

# Threatened plants of the coastal Namaqualand Sandveld ecogeographic unit

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## Introduction

As part of the Succulent Karoo Biome, the coastal vegetation of the Northern Cape and the northern parts of the Western Cape is extremely diverse, especially in succulents and other species adapted to this arid, fog-dependent region. This region has been subjected to intensive open-cast diamond and heavy mineral mining for decades, causing some plant species to become threatened due to habitat loss. Plans for continued large-scale diamond mining operations, as well as coastal infrastructure and aquaculture development may endanger these species further.



Figure 1: *Wooleya farinosa*, a vulnerable coastal plant species.

People involved in activities along the west coast, such as commercial kelp collection, infrastructure planning, and mining and rehabilitation need to look for and avoid these threatened species. However, due to the wide variety of species present, and the relative inaccessibility to information on which threatened species to look for in a specific area, a non-botanist may find it difficult to detect such species. There is therefore a need to compile a list of threatened plant species that may occur within this coastal area.

## Objectives

1. To determine which threatened plant species occur in the Namaqualand Sandveld ecogeographic unit, and
2. To determine the most common threats to threatened plant species in the Namaqualand Sandveld ecogeographic unit.

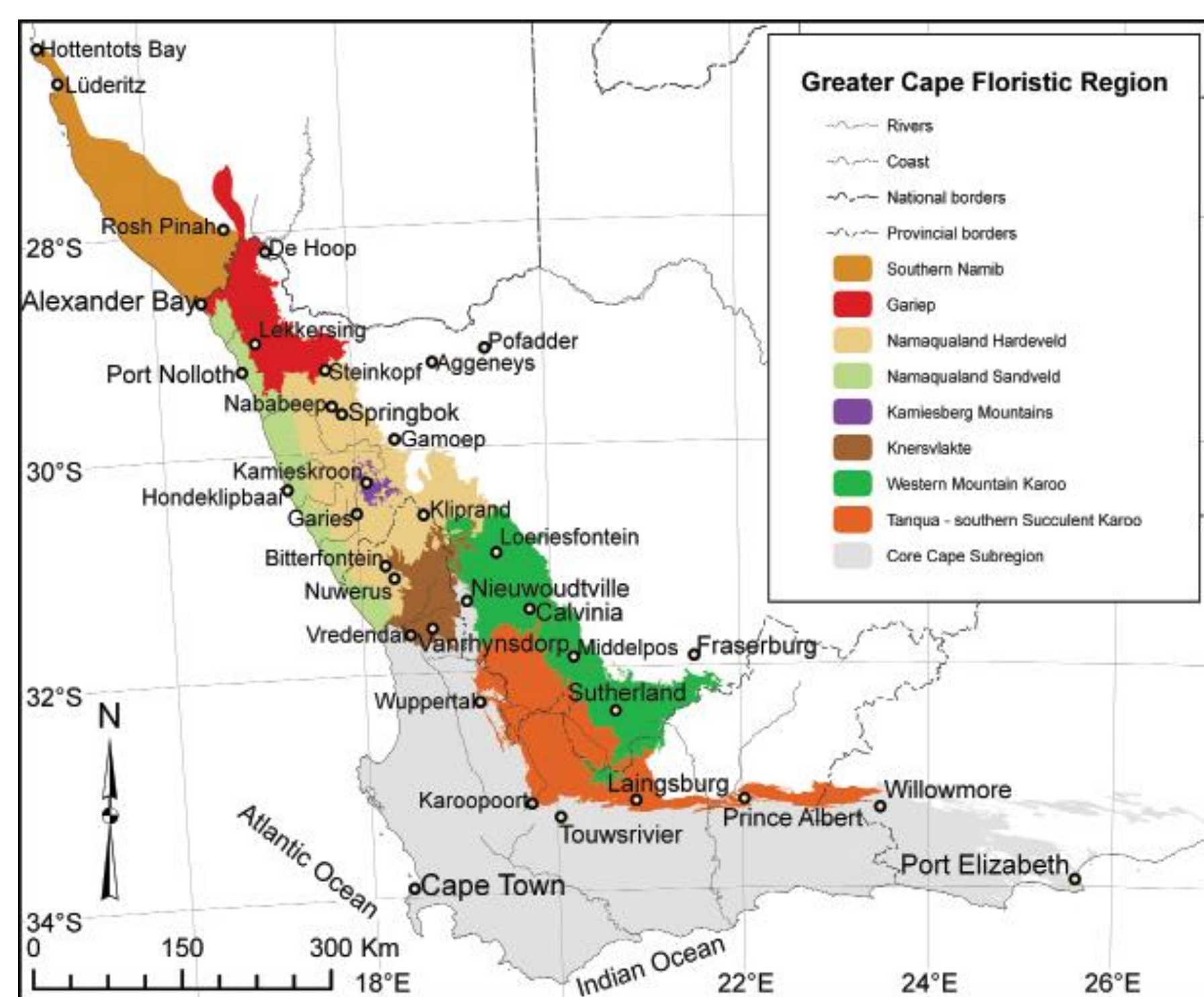
## Methods

A desktop study was done during which a theoretical species list was compiled using Snijman (2013) data and the SANBI's online red data list (SANBI, 2017) for South African plants. The study area is the Namaqualand Sandveld ecogeographic unit, as defined by Snijman (2013). This ecogeographic unit covers the coastal plain between the Holgat River mouth in the north, and the Olifants River mouth in the South, and reaches between 12 and 25 km inland (figure 2).

The red data list assessment information (conservation status and justification/threats) was used to identify the dominant threats to threatened species in this region.

Figure 2: Ecogeographic regions of the Greater Cape Floristic Region.

Map from Snijman (2013)



## Results and discussion

Of the 753 indigenous species indicated to occur in the Namaqualand Sandveld ecogeographic unit, about 15% is of conservation concern, and 7% is threatened. Three species are critically endangered. The number of species in each red list category is given in figure 3.

