus</i>		Karoo Sand Snake	Least Concern
Colubridae	<i>Psammophylax</i>	<i>rhombeatus</i>	<i>rhombeatus</i>	Spotted Grass Snake	Least Concern
Colubridae	<i>Pseudaspis</i>	<i>cana</i>		Mole Snake	Least Concern
Elapidae	<i>Naja</i>	<i>nivea</i>		Cape Cobra	Least Concern
Leptotyphlopidae	<i>Leptotyphlops</i>	<i>nigricans</i>		Black Thread Snake	Least Concern
Typhlopidae	<i>Rhinotyphlops</i>	<i>lalandei</i>		Delalande's Beaked Blind Snake	Least Concern
Viperidae	<i>Bitis</i>	<i>arietans</i>	<i>arietans</i>	Puff Adder	Least Concern
Pelomedusidae	<i>Pelomedusa</i>	<i>subrufa</i>		Marsh Terrapin	Least Concern
Testudinidae	<i>Chersina</i>	<i>angulata</i>		Angulate Tortoise	Least Concern

11 ANNEX 3. LIST OF AMPHIBIANS

List of amphibians which are likely to occur at the proposed Saldanha Steel Gas-fired plant site. Habitat notes and distribution records are based on Du Preez and Carruthers (2009), while conservation status is from the IUCN Red Lists 2013.

Scientific Name	Common Name	Status	Habitat	Distribution	<u>Saldanha</u>
<i>Breviceps rosei</i> <i>rosei</i>	Sand Rain Frog	Not Threatened	Well vegetated low-lying sandy areas in coastal lowlands	Endemic	High
<i>Breviceps namaquensis</i>	Namaqua Rain Frog	Not Threatened	Arid sandy habitats from the coast to inland mountains	Endemic	Low
<i>Vandijkophrynus angusticeps</i>	Cape Sand Toad	Not Threatened	Temporary rain-filled depressions in sandy soils	Endemic	High
<i>Xenopus laevis</i>	Common Platanna	Not Threatened	Any more or less permanent water	Widespread	High
<i>Cacosternum capense</i>	Cape Caco	Vulnerable	Restricted to low lying flat or gently undulating areas with poorly drained clay or loamy soils	Endemic	Low
<i>Amietia fuscigula</i>	Cape River Frog	Not Threatened	Large still bodies of water or permanent streams and rivers. Winter and summer	Widespread	High
<i>Strongylopus grayii</i>	Clicking Stream Frog	Not Threatened	rainfall areas in the fynbos, Succulent and Nama Karoo	Widespread	High
<i>Tomopterna delalandii</i>	Cape Sand Frog	Not Threatened	Lowlands in fynbos and Succulent Karoo	Endemic	High

Short CV/Summary of Expertise – Simon Todd



- Profession: Independent Ecological Consultant - Pr.Sci.Nat 400425/11
- Specialisation: Plant & Animal Ecology
- Years of Experience: 18 Years

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

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

General Experience & Expertise

- Conducted a large number of fauna and flora specialist assessments distributed widely across South Africa. Projects have ranged in extent from <50 ha to more than 50 000 ha.

- Widely-recognized ecology specialist. Published numerous peer-reviewed scientific publications based on various ecological studies across the country. Past chairman of the Arid Zone Ecology Forum and current executive committee member.
- Extensive experience in the field and exceptional level of technical expertise, particularly with regards to GIS capabilities which is essential with regards to producing high-quality sensitivity maps for use in the design of final project layouts.
- Strong research background which has proved invaluable when working on several ecologically sensitive and potentially controversial sites containing some of the most threatened fauna in South Africa.
- Published numerous research reports as well as two book chapters and a large number of papers in leading scientific journals dealing primarily with human impacts on the vegetation and ecology of the arid and semi-arid parts of South Africa.
- Maintain several long-term vegetation monitoring projects distributed across Namaqualand and the karoo.
- Guest lecturer at two universities and have also served as an external examiner.
- Reviewed papers for more than 10 international ecological journals.
- Past chairman and current committee member of the Arid Zone Ecological Forum.
- SACNASP registered as a Professional Natural Scientist, (Ecology) No. 400425/11.

