HOANIB X LODGE

SCOPING REPORT

2023

Prepared for the application of Environmental Clearance by Natural Selection Safaris (Pty) Ltd

Environmental Assessment Practitioner: Henriette Potgieter
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Henriette Potgieter
MSc (Environmental Sciences), BSc Honours (Environmental Sciences), BSc, BA
e hoenspotgieter@gmail.com +264 81 312-1606

INFORMATION SHEET

PROJECT

Application for Environmental Clearance for new lodge: Hoanib X

PROPONENT

Natural Selection Safaris (Pty) Ltd

CONTACT	Louis Nortjé
DESIGNATION	Director: Operations
TEL	081 332-3480
EMAIL	louisn@naturalselection.travel
ADDRESS	PO Box 5666, Windhoek

ENVIRONMENTAL ASSESSMENT PRACTITIONER

NAME	Henriette Potgieter
TEL	+264 - 81 - 312-1606
EMAIL	hoenspotgieter@gmail.com
ADDRESS	PO Box 11867, Klein Windhoek
EAP QUALIFICATIONS	EAPAN member MSc (Environmental Sciences) BSc Honours, B.Sc, BA

DISCLAIMER

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No warranties or guarantees are expressed or should be inferred by any third parties.
This report may not be relied upon by other parties without written consent from Henriette Potgieter.
Henriette Potgieter disclaims any responsibility to the client and others regarding any matters outside the agreed terms of reference.

DECLARATION

The Environmental Practitioner, Henriette Potgieter, is married to the Operations Director of the proponent, Natural Selection Safaris.

I, Henriette Potgieter, declare that I have no additional connection with the proponent, monetary or otherwise. No conflict of interest exists in the execution of the terms of reference of this project and I am committed to impartiality and confidentiality.

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Henriette Potgieter
MSc (Environmental Sciences), BSc Honours (Environmental Sciences), BSc, BA
e hoenspotgieter@gmail.com +264 81 312-1606

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Abbreviations

EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
GG	Government Gazette
GN	Government Notice
HIA	Heritage Impact Assessment
I&AP	Interested and Affected Parties
MAWF	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
NHC	National Heritage Council
ToR	Terms of Reference
WS	Wilderness Safaris

1 INTRODUCTION

1.1 Background

Natural Selection Safaris (Pty) Ltd proposes to build a 30-bed lodge on the north bank of the Hoanib River in the Kunene Region. The lodge was originally named Hoanib Explorer, but it was later abbreviated to Hoanib X, and it will be known as such until the proponent announces a final operating name.

1.2 Land ownership

The proposed site is on communal land in the Sesfontein Conservancy. A Right of Leasehold was granted to Mr John Kenena Kasaona from the Ministry of Agriculture, Water and Land Reform: Kunene Communal Land Board for the purpose of Tourism and is valid until 14/10/2031. The Right of Leasehold is given in **Error! Reference source not found.**.

Mr Kasaona appointed Natural Selection Safaris as the operating partner of the project and the two parties signed an agreement to this effect (Appendix V). Natural Selection Safaris will construct, manage and market the lodge and all the activities it offers.

1.3 Terms of Reference

Natural Selection Safaris appointed Henriette Potgieter to do an Environmental Impact Assessment (EIA) in support of their application for an Environmental Clearance Certificate (ECC). The terms of reference for this application were taken from the Environmental Management Act, 7 of 2007 (EMA) and its regulations (GN 29 of 2012).

The EIA Regulations list the following activities that may not be undertaken without an ECC:

- The construction of resorts, lodges, hotels, or other tourism and hospitality facilities
- Temporary storage of waste
- Abstraction of ground water for commercial purposes
- Construction of domestic wastewater treatment plants and related pipeline systems

This report presents the results of the scoping process. It includes the Curriculum Vitae of the Environmental Assessment Practitioner (EAP) in Appendix I, a survey of the legal and policy framework applicable to the project, a description of the project, a description of the receiving environment, a description of the public participation process, and an impact assessment.

The scoping report is limited to an application for ECC and excludes any additional permits that might be required for the operation of a lodge.

1.4 Methodology

MEFT is the relevant competent authority for the construction and operation of safari lodges. The first step in the EIA process was to submit an application for ECC to MEFT on 12 August 2022, and they requested a scoping report. The screening notice from MEFT is shown in Appendix VIII.

A site visit was conducted to examine the nature of the habitats within and adjacent to the project area, and also to observe ecological factors that might affect the presence of plants and animals. Visible signs of the presence of vertebrate species were recorded, such as spoor, dung, holes/burrows and pathways. Trees, shrubs and forbs were identified on site as far as possible, and notes were made of the vegetation structure and the potential role that vegetation could play in sustaining animal taxa.

Habitats are described in terms of their functionality for fauna, as well as the plant communities observed and/or likely to occur. The descriptions are based mainly on topography, substrate, floristics and vegetation structure.

The first round of public consultation commenced with the email notification of potential I&APs, newspaper advertisements and a site notice. Comments and information received during this process were incorporated in the EMP where applicable. The process is described in Section 4 and original documents provided in Appendix III.

Information gathered during the site visit, from a literature survey, meetings with the proponent and the public consultation process was used to do an Impact Assessment. It is presented in Section 6.

The results of the above steps are given in this scoping report. The final step was to draft an EMP, using the information in the scoping report and its appendices to suggest measures for the prevention, mitigation and/or management of any identified impacts. The EMP is available as a separate document.

2 LEGAL AND POLICY FRAMEWORK

This section presents a survey of the acts, regulations, policies and ordinances that are relevant to the proposed project.

2.1 Acts

The Environmental Management Act, 2007 (EMA) and the EIA Regulations (GN 29 of 2012)

The EMA and its regulations cover the management of the environment, EIAs, consultations with stakeholders, and the monitoring of impacts on the environment caused by developments. An ECC is compulsory for any activities or projects which have or might have an environmental impact, such as this project.

The National Heritage Act, 2004

Places and objects of heritage significance are protected under the Act, including aesthetic, archaeological, architectural, palaeontological, cultural, historical, scientific, and spiritual resources.

Heritage Impact Assessments provide the National Heritage Council (NHC) with information to understand the types of heritage resources found in a project area, as well as the likely impact of a proposed activity) on the integrity of any heritage resources protected in terms of the Act. A permit from the NHC is required before any place or object of heritage significance may be disturbed or relocated.

The Forest Act, 2001

Protected plant species may only be removed after obtaining a permit.

This project: no plants will be damaged or removed.

Namibia Tourism Board Act, 2000

This act provides for the registration and grading of accommodation establishments and regulates matters incidental to the operation of tourism activities. The Proponent should ensure that the lodge is registered prior to the operational phase.

Products and Energy Act, 1990

If more than 600 litres of fuel will be stored on site, a licence must be obtained from MME.

This project: Fuel volume will be less than 600 l.

The Soil Conservation Act, 1969

The prevention and control of soil erosion, and the protection, improvement and conservation of soil, vegetation and water sources are governed by this Act.

This project: the contamination of soil can be avoided by following the provisions in the EMP, and the removal of plant cover will be minimal.

The Water Act, 1956

This Act governs the use, allocation, control and conservation of surface and groundwater, as well as the development of water supply infrastructure and water pollution.

The Department of Water Affairs should be informed if water will be abstracted for any purpose other than domestic use, and a permit must be obtained if wastewater treatment facilities are being developed.

This project: An abstraction permit is not needed because a) the site is not located in a subterranean water control area, b) no irrigation will take place, and c) water will be used exclusively on the property and not sold or given to anyone else. No wastewater will be treated for re-use.

A new act for governing water resources, the Water Resources Management Act, 2013, has been promulgated but not been implemented yet, and the 1956 Act remains in effect.

