

Custodians of Rare and Endangered Wildflowers (CREW) Programme

Annual Report 2017/2018



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Contents

1. Project purpose and mode of doing the work	3
2. Area of operation	3
Figure 1: Map illustrating locality of CREW groups	4
3. Number of sites monitored	5
Figure 2: Number of sites surveyed by each CREW node	5
4. Number of plants of conservation concern monitored over time	6
Figure 3: Number of species of conservation concern surveyed by each node	6
5. Interesting finds in 2017	7
5.1 Swartland CREW	7
5.2 Fourcade Botanical Group	8
5.3 Midlands CREW	9
5.4 Gauteng CREW	10
6. Contributions to South Africa's Strategy for Plant Conservation targets	11
6.1 Karoo BioGaps Project, contributing to Target 3	11
6.2 Critical Habitats Project	12
6.3 CREW collaborating with the MSB project to achieve Target 8	13
6.4 CREW Human Capital Development project	15
a) Higher Education Institutions	15
b) Citizen Scientists	16
7. CREW working with conservation agencies and adding to their datasets	17
7.1 Biodiversity Stewardship support	17
7.2 Provincial agency support	18
7.3 Municipality support	18
8.1 CREW Financial Report 2017/2018	19
8.1 Income Report	19
8.2 Expenditure Report	19
9. CREW Team Profile	20

1. Project purpose and mode of doing the work

The Custodians of Rare and Endangered Wildflowers (CREW) Programme involves citizens from different socio-economic backgrounds to collect specific monitoring information when surveying South Africa's plants of conservation concern. In addition to capacitating the network of citizen scientists, the CREW Programme links its citizen scientists with their local conservation agencies and particularly with local land stewardship initiatives to ensure the conservation of key sites for threatened plant species.

The programme is jointly funded by the Botanical Society of South Africa and the South African National Biodiversity Institute (SANBI), with the operations of the Cape Floristic region being funded by the Mapula Trust. This novel citizen science model programme is the longest-running plant monitoring programme nationally. The CREW programme is imbedded within the SANBI's Threatened Species Programme, which feeds into the national and global outputs of the national plant conservation strategy. Furthermore, CREW contributes to Programme 6 of SANBI's strategic objectives – 'drive human capital development, education and awareness in response to SANBI'S mandate'.

2. Area of operation

CREW began in 2003 in the only hotspot to encompass an entire floral kingdom – the Cape Floristic Region (CFR). The programme expanded to the KwaZulu-Natal province in 2006, Mpumalanga in 2007, Eastern Cape and Limpopo in 2013 and Gauteng in 2015.

The CREW nodes support the citizen scientist groups by providing hands-on training, resources and identification courses along with connecting the groups with plant specialists. Additionally, the nodes are responsible for extracting priority species relevant for each group while ensuring relevant information (locality, flowering time, identification sheets showing the species' distinguishing features and images) for each species is provided to the citizen science groups to guide their plant surveys. This information is discussed at planning meetings arranged with each of the groups, thereby setting-up a fieldtrip calendar for each region.

The number of citizen scientists in the Eastern Cape is much lower than the CFR and the rest of the summer-rainfall region. The node has formed partnerships with the Eastern Cape Parks and Tourism Agency (ECPTA) and other relevant conservation partners to create a CREW stronghold in the province.

During 2017 the programme has initiated four citizen science groups in the summer-rainfall region – East London (strengthening the partnership with SANBI's new Kwelera National Botanical Garden, Umzimvubu District (Eastern Cape), Battlefields (KwaZulu-Natal) and Venda (Limpopo). We are really excited to begin working in our data gap areas. Interestingly, the champion of the Rhodes group made contact to start up plant monitoring in his region via the CREW Facebook page – the power of social media is becoming more evident in our work – this may become a group on its own or merge with the Umzimvubu group.

Thus, the CREW Programme now has 35 groups across South Africa, comprising over 830 dedicated citizen scientists, largely members of the Botanical Society. Citizen scientists range from students to retirees, all with unique CREW experiences, with some groups having been active for more than a decade.