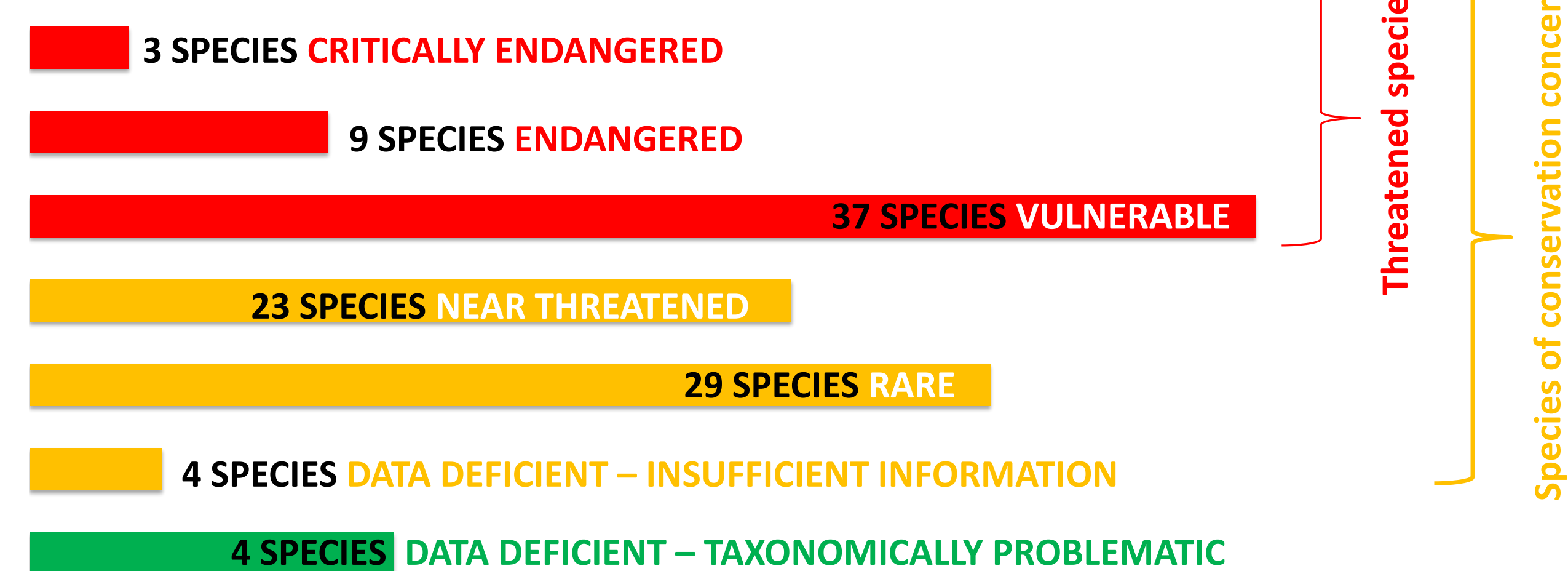


Figure 3: Number of species in each red list category

The threatened species in this ecogeographic unit represents 19 plant families, of which species from the Aizoaceae, Crassulaceae, and Iridaceae are most represented. Of the threatened plant species, 47% are from the Aizoaceae family, with 37% from the Crassulaceae family, and 31% from the Iridaceae family. The threatened species in the Namaqualand Sandveld ecogeographic unit is given in table 1 below.

Table 1: Threatened species of the Namaqualand Sandveld ecogeographic unit.

### Critically Endangered:

*Babiana teretifolia*  
*Romulea lutea*  
*Leucadendron brunioides* var. *flumenlupinum*

### Endangered:

*Bulbine ophiophylla*  
*Gasteria pillansii* var. *halii*  
*Moraea namibensis*

*Centella tridentata* var. *dregeana*  
*Tylecodon fragilis*  
*Otholobium incanum*

*Wiborgia fusca* subsp. *macrocarpa*  
*Pelargonium appendiculatum*  
*Pharnaceum microphyllum* var. *albans*

### Vulnerable:

*Haemanthus pubescens* subsp. *Leipoldtii*  
*Caesia sabulosa*  
*Lachenalia angelica*  
*Babiana lanata*  
*Babiana rubella*  
*Lapeirousia simulans*  
*Eriospermum arenosum*  
*Galenia crystallina* var. *maritima*  
*Tetragonia pillansii*  
*Cephalophyllum tetrastichum*  
*Conophytum uviforme* subsp. *Subincanum*  
*Conophytum obscurum* subsp. *Barbatum*  
*Jordaaniella clavifolia*  
*Lampranthus procumbens*

*Leipoldtia frutescens*  
*Wooleya farinosa*  
*Helichrysum dunense*  
*Lasiopogon minutus*  
*Leucosperma nodosa*  
*Adromischus montium-klinghardtii*  
*Crassula simulans*  
*Crassula brevifolia* subsp. *Psammophila*  
*Crassula subacaulis* subsp. *Subacaulis*  
*Crassula plegmatooides*  
*Crassula susannae*  
*Euphorbia schoenlandii*  
*Aspalathus obtusata*  
*Aspalathus cuspidate*

*Pelargonium adriaanii*  
*Oxalis flava* var. *unifoliolata*  
*Muraltia obovata*  
*Leucospermum praemorsum*  
*Leucospermum rodolentum*  
*Euchaetis pungens*  
*Chaenostoma multiramosa*  
*Manulea cinerea*  
*Nemesia saccata*

It was found that mining is the most prominent threat to these species (mostly heavy mineral sand mining in the Western Cape, and diamond mining in the Northern Cape).

The second greatest threat to species is cultivation of potatoes, tomatoes, rooibos, grapes and fruit, which occurs mostly in the Western Cape around the Olifants river valley. Other specific threats are coastal development (coastal town expansion and infrastructure development), alien invasion, overgrazing, and the illegal collection of plants, especially succulents, from the field (figure 4).

