**D R A F T (17th Sept 2019)**

*This Draft is expected to go through many revisions – this is a second draft (including a few comments and inputs from some of the Environment sub-group). These drafts are to start the process of developing the rationale we will be putting forward to motivate the KBRC to submit our application for a change in designation to the South African MAB Committee who in turn will include it in the plans for Kogelberg to the UNESCO MAB Council. (See the brief to residents on our Buffer zone application to understand what it means to us. Application to be incorporated into the KBR Buffer zone was suggested to Rooiels by the then Chair of the KBRC at the RERA Stakeholders meeting in 2018, and that meeting mandated RERA to take this forward.*

**Motivation for Rooiels to be incorporated into the Kogelberg Biosphere Reserve as part of the Buffer rather than the Transition Zone**

**Abstract**

Rooiels is a small settlement in the coastal area of the Kogelberg Biosphere Reserve (KBR). It is the first village at the entrance to the Overstrand Municipality and is currently designated in the transition zone. The community would like to be given more responsibility and recognition to conserve nature and act as a buffer to the natural core of the KBR. Rooiels is a small residential community that is active in promoting local biodiversity and in living in harmony with nature. They have cleared most invasive alien plants from the village and retain natural flora in its public zones enhancing its role as a refuge to the flora and fauna of the area. The residents are active in protecting the estuary, dunes and endangered marine life close to its shores. The Rooiels Ratepayers Association and the Rooiels Conservancy would like to ensure that our regulations support the Rooiels Vision, to be more engaged in supporting research and would like to ensure that Rooiels remains as a buffer to the conservation of the core. To achieve this Rooiels needs to be designated as part of the buffer zone within the Kogelberg Biosphere Reserve.

**Introduction**:

The Kogelberg Biosphere Reserve is representative of the world’s most significant biodiversity hotspots in the world. The KBR has 1880 floral species, many of which are endemic to the small areas in which they are found. The fynbos of the area is particularly vulnerable to habitat disturbance and climate change. ”A loss of Fynbos biome area of between 51% and65% is projected by 2050 (depending on the climate scenarioused), and roughly 10% of the endemic Proteaceae haveranges restricted to the area lost.Species range projectionssuggest that a third could suffer complete range dislocationby 2050, and only 5% could retain more than two thirds oftheir range” (Midgley et al 2002). The KBR includes a core zone protected from human activity and dedicated to protecting this fragile biodiverse ecosystem. There are also buffer zones around much of the core where limited human activities that help to protect the area from negative impacts of increased human activity and then the transition areas where there are settlements, cropping, recreation and forestry. The Kogelberg Biosphere Reserve Company manages the KBR and reports to Dept of Environment, Fisheries and Forestry and falls within the Cape Town and Overberg Municipal areas. There is a growing recognition that conserving natural ecosystems could provide a suite of ecosystem services related to climate change, ranging from protection to providing additional insurance against the predicted increasing instability of agriculture, fisheries and water resources. The KBR plays an essential role in protecting the environment and species diversity.

There are many definitions of a buffer zone but all relate to the role of conserving the integrity of the core. A Buffer zone is essentially an area peripheral to a protected reserve where “special development measures are undertaken to enhance the conservation of an area”. Developing effective buffers are recognised as part of crucial efforts to extend and protect core reserves so that they can better mitigate the effects of climate change. There is wide diversity in the conditions for designating a buffer zone reflecting the different ecological, economic, institutional and social situations. The buffer zone approach is “a long-term intervention for various reasons, the main ones being that it demands a participatory and process approach, which takes time. It also often demands a change of attitude and even cultural thinking, changes which cannot be achieved overnight. Buffer zones are crucial areas for both people and nature. Therefore, careful planning based on complete information of the natural resource base and socio-economic context is necessary. The multi-disciplinary planning process is complicated, as many stakeholders at different levels will be involved.” (Ebregt and de Greve, 2000)

