**Nature Reserve Assessment and Curatorship Protocols**

**Provisional proposals to be discussed with relevant consultants and stakeholders:**

1. As per founding documents of REC committee members are the designated curators of the RENR.
2. Dine and Graham plant mapping project.
3. Co-opt researchers (post-grad students or residents) for soil assessment, entomology, fauna and further ecosystem studies.
4. Tim Atwell, Cape Nature and Tamzyn (OM Environmental Officer).
5. Penny Mustart (text author of Southern Overberg Wild Flower Guide) or similar persons for assessment of fynbos health and diversity.
6. Contact Hermanus Cliff path project re success of deadwood removal and smoking for seed activation instead of burn.

*Our goals are to enhance, improve, maintain and secure our Rooiels Nature Reserve*

**TO ENHANCE AND IMPROVE**

* **Maintain and restore natural functioning of ecosystems.**
* **Preserve any unspoilt ecosystem in its natural state.**
* **Protect flora and fauna species.**
* **Preserve the natural characteristics of the landscape.**

**Proposed action plan**

The proposed division of the nature reserve into 4 sections for comparative assessment of different management regimes (see below) has been rejected. Further consultation and closer assessment of the plant biodiversity concluded that this proposed short term comparative management plan is not an appropriate means to obtain data for establishing the best management protocols. If one consults the plant mapping sectors as marked out on an aerial photograph, it is easy to see that diversity between sectors undermines a reliable and helpful evaluation of the success or failure of any one of the proposed ‘treatments’:

 Section 1: Leave vegetation untouched except for the removal of exotic plants.

Section 2: Vegetation to be burnt under supervision (local nature conservation officer/Cape Nature, OM/Fire Department, RERA, REDI, Vulcan).

Section 3: Refresh and rehabilitate the vegetation through the clearing of alien vegetation, deadwood and old congested growth.\*[[1]](#footnote-1)

Section 4: Refresh and rehabilitate the vegetation through the eradication of alien vegetation, deadwood and old congested growth and by planting local indigenous plants in a manner that preserves the natural characteristics of the reserve. This would not be appropriate without very strong motivation and input from qualified botanists.

The section proposals for 1; 3 and 4 may have merit, not as random experiments in marked out sections, but as appropriate curatorship protocols after the necessary assessments / research actions (listed below) are completed.

Instead of dividing the reserve into management sections, the proposals under headings Sections 1; 3 and 4 will be implemented when and where applicable under the guidance of REC in consultation with persons with proven experience in the conservation of sand fynbos.

Due to increased erf occupation and a consequent decrease in undeveloped ‘natural’ areas, the reserve will not be burnt. There is no alternative habitat for insects, reptiles, small mammals and birds currently living in the reserve. A previous burn did not see a significant improvement in the health of the reserve vegetation and the main plant parasite infestations occur in the 1996 burn area. (Dine has a photographic record of the +- 1996 burn.) Current research has begun to question whether dry fynbos should ever be burnt. Burn rehabilitation is more appropriate where one has a large amount of alien plant encroachment or very mature (20 year+) fynbos whose seed germination is triggered by smoke / fire. (See Veld and Flora Rod and Rachael Saunders June 2000.)

Previous planned burns in the reserve were strongly opposed by some adjacent property owners. This presupposes an increasing and unviable liability risk.

Any **planned clearing** (see sections 3 & 4) must be slow and intentional as the goal of any clearing of indigenous plant material is to provide opportunities for new growth. Concerns about deadwood fire-load must be balanced against the need to retain decomposing old plant growth that returns nutrients to the soil as well as providing both habitat and food for various bugs and small animals essential to sustain the ecosystem. Deadwood and brush is required to support the natural growth of new seedlings.

**RENR road reserves** must be managed so that natural water drainage/seepage into the Reserve area is restored. Road grading has (In places) caused an imbalance between the height of the road and the reserve. The road reserves must not be cleared to the extent that they become informal parking spots. Presently the road reserves have a significant encroachment of alien grasses, parasite load and areas that have been damaged by heavy OM contract vehicles. Judicious removal of parasites and deadwood should be considered as this would promote new growth.

**Litter to be removed** from all areas. This is particularly relevant at the high water line after a NW wind.

**RENR MUST BE MONITORED IN REGARD TO FLORA AND FAUNA AT REGULAR INTERVALS.**

We need an updated general assessment of the ecological health-status of the reserve; particularly in regard to expected diversity and actual occurrence of both flora and fauna.

**Proposed monitoring projects**

1. Map and catalogue plants present in each sector. (In progress)

Dine and Graham are conducting a long term plant mapping project. The data collected is entered into a software program that records botanical and common names, dates, locations and a brief description that includes medicinal or culinary uses.

1. Classify fynbos types and soil types in the reserve. Describe climatic conditions, the influence of sea / tides / spray. Assess and describe the fresh water seepage areas.

 (See Prof. Hall’s description Appendix A)

1. Maintain natural drainage into the reserve. It appears that the seepage of fresh water from our mountain slopes toward the coast has been interrupted by buildings, roads and lack of OM storm water management. This has a particular impact on the otters’ breeding habits as well as biodiversity and the vegetation in the reserve and along the coastal strip.
2. Catalogue fauna present in the reserve. Any proposed management or recreational activities in the reserve should be implemented in such a manner that there is limited disturbance to the existing ecosystems (e.g. breeding otters).
3. Investigate/invite the participation of researchers including university students.
4. Maintain entrance signage and structures, paths and benches.