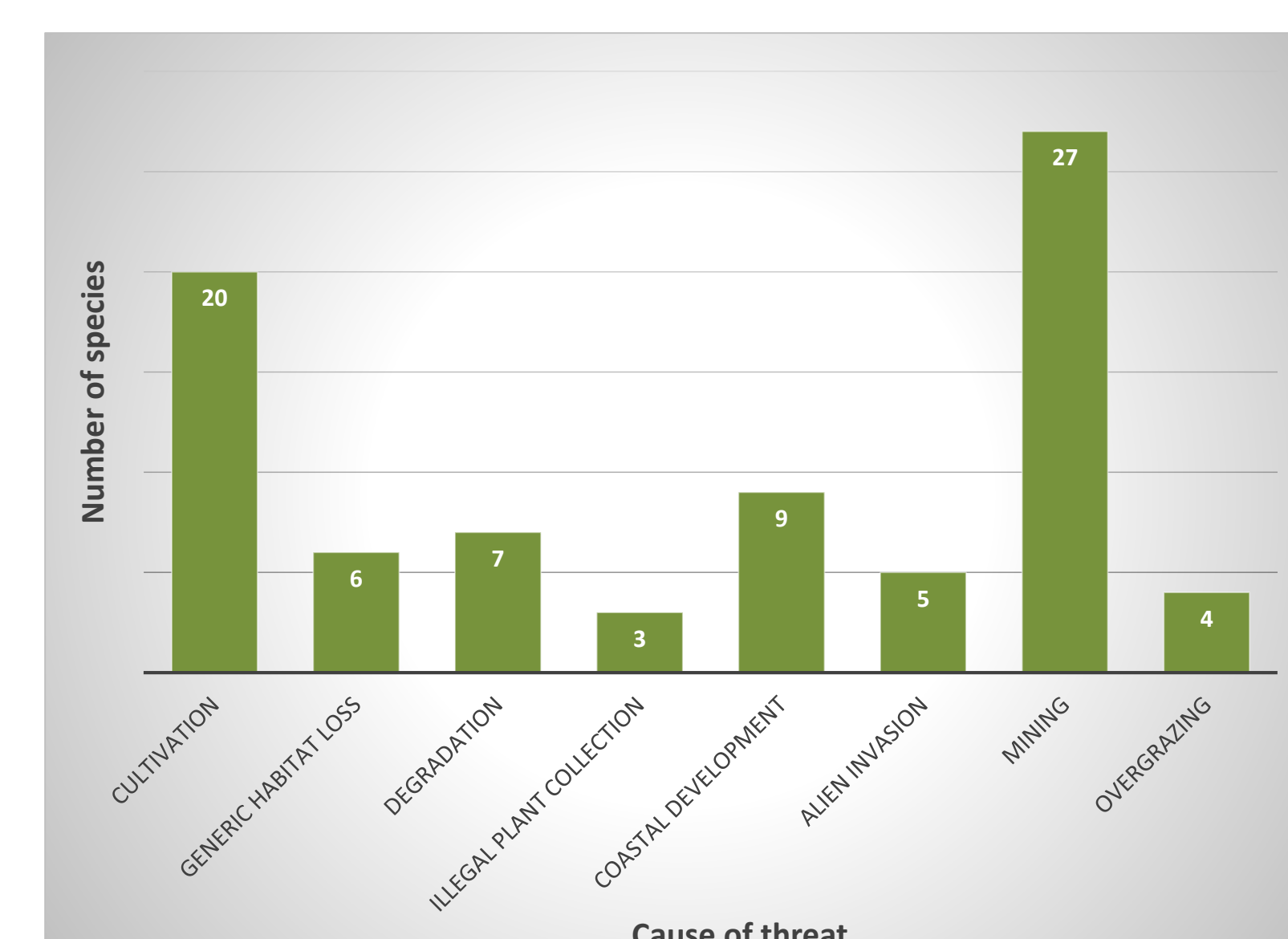


Figure 4: Threats to listed threatened species (there can be more than one threat to a specific species)

## References

Snijman, D.A. (ed.). 2013. Plants of the Greater Cape Floristic Region, Vol. 2: the Extra Cape Flora. *Strelitzia* 30. South African National Biodiversity Institute, Pretoria.

South African National Biodiversity Institute (SANBI). 2017. Red List of South African Plants [Online]. Available at <http://redlist.sanbi.org/index.php> [Accessed October 2017].

