

Wolwekraal Conservation and Research Organisation (WCRO)

PO Box 47 Prince Albert 6930

RESEACH PROTOCOL FOR WOLWEKRAAL NATURE RESERVE

Version 2015.08.02

BACKGROUND

Legal status, objectives and administration

Wolwekraal Nature Reserve is a protected area in terms of the National Environmental Management Act: Protected Areas Act 57 of 2003: Declaration of the Wolwekraal Nature Reserve published in the Government Gazette (PN 38 in PG 7229 of 14 February 2014, p475). The objectives of the Nature Reserve are to restore and maintain the natural and cultural environment and ecological processes. In particular Wolwekraal Nature Reserve seeks to protect an area representative of Prince Albert Succulent Karoo, including the species endemic to this vegetation type, to maintain the corridor function of the Dorpsrivier, and to provide opportunities for environmental education, research and nature-based tourism. The Nature Reserve is managed jointly by the Wolwekraal Research and Conservation Organisation (WCRO) and CapeNature (Oudtshoorn). The adjacent land owned by Renu-Karoo Veld Restoration is zoned as agricultural, and can also be used for research with permission of the owners.

Geographic setting, soil and vegetation

Wolwekraal Nature Reserve is on the northern-most extension of the Gouritz Biodiversity Corridor (**Figure 1**), and lies 2-4 km north of the village of Prince Albert in the Great Karoo. It protects 114 ha of natural vegetation on the inland side of the Swartberg Mountains along the course of the Dorpsrivier (**Figure 2**). The climate is arid (mean annual rainfall 176 mm since 1890) and the rainfall shows little seasonality. The vegetation is classified as Prince Albert Succulent Karoo and azonal (riparian). There are 7 habitat types (**Figure 3**), namely (1) riparian corridor, (2) Acacia woodland patches along minor drainage lines, (3) exposed Ecca mudstone on plains, (4) Ecca ridges, (5) deep loose aolian sand, (6) silty alluvium, and (7) quartzite pebble beds in a calcrete matrix with well-developed biological soil crusts.

Anthropogenic influences

Anthropogenic influences on the reserve include Khoekhoe (Hottentot) and San (Bushman) campsites, old boundary walls, past livestock farming and gravel mining, ongoing disturbance caused by release of effluent from the neighbouring Municipal sewage works, and trespassing from wood collectors and poachers. Neighbouring landuses are a commercial livestock farm (mainly Dorper sheep), a community farm (sheep, boergoats, cattle, ostrich), a low-density housing estate, Municipal sewage works and rubbish dump.

South African Revenue Service Tax Number 9541/939/16/2; NPO Reg. Num 121-079 (15.05.2013)

EXCO Members: Chairperson Dr WRJ Dean; Vice Chair Mr Chris Ball; Cape Nature representative Dr Alan Wheeler; Additional Member Mr Hugh Forsyth; Secretary/Treasurer Dr Sue Milton-Dean

