

CAPE TOWN'S UNIQUE BIODIVERSITY ENDEMIC ECOSYSTEMS

1. Peninsula Shale Renosterveld

General: Previously, Peninsula Shale Renosterveld (PSR) used to occur in much of the city bowl, but is now confined to Signal Hill and Devils Peak. This is where Van Riebeeck chose to establish his vegetable gardens and grew his first wheat - today known as the Company's Garden and Groote Schuur, respectively. This is where big herds of game roamed, as well as the lions and leopards that plagued the early settlers. This is where the Khoisan grazed their huge herds of cattle and sheep. Both game and livestock were seasonal, migrating from the area during the wet season.

Distribution: PSR is endemic to Cape Town, and found on Signal Hill and the lower northern slopes of Table Mountain and Devils Peak. It was formerly centred on the city bowl of Cape Town, occurring 0–350 m above sea level.

Landscape features: Gentle to steep lower slopes and valleys.

Geology and soils: PSR occurs on fertile clay soils derived from shale of the Malmesbury Group's Tygerberg Formation. Soils are clayey, often shallow, and rock-hard in summer. The contact zone between the granite and shale at Mouille Point is a national monument, where the melting and breaking of the shale into the molten granite 500 million years ago have been frozen in time. The contact between the granite and shale is very narrow and runs up over the neck of Lions Head, and straight across to the saddle



Renosterveld on Signal Hill



Large game such as Eland used to occur in Renosterveld

between Devils Peak and Table Mountain.

Climate: PSR experiences a winter-rainfall regime, with a rainfall of 720 mm per annum, peaking from May to August. This is the wettest Renosterveld type by far, probably due to the proximity of the mountain. The mean daily maximum temperature is 26.7°C in February, and the mean daily minimum temperature 7.8°C in July. Frost is a rare occurrence, with an incidence of 2-3 days per year.

Vegetation: A tall, open shrubland and grassland, with Renosterbos typically not appearing very prominently. On Lions Head, this vegetation is very grassy due to frequent fires and lack of grazing. On Devils Peak these Renosterveld grasslands are frequently mowed to maintain grazing potential. On south-facing slopes and upper slopes, this unit merges into fynbos. The early seral stages are dominated by Cape Asparagus, Thatching Grass, Blood Brush, various Suuring (*Oxalis*) species and resprouting Waxy Karee, after which tussock grasses, shrubs and ferns emerge. After 12 months, the reseeding species start to become more obvious.

What is left? The national conservation target of 26% is unattainable, since 87% of the area has been totally transformed due to urban sprawl, cultivation and building of road infrastructure. Much of the type on Signal Hill remains, and appears reasonably healthy, despite the hill being used for many activities (grazing, pine plantations, picnics) during the last two centuries.

Threats: This veld type is mismanaged, having been mowed and overly protected from fire. Alien plants are another problem, especially alien annual grasses and wattles. Pine and gum plantations used to cover much of the current remnants, but these have been largely harvested. It is the only veld type in which the Kangaroo Wattle is a serious alien invader. Although game used to

be common, these are extinct on Signal Hill, resulting in the area becoming overgrown with shrubs. Also, as the game are not migrated off the veld on Devils Peak, resulting in it being mown. The shrub and bulb elements have been lost, perhaps due to past agriculture.

Conservation status: PSR is Critically Endangered with a national conservation target of 26%, although only 13% remains. About 11% is statutorily conserved, but much of this is in a degraded condition, either being too old, too young, undergrazed or overgrazed. This veld type has a natural fire cycle of three to five years, to the consternation of Cape Town citizens.

Where conserved? PSR is statutorily conserved in Table Mountain National Park (Signal Hill and Devils peak). Observatory is also home to a minute remnant of this veld type, which contains the unique Blue-eye Uintjie.

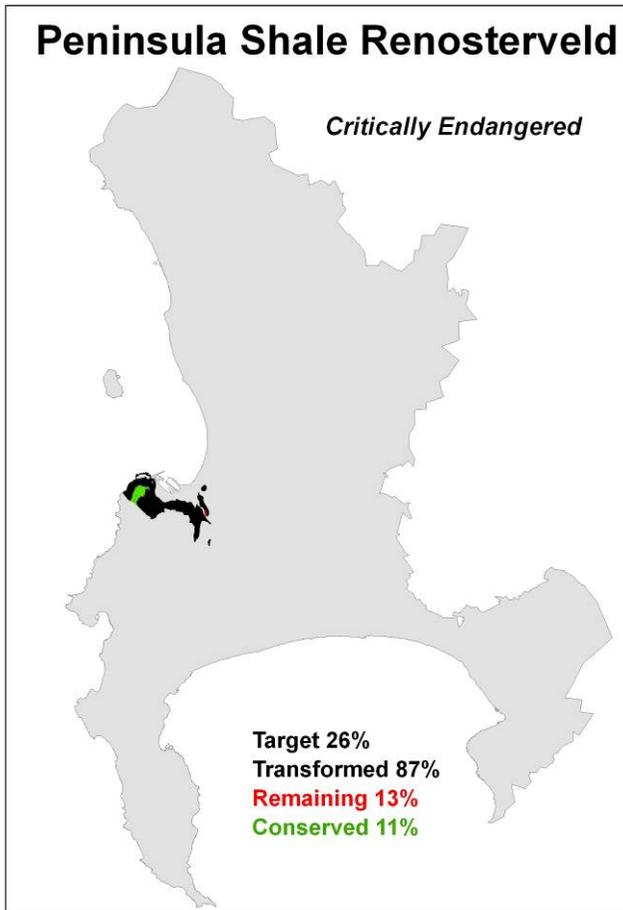
Endemic taxa: Only one - the Blue-eye Uintjie.