2.2 Ordinances

Atmospheric Pollution Prevention Ordinance, 1976 (as amended)

This Ordinance regulates the prevention of pollution of the atmosphere.

This project: there will be dust generated during construction. It can be mitigated by implementing measures in the EMP.

The Nature Conservation Ordinance, 1975

The NCO governs the conservation of wildlife and protected areas. It deals with game parks and reserves, hunting, problem animals and the protection of indigenous plants. Permits need to be obtained for the removal of protected plant species.

This project: Incidental disturbance and death of plants and animals are mitigated in the EMP.

The Hazardous Substances Ordinance, 1974

The Ordinance deals with the manufacture, sale, use, disposal and dumping of hazardous substances in so far as they present a health hazard to human beings.

This project: the storage, use and disposal of swimming pool chemicals, housekeeping products, diesel and vehicle oil is relevant and dealt with in the EMP.

3 PROJECT DESCRIPTION

3.1 Location

Hoanib X will be located 70 km southwest of Sesfontein on the north bank of the Hoanib River, approximately 19 km downriver from the existing Hoanib Valley Camp (Figure 1).

Figure 1. Location of the project near Sesfontein.

The leasehold comprises an area of 48.4 ha, bordered by the Tsuxub River to the west and the Hoanib River to the south, and consists of hills and gravel plain. The boundaries of the site and the location of the main area within the leasehold are shown in Figure 2. The brown rectangle labelled “main area” in Figure 2 corresponds to the lodge (number 1) in Figure 3.

Figure 2. Boundaries of the leasehold and position of the lodge main area.

3.2 Activities

The lodge will offer activities led by professional guides.

- Game drives
- Rhino tracking
- Cultural interaction
- Guided walks

3.3 Infrastructure

The total footprint of the lodge, staff village and support infrastructure will be 12,000 m², consisting of separate, detached structures (Figure 3).

The guest rooms will be spread around a main area with GPS coordinates:

Latitude -19.340169
Longitude 13.163250

The position of the main area is shown in Figure 2, and in Figure 3 it is the structure numbered 1. The hills (crosshatched in Figure 3) will not be developed.

The final positions of structures may differ slightly from that in Figure 3 as conditions on site might necessitate adjustments during the building phase, but the total footprint will remain the same. Water flow, prevailing winds, stability of the substrate, privacy of the rooms, and views are some of the factors that may affect the exact positioning of structures.

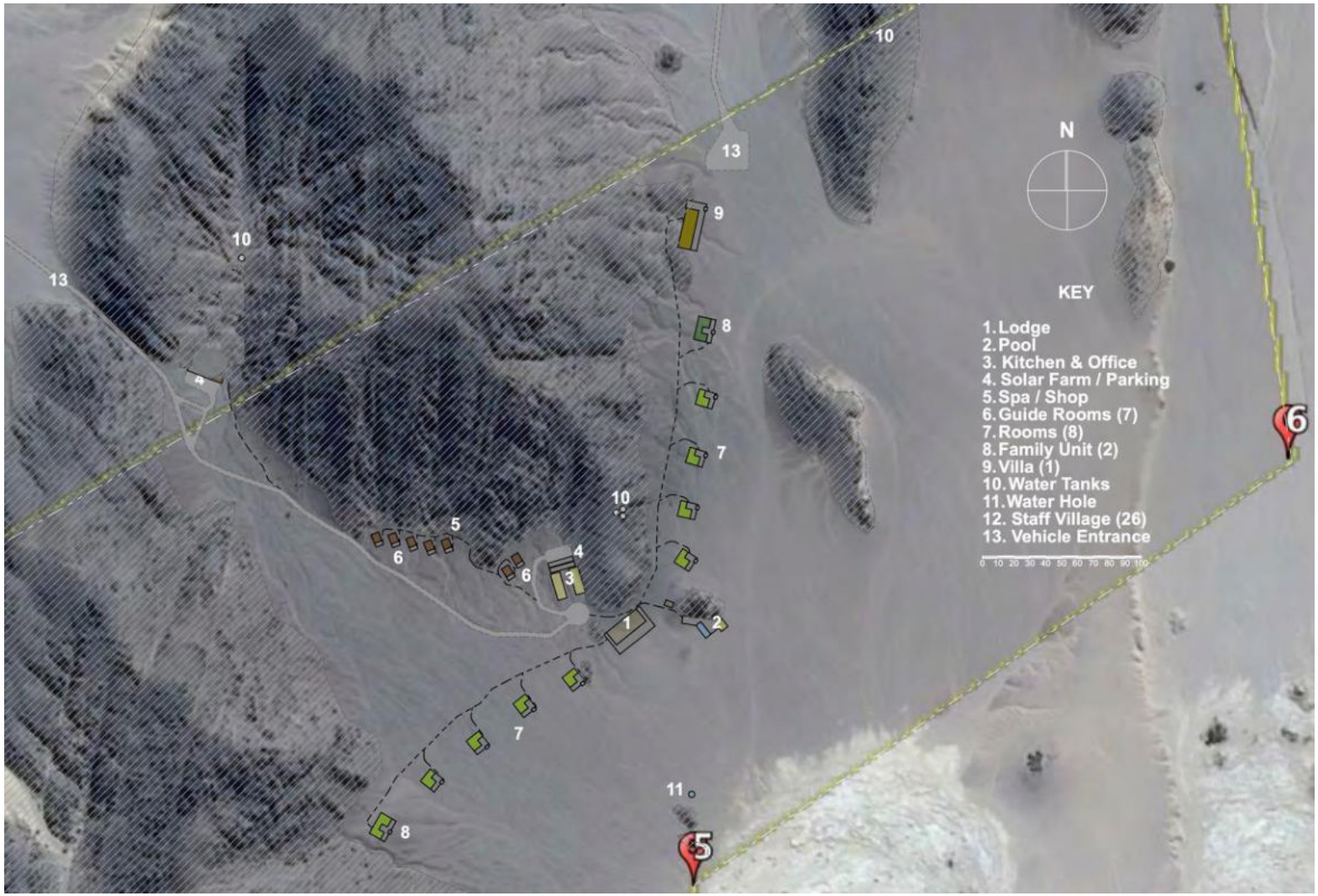

Figure 3. Layout of the lodge infrastructure. (Image by Mackintosh Lautenbach Architects.)

Building materials and methods will be aimed at energy-efficient climate control, and reducing environmental impacts. Structures will be mounted on platforms wherever possible, concrete floors will be used only where necessary for health and safety reasons (e.g. workshop, fuel storage, battery storage) and roofs and walls will be insulated. The architect's concept (Appendix VII) illustrates options that are being considered by the proponent.

3.3.1 Main area

The lodge main area will consist of a reception, dining area, sitting area, bar, curio shop, spa and two toilets, and it will cover 500 m² in total. A swimming pool with surrounding deck will be located near the main area.

3.3.2 Guest rooms

A total of 30 guests will be accommodated in 8 twin rooms (60 m² each) and 4 family rooms (100 m² each). Seven single rooms (40 m² each) will accommodate paying guides/pilots. All the rooms will be en suite with a shower, toilet and basin.

Raised wooden pathways will connect the different areas of the lodge.

3.3.3 Staff accommodation

The lodge will employ 40 permanent staff members, accommodated in a staff village with 30 single rooms for junior staff. They will share 2 ablution blocks: one male, one female. Senior staff will be accommodated in 6 en suite rooms, and there will be 2 managers' units with a living area, bedroom and bathroom each.

The staff village will have a kitchen, dining room, entertainment area and laundry. There will be a solar system providing electricity to each room, and a satellite system for WiFi in the staff village. Building materials will be a mix of pre-fabricated units with corrugated iron roofs, and canvas or composite structures on platforms. The staff village will be shaded.