Contact details: e-mail WklConsResOrg@gmail.com; Tel 082 7700206

<http://www.wcro.co.za>

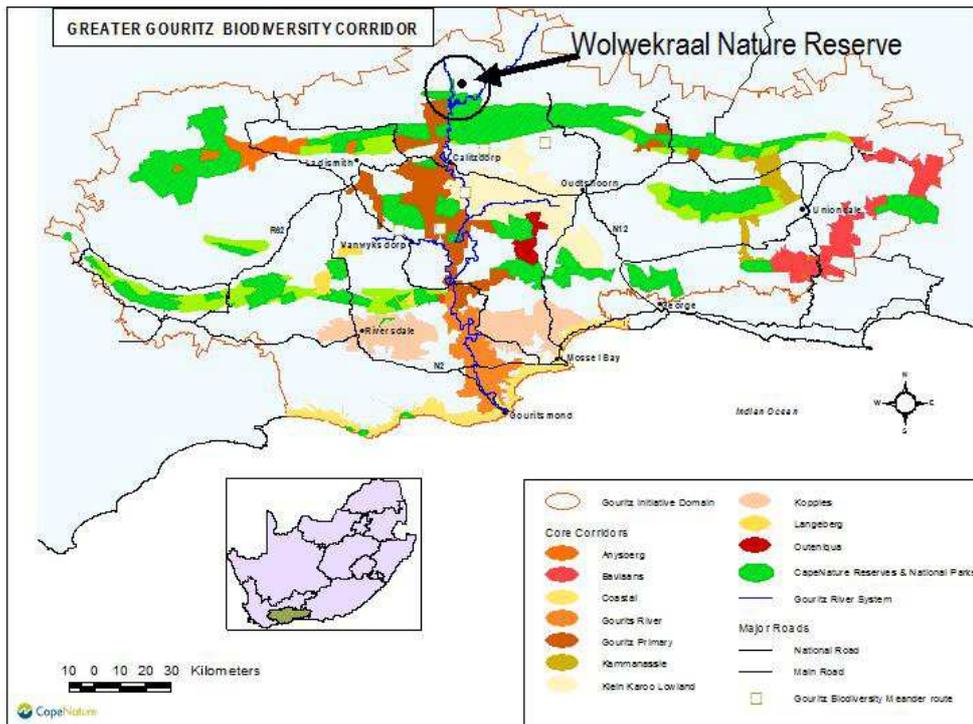


Figure 1. Wolwekraal Nature Reserve in relation to the Gouritz Biodiversity Corridor

