

Chapter 10

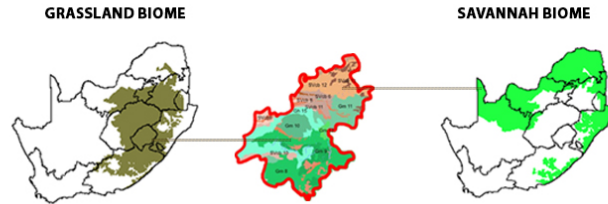
Planting Strategy

A regional landscape spectacle.

Planting strategy:

BIOMES: (LARGE SCALE BIOTIC COMMUNITIES)

There are 7 biomes in South Africa. Pretoria falls mainly within two biomes:



The Pretoria NBG is situated in the Gauteng province. Within this province we find the rare occurrence of having two biomes, both very rich in biodiversity: the Grassland biome as well as the Savannah biome. Because of this occurrence, there are a few ecosystems that are very fragile and specific to a certain environment. Their sensitivity causes some of these ecosystems to become critically endangered due to urban development or any other disturbance of their natural habitat. In these ecosystems there are also critically endangered species that needs to be conserved in order for them to still be growing naturally.

The main goal with this design of a theme garden within the botanical garden is to create a regional landscape theme garden that mostly focuses on the didactic as well as ecological aspect of the garden, as was proved lacking from the site analysis in chapter 5. The ecological approach will focus on recreating these habitats for the conservation of the endangered plant species, and the didactic aspect will come in with the design of these habitats in a way that draw people's attention to a part of the plant that usually goes unnoticed or reveal something that is normally hidden from the naked eye. The aim is also to a awaken an interest in endemic planting, rekindle one's appreciation there off by highlighting the biodiversity and uniqueness and using a person's emotional conection to his regional landscape to do so.

Rietvleiriver Highveld Grassland

Ecosystem delineated by the Rietvleiriver and associated tributaries and wetlands.



Magaliesberg Pretoria Mountain Bushveld

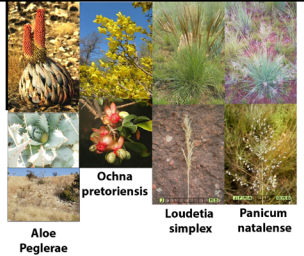
Ecosystem delineated by the Magaliesberg ridge system and associated koppies.



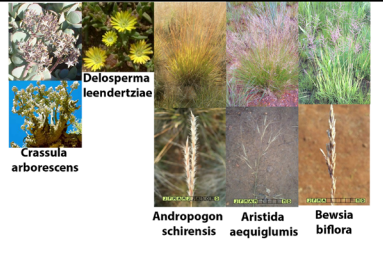
Magaliesberg Pretoria Mountain Bushveld

FOLIAGE
 [JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC]
 FLOWERING

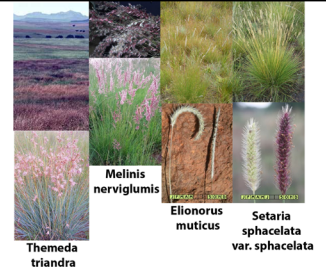
SUCCESSION	PIONEER																
	CLIMAX																
SIZE	MATT																
	SMALL																
	MEDIUM																
WATER	TALL																
	VERY TALL																
	DRY																
HABITAT	WET																
	NORTH																
	SOUTH																
LIGHT	PLAINS																
	ROCKY																
	SEMI-SHADE																
MOTION	SUN																
	SHADE																
	CONTINUES																
SPACE	MOMENTARY																
	Individual																
DISTANCE	Clustered																
	BACKGROUND																
SHAPE	FOREGROUND																
	CURVED																
TEXTURE	SHARP																
	ROUGH/COARSE																
COLOUR	SMOOTH/FINE																
	COOL																
	WARM																



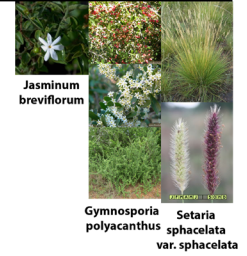
Gold reef mountain bushveld



Rand Highveld Grassland



Marikana thornveld



Moot Plains Bushveld

Planting strategy:

Gold reef mountain bushveld

The vegetation occurs on rocky hills and ridges often west-east trending with more dense woody vegetation often on the south-facing slopes associated with distinct floristic differences. Tree cover elsewhere is variable. Tree and shrub layers are often continuous. Grasses are dominant on the lower layers. Some areas have dense stands of alien plants. There are two endemic plant species, including one *Aloe* species, which occur in this area.

This area consists predominantly of quartzites, conglomerates and some shale horizons of the Magaliesberg, Daspoort and Silverton Formations (Vaalian Pretoria Group) and the Hospital Hill, Turffontein and Government Subgroups (Randian Witwatersrand Supergroup). Soils are shallow, gravel lithosols of the Mispah and Glenrosa forms

Slope stabilising plants

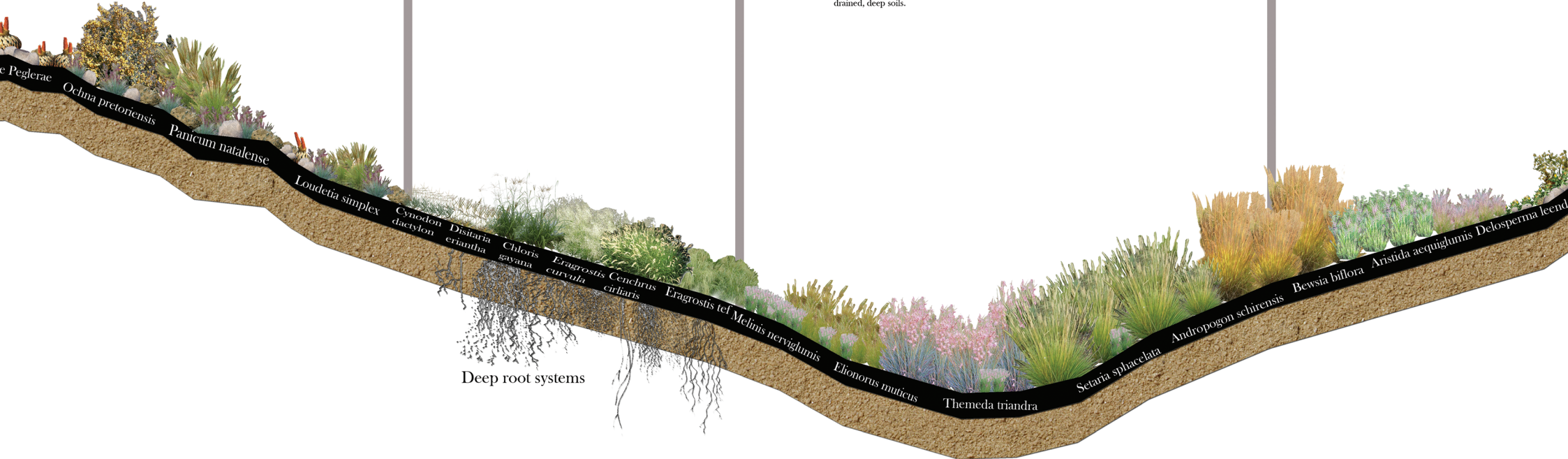
Marikana thornveld

Rand High

An open *Acacia* karoo woodland, occurring in valleys and slightly undulating plains, and some lowland hills. Shrubs are more dense along drainage lines, and rocky outcrops or in other places protected from fire. Considerably impacted, with 48% transformed, mainly cultivated and urban or built up areas. Near Pretoria, industrial development is a greater threat of land transformation. Alien invasive plants occur localised in high densities, especially along the drainage lines.

Most of the area is underlain by the mafic intrusive rock of the Rustenburg layered suite of the Bushveld Igneous Complex. Rocks include gabbro, norite, pyroxenite and anorthosite. The shales and quartzites of the Pretoria group also contribute. The soils mainly consist of vertic melanic clay with some dystrophic or mesotrophic plinthic catenas and some freely drained, deep soils.

The vegetation type occurs on a highly variable landscape with plains and a series of ridges slightly elevated over undulating slopes. The vegetation is species-rich, wiry, sour grassland alternating with low shrubs on rocky outcrops and steeper slopes. There is a high diversity of species on ridges carry sparse (savannaoid) woodlands accompanied by shrubs. Poorly conserved, only small patches protected. Almost completely transformed mostly by cultivation, plantations, urbanisation or other uses. There are thirteen endemic species growing in this area.



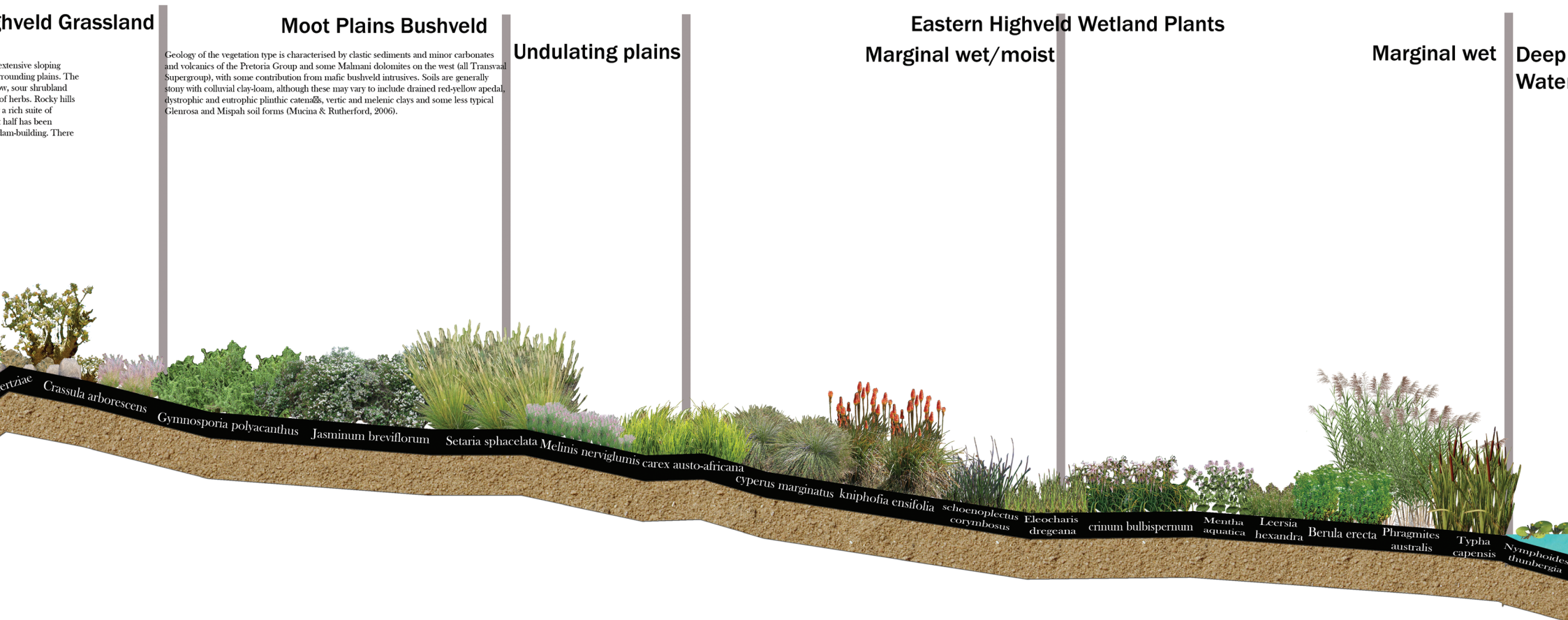


Fig. 10.1: Planting strategy (Author 2015)

CONSERVATION APPROACH

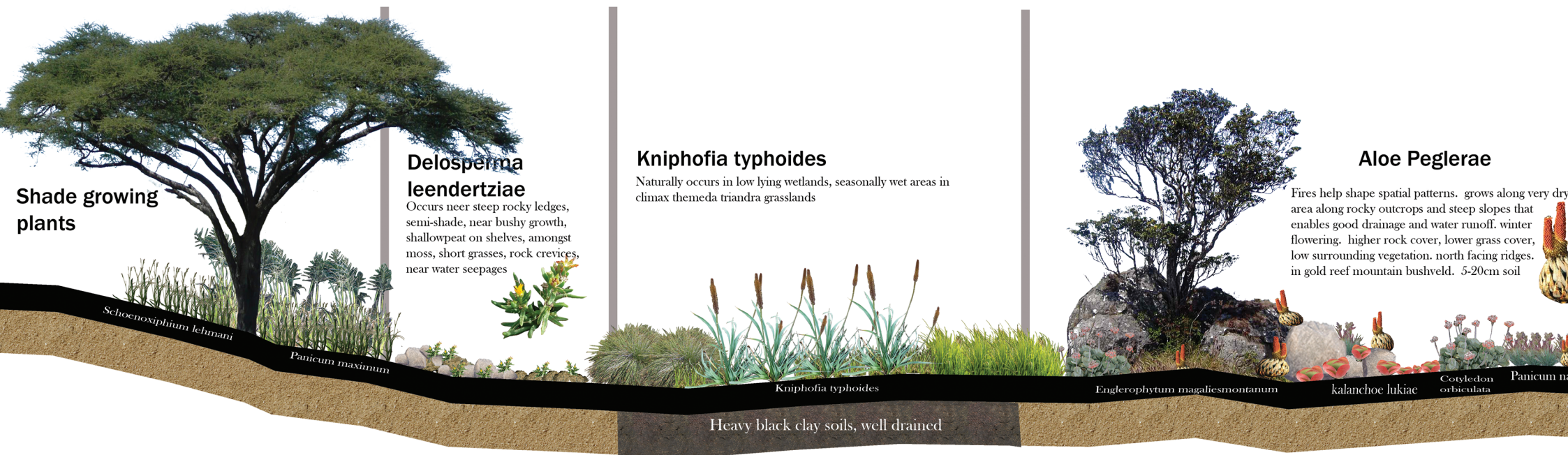
RED OR ORANGE LISTED PLANTS:

Magaliesberg Pretoria mountain bushveld

Aloe peglerae and Delosperma leendertziae

Rietvleiriver highveld wetlands

Melolobium subspicatum, Habenaria mossii, Habenaria bicolor, Kniphofia typhoides



Delosperma leendertziae

Occurs near steep rocky ledges, semi-shade, near bushy growth, shallow peat on shelves, amongst moss, short grasses, rock crevices, near water seepages

Kniphofia typhoides

Naturally occurs in low lying wetlands, seasonally wet areas in climax the media triandra grasslands

Aloe Peglerae

Fires help shape spatial patterns. grows along very dry area along rocky outcrops and steep slopes that enables good drainage and water runoff. winter flowering. higher rock cover, lower grass cover, low surrounding vegetation. north facing ridges. in gold reef mountain bushveld. 5-20cm soil

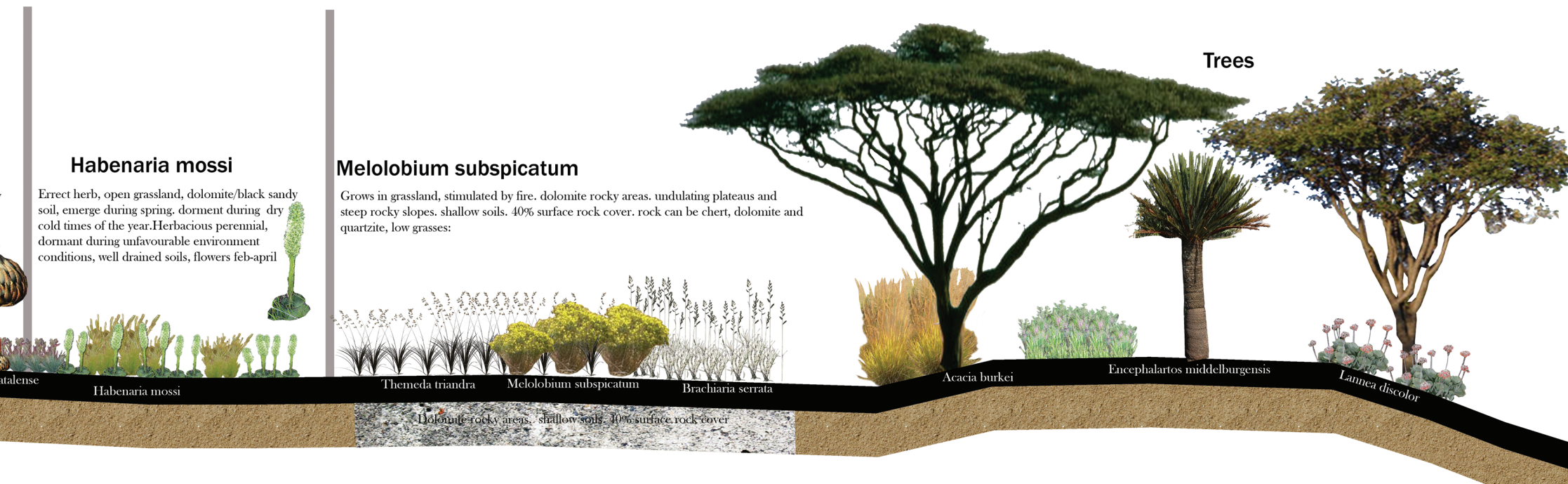


Fig. 10.2: Conservation strategy (Author 2015)

Design experiment



Experimenting with the effects of water on exposed soil. This experiment was done with the design in mind that where the dam wall overflows, it can be left to carve away soil, showing the forces of nature that influences the landscape forms.



Fig. 10.3: Design experiment (Author 2015)

Contour models



Fig. 10.4: Contour models (Author 2015)



Fig. 10.5: Exhibition (Franklin 2015)

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