3.3.4 Back of House

Close to the main area will be a kitchen with scullery, food and alcohol store rooms, and walk-in refrigeration. The back of house will also provide a lunch area for staff, 2 staff toilets, a laundry room, housekeeping storage and 2 offices.

3.4 Services

3.4.1 Water supply and reticulation

Water will be supplied from boreholes, fitted with submersible low-volume pumps powered by solar arrays. Water will be pumped from the boreholes to six 10,000 litre holding tanks from where it will flow via gravity to the outlets.

3.4.2 Wastewater and sewage

Sewage treatment will consist of underground 3-chamber breakdown systems. There will be four of these systems, each with a capacity of 48 m³, to serve the lodge and staff village. Sewage goes into the first chamber where solids settle at the bottom and liquid flows to the second chamber. The process is repeated in the second and third chamber until the final overflow goes from the third chamber into an evaporation pond. It is estimated that liquids remain in the system for approximately 21 days at full occupancy.

The evaporation pond will be 18 x 18 m in size. At a daily evaporation rate of 10 mm, this surface area can potentially get rid of 3,500 litres of water every day. The pond will be lined with impermeable material to prevent contamination of groundwater, filled with rocks to prevent bird and reptiles drowning, and fenced to prevent access to game.

At our Hoanib Valley Camp elephants have not visited the evaporation pond since the lodge opened 3 years ago. It is surmised that the provision of a drinking-place close by may have contributed to this, and an alternative, accessible source of fresh water (water hole) will be built at Hoanib X in an attempt to lure large animals away from the evaporation pond.

All waste water (including laundry, bathrooms and kitchen) from the lodge and staff village will empty into the sewerage. Swimming pool backwash water will go into the third chamber of the sewerage system. The kitchen, staff kitchen and workshop will be outfitted with fat traps.

3.4.3 Solid waste

Waste will be separated at source and the different rubbish bins will be emptied daily into holding cages that are completely enclosed by diamond mesh fence. Waste will be sent to Windhoek once a week on returning food delivery trucks. Recyclable waste will go to a recycling plant and the remainder to a registered landfill. Paper and cardboard will be burnt in an incinerator on site.

3.4.4 Energy

All the electricity for the project will be supplied by a solar array of 118 kWp with a daily output of 325 kWh. The staff village will have a separate solar plant of 5 kWp. A 74 kVa generator will be on site but used only for back-up, and it will be housed in a self-contained noise-reducing unit with impermeable floor. The battery pack will be stored in a separate room with impermeable floor.

3.4.5 Workshop and fuel storage

Diesel will be stored in 200 litre drums on an impermeable concrete floor. All refueling will be done on a bunded fueling area.

The workshop will be equipped with basic tools and materials for the maintenance of infrastructure and vehicles. A visiting mechanic will do routine servicing of vehicles on site, but no major repairs will be done at the lodge and vehicles will be taken to Outjo for repairs.

3.4.6 Roads and tracks

Access will be either from the Hoanib or the Tsuxub River, and into the north of the leasehold via existing tracks (13 in Figure 3). For activities, the river and existing 4x4 tracks will be used. On the project site, a minimum of new tracks might be made as dictated by construction and/or operational requirements, and these will be mitigated according to the provisions of the EMP.

Maintenance of tracks will be done by dragging tyres and shoring up gradients with shovels. No off-road driving will be allowed, and guide training will include sessions on how to drive with minimum impact on the soil, plants and landscape.

Vehicles used by the lodge will include 4 open game viewers, 1 closed transfer vehicle, 1 maintenance bakkie, 1 tractor with grader attachment, and possibly in future 8 quad bikes.

3.5 Design and landscaping

Buildings will be designed to blend in with the natural landscape by using wood, canvas and muted colours, as well as keeping roofs below the skyline of hills and ridges.

Natural Selection Safaris and our guests consider the landscape a source of wonder and beauty, and thus no gardening will be done. There is sparse natural vegetation on the site and it will be kept intact. Staff will be trained to actively preserve naturally occurring vegetation, and walkways will ensure that guests and staff walk on designated paths.

4 PUBLIC CONSULTATION

The public consultation process in Regulations 21 – 24 of the Environmental Impact Assessment Regulations (GN 30 of 2012) was followed for this project. The aims of public consultation are to identify potential impacts that the proposed project may have, and to enable transparent decision-making by including state, community and private stakeholders.

This section describes the first round of public consultation and includes the comments received after distributing the Background Information Document (BID).

4.1 Notification

The first round of public consultation started on 13 October 2022 and finished on 4 November 2022.

- A register of 22 Interested and Affected Parties (I&APs) was compiled (Appendix III B)
- The BID and a cover letter was sent to pre-identified I&APs on 21 October 2022 (Appendix III E) and later to other I&APs when they registered
- Newspaper notifications were placed in the Republikein, Sun and Allgemeine Zeitung on 13 and 20 October 2022 (Appendix III C)
- A site notice was erected at the turnoff from the Tsuxub River to a popular camping spot (Appendix III D)

4.2 Comments and responses

Feedback received from I&APs in the first round of public consultation is summarised in this section. A comment and response trail with the complete emails and letters is provided in Appendix III F.

A. **From Rob Ramey and Laura Brown, elephant researchers**

- **Lack of detail in BID**
  - "... there is a striking lack of detail in the proposal's Background Information Document (BID) as to expected or potential impacts to any of the wildlife species that occupy the proposed project area, especially to elephants."
  - "... the inadequacy of the BID to objectively document expected risks to this protected species."
  - "To be taken seriously the project proponent needs to produce a detailed and scientifically credible mitigation and conservation assessment for species likely to be affected, including elephants."
  - "There is no mention of projected water consumption in the BID."
  - "The BID provides few details on the number of support staff who will be housed on site, the staff rotation/resupply schedule, or routes and expected vehicle traffic increases for construction, resupply, and tours."

Reply
The EAP emailed a response on 7/11/22

"In Namibia the appropriate document for a detailed project description is the scoping report; and the document for preventing, managing and mitigating impacts is the environmental management plan (EMP). A BID provides an overview so that the public can decide whether they will be interested and/or affected by the proposed project.

Your comments and other sources will be used to inform a draft scoping report and EMP. The drafts will be distributed among all registered interested and affected parties for the second round of public consultation, and you will then be able to point out any remaining lack of detail.

You are welcome to provide me with any scientific references you feel are relevant and may be useful for the EMP."

- **Quad bikes**
  - "... limit the already constrained elephant habitat along the Hoanib River corridor as well as important wet season habitat areas outside the river corridor."
  - "With so few elephants remaining in the Hoanib River (19 total currently), it is unconscionable that quad bikes would ever be considered by a project proponent in such important elephant habitat."
  - "Route proliferation can be expected because quadbikes have a substantially shorter track width than4x4s that prevents quad bikes from safely following the same tracks as 4x4 vehicles."

Reply
Quad bikes might be used in future on routes north and west of the lodge. Quad bikes will never be used in the river, on the river banks or in river vegetation. If quad bikes are introduced in the future, NS will draw up protocols specifically for their use at this lodge.

- **Conservation**

"... how or why the proposed project will benefit conservation of any species or habitat along the Hoanib River corridor and surrounding area."

Reply
The Natural Selection Foundation is a registered non-profit organisation that receives 1.5% of every guest's stay plus a "conservation, community and reserve fee" per person per night. The money is committed to community outreach and regional wildlife conservation projects.

- **Water consumption in desert aquifer**

"... essential, critical habitat features are likely to be at risk unless the project proponent can show (from hydrological data produced by a qualified engineer) that the aquifer is sufficient to not cause adverse groundwater reduction with consequent adverse ecological effects, especially to those areas downstream. A similar study needs to be conducted for all the existing lodges along the Hoanib River, regardless of ownership."