A terrestrial buffer zone should encompass near-natural areas to protect and provide a “refuge” to plant and animals which may come under fire and changed rainfall from climate change. Buffer areas are also useful as a base to carry out research on the effects of human activity and of adaptation. Buffer zones can assist in strengthening the resilience of the system in the face of change. Although buffer zones do not usually include populated areas, there are buffer zones which include human settlements and these are particularly important where it is possible to take the protective measures necessary to ensure environmental integrity of activities in the settlement to enhance protection of the core. “ It will become increasingly important, however, to take into account projected impacts of climate change when designing new protected area systems, and to expand spatial scales through buffer zones and corridors to aid species migration”(Hansen and Biringer, WWF, 2003).Buffer zones are usually privately owned and not under the same governance as the more heavily protected core. In the case of the buffer zones for the Kogelberg Biosphere Reserve they are privately owned and some of the more pristine buffer areas have a management agreement with Cape Nature whereas other parts of the buffer zone are privately managed as part of the Overberg Municipality.

**Rooiels**

Rooiels has long been dedicated to enhancing the natural biodiversity of the village. The resident baboon troop moves freely around the village as an example of co-existence. Villagers have cleared most invasive alien plants and continue to protect our natural plants as habitat for animal life and as seed banks for the village and the neighbouring KBR core. This is a community that have a passion for nature and who highly value both the existence value of the nature in the KBR and its role in sustainability. They are prepared to adapt to living in a way that promotes the conservation of the flora and fauna in the village. They are active in educating the public and home owners on how to adapt and either baboon proof bins or remove their waste from the village.

The Rooiels Vision is to be a community that is united by their passion to conserve the natural splendour of Rooiels and that is keen to share this appreciation of the environment with others. Rooielsers have pledged that here

**Nature will be Nurtured…**
**Flora, Fauna and Marine life, Protected…**
**Our every Impact on the area, Limited…**
**Our Custodianship of the Environment, Respected…**
**Our Community Spirit, Strengthened…**
**So that our Lives, and those of Generations to come,**
**Will be enriched by our Care!​**

**Request to change the zone designation of “transition” to that of “buffer” for Rooiels**

Rooiels is a residential area that is currently designated as a transition zone in the Kogelberg Biosphere Reserve. On the north east side of Rooiels there is no buffer zone between the core and the transition area of Rooiels. Furthermore the marine ecosystem ofRooiels is not currently protected. However, in the Kogelberg Biosphere Plan, as part of the Marine Protected Area expansion, the coast around Rooiels is designated to become a buffer zone (Fig 27, 2012 report). If Rooiels is to be an effective buffer it needs the recognition. Regulations appropriate for settlements in the transition zone may not always be appropriate if Rooiels is to retain and promote indigenous flora and fauna. It will need to ensure that regulations are in keeping with its role as part of the buffer zone to the Kogelberg Biosphere Zone core area.

The Rooiels residents are committed to conservation of the environment and would like to put in place special measures that will further enhance the contribution of the village to biodiversity and the sustainability of the Kogelberg Biosphere Reserve. The Rooiels river estuary is a pristine estuary, the sea still has some, although declining, populations of kreef (*Jasuslalandii*)and perlemoen (*Haliotismidae*) and the town still has large areas along the roads, in the nature reserve, and on people’s plots, that are natural fynbos.

The residents would like to see their village, the estuary and the surrounding marine area declared a buffer zone in order to ensure that these valuable resources are retained and enhanced and that this area remains an effective ecological corridor from land to sea. This request is in line with the definition of a buffer zone where special measures are put in place to enhance the conservation values of an area (Biodiversity A-Z: Buffer Zones).

Some specific arguments relating to Rooiels inclusion as a Buffer Zone:

1. Location – see the map. It would make sense to designate Rooiels a part of the buffer zone to reduce the hard edge along the pristine Rooiels river estuary and to extend the ecological corridor from the mountains to the sea. Along the coast to link up with the smallholdings south east of Rooiels that are part of the buffer zone. (*need to get an A3 version of the map and we then mark on it the change we would like to see)*
2. Geological: Rooiels is one of the few areas of coastal plain within the Kogelberg Biosphere Reserve that is still dominated by indigenous vegetation. The other areas are significantly altered by both urban footprint and alien vegetation (Kogelbay beach, Pringle Bay, Hangklip and Betty’s Bay). This area is also important because it is “an important edaphic interface occurs between sandstone and shale derived soils (Bokkeveld Group) at lower elevations (Cowling et al. 2003)” (in van Schalkwyk, 2019).
3. Ecosystem protection and Ecological Corridors

Ecosystem services and the ecological corridors that protect them are essential to life and to mitigate the impacts of climate change. Species are the building blocks of ecosystems, playing a fundamental role in maintaining well-functioning and sustainable systems.