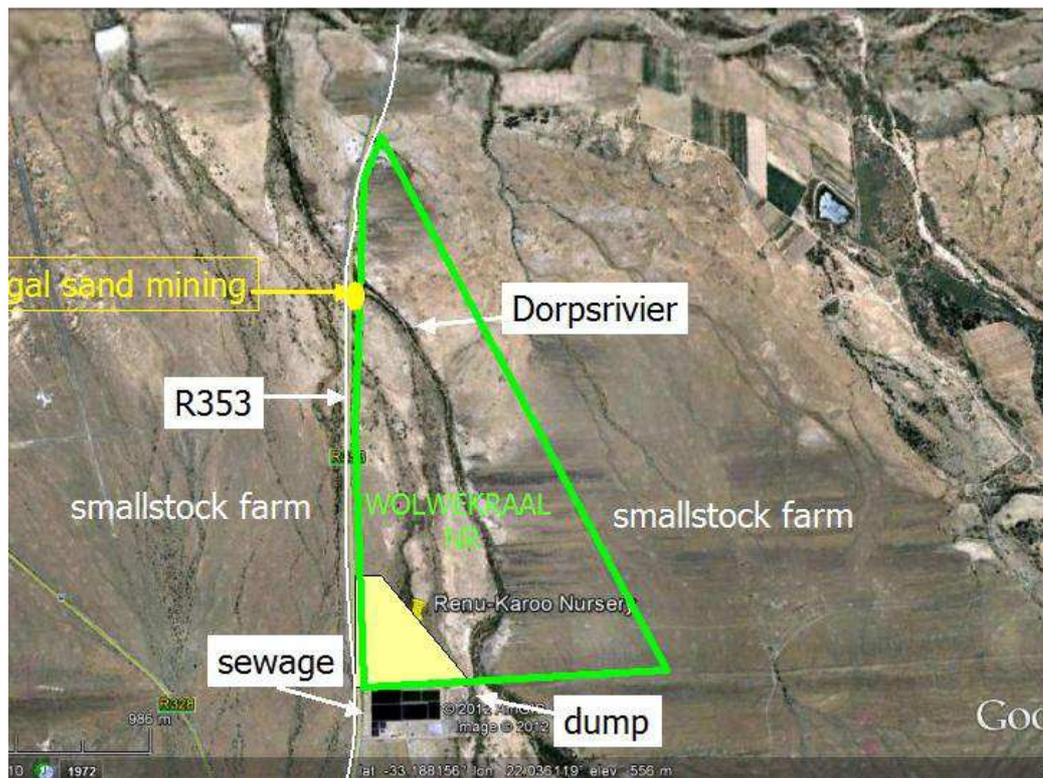


Figure 2. Wolwekraal Nature Reserve and surrounding landuse

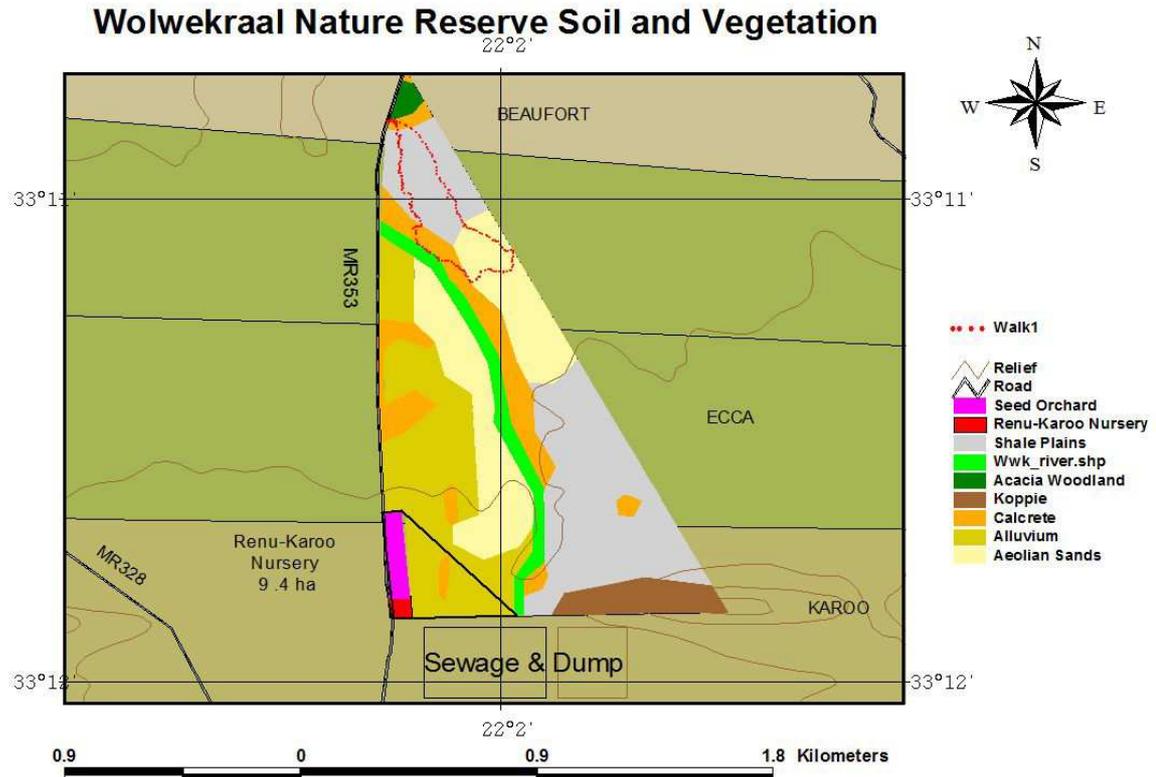


Figure 3. Vegetation map for Wolwekraal Nature Reserve

Sensitivity map

The sensitivity of areas in the Wolwekraal Nature is shown in **Figure 4**.

Rare habitats (mapped in **red** as “**Sensitive 1**”) are patches of calcrete-conglomerate that provide habitat for plant species endemic to the Prince Albert area and to this habitat (*Bijlia dilitata* and associated dwarf succulents). These habitats are vulnerable to trampling and soil disturbance.

Known **heritage sites** on Wolwekraal NR are mapped in **orange**. These include Khoekhoen kraals and campsites, surface scatters of microliths indicating Khoi activity or campsites and possible graves, as well as colonial artefacts including a stone boundary wall and fence-posts dating from 1920.