A selection of recent work is as follows:

Specialist Assessments:

Solar Energy Developments:

Environmental Impact Assessment for the Proposed Wolmarransstad Solar Energy Facility North West Province. Fauna & Flora Specialist Report for EIA. Savannah Environmental 2015

Environmental Impact Assessment for the proposed Humansrus Solar PV Energy Facility 1 Near Copperton, Northern Cape: Fauna & Flora Specialist Report for EIA. CapeEAPrac 2015.

Environmental Impact Assessment for the proposed Humansrus Solar PV Energy Facility 2 Near Copperton, Northern Cape: Fauna & Flora Specialist Report for EIA. CapeEAPrac 2015.

Environmental Impact Assessment for the proposed Dyasonsklip Solar Energy Facility 1 Near Upington, Northern Cape: Fauna & Flora Specialist Report for EIA. CapeEAPrac 2015.

Environmental Impact Assessment for the proposed Postmasburg Solar PV Energy Facility 2 and Associated Grid Connection Infrastructure, Postmasburg, Northern Cape. Fauna & Flora Specialist Report for EIA. CapeEAPrac 2015.

Environmental Impact Assessment for the proposed Joram Solar Vryheid PV Project, Northern Cape. Fauna & Flora Specialist Report for EIA. CapeEAPrac 2015.

Environmental Impact Assessment for the proposed Richtersveld Solar Farm and Associated Grid Connection Infrastructure. Fauna & Flora Specialist Report for EIA. CapeEAPrac 2015.

Environmental Impact Assessment for the Proposed Re Capital 3 Solar Energy Facility and Associated Grid Connection Infrastructure, Dyason's Klip, Northern Cape. Fauna & Flora Specialist Report for EIA. CapeEAPrac 2013.

Environmental Impact Assessment for the Proposed Richtersveld Solar Farm and Associated Grid Connection Infrastructure. Fauna & Flora Specialist Report for EIA. CapeEAPrac 2014.

Environmental Impact Assessment for the Proposed Bosjesmansberg Solar Energy Facility East of Copperton, Northern Cape Province. Fauna & Flora Specialist Report for EIA. Savannah Environmental 2013.

Specialist Vegetation Assessment for EIA. The Proposed Commercial Concentrated Solar Power Tower Facility and Concentrated Photovoltaic Facility at Van Roois Vley Near Upington. WSP 2012.

Proposed Les Marais \ Buitenfontein 5MW Solar Energy Facility in the Free State: Terrestrial Fauna & Flora Specialist Study for Basic Assessment. Savannah Environmental 2013.

Proposed Stella Helpmekeer Solar Energy Facility in the North West Province: Terrestrial Fauna & Flora Specialist Study for Basic Assessment. Savannah Environmental 2013.

Proposed Wolmaransstad Municipality 5MW Solar Energy Facility in the North West Province: Terrestrial Fauna & Flora Specialist Study for Basic Assessment. Savannah Environmental 2013.

Proposed Heuningspruit PV1 and PV2 Solar Energy Facilities Near Koppies, Free State Province: Terrestrial Fauna & Flora Specialist Study for Basic Assessment. Savannah Environmental 2013.

Proposed Hibernia PV Solar Energy Facility near Lichtenburg: Terrestrial Fauna & Flora Specialist Study For Basic Assessment. Savannah Environmental 2013.

Proposed Steynsrus PV1 And PV2 Solar Energy Facilities: Terrestrial Fauna & Flora Specialist Study for Basic Assessment. Savannah Environmental 2013.

Proposed Photovoltaic Solar Energy Facility on Konkoonsies, Northern Cape: Fauna & Flora Specialist Report for Impact Assessment. EScience Associates 2012.

Proposed Padrooi 13 Photovoltaic Solar Energy Facility, Northern Cape: Fauna & Flora Specialist Report for Impact Assessment. EScience Associates 2012.