 “*As such, the effective conservation of the exceptionally high species diversity of the KBR is one of the key determinants of environmental resilience. The lack of extensive corridors linking the coastal plains with the mountains will have serious impacts on natural ecosystems and biodiversity in the future. The single biggest cause of loss of biodiversity in South Africa, and in most of the world, is loss or degradation of natural habitat and ecosystems*”. (vanSchalkwyk, 2019)

The inclusion of Rooiels into the buffer zone would strengthen its role as an ecological corridor, linking the land and marine ecosystems of the Rooielsriver, the estuary and the sea and extending the buffer across the current small island of the Rooiels transition zone into the core.

Rooiels could become a model of how communities can work with nature and enhance biodiversity by providing special services (e.g. retaining essential seed banks; providing habitat to animals when fire reduces it elsewhere; providing a good base for research to take place[[1]](#footnote-1)) and establishing and maintaining a repository of knowledge of the research carried out.

1. Flora – Kogelberg Sandstone Fynbos – there are good stands of the locally endemic *Diastellathemelaeoides* and also of the endangered *Erica brachialis. Sideroxyloninerme* are widespread throughout the village, with a coastal wind-cut hedge stand along part of Rocklands road. The road reserves and many of the plots and gardens have been left natural to form healthy seedbanks and animal habitat. These become particularly important when fire ravages the core and to replace flora lost to development along other settlements of the KBR coastal plain. Rooiels would like to continue to protect this resource. The village has been committed to protecting the flora for fifty years and have worked tirelessly to almost completely eradicate stands of alien invasive plants, which is an ongoing exercise as seeds remain so long in the ground.
2. Fauna – although the residents currently do not know of endangered mammal species to be specifically protected, Rooiels is home to a healthy and diverse mammal population which lives surrounded by the human population. Rooiels has xx bird species, including the rare and endemic Cape Rockjumper and Victorian’s Warbler. Verraux eagle periodically nest in this area. The shoreline also hosts nesting black oystercatcher, with the Caspian’s tern and the bank cormorant recorded here. I know nothing about the reptiles, amphibians and insects – we may need some input on this from specialists. (*In fact on all of these – we need to call in experts as there may be flora and even mammals and birds that we don’t commonly know about OR we propose research to be carried out to determine the diversity of the various fauna and flora found in Rooiels)*
3. Marine – *get information on the Estuary and also in here need to find again the information on zones that refer to a buffer zone that does allow limited use – for the small fishermen making a living, and for recreational and tourist fishing and diving – but with seasonal and catch limits. Protection would be from the big outside commercial ventures being allowed to catch near shore and Also we should see how it links along the coast to the Bettys Bay Marine Reserve which I think is about to get even stricter protection. We mention our seal colony and otters etc – do we also speak of poaching*

MPAs provide insurance against environmental variability and year-to-year fluctuations: the conditions that are predicted to increase under climate change. A review of 80 marine protected areas found that on average reserves doubled abundance, tripled biomass and increased both size and diversity of fish by a third (Halpern, 2003) and the same data showed that increases usually became obvious within five years of protection (Halpern and Warner, 2002).This evidence is building public support for marine protected areas as a longterm insurance policy. ……..Many current reserves are too small to have a significant impact on fisheries 20-40% of fishing grounds to be set aside. Thus it would make sense to include the coastal area off Rooiels as part of the buffer zone with limited offtake restricted to artisanal fishing and recreation only. Rooiels would like to support a marine biology survey/citizen science to assess the state of the marine life and sea around Rooiels. <https://www.caperadd.com/courses/citizen-science-day/>

