

PASSIONATE CUSTODIANS OF OUR FLORA: 15 YEARS OF PUBLIC INVOLVEMENT IN PLANT MONITORING

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South African National Biodiversity Institute
Custodians of Rare and Endangered Wildflowers



HOW CREW CAME ABOUT?

- Model copied from the Protea Atlasing project: ceased in 2003
- NBI-SANBI: broadened mandate
- ✓ **The Institute: must monitor and report regularly to the Minister on**
 - (i) **the conservation status of all listed threatened or protected species**
- ✓ **must coordinate programmes to involve civil society in**
 - (i) the conservation and sustainable use of indigenous biological resources; and
 - (ii) the rehabilitation of ecosystems;

<https://www.sanbi.org/about/sanbi-mandate>



CREW OBJECTIVES

To monitor Species of conservation Concern in their natural habitat (s)

Update information on status, abundance and distribution of these species: Red list of South African Plants

Work with relevant stakeholders towards plant conservation initiatives

Engaging citizen scientists in plant monitoring activities

Raise awareness on plants through educational activities



WHY CREW IS NEEDED?

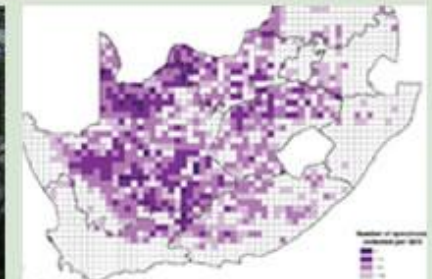
- Along with Brazil and Indonesia SA is one of the mega-diverse countries (one of the richest in plant and animal diversity)
- Out of 25 biodiversity hotspots SA has 3
- South Africa has 2700 plant species that are threatened with Extinction.
- South Africa has more species of plants that have gone extinct than any other country in the world.

<http://biodiversityadvisor.sanbi.org/planning-and-assessment/plant-conservation-strategy/>

