**CONCEPT DOCUMENT:**

**RE-ZONING WITHIN THE ROBBERG MARINE PROTECTED AREA (MPA) IN THE INTERESTS OF BIODIVERSITY PROTECTION AND THE VALUE OF THE MPA**

## BACKGROUND

Plettenberg Bay and the Robberg Peninsula have been identified as important conservation areas for various reasons, including rich bird and marine mammal fauna and nursery areas for fish. The Robberg Marine Protected Area (MPA) adjoining the Robberg Nature Reserve at the Robberg Peninsula was proclaimed in 2000 (Government Notice 21984). The coastal length of the MPA is 12.9 km, of which 11.05 km is along the Robberg Peninsula and 1.85 km is along Robberg Beach, it extends 1.85 km into the sea and has an area of 2 270 ha (CapeNature 2006).

The MPA contains rocky platforms, sandy beaches, subtidal rocky reefs and subtidal sandy benthos, and supports a rich mixture of warm temperate marine species, including many species that are endemic to the south coast of South Africa. The submerged rocks within the MPA proffer food and shelter to long-lived, slow growing reef fishes that take many years to reach sexual maturity, such as the red roman. Such fish species are extremely vulnerable in heavily fished areas, but at present the whole Robberg MPA is open to recreational linefishing from the shore. No fishing from vessels or spearfishing is permitted, although the whole MPA is open to SCUBA diving and passage by all types of vessels. Several tourist programmes currently occur within the MPA including boat-based marine animal watching (cetaceans, seals), SCUBA diving charters and sea kayaking. The MPA is however not part of the commercial BBWW area.

## RATIONALE FOR RE-ZONING

King (2005) compared shore-based linefishery catch data of Plettenberg Bay including the Robberg Peninsula to areas that are closed (Tsitsikamma National Park) or semi-open (Rebelsrus at Cape St Francis) to fishing, using a combination of roving creel and access point surveys and results of a research tagging programme. In terms of species composition the most obvious difference between the three areas was the low proportion of non-migratory reef-associated species like red roman, poenskop, John brown, santer and bronze bream in the Plettenberg Bay area despite suitable habitat for these species. Size comparisons between the areas revealed that the majority of species (particularly reef-associated

species) were smaller in the open or semi-open areas than in the closed area. Collectively the findings were interpreted to indicate local depletion of certain species in Plettenberg Bay including Robberg, and that recreational fishing had impacted heavily on the fish stocks. Thus it was concluded the shore-based linefishery in the area was unsustainable and required increased local conservation effort.

Preliminary results of a follow up survey in 2010/2011 (Anchor Environmental 2011) indicate that the shore-angling fish stocks at Plettenberg Bay and Robberg have remained in a poor state despite the introduction of management measures including size limits, bag limits and open/closed seasons. This survey further indicated that relative to other areas in the Plettenberg Bay area, fewer anglers utilised the Robberg MPA. This could be attributed to the cost of entry in the Robberg Nature Reserve - the majority of anglers in the Plettenberg Bay area regard themselves as subsistence fishermen that in all likelihood would be unwilling (or unable) to repeatedly pay entrance fees to the reserve, especially considering that they were less likely to catch fish inside the MPA than at other sites in the area according to the survey. Also, with regard to individual species, anglers were just as likely to catch species that occurred at Robberg, outside of the MPA compared to inside the MPA. Based on the findings, overall closure of shore angling within the MPA was recommended in the report.

Restricting shore-angling in at least part the MPA would reduce pressure on the local linefish and in particular would assist in the protection of slow recruitment species such as red roman, black musselcracker and red stumpnose in the near shore reef areas, and will improve the effectiveness of the MPA for reef fish dispersal. The WWF-Lotto Coastal Monitoring programme has shown that shore angler effort is mostly low on the Robberg Peninsula, particularly the southern aspect with about 90% of the fishers being there for recreational purposes (Figure 1). Records indicate an average of 0.19 anglers/km on the northern aspect and 0.06 anglers/km on the southern aspect. Catches are correspondingly lower on the southern (0.12 fish/angler hour) as opposed to the northern aspect (0.37 fish/angler hour) and this may explain the lower numbers of fishers on the southern bank (Figure 1) (Anchor Environmental, unpublished data).

