

Case study of threatened lowland fynbos habitat: Platteklouf Natural Heritage Site

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Introduction

The Western Cape Lowlands is one of the most threatened habitats in the world. *Cape Flats Sand Fynbos (CFSF)* is classified as *Critically Endangered* in the recent National Spatial Biodiversity Assessment (Rouget *et al* 2005) and only 10130ha remain, of an original 54561ha. *CFSF* typically occurs between 20–200 m above sea level (Mucina *et al*, 2005).

Less than 1% of the surviving 19% of this vegetation type is statutorily conserved as small patches in the Table Mountain National Park and private conservation areas and is by far the most transformed of the sand fynbos types. More than 80% of the area has already been transformed by Cape Town's metropolitan sprawl and agriculture. Most remaining patches of *CFSF* are small, fragmented pockets within urban areas. The majority of these patches have been identified as 'Core Conservation Sites' (Woods *et al*. 1994). At least eighty-four Red Data List *CFSF* plant species occur on the remnants within Metropolitan Cape Town. Six species known to be endemic to the vegetation type are now extinct in the wild.

Platteklouf Natural Heritage Site (PNHS) is a *CFSF* corridor, which exists today solely because of the high voltage power lines servitude that transverse a densely populated urban environment (Figure 1). The area averages about 200meters in width and approximately 65 hectares in area, amounting to approximately 0.64% of remaining *CFSF* vegetation.



Figure 1. Platteklouf Natural Heritage Site (PNHS)

Plattekloof was declared South Africa's first Natural Heritage Site in 1985. This narrow, Y-shaped corridor of indigenous *CFSF* is situated approximately 13km from Cape Town CBD and forms a corridor between the Cape Metropolitan suburbs of Edgemoor and Montevista. Eskom, South Africa's only energy producer is the landowner of PNHS. It is utilized as servitude for the main power supply lines to the majority of Cape Town and it was brought to their attention that the vegetation type was endangered and needs to be conserved.

The first restoration and conservation efforts started in 1986 (*ESKOM news No. 65*) and in 1987 a committee was formed to outline and implement management plans. Some of the problems encountered then are still being experienced today and reveal the impact that certain challenges pose to rehabilitation.

Past, Present and Future

In 1999 Environmental Management plans were drawn up and in 2001 Independent Ecological Assessments were done to evaluate the progress of the site. Eskom could not sufficiently manage and maintain the site on their own and in 2004 The Nature Conservation Corporation, a privately owned company, was employed by Eskom to manage PNHS and currently work on a budget of R160 000 per annum. A permanent Conservation officer should be appointed to PNHS as a recommendation for the future (Turner, 2007). The rich plant and animal biodiversity present within PNHS makes this a necessity. The officer would be actively involved in the conservation of other *CFSF* and should encourage collaboration between private and civil sector. Current participants involved, include Nature Conservation Corporation, Eskom, SANBI projects such as Custodians of Rare and Endangered Wildflowers (CREW) and Threatened Plants Programme (TPP). Recommendations are also made that the botanical and ecological surveys, and management plans be regularly updated by botanists and ecologists (Turner, 2007).

Intensive alien clearing was implemented upon formation of the committee and by 1997 it was reported that all *Acacia saligna* had been cut down. Alien *Acacias* increase soil nutrient levels unsuitable for fynbos, resulting in conversion to grassland after disturbance (Turner 2007). Alien clearing still forms part of the management plan, as it features prominently in present day management plans.

Dumping and spread of alien grasses are also a major problem within *CFSF*. At Plattekloof, garden and lawn cuttings from neighboring residential houses have been dumped on the site. Current management steps include a spraying programme for alien vegetation and removal of offending garden waste.

Brush cutting and ploughing occurred in the past to reduce risk of fire and vagrants. Major complaints were lodged against Eskom by conservationists for these management methods. Mowing eliminates serotinous and taller plant species, while firebreaks provide habitat for a few common thicket species, replacing a previously far richer fynbos community (Mucina et al, 2005). Mowing also encourages growth of alien grasses and alien *Acacia* species, which in turn makes the vegetation far more fire-prone during the dry summer.