South Africa's Strategy for Plant Conservation

OBJECTIVE 1: Plant diversity documented

TARGET 3



South Africa's Strategy for Plant Conservation

OBJECTIVE 2: Plant diversity conserved

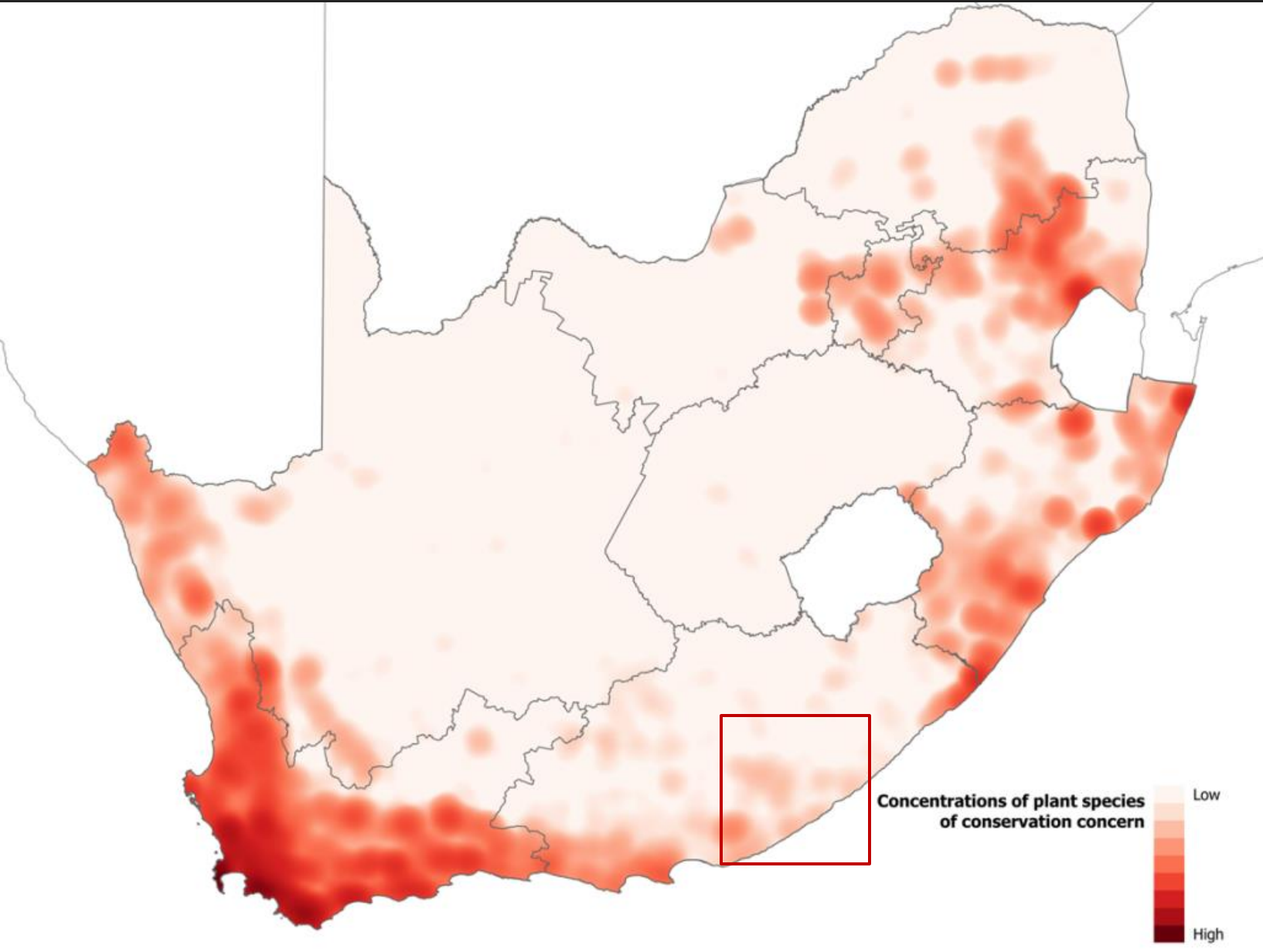
TARGET 5



Target 5 outcomes for 2020

- 5.1. Important areas for plant diversity in South Africa identified based on botanical richness and endemism patterns.
- 5.2. Important areas for plant diversity incorporated into biodiversity planning processes and protected area expansion strategies.

UNDER-SAMPLED AREAS AND CONCENTRATION OF SPECIES OF CONSERVATION CONCERN



ACTIVITIES YOU CAN DO WITH CREW



ADOPTING KEY SITES



- Durbanville Race course
- *Leucadendron levisanus* CR

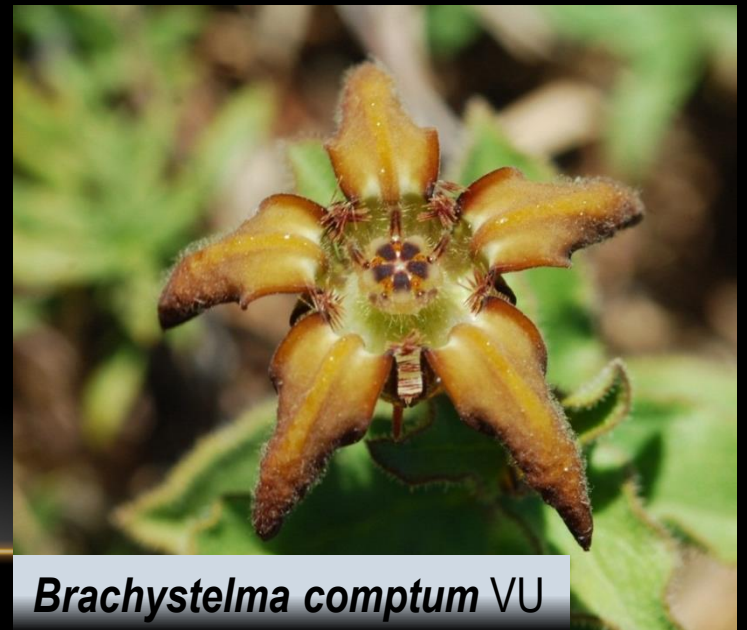


MUNICIPAL COMMONAGES

important for conservation of plants as they haven't been completely transformed for agriculture or housing