Please note that the founding document’s general by-laws state that “except for general maintenance (by means of natural materials only) and the maintenance of the existing two benches and three signposts, there shall be no development of any nature or description in the reserve.”

Investigate upgrading a portion of the existing paths so that they are wheelchair friendly. (The present wooden path structures are a good surface option but too narrow.)

The improvement and rebuilding of footpaths must remain within the existing path-footprint.

 Repair / replace (existing) signage regarding acceptable activities as well as informative / educational signage at the entrances.

1. Parking. The parking space at Dassie Point is close to the North Rocklands entrance to the reserve. As per the founding document by-laws it would not be acceptable to encroach into the reserve to introduce extra parking. Considering the size of the reserve, it does not have the capacity to absorb large numbers of day visitors without compromising the various ecological systems, so an expanded parking area is unnecessary. Disabled access to the reserve falls into an ‘adventure’ category so cannot be facilitated in the same way as Botanical garden access.

**TO MAINTAIN**

Conservation of indigenous flora and fauna- all veld to be maintained in its natural state by all means possible.

Preservation of path, entrances and signage structures.

Protection of fynbos from alien vegetation encroachment and heavy parasite load.

Keep litter-free; maintain cleanliness of entrances (e.g. removal of dog scat.)

**TO SECURE**

Ensure the safety of paths and viewing areas (e.g. ottergat) through liaison with RESA, ASK, SAPS and DAFF. The primary safety concern for reserve users is the presence of poachers.

Maintain the legal status of the Rooiels Nature Reserve.

The RENR remains an important component in the Rooiels vision and our designation as a Conservancy village. The reserve is situated in the middle of a built-up area, effectively providing a core area for conservation in a conservation conscious village. The RENR also forms a ‘stepping-stone’ from Koegelberg Core to the village coastal strip (HPOZ/EPOZ?). It is a key element in the aesthetic appeal of our village and a key motivating factor in our applications (as per the mandate given by stakeholders at 2018 RERA and 2019 Cascades meeting) for Rooiels to be designated as a buffer zone to the protected area of the Koegelberg Biosphere reserve (or HPOZ?).

**Appendix A**

**Geology and topography**

The RENR forms a low-lying area of about 3 Ha, between 0 and 6 meters above sea level, which can be regarded as an extension of the coastline, including the bay that borders the RENR the topography can also be attributed to the inferior strength of the local sandstone substrate which occurs throughout the entire area, known as Tafelberg sandstone.

This sandstone forms a prominent koppie on the sea side of erf 218. The rest of the RENR is covered by a shallow layer of sandy soil.

The low-lying topography, the so-called acidic seepage area, accounts for the fairly permanent seepage of fresh water in the direction of the sea and possibly explains the presence of many interesting wild herbs, such as wild celery, occurring just above the high-water mark.

**Rainfall:** 80 to 120 days per year at least 0,25mm

 80 days more than 1,00mm

 10 days 10,00 mm or more

The RENR is the habitat of various kinds of small fauna. Management and control of the area can offer a safe haven and shelter for these animals.

The following main groups of plant communities are present in the area:

* *Coleonema alba* short coastal rock fynbos
* *Colpoon-rhus* dune scrub Sideroxylon inerme dune scrub
* Acidic seepage plant communities

The reserve is situated in virgin lowland fynbos which is becoming scarcer as the result of increasing development and invasion by exotic plants. Low land fynbos is no longer present in the Kogelberg Biosphere.

**Prof. Anthony Halls**

 **Appendix B - Fauna**

Mammals observed in the RENR:

Baboons (*Papio ursinus*)

Dassies (*Procavia capensis*)

Cape clawless otters (*Aonyx capensis*)

Cape grey mongooses (*Herpestes pulveruientus*)

Water mongooses (*Atilax poludinosus*)

Smith’s Red rock rabbits (*Pronolagus rupestris*)

Steenbokkies (*Raphicerus campestris*s)

Small spotted genet (*Genetto genetta*)

Field mice

Reptiles and amphibians observed:

Snakes including Puff adders

Agamas/Salamanders

Chameleons

Tortoises

Frogs

The following birds have been recorded: (with Roberts number)

White breasted Cormorant 55

Cape Cormorant 56

Bank Cormorant 57

Darter 60

Grey heron 61

Little Egret 67

Pied Kingfisher 429

Giant Kingfisher 430

Cape Bulbul 566

Cape Rock thrush 581

Familiar Chat 589

Cape Robin 601

Bar throated Apalis 645

Long billed Crombec 651

Grass bird 661

Grey backed Cisticola 669

Spotted Prinia 686

Fiscal Flycatcher 698

Cape Batis 700

Cape Wagtail 713

Fiscal Shrike 732

Bokmakierie 746

European Starling 757

Red winged Starling 769

Cape Sugarbird 773

Malachite Sunbird 775

Orange breasted Sunbird 777

Lesser double collared Sunbird 778

Cape White Eye 796

Cape Weaver 813

Yellow rumped Widow 827

Cape Bunting 885

Cape Francolin 195

Helmeted Guinea fowl 203

**Bird List Compiled by Helen Jones and Alison Ayres**

1. \*In the RENR minutes of Feb 1996 Prof. Hall noted that bossieslaner clearing may sacrifice plant biodiversity. [↑](#footnote-ref-1)