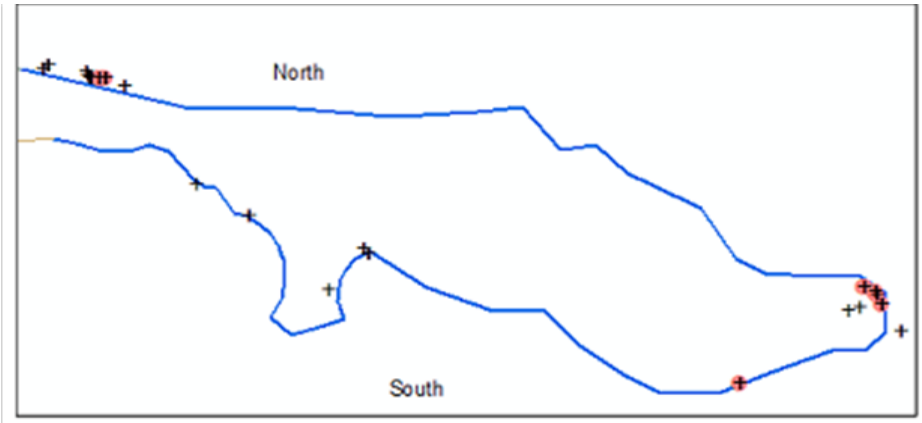


**Figure 1. Location of fishing sites on the north and south banks of the Robberg Nature Reserve determined from roving creel surveys (Anchor Environmental, 2011).**

Species diversity in the catches was also much lower on the southern aspect (Table 1). A total of only two blacktail were caught on the southern aspect while 74 fish from at least 10 species were caught on the northern aspect. In a study by King (2005) it was found that the catch on the whole Robberg Peninsula was dominated by live bait species such as sand steenbras (25%), strepie (25%) and mullet (22%), which are generally used to catch leervis - the most highly sought after species (34%) in the region. Robberg Nature Reserve was once famous for its catches of galjoen, poenskop, leervis and yellowtail (King 2005). However, in the current times there is a significantly lower diversity and rate of catch. Although shoals of leervis still pass through the bay periodically none were recorded during the surveys conducted by King (2005). The reduced catches of leervis and yellowtail can also be ascribed to recreational and commercial boats fishing pressure on these migratory species (Attwood and Farquhar 1999). According to the Robberg Diaries (Anon 2000) catches of poenskop were common with at least one being landed on each fishing trip. Clearly, the population of poenskop around the peninsula has been overexploited. The number of fishes caught by recreational anglers and the diversity of fishes in the area has decreased substantially over the past few decades. While the northern aspect does still provide anglers with fairly high catch rates, the southern aspect has a very low catch rate.

In this regard restrictions along the southern margin would be most appropriate based on the biodiversity zones within the MPA, in that the less-sheltered southern margin provides habitat suitable for long-lived reef fish species and a lower component of migratory species than the northern margin.

**Table 1. Species composition and total catch reported for all roving creel surveys on the southern and northern aspects of Robberg Nature Reserve.**

| Common name | Scientific name | Northern aspect | Southern aspect |
|---|---|---|---|
| Blacktail | *Diplodus sargus capensis* | | 2 |
| Cape stumpnose | *Rhabdosargus holubi* | 35 | |
| Elf | *Pomatomus saltatrix* | 4 | |
| Garrick | *Lichia amia* | 9 | |
| Hottentot | *Pachymetopon blochii* | 2 | |
| Mullet spp. | *Mugilidae* | 13 | |
| Sand steenbras | *Lithognathus mormyrus* | 1 | |
| Smooth hammerhead shark | *Sphyrna zygaena* | 2 | |
| Smoothhound shark | *Mustelus mustelus* | 1 | |
| Strepie | *Sarpa salpa* | 5 | |
| White Steenbras | *Lithognathus lithognathus* | 2 | |

A key finding of the National Biodiversity Assessment Marine Component (Sink *et al.* 2011) is that South Africa's MPA network plays a key role in protecting marine and coastal habitats and sustaining fisheries. Coastal protected areas thus sustain rural livelihoods and local economic development by providing jobs and opportunities for ecotourism and conservation-related industries. However, the existing (National) MPA network does not currently provide sufficient protection for marine biodiversity. To address this, several additional priority areas for protection have been proposed (Lombard *et al*. 2004). However, Clark & Lombard (2007) stress that improving management within existing MPAs including upgrading the levels of protection in MPAs that currently allow for the exploitation of living resources, may be at least as important as expanding the existing MPA network - fully protected MPAs help sustain fisheries by protecting breeding resources and by seeding adjacent fished areas. In this regard the National Protected Area Expansion Strategy (2008) sets protected area targets for the inshore marine bioregions and recommends an increase of 15 additional kilometres of No-Take MPA within the Agulhas Bioregion (Table 2). Closure of the southern shore of Robberg (approximately 5 km) to shore-based angling will contribute to meeting these minimum targets.

Furthermore, the use of personal hovercraft and watercraft including jet-skis are considered to have an impact on the values of the Robberg MPA and to be generally incompatible with the MPA objectives, especially in that they disturb shorebirds, seals and other marine animals, and impact on the amenity values of the MPA. Therefore their use should be prohibited in the MPA.