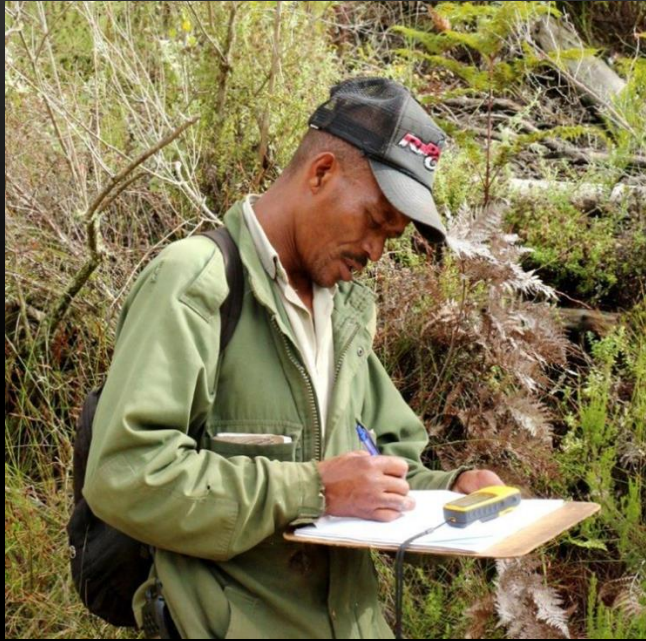


Eriospermum bracteum VU



Brachystelma comptum VU

MONITORING PROTECTED AREAS



WORKING WITH LANDOWNERS THROUGH THE STEWARDSHIP PROGRAMME

Most of the time our species of
conservation concern are found in
privately owned lands



DEMOGRAPHIC MONITORING

- Basic life history traits; life span, flowering period, pollinators, and seed recruitment
- Understand impact of threats e.g. climate change
- Predict future changes
- come up with management plan
- Capacitate our volunteers



MONITORING OF SPECIES KNOWN FROM A SMALL GEOGRAPHIC AREA



Acmadenia kiwanensis CR



TYPES OF VOLUNTEERS IN OUR PROGRAMME

- Individuals interested in knowing the flora of their respective areas
- Scientists working on specific groups
- Conservation agencies
- Regional/Provincial planners



GROUP SETTING



Conservation agencies and local plant enthusiasts



Eastern Cape Drakensberg CREW group

- Combination of citizen scientists and local conservation agencies
- CREW talk, plant presses, plant collecting and pressing & collecting permits :done

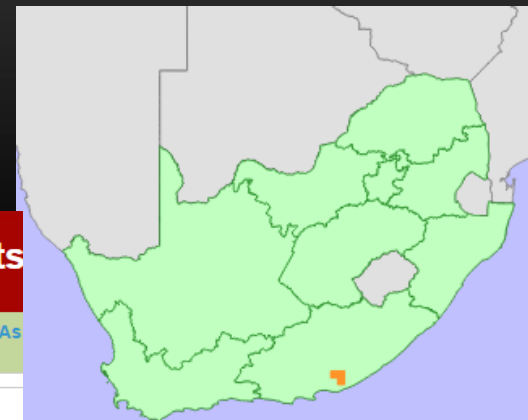
HOW THE CREW DATA IS BEING USED?

- For reporting via the National Red list of South African plants
 - In the provincial conservation plan as well as land-use decision making processes (e.g. EIA)
 - Contributes to extension programmes; biodiversity stewardship
-

For reporting via the Red List of South African Plants



<http://redlist.sanbi.org>



SANBI Biodiversity for Life
South African National Biodiversity Institute

Red List of South African Plants

[Red List statistics for EIAs](#)
[Summary of recent changes](#)
[National Red List categories](#)

A REVISION OF THE GENUS CINFRARIA (ASTRACEAE, DENOCEON

upon Klipriviersberg to southward, April 1905. *Rand* 1295 (holotype BM); Thornrose Kloof, Roppies, 13 April 1905. *Mass* 17894 (f); Mondree, 6 April 1925. *Loos* & *Balkwill* 302 (E, J, PRE); Suikerbosrand Nature Reserve, 7 May 1998. *Cron*, *Plab* & *Mills* 485 (J, K, PRE); Heidelberg, amongst rocks, April 1927. *Munro* 357 (PRE); Brakfontein 13, 43 miles SE of Johannesburg, 7 miles E of Meyerton, 18 May 1956. *Moq.*, *Cron* & *Rand* 14562 (J).

HABITAT. In grassland and seeps on south- and south-facing slopes of hills, amongst rocks and often associated with *Protea caffra* Meisn., *Cassia paniculata* Eckl. & Zeyh. and ferns such as *Pteridium* and *Cheilanthes*. Ventersdorp Basic Lava or basal 1500–1850 m.