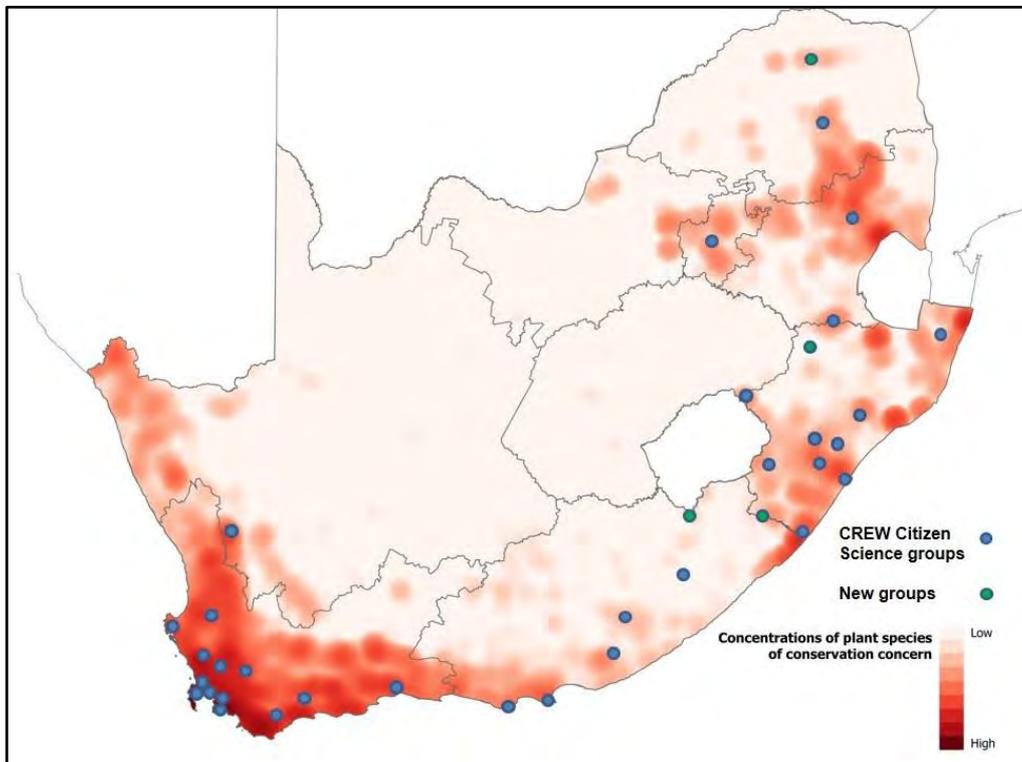


Figure 1: Map illustrating locality of CREW groups

The map above illustrates where each of the groups are located, which is in line with the national representation of areas of high concentrations of plants of conservation concern. The new groups are represented in green. The images below showcase each of the new CREW groups.



Rhodes Group



Umzimvubu Group



Battlefields group



University of Venda students

3. Number of sites monitored

The CREW programme has maintained an above average number of sites visited as well as the number of plant species surveyed, as illustrated in the graphs below.