Reply

A hydrological study of the Hoanib River and associated aquifer would be a valuable and commendable project. If funding was procured, Natural Selection Safaris would be willing to cooperate with MEFT, NGO's and other stakeholders to quantify sustainable abstraction.

- **Increased vehicle traffic**

"Cumulative impacts of increased vehicle traffic along the Hoanib River corridor needs quantification and a mitigation plan to address the question of how much is too much relative to the elephants' use of habitat."

Reply

Natural Selection Safaris is committed to the welfare of all wildlife, and will support the authorities if they commission a scientific study aimed at regulating vehicle traffic along the Hoanib River.

- **Speeding**

"... we have observed staff drivers from both of the existing lodges driving at high speed along the Hoanib River bed, often at night, and in one case at high speed, at night, and intoxicated."

Reply

Such behaviour will not be tolerated. Please report incidents to the Operations Director with enough information to identify the person responsible.

- **Evaporation pond**

Objections against an open sewage pond. Dissatisfaction with fencing an evaporation pond, arguing that a fence would not keep elephants out.

Reply

There will be no open pond with raw sewage. You are invited to look at the evaporation pond at our Hoanib Valley Camp when you visit it again.

Fences may not stop elephants, but they may protect other mammals from harm.

See section 3.4.2 in this document, and the EMP.

B. From Wilderness Safaris (WS)

- **Water**

Request a yield test at three WS boreholes. WS will make available the results of yield tests done in November 2022.

Reply

Agree to check the yield at three boreholes downstream from the new borehole.

- **Quad bikes**

WS objects in the strongest terms against the use of quad bikes in the area.

Reply

If quad bikes are used in the future, it will be on routes north and west of the lodge. NS will introduce quad bike activities only after drawing up protocols for their use at Hoanib X. The protocols will be drawn up with input from WS.

- **Attack**

The proposed Hoanib X lodge is seen as a direct attack on the WS Hoanib lodge. Anything Natural Selection does that is detrimental to WS, will be to the advantage of the Natural Selection business model.

Reply

WS currently supplies the other Natural Selection lodge (Hoanib Valley Camp) with customers, evidence that there is a shortage of beds in the area. The decision to invest a large amount in the proposed Hoanib X project was based on sound business principles.

Regarding competition: According to the leaseholder, Mr John Kasaona, WS was offered the leasehold first and they refused it. Only then was the project offered to Natural Selection Safaris.

- **Vehicle traffic**

Increased number of vehicles in the Hoanib River valley ... it is conceivable that the animal population migrate from the area.

Reply

Natural Selection Safaris is committed to the welfare of all wildlife, and would support the authorities if they commissioned a scientific study aimed at regulating vehicle traffic along the Hoanib River.

- **Community**

We regularly engage with our conservancy partners at board level and if this project had been raised, an agreement could have been reached to provide benefits to the Anabeb Sesfontein and Torra conservancies rather than only the Sesfontein conservancy and the individual who has the leasehold.

Reply

WS had the opportunity to provide benefits to other conservancies: the leasehold was offered to Natural Selection Safaris only **after** Wilderness Safaris refused it.

The Sesfontein conservancy and both traditional authorities in the region have known about the proposed project since 2020. We cannot surmise why the subject had not been raised with WS.

- **Airstrip**

What is the plan for an airstrip.

Reply

Using an existing airstrip is the most environmentally friendly option. Our first choice would be to make an arrangement with Wilderness Safaris for the use of your airstrip. Otherwise, we will look for a suitable location and commission an EIA.

- **Other concerns**

WS raises comments made in 2015 by IRDNC about the Natural Selection Safaris Hoanib Valley Camp: concern about landscape conservation and the lack of a public tender process.

Reply

Landscape conservation is a priority for Natural Selection, and the mitigation measures proposed in the EMP will be followed diligently.
IRDNC is a registered I&AP in this scoping study and no comments were received from them.

C. National Heritage Council (NHC)

The NHC requested a Heritage Impact Assessment (Appendix III F C). A specialist was recommended by the NHC, he was engaged, and his report is provided in Appendix VI.

4.3 Second round

The scoping report was distributed to registered I&APs.

4.4 Outcome of public consultation

Offering quad bikes as an activity was cancelled after the first round of public consultation.

The remaining comments raised during the first round of public consultation were addressed either in the summary in Section 4.2, directly with the relevant I&AP, in the impact assessment (Section 6), or in the EMP (Appendix IX). None of the comments raised is deemed significant enough to prevent the development from going ahead.

5 RECEIVING ENVIRONMENT

5.1 Physical environment

According to the Köppen-Geiger world climate classification system (Kottek, et al., 2006), the project site is located in an arid desert on the boundary between hot arid and cold arid, where water is the limiting ecological factor that determines the growth, abundance and distribution of organisms. The median annual rainfall is 50 – 150 mm, variability of rainfall is 80-90%, third highest zone in the country (Mendelssohn, et al., 2002), and the average rate of evaporation is 2,800 – 3,200 mm per year (ACACIA, 2011), leaving the region with an annual water deficit of 1,900 – 2,100 mm.

The site is on the eastern edge of the Namib Desert biome with Northern Desert vegetation type consisting of sparse grasslands and small, sparse shrubs (Mendelssohn, et al., 2002). The landscape features rocky hills, gravel plains and sandy river bed.

The hydrogeological rock type found in the region has been described as an aquitard, aquiclude aquifer, a type that is generally considered unproductive (Christelis & Struckmeier, 2011). Natural Selection Safaris proposes to drill boreholes on the banks of in the Hoanib River to secure water for the lodge.

Soil types that occur here are Lithic Leptosols. They are shallow and have a solid layer that remains hard even when wet, resulting in a low water holding capacity. In addition, Leptosols have low fertility and only hardy plant species flourish here (Mendelssohn, et al., 2002).

The key hydrological features near the site are the Hoanib River to the south and the Tsuxab River to the west. The site itself is surrounded by rocky hills on three sides and drains south-east into the Hoanib River.

5.2 Habitat description

Three main habitat types were identified on and adjacent to the project site: Rocky hills, sandy-gravel plain, and river.
When assigning habitat categories, the following physical characteristics were considered in terms of the opportunities for food and shelter they present to animals, both vertebrates and invertebrates: topography, substrate, vegetation structure and floristics.

Habitats were assigned a sensitivity rating of Highly Sensitive, Sensitive or Least Sensitive. Ratings were based on properties of the habitat itself:

- nationally or regionally scarce habitats
- size of habitat, in the context of the total availability of comparable habitats in Namibia and/or the region.
- exceptionally high diversity and/or abundance of species
- high level of endemism
- species of conservation concern are supported
- key ecological processes
- contributes disproportionately to ecological function (nutrient and energy flows)

- provides critical resources
- restorability after disturbance

5.2.1 Rocky hills

The rocky hills represent areas of higher diversity than the gravel plains from which they rise and support lichens and plants of conservation value (discussed in section 5.3.2).

Two important ecological features of rocky hills are drainage lines, and pockets of plant diversity in the cracks between rocks where water and nutrients get trapped. These pockets of plant material provide sustenance for detritivores, invertebrates, and the vertebrates that feed on them.

The only development that is planned for the hills is water tanks and their associated pipelines, and a pathway and sundowner lookout point at an unspecified location. This infrastructure should follow the conditions in the EMP diligently, with the most important management measure being the containment of disturbance to the smallest possible footprint.

The rocky hills are regarded as Highly Sensitive and, aside from the two mentioned linear developments, should be designated no-go areas.