CONSERVATION STATUS. *Galearia longipes* was previously assessed as Endangered: EN B1ab(i, ii, iii, iv, v) + 2ab(i, ii, iii, iv, v) C1+2a(i) (Plab & Victor 2002), but has been monitored and downgraded to Vulnerable: V D2 (Plab & Victor *pers. comm.*) as its populations are currently stable. This species is endemic to Gauteng and is threatened by urban development, habitat fragmentation and spread of alien plants, notably blackberries (*Rubus* spp.) and wattle (*Acacia mangium* [L.] Winkl.). It has very specific habitat requirements and is fairly restricted in distribution, although it does occur in the Suikerbosrand Nature Reserve and the Klipriviersberg-Nanus Reserve where it is protected.

NOTES. This species, described by Moore (1909) on based on specimens collected by Rand from the Klipriviersberg, south of Johannesburg, was uncollected for 46 years, until it was rediscovered after a determined search over a number of years in the



Browse

- Genera: A
- Genera: B
- Genera: C
- Genera: D
- Genera: E
- Genera: F
- Genera: G
- Genera: H
- Genera: I
- Genera: J
- Genera: K
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- Genera: P
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- Genera: R
- Genera: S
- Genera: T
- Genera: U
- Genera: V
- Genera: W
- Genera: X
- Genera: Y
- Genera: Z

Home >> Genera: A >> Genus: Agathosma

Agathosma bicornuta R.A.Dyer

Taxonomy

Scientific Name *Agathosma bicornuta* R.A.Dyer
Higher Classification Dicotyledons
Family RUTACEAE

National Status

Status and Criteria Endangered A2ac; B1ab(i,ii,iii,iv,v)

Assessment Date 2006/01/17

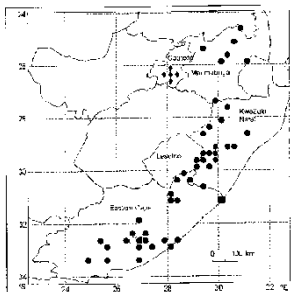
Assessor(s) A.P. Dold, T. Trinder-Smith & J.E. Victor
Justification A population reduction of at least 50% is estimated based on the local extinction of 50% of subpopulations known through historical records due to overgrazing and too frequent fire in the past 40 years (generation length 20 years). EOO < 600 km², four remaining locations continue to decline due to ongoing habitat degradation as a result of overgrazing.

Distribution

Endemism South African endemic
Provincial distribution Eastern Cape
Range Grahamstown.

Habitat and Ecology

Major system Terrestrial



Map 7. Known distribution of *Galearia longipes* (●) and *G. gossypifolia* (●), *G. vagana* (□) and *G. sphaerocarpa* (■).



Red list and Environmental Impact Assessments


SANBI SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE

Red List of South African Plants

Red List statistics | Summary of recent changes | National Red List categories | Assessment method

Home >> Genera: M >> Genus: Moraea

Moraea calcicicola Goldblatt



Taxonomy


Scientific Name **Moraea calcicicola Goldblatt**
 Higher Classification Monocotyledons
 Family IRIDACEAE

National Status

Status and Criteria **EN B1ab(ii,iii,v)+2ab(ii,iii,v); C2**
 Assessment Date 2006/11/25
 Assessor(s) P. Goldblatt, D. Raimondo & K. Naidoo
 Justification A highly range-restricted species (EOO 60 km²), known from three locations, all of which have fewer than 200 mature individuals. Declining due to urban expansion of Saldanha and limestone mining for cement.

Distribution

Endemism South African endemic
 Provincial distribution Western Cape
 Range Saldanha



Habitat and Ecology

Major system Terrestrial
 Major habitats Fynbos
 Description Limestone hills

Threats

Habitat loss

TABLE 4.1. Guidelines on EIA recommendations for taxa of conservation concern found on proposed development sites.

Status	Criterion ^b	Guideline for Recommendation
*Critically Endangered	PE	No further loss of natural habitat should be permitted as the taxon is currently considered possibly extinct, and all known subpopulations have been lost. The subpopulation in question is likely to be newly discovered and the only remaining subpopulation of this taxon.
Critically Endangered	A,B,C,D	No further loss of natural habitat should be permitted as the taxon is on the verge of extinction.
Endangered	B,C,D	No further loss of habitat should be permitted as the taxon is likely to go extinct in the near future if current pressures continue. All remaining subpopulations have to be conserved if this taxon is to survive in the long term.
Endangered	Listed under A only	If this taxon has a restricted range, EOO < 2 000 km ² , recommend no further loss of habitat. If range size is larger, the taxon is possibly long lived but widespread, and limited habitat loss may be considered under certain circumstances, such as the implementation of an offset whereby another viable, known subpopulation is formally conserved in terms of the National Environmental Management: Protected Areas Act (Act 57 of 2003), and provided that the subpopulation to be destroyed does not occur (i) within a threatened ecosystem or (ii) within an area required for biodiversity conservation in terms of a relevant spatial biodiversity plan or (iii) on a site associated with additional ecological sensitivities.
*Vulnerable	D	This taxon either constitutes less than 1 000 individuals or is known from a very restricted range. No further loss of habitat should be permitted as the taxon's status will immediately become either Critically Endangered or Endangered, should habitat be lost.
Vulnerable	B,C	The taxon is approaching extinction but there are still a number of subpopulations in existence. Recommend no further loss of habitat as this will increase the extinction risk of the taxon.