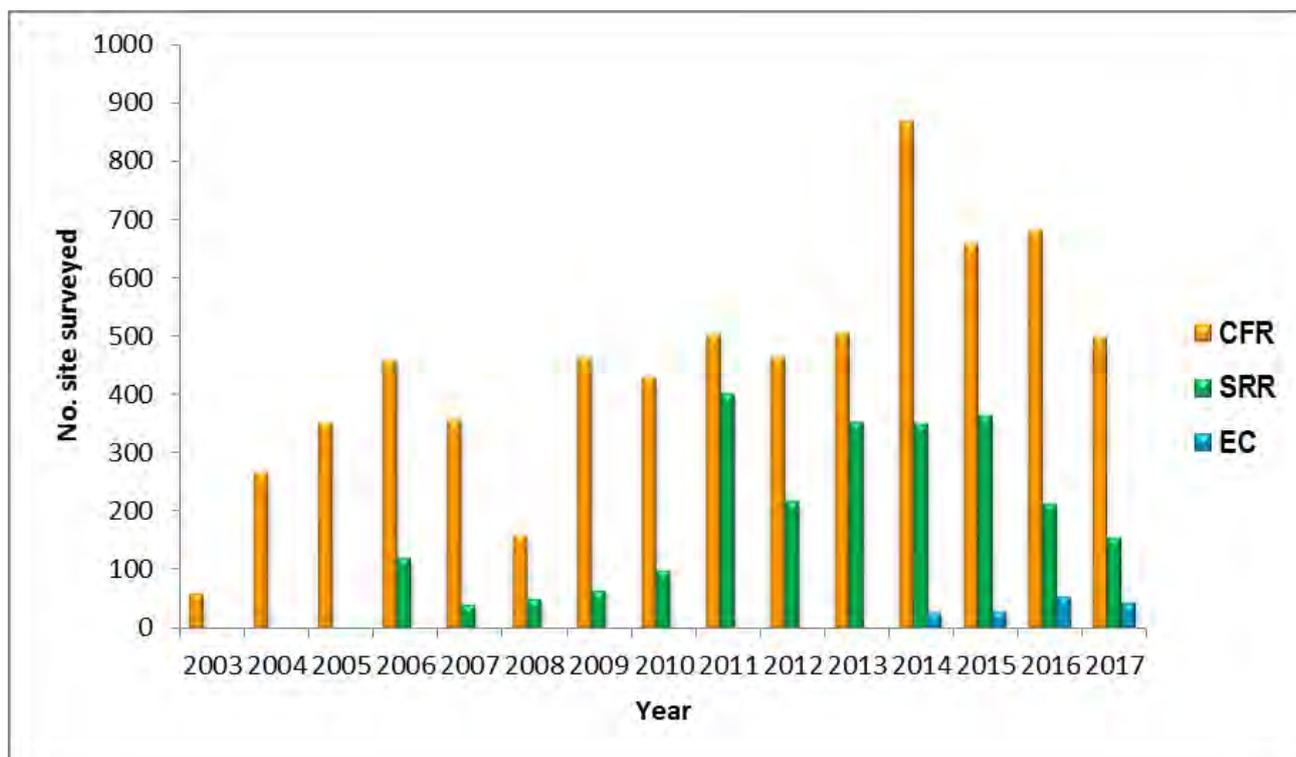


Figure 2: Number of sites surveyed by each CREW node

The graph illustrates data collected from the inception of the CREW programme in the Cape Floristic Region (CFR) and the gradual increase in data as the programme expanded to the summer-rainfall region (SRR) and the Eastern Cape.

The CFR data is dramatically increased from the graph presented in last year's report since all historical data has now been captured, showing updated figures of sites surveyed. All nodes have shown a decrease in the number of sites visited from 2016 to 2017 due to the drought conditions currently being faced in the Cape Floristic Region in particular. A 'data entry fee' has been introduced for the annual CREW workshop to ensure that citizen scientist that are not part of a formal CREW group submit datasheets of the plant species of conservation concern they come across on their own fieldtrips.

The Eastern Cape node has done slightly fewer trips in 2017 compared to 2016, but has done well in finding species that they have not recorded before.

4. Number of plants of conservation concern monitored over time

The Cape Floristic Region concentrated on plant species listed as Critically Endangered and Data Deficient as part of the Critical Habitats project (see Section 6.2). Since the number of species within this project is much higher in the Cape, the summer-rainfall region's focus was to continue to survey species listed as a priority by the Red List Team, while targeting a few species from the new project. A species is regarded as a priority based on the number of records, date when the species was last recorded and precision of localities for the species. Efforts to increase data for these species would better enable the Red List team in providing good quality data for conservation plans and other land use decision products.

We have been obtaining data via iSpot in recent years. However, the website's upgrade last year led to major dysfunctionality with iSpot and SANBI has decided to migrate from iSpot to iNaturalist – a much more powerful tool with added functionality. This change has meant that the CREW Programme is awaiting a few iSpot records from the Open University. We are enthusiastic about the iNaturalist platform and have begun training nationally to increase awareness of this tool and thereby increasing the amount of data received.