Areas mapped in **dark blue** as “**Sensitive 2**” include both rare habitats and heritage sites. They also include the main nature trail on Wolwekraal Nature Reserve, the viewsheds of which must remain uninterrupted by infrastructure.

The **riparian zone of the Dorpsrivier** may be used for aquatic and terrestrial research in all parts of the Nature Reserve, however no traps, tags, or invasive research is permitted in the part of the riparian zone that falls within the Primitive Zone.

Wolwekraal NR Sensitivity Map

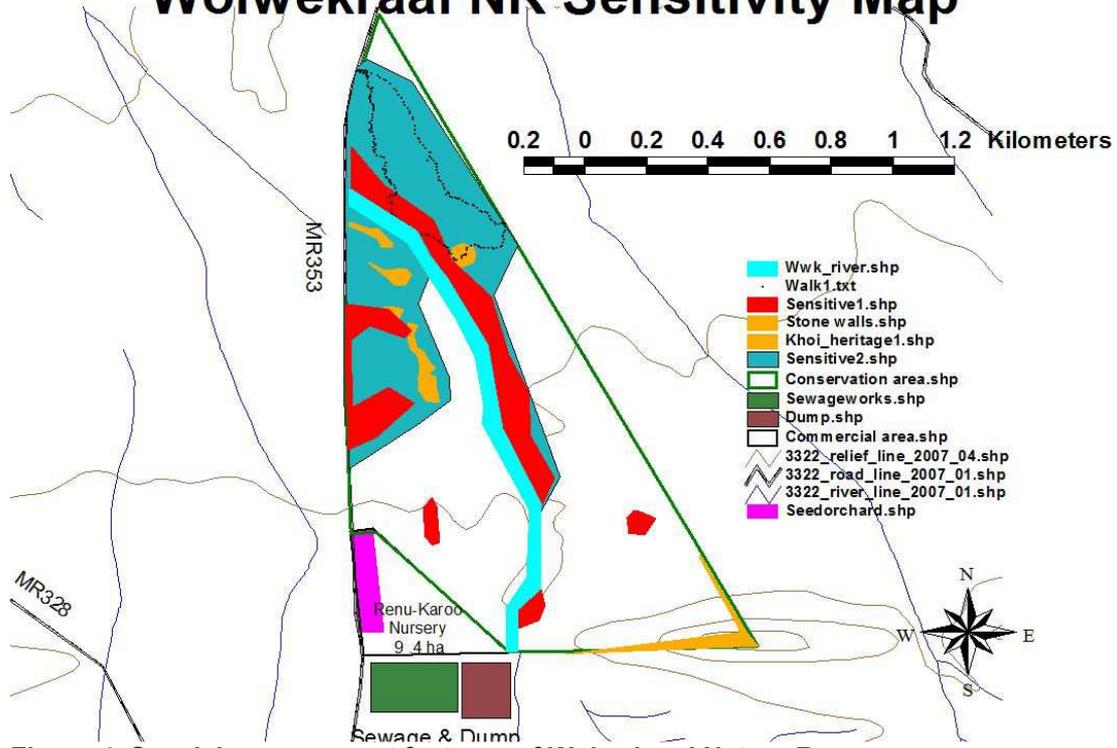


Figure 4. Special management features of Wolwekraal Nature Reserve

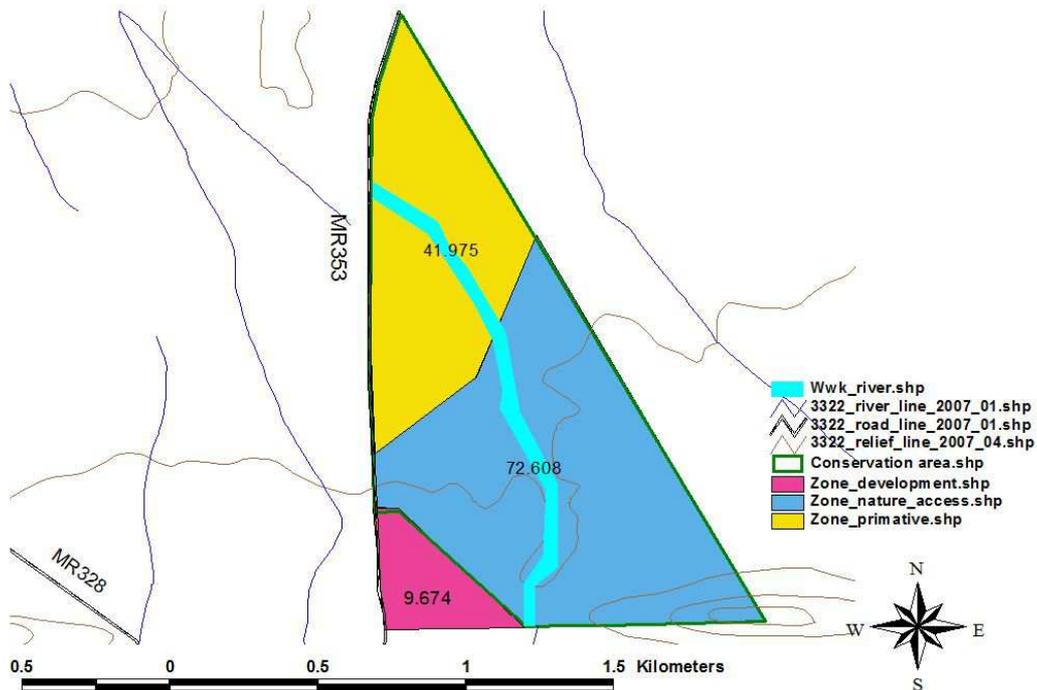


Figure 5. Zonation of Wolwekraal Farm 211 (Part 2). Wolwekraal Nature Reserve excludes the "Development Area"

ZONATION OF RESERVE

The conservation zonation of Wolwekraal Nature Reserve is based on the special management features (rare habitat types, heritage features, nature trail) discussed above. For this reason, the northern 42 ha is zoned as “Primitive” and the southern 72 ha as “Nature Access”. The adjacent 9 ha on the south-western corner of the property is a plant nursery zoned as a “Development Zone” and is excluded from the Nature Reserve (**Figure 5**).

The area zoned as “Primitive” is managed for protection of extensive areas of sensitive threatened habitats (calcrete conglomerate along the Dorpsrivier), rare species and heritage assets. Activities in this area are limited to guided nature walks and observational (non-invasive, non-destructive) research. The area may be used by small groups for observational environmental education. Visitor numbers must be limited to 15 