RED LIST USED FOR ENVIRONMENTAL IMPACT ASSESSMENTS

WHAT HAVE WE ACHIEVED SO FAR



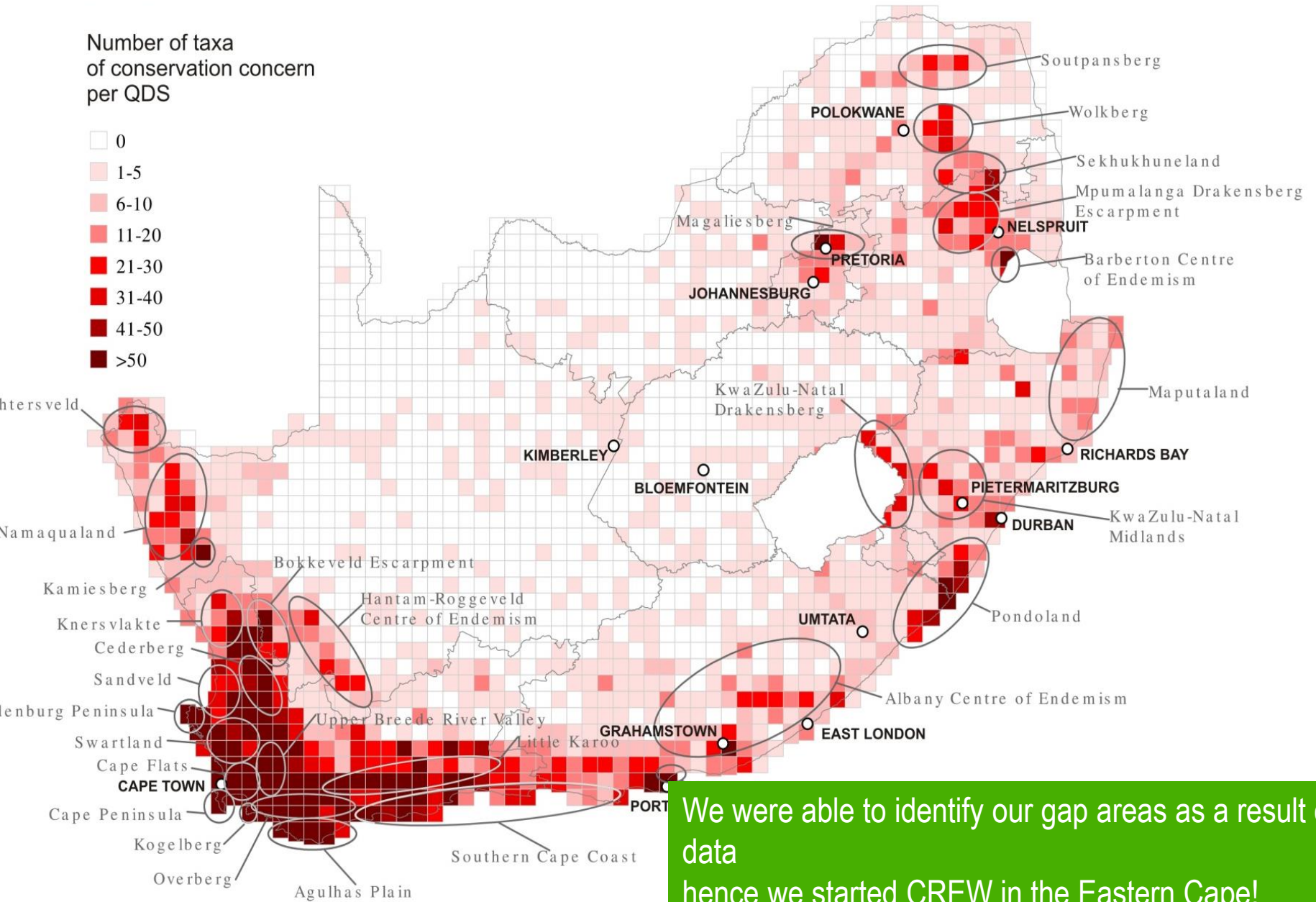
Lachenalia convallarioides



Lotononis harveyi

South Africa

Number of taxa
of conservation concern
per QDS



We were able to identify our gap areas as a result of this data hence we started CREW in the Eastern Cape!