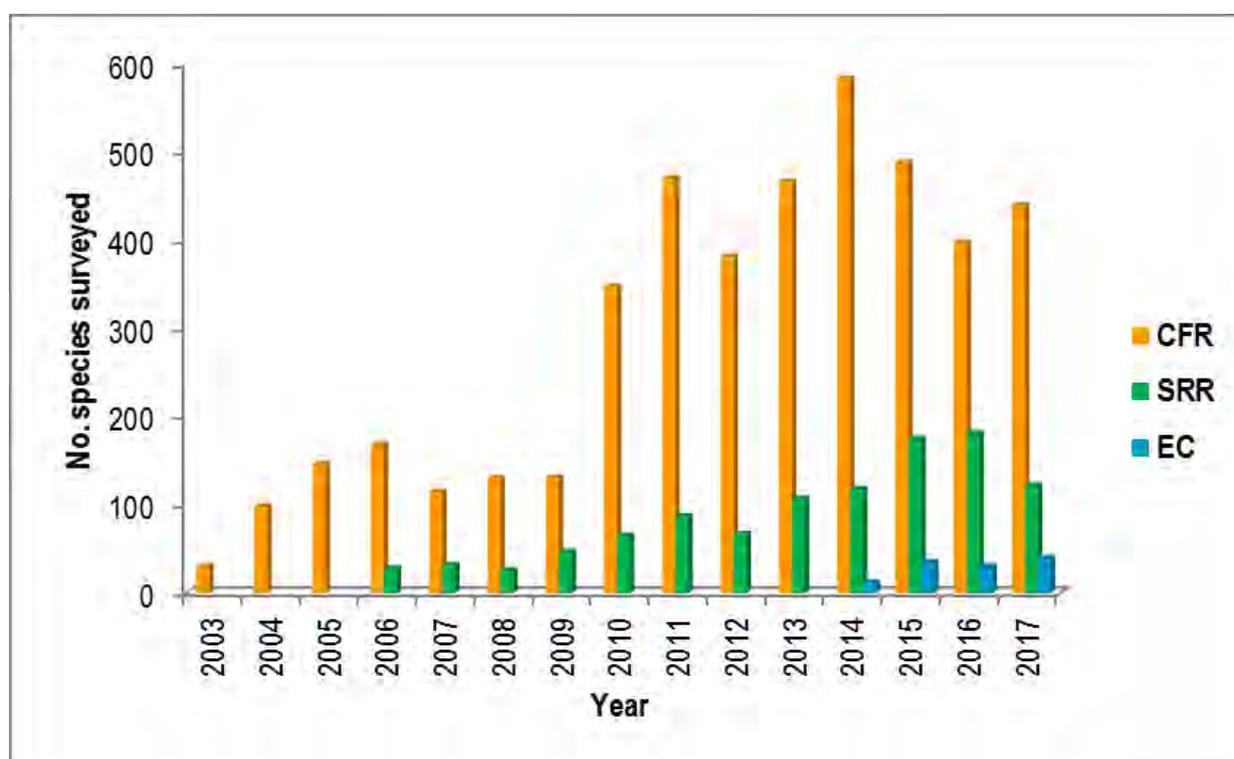


Figure 3: Number of species of conservation concern surveyed by each node

The number of plant species of conservation concern surveyed over the last year in particular shall be discussed. The CFR surveyed just under 50 more species of conservation while the Eastern Cape node saw yet another annual increase of 10 species.

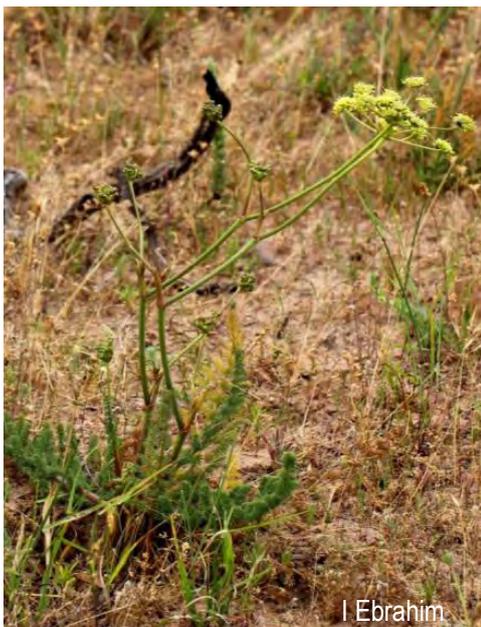
Each group within the summer-rainfall region held detailed planning meetings whereby a total of 110 fieldtrips were scheduled, but only 79 fieldtrips were undertaken, for various reasons. The drop in the number of species of conservation concern recorded is due to the Mpumalanga and Limpopo groups being delayed with their data submission for the year.

5. Interesting finds in 2017

This section shall provide a glimpse of the remarkable plant species CREW citizen scientists have stumbled across over the past field-season. We have seen amazing initiatives growing this year from some of the newer groups that we are engaging. The leadership quality of the CREW champions are fundamental for building the group and we are now seeing that some of our long-standing champions are now starting to hand over the reins to younger members of the group. This transition is encouraging and shows that we are holistically working towards the long-term sustainability of the citizen science groups. Interestingly, the social media platform is proving to bring in volunteers and interest in areas that CREW has not started working in. Below are case studies of four CREW groups.