What can be done to prevent PSR from becoming more threatened? Degraded areas need to be restored by reintroducing grazers where they have been lost. Large portions of Signal Hill have also been protected from fire for up to 25 years. It has been suggested that Nguni Cattle or Boerbokke might be used as amenable substitutes for eland and rhinoceros, as introducing large game poses problems in an urban conservation area that is used by hikers, and that is also unfenced in many areas. At Devils Peak, a more natural grazing regime with no mowing needs to be restored, and bulbs and shrubs reintroduced. The area should also be burnt more often.



Western Sorrel Copper

Peninsula Shale Renosterveld



Grasses - here Red Grass - can dominate in Renosterveld as does the dominant shrub, the Wax Karee

Benefits: PSR is confined to two blocks in Table Mountain National Park. These are the only areas on the Peninsula where the big game that used to occur here historically, can be restored. All the other areas are either too developed (Granite Fynbos) or too nutrient poor (Sandstone Fynbos) to support large game. Many Renosterveld species are aromatic and also probably have unrealised medicinal value. Apart from recreation (hiking, dog walking, botanising and spiritual revitalisation) natural areas of PSR provide the immediate backdrop to the city bowl, functioning as a green lung and a scenic grassland.

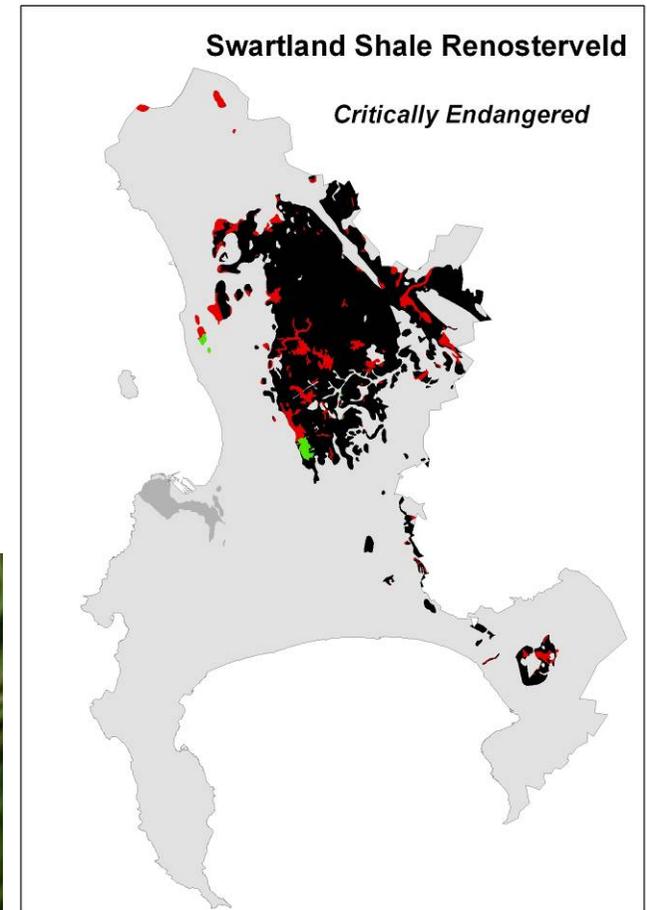


Kalkoentjie (Iris Family)



Blue-eye Uintjie (Iris Family)

Other, similar veld types in Cape Town: Far more extensive is Swartland Shale Renosterveld, which extends from north of Porterville and Piketberg, to as far south as Somerset West. In the city, it is most prominent on the Tygerberg Hills, and historically occurred in the winelands and wheatfields of the Swartland. It is Critically Endangered, not only because only 4% is left, but also because it contains a large number of threatened Red List plant species. In the city, 8% remains, placing the burden of responsibility on the City to conserve it. Prominent on the Tygerberg Hills, but absent from PSR, are the heuweltjies – ancient termitaria – which are covered with grasses that turn gold in summer to form the spots on the “tiger” (Dutch for leopard).



For more information, an explanation of terms, and copies of fact sheets, visit www.capetown.gov.za/environment; go to “Publications”, and select “Brochures, booklets and posters”.



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