

CAPE TOWN'S UNIQUE BIODIVERSITY ENDEMIC ECOSYSTEMS

3. Peninsula Sandstone Fynbos

General: Peninsula Sandstone Fynbos (PSF) is what most people think of when they talk of "Fynbos" or "Mountain Fynbos." Because it occurs on the poorest soil in the city, there has been almost no agricultural development on PSF, and even pine plantations were a temporary experiment and a commercial failure. Partly because of this, but also due to the steep slopes in places, this veld type is both the least destroyed and the best conserved in the city. It is also one of the richest in terms of number of plant species as well as endemic plant species.

Distribution: Endemic to Cape Town and confined to the Cape Peninsula, from the top of Lions Head, Table Mountain, Constantiaberg, Karbonkelberg, Silvermine, Red Hill, Swartkop and to Cape Point. It ranges in altitude from sea level to the highest point on the Peninsula - 1 086 m at Maclears Beacon on Table Mountain.

Landscape features: PSF occurs on gentle to steep slopes. Although relatively flat and low-lying in the southern Peninsula, the northern Peninsula is characterised by steep cliffs and high-altitude plateaus and slopes. It extends over most of the length of the 50 km-long Cape Peninsula.

Geology and soils: Acidic, rocky soils derived from Ordovician sandstones of the Table Mountain Group (Cape Supergroup), dating to 400 million years ago. The soils vary from coarse sands – which may be deep or shallow – to solid rock – often with very few crevices for plants to establish in – to deep, black, peaty soils. It is from these peats that the characteristic 'black waters' – effectively 'tea' comprising dissolved tannins from the peats – come. Because the soils are so nutrient-poor, the runoff yields the purest water in the city.

Climate: PSF occurs in a winter-rainfall regime, with rainfall peaking from May to August. Rainfall ranges from 520 mm to 1 690 mm with altitude, and at a mean of 780 mm, is well above the 570 mm typical for the flats. The mean daily maximum temperature is 25.0°C in February, and the mean daily minimum is 7.2°C in July. In summer, southeasterly cloud (the famous 'Table Cloth'), often accompanied by high winds, brings significant mist precipitation at higher altitudes to southern and eastern slopes at higher altitudes. This can equal the

rainfall. The region is under strong maritime influence, as no part is more than 7 km from the sea. Consequently, snow is very rare, and when it does fall, it never lasts. Frost occurs on fewer than three days per year.

Vegetation: This is a Fynbos type varying from succulents on the dry northern cliffs, to dense, moist, tall Proteoid Fynbos in the wetter areas. Most Fynbos structural types occur here: On the steeper north-facing cliffs, dry Asteraceous Fynbos thrives, with Blisterbush and Climbers Friend prominent. Restio Fynbos marshes occur at the highest altitudes, whilst Ericaceous Fynbos, with many rare species, is found on well-drained, higher slopes. The bottomlands are Restioid Fynbos vleis. Sandy soils usually support Proteoid Fynbos, dominated by Golden Conebush (deep sands), Black-beard Sugarbush (silcretes), Common Sugarbush (lower slopes), Green Sugarbush (wettest areas) or Wagon Tree (where soils are richest in nutrients). In fire-safe kloofs, rocky screes and boulder rivers Afrotemperate Forest replaces Fynbos.

What is left? About 98% of PSF remains, but about 22% is degraded by alien plant invasions. Port Jackson and Rooikrans wattles and Hakea are the worst aliens, with Cluster Pine occasional. Many local patches of alien vegetation are very dense. However, the experimental pine plantations have been removed.