persons per group and not more than 10 groups per month. Guided groups may not leave the demarcated hiking trail. Researchers using the “Primitive Zone” to the NE of the river must stay on the hiking trail, whereas researchers may carry out observations anywhere within the Primitive Zone to the SW of the river. No motorised vehicles (including cars, bakkies, quadbikes, motorbikes) or non-motorised vehicles (bicycles, carts, wheel barrows) may be driven or used beyond the parking area in the Primitive Zone of the Nature Reserve.

The “Nature Access” Zone has lower environmental sensitivity and may be used by researchers and environmental education groups. Motorised access is permitted, with permission of management, along the demarcated track to the west of the Dorpsrivier. No non-motorised vehicles (bicycles, carts, wheel barrows) may be used in the nature reserve without permission. Research infrastructure (weather station, markers, exclosures) may be installed. Invasive and manipulative research may be carried out within the limits of the guidelines in **Table 1**.

The “Development Area” is part of the property managed by Renu-Karoo Nursery. Although it is excluded from the Nature Reserve, Research activity is welcomed on this land provided that permission is granted by the managers of Renu-Karoo Nursery, and provided that, in the opinion of WCRO, interventions in this area will not have negative impacts on the Wolwekraal Nature Reserve.. The land is available for experimental research that may involve such interventions as water or fertilizer or certain other chemical additions, droughting, excavations and installation of research infrastructure.