Adams Photovoltaic Solar Energy Facility, Northern Cape: Fauna & Flora Specialist Report for Impact Assessment. EScience Associates 2012.

Proposed Photovoltaic Solar Energy Facility on Klein Swart Bast, Northern Cape: Fauna & Flora Specialist Report for Impact Assessment. EScience Associates 2012.

Proposed Khoi-Sun Solar Facility. Fauna & Flora Specialist Report for Impact Assessment. Cape EAPrac 2012.

Suurwater 62, Boesmanland 75mw Solar Farm, Aggeneys. Fauna & Flora Specialist Report for Impact Assessment. Cape EAPrac 2012.

Karoshhoek Solar Valley Development, Upington: Fauna & Flora Specialist Impact Assessment Report. Savannah Environmental. 2012.

O'Kiep 3 PV Solar Energy Facility on a Site In O'kiep Near Springbok, Northern Cape Province. Fauna & Flora Specialist Report for Basic Assessment. Savannah Environmental 2012.

Photovoltaic Solar Energy Facility on Voëlklip, South of Springbok. Fauna & Flora Specialist Report for Basic Assessment. Savannah Environmental 2012.

Namaqua Photovoltaic Solar Energy Facility on a Site North of Kamieskroon. Fauna & Flora Specialist Report for Basic Assessment. Savannah Environmental 2012.

Inca Graafwater Photovoltaic Solar Energy Facility, Graafwater, Western Cape Province. Faunal Ecology Specialist Report for Impact Assessment. Savannah Environmental 2012.

Aberdeen Solar Facility. Fauna & Flora Specialist Report for Basic Assessment. Specialist Report for Savannah Environmental. 2012.

Venetia Solar Facility. Fauna & Flora Specialist Report for Basic Assessment. Specialist Report for Savannah Environmental. 2012.

Southern Cross Solar Energy Facility: Southern Farm 425. Fauna & Flora Specialist Report for Basic Assessment. Specialist Report for Savannah Environmental. 2012.

Tutwa Solar Energy Facility: Portion 4 of Narries 7. Fauna & Flora Specialist Report for Basic Assessment. Specialist Report for Savannah Environmental. 2012.

Valleydora Photovoltaic Solar Power Plant, Free State. Fauna & Flora Specialist Report. CSIR, 2012.

Reddersburg Solar Facility - Fauna & Flora Specialist Assessment. CSIR, 2012.

Melkvele Photovoltaic Solar Power Plant. Fauna & Flora Specialist Report for Basic Assessment. Specialist report for ERM. 2012.

Ruinte Photovoltaic Solar Power Plant. Fauna & Flora Specialist Report for Basic Assessment. Specialist report for ERM. 2012.

Genoegsaam Solar Park. Fauna & Flora Specialist Report for Basic Assessment. Specialist report for ERM. 2012.

Genoegsaam Solar Park. Fauna & Flora Specialist EIA Report. Specialist report for ERM. 2012.

Graspan Solar Facility. Fauna & Flora Specialist Report for Impact Assessment. Specialist report for ERM. 2012.

Olyven Kolk Solar Power Plant, Northern Cape: Botanical and Faunal Specialist Assessment. Specialist Report for Environmental Resources Management (ERM). 2011.

Skuitdrift Solar Facility. Fauna & Flora Specialist Report for Basic Assessment. Specialist Report for Cape EAPrac. 2012.

Beaufort West Solar Facility, Erf 7388 - Fauna & Flora Specialist Assessment. Specialist Report for Cape EAPrac. 2012.

Khoi-Sun Solar Facility. Fauna & Flora Specialist Scoping Report. Specialist Report for Cape EAPrac. 2012.

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Bitterfontein Solar Plant - Fauna & Flora Specialist Assessment. Specialist Report for Cape EAPrac. 2012.