Patricia Holmes

Peninsula Sandstone Fynbos at Cape Point



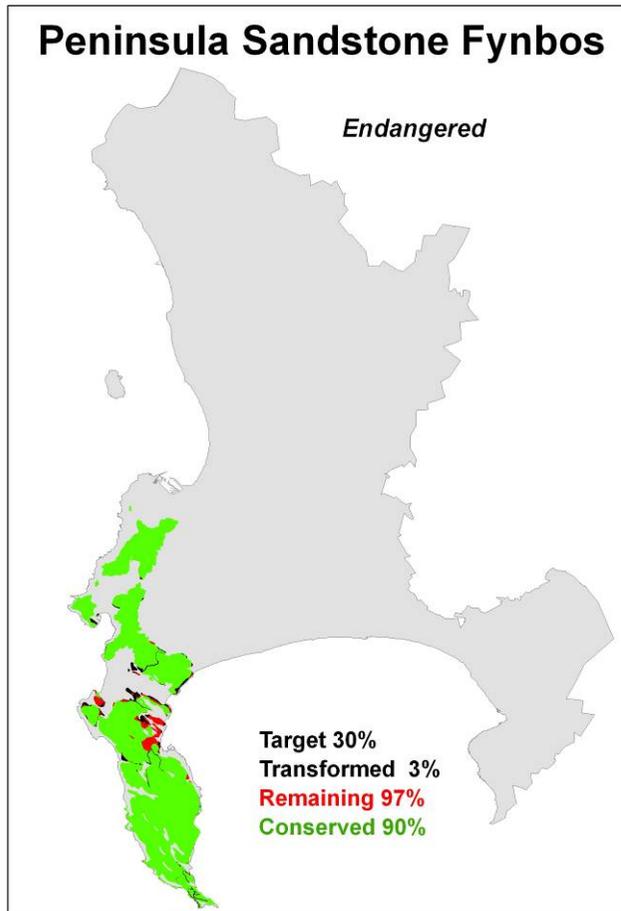
Cape Sugarbird on Tree Pagoda (Protea Family)



Clifford Dorse

Cinnamon Sambreeltjie (Amaryllis Family)

Peninsula Sandstone Fynbos



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".



Roses Mountain Toad

Threats: The biggest threat to PSF is alien plants and animals: wattles, hakeas and pines, in that order. Among alien animals, Tahrs and Sambars are the worst threats. Alien proteas and heaths are also a threat to their local relatives. PSF is also threatened by too frequent fires; although, in some areas like the Back Table, too infrequent fires are a problem. Lesser threats relate to pressure from recreational activities. The soils are easily eroded and the presence of too many hikers accelerates the process. Moreover, the myriad of footpaths on the mountain leave insufficient refugia for wild animals, and allow alien invasive plants to enter. Hikers should stay on the designated footpaths so as not to damage plants and cause further erosion.

Conservation status: The national target for conservation is 30% of the historical extent, so PSF is very well conserved. However, it is listed as Endangered as it contains a high number (65 species) of threatened Red List species.

Where conserved? PSF is statutorily well conserved (79%) in Table Mountain National Park.

Endemic taxa: PSF is extremely rich in endemic plant species, with 146 species confined to this veld type. These include trees, shrubs and bulbs, but, most spectacularly, also 33 species of heath.

What can be done to prevent PSF from becoming more threatened? Invasive alien plant and animal controls need to be improved. Better fire management is required to prevent fires in young veld, and to enable block burns before the veld gets too old and plants start dying of old age.

Benefits: PSF is one of the richest veld types on earth for its size; it probably contains as many plant species as the entire United Kingdom. The flora is of great significance to specialists from across the world. PSF also occurs on the rock formation that comprises the 'table' and has earned Table Mountain its international heritage status. As tourists come from all over the world to see the 'Table', as well as Cape Point, PSF is arguably one of the most important tourist attractions in South Africa.

Other, similar veld types in Cape Town: Kogelberg Sandstone Fynbos (from Gordons Bay to beyond the city, towards Kleinmond and Franschoek) is Critically Endangered as it contains a very high number of threatened Red List species (more than 100). It is well conserved in the Kogelberg and Hottentots Holland nature reserves, but in the city, pine plantations are a threat, although areas outside the plantations that are managed for conservation will be proclaimed soon.