TYPES OF RESEARCH ACTIVITIES PERMITTED

WCRO encourages biological, ecological and cultural research, and has a particular interest in land rehabilitation (restoration). WCRO does not sanction research requiring painful or invasive experiments on animals or removal of significant numbers of protected plants or animals from the Nature Reserve. The types of research that may be conducted are determined by the sensitivity map and by the Zonation (**Table 1**). Granting of permission to conduct research on Wolwekraal Nature Reserve by WCRO is dependent upon the required permits being obtained from CapeNature or South African Heritage Resources Agency, and the granting of an ethics clearance certificate by the research organization underwriting the research.

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Animal ethics

No invasive research on vertebrates or invertebrates may be carried out without a copy of an ethics clearance certificate from a recognized university or research organization. Invasive research includes all animal handling including capture, marking, tagging, radio-collaring and collection of blood and tissue samples.

Avoidance of spatial overlap

No two research projects should overlap spatially unless researchers agree to collaborate. Spatial overlap of observational and experimental research results in damage to experiments or interference with observations. Research applications must include a georeferenced map showing the position of their research area (kmz files for Google Earth area acceptable).

Table 1. Permitted research activities according to sensitivity map and zoning

	Primitive Zone	Nature Access	Development	Sensitive 1	Sensitive 2	Heritage sites
Permitted	Observation only	Observation Mapping Exclosure Tagging Excavation Infrastructure Translocation Rainout Watering Chemical Mechanical Trapping Collection Restoration	Observation Mapping Exclosure Tagging Excavation Infrastructure Translocation Rainout Watering Chemical Mechanical Trapping Collection Restoration	Observation Permitted plant collection for taxonomic research	Observation Permitted plant or animal collection for taxonomic research	Observation Limited excavation with permit from SAHRA & approval of WCRO
Not permitted	Digging, marking, fertilizer, exclosures, infrastructure	Manipulation exceeding 1 hectare; Activities listed under NEMA	Manipulation exceeding 1 hectare; Activities listed under NEMA	Digging, marking, fertilizer, exclosures, infrastructure	Digging, marking, fertilizer, exclosures, infrastructure	Invasive research unrelated to heritage

PERMIT REQUIREMENTS

No plant or animal material may be collected on Wolwekraal Nature Reserve without a valid permit from CapeNature. Permits can be obtained through

CapeNature, Karoo Area Conservation Services Manager, Private Bag X 658, Oudtshoorn, 6620. Tel: +27 44 203 6300, cell: +27 82 5696480, fax2Email: +27 86 528 9806, Attn Theresa vd Westhuizen e-mail tvdwesthuizen@capenature.co.za

No surface collection, excavation or removal of archaeological or other heritage resources may take place without a permit from the South African Heritage

Resources Agency <http://www.sahra.org.za/> The requirements for application for a permit are given on <http://www.sahra.org.za/content/what-required-information-casesapplications>

RESEARCH APPLICATION PROCEDURE

Please complete the attached Application Form for each research or monitoring project contemplated.

Reporting

Once a research proposal has been approved by the WCRO Exco, the researcher may start research. Progress reports must be submitted, at intervals appropriate to the duration of the project, to the Exco via the WCRO secretary at the e-mail address on the footer of this letter. Researchers must submit a final report on conclusion of the research, as well as copies of any resultant publication to the WCRO secretary. Reports on long-term research projects (>3 years) must be submitted once annually.

Metadata

Metadata for all data collected must be supplied to the WCRO Secretary on conclusion of data collection. Metadata must follow the SAEON metadata format (see attached), and must include a map and geo-referencing for all infrastructure, interventions and fixed plots or transects.

Acknowledgement

CapeNature and Wolwekraal Conservation and Research Organisation must be acknowledged in any publications resulting from research on Wolwekraal Nature Reserve.