5.1 Swartland CREW

Initiated in 2016, the handful of volunteers forming this group are from the Riebeek Valley in the Western Cape. Being a new group, their fieldtrips are attended by the older Tygerberg and Blouberg CREW groups, to guide the group on conducting field surveys in the renosterveld. Working in this vegetation type is tricky as it's very seasonal, with most species flowering in a narrow window between August and October, involving a flurry of fieldwork. The group's weekly visits to a site owned by Swartland Municipality on the outskirts of Malmesbury resulted in a list of about 180 species. One of the species found is the Endangered *Hesperantha sufflava* (CR), which we thought was extinct after the last known population was bulldozed for a housing development. Discussions are underway to raise the profile of the site and to initiate Biodiversity Stewardship options. The group hosted a successful bioblitz in Riebeek-Kasteel where they found a small population of *Cynorhiza meifolia* (DD). This find is a significant range extension, and the first sighting in 180 years as it is only known from the type specimen collected near Porterville in 1837.



Ibrahim



S. Cousins

Cynorhiza meifolia (Data Deficient).

Group with Anthony Magee looking at *C. meifolia*.

5.2 Fourcade Botanical Group

Based in St Francis in the Eastern Cape, the FBG has been going strong for 17 years. The group champions were employed in the education sector and naturally focused on holiday activities and developing the FBG Juniors group. Apart from their regular monitoring, the group has been requested to survey sites and compile species lists for landowners (particularly for those interested in eco-tourism), architects, and developers and, more recently, non-government organisations working towards Biodiversity Stewardship. The past year has been remarkable for the group as they recorded 12 species new to them – including *Bulbine cremnophila* (Rare) and *Freylinia crispa* (VU). Furthermore, their post fire monitoring in the Van Stadens Mountains yielded populations of *Afroaster laevigatus* (EN) and *Aspalathus lanceicarpa* (Rare), which only make a prominent appearance in the first year after fire.



Afroaster laevigatus (EN)



Freylinia crispa (VU)



The team busy with demographic monitoring.



FBG Juniors pleased with their community service efforts.

5.3 Midlands CREW

In 2016, the CREW KZN node decided to combine the Midlands, Umvoti and Mkhambathini groups to allow for a bigger pool of citizen scientists working in the KwaZulu-Natal Midlands Mistbelt Grasslands vegetation type, classified as Endangered, as 53% of this vegetation type has been transformed and very little is protected. This has meant learning new habitats and species groups as the geology and altitude are different. The amalgamated group has worked well and more fieldtrips were planned with higher attendance, volunteers took ownership of fieldtrip sites closest to them, which correlated with a higher submission of data and iSpot observations. The Midlands group fieldtrips are frequented by botany, environmental science and pollination biology students from UKZN PMB campus, allowing for knowledge exchange between the citizen scientists and the students. Over the past year, the Midlands and Durban groups have regularly joined each other's fieldtrips despite the distance covered; the target sites and species intrigued the enthusiastic citizen scientists. The highlight over the past field season was visiting a site in Noodsberg that was brought to CREW's attention by the Lepidopterists' Society of KZN. This farm has been with the family for several generations and a large section of land has been preserved for conservation. In the three concurrent years of visiting this site, the group continues to find new species of conservation concern, including *Rapanea melanophloeos* (LC), *Gymnosporia woodii* (EN), and several Vulnerable species – *Encephalartos ghellinckii*, *Hermannia sandersonii*, *Turraea pulchella*, and the Kranskop endemic which was not seen for several years, *Macrotyloma coddii*.



The Midlands CREW citizen scientists



M. coddii



H. sandersonii



E. ghellinckii

5.4 Gauteng CREW

Gauteng is the smallest, most densely populated of South Africa's nine provinces, with an ever-increasing demand for urban land rapidly. Yet the province is rich in biodiversity, boasting two biomes (savanna and grassland), and 23 endemic plant species of which nine are of conservation concern. The Gauteng CREW was formed in 2014 and provides its citizen scientists (currently standing at just over 70), with the opportunity to see and explore Gauteng's wild places, which are often overlooked within the province's typical built-up landscapes. The group comprises professional and amateur botanists, students and youngsters who share their knowledge and learn from one another.

The group began with an extensive assessment of succulents before turning their attention to orchids to excite and encourage volunteers. Over the past year they venture slightly further afield to the far northern reaches of Gauteng and into the North West Province, where no CREW group currently operates, in the hopes of discovering and recording more interesting plant species with high conservation value.