5.2.2 Gravel plain

This habitat may support annual grasses and associated plains game after rainfall events. Burrowing reptiles and mammals are the taxa most likely to be supported by this habitat as well as Rüppell's Korhaan, a gravel plains specialist. Larger mammals cross the gravel plain, notably black rhinos and elephants. Game paths and Oryx droppings were observed near the proposed site.

The most important ecological feature of this habitat is water drainage into the Hoanib River. Another factor contributing to the sensitivity rating is its visual contribution to a sense of place. Gravel plains are highly sensitive to disturbance of the substrate, and activities such as off-road driving and a construction camp would likely result in irreversible damage. However, this habitat type is widespread along the edges of the Northern Namib Desert.

Provided that collateral damage during construction is prevented, and that subsequent disturbance is limited to the smallest possible footprint, the species in this habitat will be little affected by the project and it is considered Least Sensitive

5.2.3 River

The Hoanib River will be utilised for game viewing activities and as a supply corridor. The Tsuxab River bed will not be used, seeing as it is very sparsely vegetated, and there is a 4x4 track running parallel to it.

Drainages and riverine habitats in arid zones present a high ecological value for most taxa. They play a large role in supporting diversity, not only directly by providing resources and movement corridors to organisms, but also through the keystone role they play in the transport of nutrients by water. Rivers and vegetated washes serve as important pockets of high diversity in a surrounding landscape that contains relatively fewer resources. Rivers often

provide refugia for all taxa in times of environmental stress, and they support diversity by serving as source areas for re-colonisation after disturbances.

The Hoanib River contains large stands of mature *Acacia erioloba* and *Faidherbia albida*. The most commonly occurring vegetation type is shrubs and subshrubs, including *Salvadora persica*, *Salsola sp*, *Calicorema capitata* and *Combretum watti*.

There is a sparse understorey of forbs and a ground cover of grass is expected after rainfall events. This somewhat structured habitat supports a diversity of birds, especially insectivores, and is possibly essential for the survival of many invertebrate taxa. The variety of substrates in the river provide ideal habitat for reptiles, both burrowing species in the sandy riverbed, and species that need cover in the form of low vegetation and loose rocks.

The riverine habitat is considered highly sensitive.

5.3 Biological environment

On a national scale, the study area is located in a part of Namibia with a very low level of terrestrial diversity, but a high level of overall endemism (Mendelssohn, et al., 2002). Reptiles and scorpions are of conservation concern with both in a high category of endemism.

Species that are range-restricted endemics, have Threatened IUCN status, or are legally protected in Namibia, are potentially of concern.

5.3.1 Sources

Specialised literature was consulted for the various taxa:

- **Plants**: Mannheimer & Curtis, 2009; Mannheimer et al, 2008
- **Mammals**: Skinner & Smithers, 1990
- **Birds**: Hockey et al, 1992; Simmons, et al., 2015
- **Reptiles**: Alexander & Marais, 2007; Branch, 1998; Griffin, 2003; Marais, 2004
- **Amphibians**: Du Preez & Carruthers, 2009

The IUCN Red List (IUCN, 2022) for the international conservation status of all species.

Datasets that were perused:

- Namibia Biodiversity Database (Irish, 2022)
- The Southern African Bird Atlas Project 2 (SABAP2, 2022)

5.3.2 Flora

The desert environment gave rise to a diversity of unique plants, including *Welwitschia mirabilis* (not personally observed on or near the site but they do occur nearby and cannot be excluded), *Commiphora spp* and *Euphorbia spp*. The Hoanib River is lined by extensive *Salvadora persica* thickets and large stands of mature *Faidherbia albida* and *Acacia erioloba* trees. In the rocky hills *Petalidium spiniferum*, *Salvadora persica*, *Hoodia parviflora*, *Euphorbia damarana*, *Blepharis grossa* and *Stipagrostis hochstetteriana* were observed.

Lichens were observed on and around the project site. They play an important ecological role and their presence on the hills was the main contributing factor to assigning that habitat a Sensitive rating. Lichens form biological soil crusts, stabilising the fragile sandy soils, retaining moisture, reducing wind and water erosion, fixing atmospheric nitrogen, and contributing to soil organic matter and nutrient richness. They provide shelter and food for invertebrates and reptiles. Lichens are highly sensitive to disturbance and notoriously slow to recover.

The rocky hills support a variety of plants and lichens, and apart from water tanks and the linear structures associated with them, the hills should be designated no-go areas. Vegetation is very sparsely distributed on the gravel plain and it is recommended that construction be limited to this habitat type.

5.3.3 Mammals

Three flagship species are resident in and near the project site: Black Rhino, Elephant and Lion. The Black Rhino is classified critically endangered by the IUCN, scheduled in CITES Appendix I, and protected in Namibia by the Nature Conservation Ordinance, schedule 3: specially protected game. Elephants are classified endangered by the IUCN, scheduled in CITES Appendix II, and protected in Namibia by the Nature Conservation Ordinance, schedule 3: specially protected game. Lions are classified vulnerable by the IUCN, scheduled in CITES Appendix II, and considered threatened and vulnerable in Namibia (MEFT, et al., 2022).

These three species are sensitive to disturbance, and the management measures in the EMP should be strictly followed.

Although the species richness of mammals is low, some species occur intermittently as resources become available: Oryx, Springbok, Leopard, Cheetah, Giraffe, Spotted Hyena, Black-backed Jackal, Cape Fox, Polecat and Honey badger. These mammals are likely to utilise resources in the study area while moving across it, and they are not expected to be dependent on the habitat in the project area. Ground squirrels are residents of the gravel plain.

Three mammal species that are highly likely to occur in the study area are endemic or near-endemic: the Namibian Pygmy Rock Mouse and Dassie Rat are both rocky outcrop specialists, and the Setzer's hair-footed Gerbil burrows in dry river washes. Two bat species that are of conservation concern have ranges that overlap the study area: Angolan wing-gland bat (near endemic to Namibia and classified as rare) and Straw-coloured fruit bat (near-threatened migrant), but it is unlikely that their feeding or roosting resources or activities would be affected by the development.

None of the mammal species is likely to rely solely on the resources in the project area, and the project itself is unlikely to increase the risk of survival of any mammal population. The caveat to this assertion is that the cumulative impacts of human activity in the sensitive habitats of the Kunene Region (such as river beds and rocky hills) may cause irreversible damage, and a strategic assessment on policy-making level is needed to address the issue.

5.3.4 Birds

When designating a study area for avifaunal data searches, a wider margin around the project site is usually selected than for other taxa. The mobility of birds enables them to range widely

and utilise ephemeral or occasional resources in areas that are far from their central ranges, much more so than other taxa. A data search of SABAP 2 in January 2023 shows a total of 163 bird species have been recorded within the white outline in Figure 4. Only those species that are likely to occur in the habitat types surrounding the site were included in the count.

Figure 4. The study area for avifauna.

The site falls in a low ranking for diversity of avifauna (Mendelssohn, et al., 2002), but in a medium-high ranking for endemism with at least 7 of the 14 endemic bird species occuring in the study area: Barecheeked Babbler, Monteiro's Hornbill, Rüppell's Korhaan, Gray's Lark, White-tailed Shrike, Rüppell's Parrot and Carp's Tit.

On the international level, Lappet-faced Vulture and Ludwig's Bustard are considered Endangered, and White-backed Vulture is Critically Endangered in the IUCN rankings. Things look similar on the national scale with Ludwig's Bustard and White-backed Vulture endangered, and Lappet-faced Vulture considered Vulnerable.

All raptors are protected under the Nature Conservation Ordinance 4 of 1975 in schedule 4, Protected game, and they are all vulnerable to disturbance. Care should be taken to identify nests and perches on the project site before construction starts, as well as on game viewing routes so that they can be avoided.