The logos of CapeNature and WCRO must appear on any visual presentation of data collected on Wolwekraal Nature Reserve. The appropriate logos appear below.



INDEMNITY and RESPONSIBILITY

Every researcher carrying out monitoring or research on Wolwekraal Nature Reserve must sign the application form that includes statements (1) committing the researcher to responsible behaviour with regards to the environment, safety and security on the reserve and (2) indemnifying WCRO and its members from financial or other responsibility for injuries or losses incurred by the researcher. Additional indemnity and responsibility forms must be signed by visitors or research assistants of the researcher each time he or she collects the Wolwekraal gate key.

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WOLWEKRAAL NATURE RESERVE RESEARCH PROJECT APPLICATION FORM

1 Title of the project

2 Contact details

2.1 Senior researcher contact details

Title	Initials	Surname	Position	Institution & department	Postal & physical address	Work landline	ID/Passport
						Mobile phone no.	
					Next of kin phone number	e-mail	

2.2 Co-workers contact details

Title	Initials	Surname	Position	Institution & department	Postal & physical address	Work landline Mobile phone no. e-mail	ID/Passport
Title	Initials	Surname	Position	Institution & department	Postal & physical address	Work landline Mobile phone no. e-mail	ID/Passport
Title	Initials	Surname	Position	Institution & department	Postal & physical address	Work landline Mobile phone no. e-mail	ID/Passport

3 Keywords

Please include 3-8 words that are not in the title but will enhance the searching of the project.

4 Rationale/Background/Introduction

Give a description of the research problem and background information making reference to relevant literature. This must clearly address the following questions:

- 1) What is the conservation, research or management problem?*
- 2) Why is it important?*
- 3) How is it relevant to the objectives of Wolwekraal Nature Reserve (see paragraph 1 of the Research Protocol)?*
- 4) Is the research appropriate for the selected Zone within the Nature Reserve?*

5 Objectives & Key Questions

Objectives must be clearly and concisely formulated. Key questions must be constructed to address each objective.

6 Work Procedure

A summary of the research material and the methods to be followed; these must conform to acceptable scientific standards. Describe the type of activities in the study area, description of study subjects (i.e. animals/ plants/ people), how they will be handled, the type of collections required, and where voucher specimens will be housed.

7 Strategic, Support and Logistics

Duration of the project?

What qualification if any will be obtained from the study?

Who is the funding provider?

Is any assistance expected from WCRO or Renu-Karoo (e.g. office facilities)?

8 Literature Review

Please provide a detailed literature review to give background and current understanding on the research question. A full list of references used must be included. Any previously written proposal including proposals to funding agencies can be attached and referred to in this section.

9 Responsibility Agreement

By signing this agreement I understand that I am responsible for the following

- Safety and security of any keys borrowed or copied;
- Responsible and non-damaging behaviour in the nature reserve;

This means no damage to fences, paths, gates, locks, historic walls, beacons or experiments conducted by other researchers, no littering, no removal of biological material without the appropriate valid permit, no removal of cultural material, no use of vehicles (such as cars, motor bikes, quads, bicycles or wheelbarrows), no entry or introductions of domestic pets, animals or plants.

- Reporting any illegal activity (trespassing, wood cutting, poaching, camping) witnessed on the Nature Reserve;
- Respecting users of the Nature Reserve;
- Avoid shifting stones, removing plants or disturbing fauna when such activities do not form part of the research plan of an approved research project;
- Providing accurate spatial data for the research area.

10 Indemnity Agreement

By signing this application I agree that I shall not hold CapeNature, WCRO, Renu-Karoo or any of their officers responsible for any injury or illness incurred through my activities on Wolwekraal Nature Reserve or as a result of an accident or an animal related incident (bees, wasps, scorpions, spiders, snakes, ticks, contaminated water) on the Nature Reserve.

Signature _____ Date _____

Name (PLEASE PRINT) _____