**Table 2: National Protected Area Expansion Strategy for inshore marine targets per bioregion**

| Bioregion | Length km | Required in next 5 years | | | |
|---|---|---|---|---|---|
| | | No-take | | Total | |
| | | km | % | km | % |
| Namaqua | 684 | 26 | 3.8 | 43 | 6.3 |
| SW Cape | 420 | 3 | 0.7 | -- | -- |
| Agulhas | 1706 | 15 | 0.9 | 38 | 2.2 |
| Natal | 693 | 15 | 2.2 | 8 | 1.1 |
| Delagoa | 153 | -- | -- | -- | -- |
| Total | 3656 | 56 | 1.5 | 88 | 2.4 |

**OPTIONS FOR DESIRED STATE**

The Robberg MPA is a no-take area for ski-boat angling and spearfishing but shore-based angling is allowed. Through this proposal it is suggested that the southern margin of the MPA be re-gazetted as a no-take area where no consumptive resource use may take place Thus there will be two types of zones in the MPA, a restricted zone where no fishing may occur, and a controlled zone where recreational shore-angling can take place. The restricted zone will cover the area from the high water mark at the point to 1 nm (1.85 km) offshore, to the high water mark on the south-western boundary and 1 nm offshore of this (Figure 2). The controlled area shall include the rest of the MPA. The further rationale here is based on the biodiversity zones within the MPA, where the less-sheltered southern margin provides more habitat that is suitable for long-lived reef fish species than the northern margin.

This approach will enhance the fisheries and conservation benefits of the MPA, especially considering the evidence for depletion of linefish stocks in the MPA and in the Plettenberg Bay area generally. It is further recommended that no personal hovercraft or watercraft including jet-skis are allowed in the MPA, as these impact on the objectives and amenity values of the MPA.

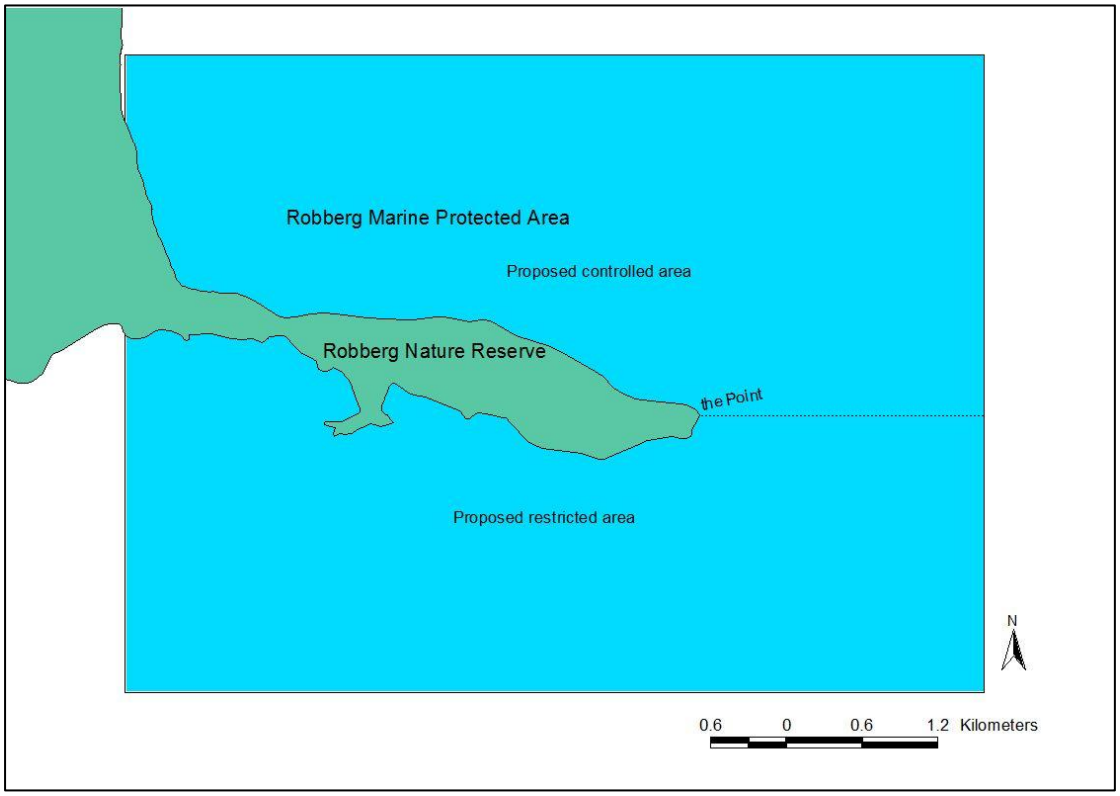


**Figure 2. Map showing the Robberg Marine Protected Area (blue) and the proposed re-zonation with the restricted and a controlled areas separated by the horizontal dotted line.**

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