1. Aesthetic Value of the area is enhanced by a village where visitors feel part of the natural environment and where they are able to see wild animals still common along the roads and in the gardens. It is widely recognised that the physical beauty of the natural environment is the region’s single largest asset. As such, the Overstrand’s economy and its ecology are inseparable. If the natural environment is not effectively managed, the declining natural resource base will limit future economic growth and in particular tourism growth. Rooiels is of special importance as its wild natural appeal enhances the aesthetic value of the area increasing property values and the value of Clarence drive as a tourist attraction (See Overstrand Municipal Environmental Mgt Framework)
2. Land Use Planning – Rooiels is an identified Heritage Protection Overlay Zone (*or part of it, not sure until we get the final Overlay)*. It would therefore make sense to strengthen the contribution of Rooiels to the Overstrand scenic corridor. The purpose of designating Rooiels HPOZ status is “to enhance and protect the visual spatial threshold at the point of entry to the OM, to protect and enhance the green links from the mountains to the coast, and to ensure that the natural green context remains the dominant element with the built footprint subsidiary to the landscape rather than dominating it”. (2016 Draft Environmental Overlay HPOZ Section 13)

*This helps us to show that the Overstrand Municipality is on side and likely to support our request to be declared a buffer zone rather than classified alongside the other larger villages as part of the transition zone.*

1. Human – *commitment to conservation – why Rooiels would like to do this and what they are currently doing and how they have tried to address human/animal conflict and also development, fire and environmental considerations – finding ways to moderate human behaviour so that it allows for human living but maintains environmental integrity*.
2. Contribution to Research

Designing conservation strategies with only partial information about both the marine and terrestrial ecosystems in question is difficult. Research is an important element of the UN Biosphere Reserves programme and detailed reporting on research is part of the ten-year review process. Rooiels as part of the buffer could be shown to be contributing by promoting, tracking and keeping a repository of all the research generated.

Rooiels has some experience in hosting and supporting researchers based in the village. Rooiels is in touch with a number of universities in the area and will establish formal agreements to host research students and student field visits. Rooiels will use its resident networks to reach out to other universities across the world to encourage research into those species and systems which are identified as important to the KBR. The research carried out here will be documented and shared with the KBRC Board. Rooiels will set up an electronic repository of all the research carried out in, or relevant to, Rooiels. This will be openly shared with other researchers to assist them to embed their work in what has gone before. Rooiels is a living laboratory of how humans can live with and support biodiversity and the environment. Rooiels would like to encourage green living and to provide an opportunity for both the Overstrand Municipality and the Kogelberg Biosphere Reserve to track the effect of different off-grid and alternative living systems. The open, unfenced properties make it possible to carry out research on the impact of humans and their gardens on indigenous fynbos. Climate change is resulting in changes that require adaptation and Rooiels provides a useful living laboratory e.g. experiments with different water regimes for specific plants could be established

**Evidence of Interest to become Buffer Zone by the Landowners**

Stakeholders have always been very aware of environment. In the 1990s they were instrumental in protecting the water source from pollution by Denel (Sonchem) and holding them to account for environmental degradation. The village supported the reseeding of the area several times. Cape Nature is now responsible for managing it as a water catchment. The Overstrand Municipality has taken over responsibility for testing and maintaining the Buffels dam which supplies Rooiels and Pringle Bay. The community invested in large-scale eradication of invasive alien plants and have subsequently been active in preventing re-infestation. In 2018 at a community workshop there were discussions relating to specific problems with some regulations that apply throughout the Overstrand that are inappropriate for a village wanting to support nature. At that meeting the KBRC Board Chairperson suggested that Rooiels should consider becoming a part of the buffer zone. This was strongly endorsed by the community. Rooiels would now like to take this further and are hereby applying to the KBRC Board to approve of their application to be included in the Buffer Zone and request that this be taken forward, through the ……… to DEFF

1. Rooiels would organise reasonably priced accommodation, eventually provide office space (community centre) and share expertise of a range of residents with specialist knowledge of the area [↑](#footnote-ref-1)