Improved knowledge of SA's flora and its distribution

2553 species of conservation concern: stats from RL published in 2009, now 2700

Plants in Peril

100 of South Africa's highly threatened plant species and the people protecting them

D. Raimondo, K. Grieve, N. Helme, R. Koopman and I. Ebrahim

Encephalartos latifrons, Critically Endangered

Records from the late 19th century suggest that this cycad from the Eastern Cape was always scarce but this robust plant with densely packed spiny leaflets has been further impacted by land use and it is highly sought after by collectors. Loss of habitat and removal from the wild over the past 50 years have reduced a rare plant to a critical situation with <70 mature plants in the wild. However, a few farmers in the Eastern Cape have been protecting some of the remaining plants and are even propagating seedlings for restoration. In 2006 a Population and Habitat Viability Analysis was carried out to examine management and recovery options and this led to a Biodiversity Management Plan for the species in 2010.





Macowania revoluta DD



Agathosma gonaquensis CR



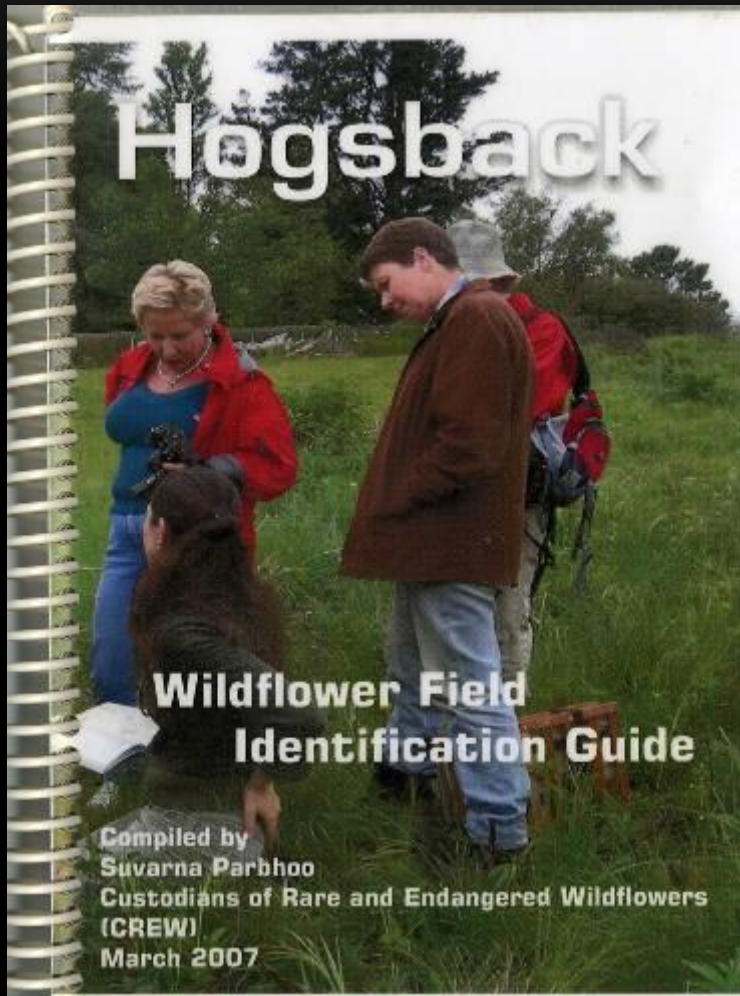
Tulbaghia cominsii CR PE

WHO IS A SUITABLE CREW VOLUNTEER

- Any individual passionate about environment
- No need for formal botanical training
- Being interested in plants is the key!



WHAT DO WE PROVIDE TO OUR VOLUNTEERS?



TRAINING WORKSHOPS



SPECIALISTS TALKS DURING OUR ANNUAL WORKSHOPS



Looking forward to botanising
with you....