Wind Farm Developments:

- Mainstream South Africa Dwarsrug Wind Energy Facility: Fauna & Flora Specialist Impact Assessment Report. Sivest 2014.
- Proposed Spitskop Wind Energy Facility near Cookhouse: Fauna & Flora Specialist Study for Impact Assessment. Savannah Environmental 2013.
- Environmental Impact Assessment for the Proposed Roggeveld Wind Energy Facility and Associated Grid Connection Infrastructure: Fauna & Flora Specialist Report for EIA. Savannah Environmental 2013.
- Proposed Mainstream South Africa Springfontein Wind Energy Facility: Terrestrial Fauna & Flora Specialist Study for EIA. Savannah Environmental 2012.
- Environmental Impact Assessment for the Establishment of the Wolseley Wind Farm, Western Cape Province. Fauna & Flora Specialist Report. Arcus Gibb 2012.
- Proposed Eskom 300MW Kleinsee Wind Energy Facility. Fauna Specialist Report For Impact Assessment. Savannah Environmental 2012.
- Proposed Inca Energy Swellendam Wind Energy Facility: Fauna Specialist Report For Impact Assessment. Savannah Environmental 2012.
- Proposed Moorreesburg Wind Energy Facility: Fauna & Flora Specialist EIA Report For Impact Assessment. Savannah Environmental 2014.
- Terrestrial Ecology Specialist Study for the Proposed Establishment of a Renewable Energy Facility near Sutherland, Western and Northern Cape Provinces. Environmental Resources Management (ERM) 2011.
- Roggeveld Wind Farm: Ecological and Biodiversity Assessment: Terrestrial Vertebrate Fauna & Botanical Specialist Study. Specialist Report for Environmental Resources Management (ERM). 2011.
- Zen Wind Energy Facility. Fauna & Flora Specialist Impact Assessment Report. Savannah Environmental. 2012.
- Proposed Project Blue Wind and Solar Energy Facility, Near Kleinsee. Fauna Specialist Report For Impact Assessment. Savannah Environmental 2012.
- Garob Wind Farm: Fauna & Flora Specialist Report for Impact Assessment. Savannah Environmental 2012.
- Loeriesfontein Wind Energy Facility – Substation & Grid Connection. Fauna & Flora Specialist Report for Basic Assessment. Savannah Environmental 2012.
- Noblesfontein Wind Energy Facility, Victoria West. Ecological Walk-Through Report. Savannah Environmental 2012.
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- Klawer Wind Farm: Ecological and Biodiversity Assessment: Terrestrial Vertebrate Fauna & Botanical Specialist Study. Specialist Report for Environmental Resources Management. 2011.

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Power Lines/Grid Connections:

Proposed Juno-Aurora 765KV Power Line in the Western Cape: Fauna & Flora Specialist Report for Impact Assessment. Nzumbulolo Heritage Solutions 2015.

The proposed Mookodi Integration Phase 2 132KV Power Lines and Ganyesa Substation near Vryburg, North West Province: Fauna & Flora Specialist Basic Assessment Report. Sivest 2014.

Basic Assessment Process for the Proposed Construction of the Transnet 7Km 50 KV Power Line from Eskom Juno Substation to the proposed new Transnet Juno Traction Feeder Substation. Nsovo Environmental Consulting. 2014.

Basic Assessment Process for the Proposed Construction of the Transnet 5Km 50 KV Power Line from Eskom Aries Substation to the proposed new Transnet Aries Traction Feeder Substation. Nsovo Environmental Consulting. 2014.

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Burchell-Caprum-Mooidraai 132kv Power Line - Fauna & Flora Specialist Report for Basic Assessment. Savannah Environmental 2014.

Proposed Re-Alignment Of The Koeberg – Ankerlig 132kv Power Line: Fauna & Flora Specialist Report For Basic Assessment. Savannah Environmental 2014.

Grid Connection for Redstone Solar Thermal Energy Plant- Redstone Solar Thermal to Olien Mts: Fauna & Flora Specialist Basic Assessment Report. SiVest 2014.

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Garob to Kronos Power Line - Fauna & Flora Specialist Report for Basic Assessment. Specialist Report for Savannah Environmental. 2012.