The vegetation at Plattekloof is at least twenty years old in places. Eskom is reluctant to burn vegetation under the electricity pylons within the site as they fear power supply interruptions. Fire management recommendations have been prevalent in all the management plans and assessments. However, McDowell (1997) reports that he personally supervised a controlled burn under these pylons and those Eskom technicians reported no transmission impairment. It is vital that portions of Plattekloof be burnt within the next 1-10 years to ensure optimal regeneration of fynbos plants. The current management of Plattekloof includes a well-maintained and installed fire protection barrier that will allow for a controlled burn.

Other ongoing problems encountered include vagrants that damage the plant populations and are a major cause for the litter in the area. During the 2007 survey, stolen goods were found hidden in the vegetation, along with evidence of shelters and poaching. Dumping and littering are still problems that are constantly being addressed.

In particular, excessive human faecal waste is a major cause for concern especially to the seasonal wetland area. Feral cats are problematic and pose a problem as dominant predators. Vandalism to signage and fencing are also prevalent and costly to replace. Not all neighbouring residents are supportive of the site and view it in a negative light because of the vagrant problem. Illegal quad biking and motor biking on the site are an ongoing challenge. Barriers are erected to prevent entrance, but stricter security access is required. The past suggestions of fencing to deter movement through the area and dumping, was adhered to and does help along with security measures and support from local legal authorities.

Active *ex situ* conservation was started in 1992 when cuttings of endangered species were collected and grown. Without the dedicated efforts of private individuals in 1984, species such as *Protea scolymocephala* (Figure 2) would be extinct at Platteklouf. In 2001 the National Botanical Institutes, now South African National Biodiversity Institute (SANBI), involvement was sought for propagation of selected endangered species for rehabilitation. *Serruria aemula* (Figure 3), *Serruria trilopha*, *Leucadendron levisanus* and *Diastella proteoides* are some of the species that are being propagated for rehabilitation. Cuttings of *Serruria aemula* re-introduced in 2004 are thriving (figure 4).

Illegal harvesting of thatching reed is still a problem, but is abating with the involvement of the community and legal authorities.



Figure 2. *Protea scolymocephala*



Figure 3. *Serruria aemula*



Figure 4 .Cuttings of *Serruria aemula* re-introduced in 2004 are thriving

Recommendations

- Formulation of Plattekloof's legal conservation status should be an extremely high Conservation Priority
- The conservation status of PNHS should be increased from a Natural Heritage Site to that of a Contractual Reserve (highest legal conservation status).
- Formalized education will be the greatest benefit for the future of PNHS.
- Educating the local communities and schools about the status and importance of PNHS is needed to secure ownership from the surrounding community and their assistance in monitoring and conservation of the area.
- Restoration efforts and biological connectivity to larger conserved areas will help restore genetic diversity by preserving important pollination systems resulting in a more viable habitat.
- Funding is needed to support these initiatives.

Summary

Plattekloof NHS is undoubtedly a botanically and ecologically significant *Cape Flats Sand Fynbos* remnant and in remarkable condition considering a long history of abuse and rehabilitation (Low & McDowell, 1990; McDowell, 1991; McDowell, 1997; Holmes, 2001, 2002).

PNHS is an exceptionally bio-diverse remnant of *Cape Flats Sand Fynbos* and contains at least eight IUCN Red Data List Species and approximately 175 indigenous species to date and is justifiably deserving of “Contractual Reserve” status.

Despite concerted efforts in the past PNHS needs to be more-closely and actively conserved in order to ensure the future survival of intact vegetation communities.

Major challenges include the legal conservation status of Plattekloof Natural Heritage Site, ongoing alien vegetation control and the application of a controlled burn.

An appropriate conservation plan for PNHS should involve the Western Cape Nature Conservation Board, Eskom, and local Communities, projects such as the Custodians of Rare and Endangered Wildflowers (CREW), and the South African Natural Biodiversity Institute.

References

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