5.3.5 Reptiles

The surrounding region supports at least 15 reptile species that are endemic or near endemic (Table 1). In addition, the Leopard Tortoise is vulnerable and protected in Namibia.

The small scale of the project and the widespread nature of gravel plains mean it is unlikely that the risk of survival of any population would be increased, provided management measures are applied strictly, especially ongoing training of station staff during the operational phase.

The national and international assessment of reptiles is almost 15 years old and it is likely that the situation, specifically regarding species of conservation concern, has changed significantly.

Table 1. Reptiles of conservation concern

Species	Common name
Colopus kochii	Koch's Thick-toed Gecko
Cordylosaurus subtessellatus	Dwarf plated lizard
Dipsina multimaculata	Dwarf Beaked Snake
Leptotyphlops labialus	Damara Worm Snake
Meroles anchietae	Shovel-snouted desert lizard
Meroles reticulatus	Reticulated Desert Lizard
Pachydactylus bicolor	Velvety gecko
Pachydactylus sansteynae	San Steyn's Thick-toed Gecko
Psammophis namibensis	Namib Sand Snake
Ptenopus carpi	Carp's Barking Gecko
Pythonodipsas carinata	Western keeled Snake
Rhoptropus afer	Common Namib Day Gecko
Rhoptropus barnardi	Barnard's Namib Day Gecko
Stigmochelys pardalis	Leopard Tortoise
Typhlacontias brevipes	FitzSimons' Burrowing Skink

5.3.6 Amphibians

Only four frog species have distribution ranges that overlap with the study area, and they are likely to occur only in the river, contributing to the sensitivity rating of the River habitat. Two are of conservation concern: The endemic and range restricted Damaraland Sand Frog, and the near-endemic Marbled Rubber Frog. The other two species are Tandy's Sand Frog and Common Platanna. It is highly unlikely that any amphibian species or assemblage will be affected by the project.

5.4 Socio-eonomic environment

The Sesfontein Constituency has a population of approximately 8,450 people and one of the highest unemployment rates in the country: 46% in 2012.

5.4.1 Land use

The land on which the project will be developed belongs to the Kunene Land Board and is located in the Sesfontein Conservancy which represents about 2,500 people. It has been earmarked for tourism (Figure 5). The site is currently not used for any specific activity, apart from self-drive tourists who camp in the west of the leasehold.

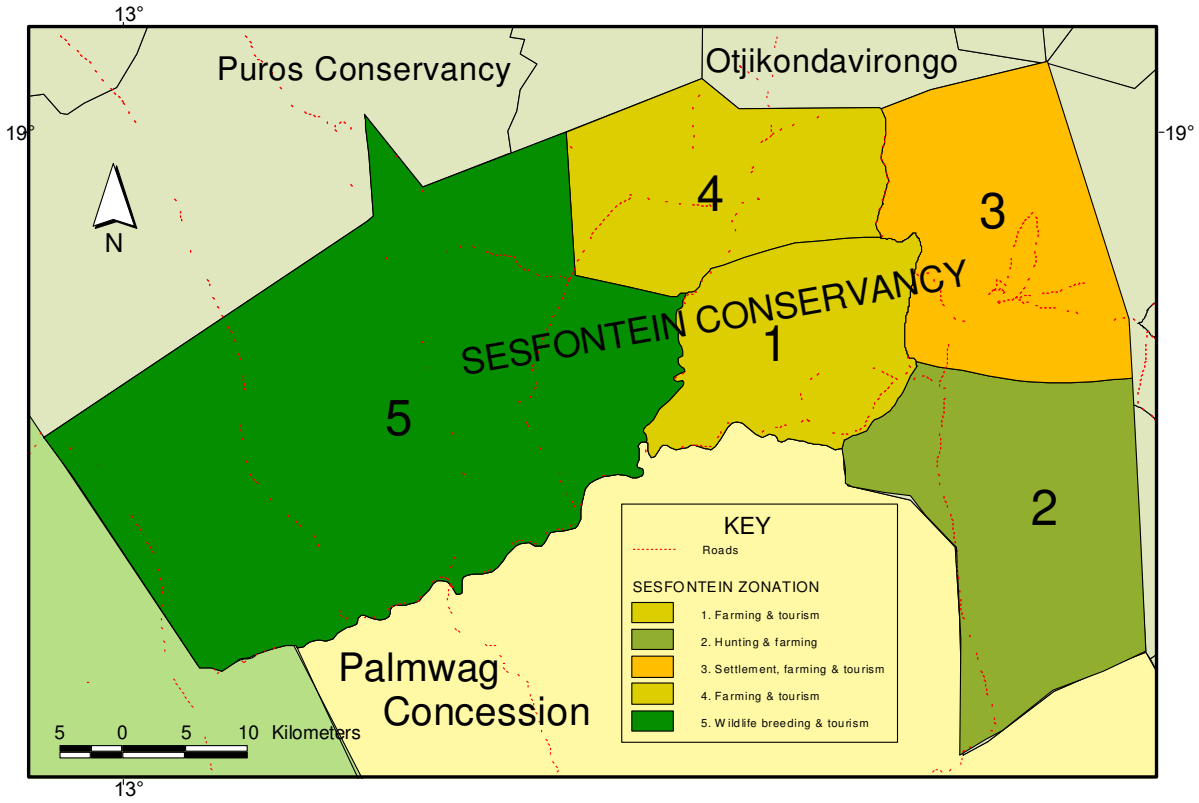

Figure 5. Sesfontein Conservancy zonation map. (Image from (NACSO, 2011)

5.4.2 Heritage resources

A Heritage Impact Assessment (HIA) was conducted by Manfred !Gaeb in October 2022 (Appendix VI). This section presents a summary of his findings.

The environment surrounding the site is rich in archaeologically sensitive objects and sites. On the project site itself several Early, Middle and Late Pleistocene stone tools were found and they need to be safeguarded and regarded as no-go areas for off-road driving. It is suggested that the area be declared a heritage place because artefacts indicate that humans were able to successfully exploit the resources of the desert environment, highlighting the adaptive flexibility of Pleistocene populations in Africa (!Gaeb, M. Appendix VI).

The heritage objects and sites can be exploited for management plans and interpretation guides. Self-drive camping and off-road driving cause damage to objects and places of heritage significance. It is recommended that a concession be granted to the proponent [Natural Selection Safaris] for exclusive right of access. To ensure the safeguard of heritage resources, the proponent can monitor entry into the area, inform unguided visitors, and allow only Hoanib X guides to conduct tours.

Consent may be granted to the proponent as they will be able to ensure protection of places and objects of heritage significance, and other recommendations can happen parallel with the development. The heritage resources discovered can complement current activities carried out by lodge guides, by ensuring safe guiding around the heritage resources and implementing the EMP.

6 IMPACT ASSESSMENT

6.1 Methodology

The key biodiversity elements in the study area and surrounding environment were identified, followed by a list of potential sources of risk to biodiversity cohesion. Some sources of risk may lead to potential negative impacts, and these have varying degrees of significance. Some activities may have potential positive impacts, and they are also discussed.

Each impact is evaluated for its overall significance. Both mitigated and unmitigated scenarios are considered for each impact. The criteria and formulas for determining significance are given in Table 2,
Table 3,

Table 4 and Table 5.Table 5

Table 2. Criteria for consequence

SEVERITY/INTENSITY	
Low	No/minor effect on functions and processes. No measurable change. Recommended standard/level will not be violated.
Medium	Natural, cultural and social functions and processes can continue, but in a modified way. Moderate discomfort that can be measured. Recommended standard/level will occasionally be violated. Various third-party complaints expected.
High	Natural, cultural or social functions and processes are altered in such a way that they temporarily or permanently cease. Substantial deterioration of the impacted environment. Widespread third-party complaints expected.
MAGNITUDE/RANGE	
Low	Local. Within site boundary.
Medium	Beyond site boundary. Widespread.
High	Regional/national. Far beyond site boundary.
DURATION	
Low	Temporary/short term. Reversible.
Medium	Impact can be reversed over time. Within project life.
High	Permanent or long term. Impact stops after the life of the project.

Table 3. Determining consequence: Severity x Duration x Magnitude

LOW SEVERITY				
DURATION	**H**	**Medium**	**Medium**	**Medium**
	M	**Low**	**Low**	**Medium**
	L	**Low**	**Low**	**Medium**
MEDIUM SEVERITY				
DURATION	**H**	**Medium**	**High**	**High**
	M	**Medium**	**Medium**	**High**
	L	**Low**	**Medium**	**Medium**
HIGH SEVERITY				
DURATION	**H**	**High**	**High**	**High**
	M	**Medium**	**Medium**	**High**
	L	**Medium**	**Medium**	**High**
		L	**M**	**H**
		MAGNITUDE		

Table 4. Determining significance: Consequence x Probability

PROBABILITY	Definite/ Continuous	H	Medium	Medium	High
	Possible/ frequent	M	Medium	Medium	High
	Unlikely/ seldom	L	Low	Low	Medium
			L	M	H
			CONSEQUENCE		

Table 5. Explanation of significance

Significance level	Interpretation
High	It would influence the decision regardless of any possible mitigation.
Medium	It should have an influence on the decision unless it is mitigated.
Low	It will not have an influence on the decision.

6.2 Key biodiversity elements

These are biodiversity features and ecological processes without which the integrity of an ecosystem cannot be maintained. It is an essential aspect of environmental management to ensure that impacts to these aspects are avoided or minimised.

- Key habitat provided by the Hoanib River corridor
- Water, both surface and groundwater, is inextricably linked to the river, washes and drainages
- Flagship mammals: elephant, rhino and lion

6.3 Sources of risk

These are actions that could disturb abiotic factors or cause losses of organisms to such an extent that there is an increased risk of extinction for local populations, or a disruption of ecosystem processes causing a decline in habitat quality.

- Water abstraction
- Increased vehicle traffic in the Hoanib River
- Sewage
- Solid waste
- Human behaviour in general, e.g. illegal collection of plants and animals

6.4 Significance

The potential significance of an impact is increased when certain ecological factors exist. These are factors that could increase the risk of local extinction of species, communities and populations, or that could affect the functioning of ecosystems. Some of these factors are:

- Species with restricted ranges (the more restricted its range, the higher the risk)
- Species with disjunctive distributions (i.e. a fragmented range) or small populations

- Habitat specialist species – e.g. Rüppell's Korhaan on the gravel plain, lichens in the rocky hills
- Species depending on resources with a critical distribution in time or space
- High-diversity habitats – e.g. the Hoanib River
- Species or habitats that contribute greatly to ecosystem services – the Hoanib River habitat falls in this category
- Species or habitats that collectively contribute to ecosystem services – Black Rhino, Elephant and Lion in a desert habitat

6.5 Negative impacts

This section presents tables wherein potentially negative impacts are identified, described, and management and mitigation actions suggested for each potential impact. The management and mitigation measures are discussed in detail in the Hoanib X EMP.

Impact 1. Destruction of organisms and habitats; interference with behaviour of animals

SOURCE OF IMPACT

During construction:

Building of infrastructure.

Laydown areas, water tanks, pipelines, electricity infrastructure.

Accommodation for construction staff.

Human activities and vehicle movements.

During operations:

Human activities and vehicle movements.

Human-wildlife interaction.

RESULT OF IMPACT

Death of animals that are struck by vehicles.

Mammal and reptile burrows, burrow habitats and feeding habitats are damaged.

Dust during construction: decline in air quality health decline in plants.

Noise during construction disturbs the normal behaviour of animals and causes increase in stress, specifically mammals.

Outdoor lights attract invertebrates that then provide an unnatural food source for taxa such as bats, geckos and nightjars. These insectivores are attracted to the food and then are more likely to die from causes such as collisions and predation.

Interaction with elephants in the river corridor may change their behaviour patterns and increase stress, resulting in an increased risk to their survival. This is a cumulative impact.

MANAGEMENT/MITIGATION MEASURES

Keep the overall development footprint as small as possible.

The extent and location of the construction site should be demarcated, and all construction activities should take place within the area. Adherence should be strictly enforced.

Carefully plan the placement of construction material and temporary infrastructure in areas that will definitely be disturbed during operations.

Educate construction and permanent staff as to their environmental obligations. Contractors should be held responsible for transgressions and significant penalties levied to ensure compliance.

No sewerage overflow may be placed within 100 m of a wash or river.

Identify nests, dens and other breeding locations, demarcate them and avoid these sites.

Reptiles and amphibians that are exposed during ground clearing should be captured for translocation by a qualified expert.

No collection of plants should be allowed. No fires should be allowed.

Angle outdoor lights downwards. Motion detectors will limit light use to the minimum. Use yellow or amber outdoor lights because invertebrates don't detect yellow light as well as white.

Follow the Natural Selection Safaris guide protocol at all times during activities. Tight control over driving and behaviour while in the river bed. Increased vehicle traffic in the Hoanib River corridor is a cumulative impact.

	UNMITIGATED	MITIGATED
SEVERITY	MED	LOW
MAGNITUDE	LOW	LOW
DURATION	MED	LOW
CONSEQUENCE	MED	LOW
PROBABILITY	MED	LOW
SIGNIFICANCE	**MED**	**LOW**

Impact 2. Groundwater drawdown

SOURCE OF IMPACT Abstraction of water for human consumption. The combined activities of Hoanib X, Hoanib Valley, Hoanib Skeleton Coast lodge, Elephant Song campsite and other developments present a future risk of over-use of the aquifer, possibly exacerbated by unpredictable future events such as drought.
RESULT OF IMPACT Groundwater is a key ecological feature in the maintenance of biodiversity in arid zones. River vegetation is dependent on groundwater to some extent. Of particular concern is the large stands of *Faidherbia albid*a, *Acacia erioloba* and other woody species in the Hoanib River. Deterioration of the river habitat may have a negative impact on biodiversity far outside the boundaries of the project site, e.g. the Hoanib Delta, a high-value ecological system.
MANAGEMENT/MITIGATION MEASURES Strict adherence to the management and monitoring measures proposed in the EMP is essential. Understanding the aquifer yield, and determining a sustainable abstraction rate will be to the advantage of all the affected parties. Water meters on all local boreholes and recording the consumption at each borehole will inform consumption practices. Mitigated significance could be low, provided that all boreholes in the aquifer abstract water at a sustainable level. This is a cumulative impact and should be addressed on a regional, if not national, level.

	UNMITIGATED	MITIGATED
SEVERITY	MED	LOW
MAGNITUDE	MED	LOW
DURATION	MED	MED
CONSEQUENCE	MED	LOW
PROBABILITY	MED	LOW
SIGNIFICANCE	**MED**	**LOW**

Impact 3. Contamination of soil and groundwater

SOURCE OF IMPACT Construction: Hydrocarbons, paint, cement – risk of spills and careless dumping. Operations: Diesel, oil and pool cleaning chemicals – risk of accidental spillage.
RESULT OF IMPACT Chemicals leach into soil, causing contamination of soil and eventually groundwater. Effects of chemicals are cumulative and build up in soil and groundwater over time. Once in the groundwater, there is the potential for contamination to spread beyond site boundaries.
MANAGEMENT/MITIGATION MEASURES Build a fueling and storage area with a bunded, impermeable surface, as prescribed in the EMP. Hydrocarbon storage and refueling of vehicles take place only in designated area. Follow the disposal and spillage protocols in the EMP.

	UNMITIGATED	MITIGATED
SEVERITY	LOW	LOW
MAGNITUDE	LOW	LOW
DURATION	MED	LOW
CONSEQUENCE	LOW	LOW
PROBABILITY	LOW	LOW
SIGNIFICANCE	**LOW**	**LOW**

6.6 Positive impacts

The significance level of the following three positive impacts is with the implementation of enhancement measures. The + symbol indicates a positive impact.

Impact 4. Protection of heritage resources

SOURCE OF IMPACT Objects and sites of conservation significance in the project area are protected from vandalism and theft by off-road drivers and campers.
ENHANCEMENT MEASURES Train guides in archaeology, and incorporate the objects and sites as an additional offering to the tourist experience. Notices that inform self-drive tourists of no-go areas. A tourism concession from MEFT and a protection order from the NHC. Further archaeological research in the region.

ASSESSMENT	
INTENSITY	MED+
MAGNITUDE	LOW+
DURATION	MED+
PROBABILITY	MED+
SIGNIFICANCE	**MED+**

Impact 5. Diversification of local economy; growth of tourism

SOURCE OF IMPACT More beds for tourists in the area result in increased economic activity and growth in the tourism industry. Increased income in the conservancy will support local trade.
ENHANCEMENT MEASURES People from the local conservancies should be given preference for employment. Support local suppliers.

ASSESSMENT	
INTENSITY	LOW+
MAGNITUDE	MED+
DURATION	MED+
PROBABILITY	MED+
SIGNIFICANCE	**LOW+/MED+**

Impact 5. Employment and training

SOURCE OF IMPACT Temporary employment for construction workers. Creating 40 new skilled, semi-skilled and unskilled positions for the duration of the project.
ENHANCEMENT MEASURES Namibian citizens from the local conservancies should be given preference for all positions. Equal opportunities should be given to men and women. Train unskilled people from the surrounding area and enable them to eventually fill skilled positions.

ASSESSMENT	
INTENSITY	MED+
MAGNITUDE	LOW+
DURATION	MED+
PROBABILITY	HIGH+
SIGNIFICANCE	**MED+**

6.7 Cumulative Impacts

Cumulative impacts can be defined as "the impacts (positive or negative, direct and indirect, long-term and short-term) arising from a range of activities throughout an area or region, where each individual effect may not be significant if taken in isolation. Cumulative impacts calculate the impact on environmental resources resulting from changes brought about by past, present and reasonably foreseeable future actions" (European Commission, 1999).

Combined with similar impacts from other developments in the Hoanib River, it is possible that some of the impacts may have more severe effects than mentioned in this assessment.

- Increased vehicle traffic in the Hoanib River poses a risk to wildlife by interfering with their behaviour and disturbing them in their normal foraging, moving and breeding behaviour.
- Elephants outside protected areas have higher levels of stress hormones than those in a National Park, and the Hoanib River elephants have been observed to retreat to the Skeleton Coast Park when there is an increase in vehicle traffic during high season, according to researchers Ramey and Brown (email in Appendix III F).
- Increased abstraction of water may put essential ecological systems and processes at risk.

The water impact can be prevented and/or mitigated if all the stakeholders along the river cooperate to define sustainable abstraction rates, and also by adherence to the measures in the EMP. Human-wildlife interaction can be managed by following the provisions in the EMP. Quantifying the limits of acceptable vehicle volumes in river corridors in the Kunene Region, setting limits and enforcing them is best done by the authorities. The proponent has indicated willingness to support such measures, provided they are based on scientific data.

7 SUMMARY AND RECOMENDATIONS

7.1 Summary

Three positive impacts were identified with low to medium, and medium significance. The lodge is likely to bring measurable benefits to a community that is located in an area with very few income opportunities.

Three negative impacts were identified, two with medium unmitigated significance: destruction of organisms/interference with behaviour, and groundwater drawdown. They can both be mitigated to low significance by strict implementation of the measures proposed in the EMP (Appendix IX). The third impact, contamination of soil and groundwater, is considered of low significance and unlikely to degrade local resources.

It is unlikely that Hoanib X lodge will have significant negative impacts on the local environment and it is recommended that an Environmental Clearance Certificate be issued.

7.2 Recommendations

Two cumulative impacts on the Hoanib River were identified. Both these impacts are also relevant to the other major rivers in northwest Namibia and should be addressed at the landscape level.

7.2.1 Water abstraction

Increased abstraction of water in the rivers of the Kunene region may have far-reaching negative impacts on essential ecological systems and processes. The Hoanib, Huab, Aba-Huab, Uniab, Ugab and Hoarusib rivers sustain flagship species such as elephants, rhinos and lions, and provide important ecological services to the communities in the region.

It is strongly recommended that official hydrological studies be commissioned to define sustainable abstraction rates in these rivers. The MEFT and the Ministry of Agriculture, Water and Land Reform, together with NGO's, private sector stakeholders and conservancies all have vested interests in the conservation of aquifers.

7.2.2 Vehicle traffic

Quantifying the limits of acceptable vehicle volumes in the Hoanib River, and indeed all the rivers of northwestern Namibia, is another scientific study that should be commissioned by the authorities, and supported and implemented by all stakeholders, including NGOs, conservancies and private sector stakeholders.

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APPENDIX I. CURRICULUM VITAE OF EAP

APPENDIX II. CONSENT LETTERS

APPENDIX III. PUBLIC CONSULTATION REPORT

A. BACKGROUND INFORMATION DOCUMENT

B. REGISTER OF INTERESTED AND AFFECTED PARTIES

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E. NOTICE OF EIA

F. COMMENTS RECEIVED

G. CONSENT AND SUPPORT

H. DISTRIBUTION OF SCOPING REPORT

APPENDIX IV. LEASEHOLD CERTIFICATE

REPUBLIC OF NAMIBIA

MINISTRY OF AGRICULTURE, WATER AND LAND REFORM

CERTIFICATE OF LEASEHOLD FOR ANY PURPOSE OTHER THAN AGRICULTURAL PURPOSES OUTSIDE A DESIGNATED AREA

As in the Communal Land Reform Act, 2002 (Section 33, Regulation 16)

Certificate No: *KUNCLB-ROL-005720*

It is hereby certified that a Right of Leasehold has been granted to:

Right holder: *John Kenena KASAONA*

National ID 71110600372

Residential address: Kanamub

Postal address: P.O BOX 57 Opuwo

Nature of right holder: Individual

Description of portion of land in respect of which land right has been granted:

UPI:	KANANB100427	Constituency:	Sesfontein
Area:	Kanamub	Traditional Authority:	Vita Royal House
Parcel size:	48.4 ha	Traditional Administrative Area:	Kaokoland
Region:	Kunene		

Description of land right which has been granted:

Approved land use: Tourism (Tented Camp and Campsite) approval date: 30.09.2021

Leasehold period: 14.10.2021 until 14.10.2031

Other right on parcel: approval date:

KUNENE COMMUNAL LAND BOARD
2021-10-14
PRIVATE BAG 3025
OPUWO
REPUBLIC OF NAMIBIA

Signature of CLB Chairperson/ Secretary

Date

Page 1 of 2

APPENDIX V. LEASE AGREEMENT

Hoanib Explorer Camp

LEASE AGREEMENT

Made and entered into by and between:

John Kasaona

Herein represented by John Kenena Kasaona
with Id no 711106 00372
In his capacity as leaseholder
(Herein after referred to as "The Lessor ")

AND

NATURAL SELECTION SAFARIS (1) (PTY) LTD
Herein represented by David John Van Smeerdijk
in his capacity as Director
(Herein referred to as the "the Operator")

(Jointly herein referred to as "the Parties")

Hoanib Explorer Camp

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