Loeriesfontein Wind Energy Facility – Substation & Grid Connection. Fauna & Flora Specialist Report for Basic Assessment. Specialist Report for Savannah Environmental. 2012.

Gouda Wind Energy Facility – Grid Connection. Walk-Through of Overhead Power Line - Gouda WEF to Eskom Windmill Substation. Specialist Report for Savannah Environmental. 2012.

Proposed Kappa-Omega 765 KV Transmission Line. Fauna, Flora & Ecology Walk-Through Report. Specialist Report for ACER Africa. 2013.

Infrastructure & Mining Developments:

Proposed Mocke Poultry Farm: Fauna & Flora Specialist Report for Basic Assessment. Enviroworks 2015.

Basic Assessment for proposed Neotel Fibre Optic Cable Route 1 from George to Oudtshoorn. Fauna & Flora Specialist Report for Basic Assessment. Enviroworks 2015.

Basic Assessment for proposed Neotel Route 2 Fibre Optic Cables from Prince Albert Road to Oudtshoorn via the N12. Enviroworks 2015.

Basic Assessment for proposed Neotel Route 3 Fibre Optic Cables from Oudtshoorn to George via R328 and R102. Enviroworks 2015.

Basic Assessment for proposed Neotel Route 4 Fibre Optic Cables from Laingsburg to Oudtshoorn via Ladismith along the R323 and R62. Enviroworks 2015.

Environmental Impact Assessment for the Proposed Putsberg Open Cast Mine Near Pofadder, Northern Cape. Fauna & Flora Specialist Report for EIA. Ecopartners 2013.

Proposed Establishment of the Gamsberg Zinc Mine, Concentrator Plant and Associated Infrastructure near the Town of Aggeneys, Northern Cape. Fauna & Flora Specialist Report For ESIA. ERM 2013.

Pella Water Board – Infrastructure Upgrade. Fauna & Flora Specialist Report for Basic Assessment. Environmental Resources Management 2012.

Transnet Manganese Ore Line Upgrade. Fauna & Flora Specialist Report for Basic Assessment. Environmental Resources Management 2012.

Proposed Vryburg Wastewater Treatment Works: Terrestrial Fauna & Flora Specialist Study for Basic Assessment. Endemic Vision 2013.

Proposed Mamatwane Compilation Yard, Northern Cape: Fauna & Flora Specialist Report for Impact Assessment. Environmental Resources Management 2013.

Rare Earth Separation Plant Near Vredendal, Western Cape Province. Fauna & Flora Specialist Report for Basic Assessment. Savannah Environmental 2012.

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Upgrading of Tourism Facilities at Goegap Nature Reserve. Specialist Ecological Assessment. Van Zyl Environmental Consultants. 2012.

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Strategy/Conceptual Documents:

Renewable Energy Sector Spatial Planning Tool: To Form Part of the NDM Green Economy Strategy. Conservation South Africa, 2013.

Terrestrial Environment: Characteristics and Categorization. Contribution to the development of standards for EIA processes on behalf of the DEA. Anchor Environmental 2012.

National Wind and Solar PV SEA Specialist Report - Terrestrial and Aquatic Biodiversity. Specialist Report produced for the CSIR on behalf of DEA for the Strategic Environmental Assessment of the Renewable Energy Development Zones (REDZs). CSIR 2014.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

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

PROJECT TITLE

Environmental Impact Assessment for a Gas-fired Independent Power Plant to Support Saldanha Steel and Other Industries in Saldanha Bay

Specialist:	Simon Todd Consulting		
Contact person:	Simon Todd		
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Project Consultant:	Environmental Resources Management		
Contact person:	Stephan van den Berg		
Postal address:	ERM Cape Town – 2 nd Floor, Great Westerford, 240 Main Road, Rondebosch		
Postal code:	7800	Cell:	
Telephone:	021 681 5400	Fax:	
E-mail:	stephan.vandenberg@erm.com		

4.2 The specialist appointed in terms of the Regulations_

I, Simon Todd, declare that --

General declaration:

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:

Simon Todd Consulting

Name of company (if applicable):

20 July 2016

Date: