

# RECOVERY OF SOUTHERN CAPE DUNE FYNBOS AFTER 40 YEARS' AFFORESTATION

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## Introduction

- The vegetation of the southern Cape coastal lowlands has been extensively transformed and continues to be threatened by various factors, including plantation forestry and alien plant invasions.
- In a coastal area with high tourism potential and severe land use pressures, information on the value and recovery-potential of disturbed land is essential for sound land use decision-making, as well as for conservation management and planning purposes.
- This study investigated the recovery potential of Southern Cape Dune Fynbos (Goukamma Fynbos/Thicket Mosaic) in Wilderness National Park after 40 years of afforestation with *Pinus* species, and agricultural disturbances prior to that.

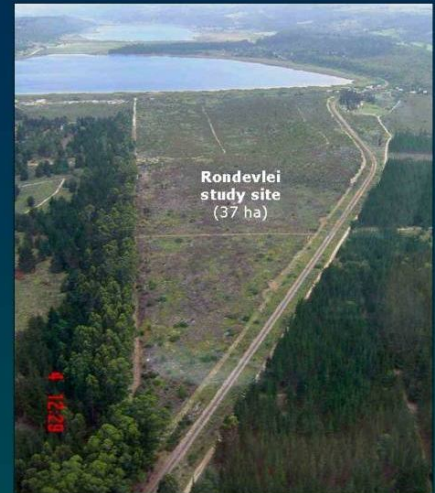
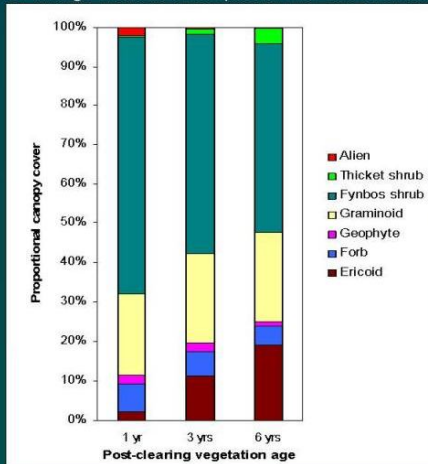


Fig. 1: Change in structural composition with time after clearing



## Results

- A total of 206 species was recorded at the Rondevlei study site (37 ha), of which 192 are indigenous.
- Species richness recorded at the Rondevlei study site compares favourably with that of similar vegetation communities at Goukamma Nature Reserve (Table 1) and those predicted by species-area curves for floras from the southeastern Cape Floristic Region.
- Small fynbos shrubs were the dominant growth form throughout the study period (Fig. 1).
- Geophytes and forbs declined in proportional cover with time after felling of the plantation, while ericoid and thicket shrubs increased (Fig. 1).
- Cover of alien plant species declined with time after clearing (Fig. 1), despite very limited follow-up control effort.

Table 1: Comparison between Rondevlei study site and Goukamma Reserve

	Rondevlei	Goukamma
Area of comparable habitat	37 ha	874 ha
Plot size	5 x 10 m	10 x 10 m
Number of plots	24 (x 3)	88
Total number of indigenous species recorded in all plots	192	158
Mean number of species per plot ( $\pm$ SE)	28 $\pm$ 1	30 $\pm$ 1
Approximate number of species common to both sites	75	
Similarity between sites (Sorensen's index)	43 %	
Mean percentage canopy cover per plot ( $\pm$ SE)	53 $\pm$ 2	72 $\pm$ 2



## Conclusions

- At veld age of six years the regenerated indigenous vegetation can be regarded as species rich and representative of the lowland fynbos vegetation of the area.
- Therefore Southern Cape Dune Fynbos has good potential for natural and virtually unaided recovery after prolonged disturbance by alien invasive plants.
- These results strongly counter the argument frequently used by property developers that old plantations / alien-infested land are worthless ecosystems with little or no potential to conserve biodiversity.