In August the group undertook a fieldtrip to Hekpoort in the Magaliesberg, which became their highlight of the season! The group surveyed a reasonably sized, range-restricted *Aloe peglerae* (CR) population; confined to the Magaliesberg and Witwatersberg in the Gauteng and North West provinces and is under severe threat from collection through horticultural trade. They were lucky to find two other species of conservation concern – *Adromischus umbraticola* subsp. *umbraticola* (NT) and *Anacampseros decapitata* (VU) at the same site.



Delosperma purpureum (EN) monitoring.



Holothrix randii (NT)



Andrew Hankey briefing the group.



Aloe peglerae (CR)

Photos: M. Pretorius

6. Contributions to South Africa's Strategy for Plant Conservation targets

South Africa's Plant Conservation Strategy was developed under the leadership of SANBI, the focal point for the implementation of the Global Strategy for Plant Conservation nationally with support from the Botanical Society of South Africa (BotSoc). Through the development of this strategy, a network of botanists has been developed that includes conservation agencies, non-governmental organisations (NGOs) and academic institutions. It is this strong network that will ensure that South Africa's Strategy for Plant Conservation is implemented by 2020. The strategy includes 16 outcome-oriented targets, each of which, if implemented well, will help lead to improved conservation of plants. The targets range from work to document, describe and assess the conservation status of plants; through to targets to conserve plants in situ and ex situ. For more information about the strategy see <http://biodiversityadvisor.sanbi.org/planning-and-assessment/plant-conservation-strategy/>

Although several targets of South Africa's Strategy for Plant Conservation are relevant to the CREW Programme's objectives, the most significant contribution is to Target 7, which advocates for at least 75% of known threatened plant species conserved in situ by 2020. The nature of the CREW Programme inevitably contributes to Target 14 (the importance of plant diversity is incorporated into communication, education and public awareness programmes) and Target 15 (trained people working with appropriate facilities sufficient to meet national needs) of the strategy. The programme also plays a role in Targets 3, 5 and 8.

6.1 Karoo BioGaps Project, contributing to Target 3

SANBI has led a consortium of institutions to a successful funding grant from the Foundational Biodiversity Information Programme (FBIP), a joint initiative of the Department of Science and Technology (DST), the National Research Foundation (NRF) and SANBI, so that we can advance our scientific understanding of valuable Karoo ecosystems and contribute to informed decision-making. Under the BioGaps Project, the current scarcity of biodiversity data will be addressed through integrating and upgrading existing data for target species located in museums and herbaria around South Africa, and conducting detailed surveys for 14 representative taxonomic groups in areas targeted for shale gas exploration. For more information about this project see <https://www.sanbi.org/biogaps>

The CREW CFR node, over the past year, prioritised completing the detailed plant surveys within the 60 pentads and plots that were identified for the project. Thirty of these sites we marked as compulsory for each of the taxonomic groups to sample. Due to these data feeding into a fairly complex species distribution modelling analysis, the data had to be collected in a structured and repeatable manner; thus making the fieldwork much more intense. Furthermore, the drought conditions increased the challenges faced as there was a lack of flowering material. For each of the sites visited a comprehensive species list was compiled and as many specimens as possible collected. This resulted in an enormous amount of data and specimens generated for these areas that have previously been under-sampled. The CREW team sampled 23 of the compulsory sites and we organised bioblitzes to a further 12 non-compulsory pentads. This data will contribute to our understanding of the Nama Karoo Flora and help in identifying areas of conservation priority and ecological sensitivity for future decision-

making processes. The highlight of our fieldwork was finding an undescribed *Bulbine* species in the Bedford area, Eastern Cape.

6.2 Critical Habitats Project

The Critical Habitats Project feeds into Target 5 – Important plant areas for plant diversity identified based on botanical richness and endemism patterns and incorporated into biodiversity planning and protected area expansion – of the National Plant Conservation Strategy. In 2016 it was decided that to fulfil this target we would identify the most highly restricted plant species in the country. The main criteria set for the process was to identify all the species that occur at locality and/or their entire global distribution occurs in an area of less than 10 km². We did an initial screening of the SANBI threatened plant species database and 930 species were initially identified.

Last year, the CREW programme conducted an intense mapping exercise to verify all the records and to map the habitat of each species with the available data. Each of the team members assigned to this project received a subset of species to map and this was a very successful collaborative process that resulted in 537 species (of which 65% occur in the Western Cape) mapped and which meet the prescribed criteria. A further analysis of the data shows that 56% of these Critical Habitat species are outside of formal protected areas.

Site with highest number of restricted species. Coincidentally several of these sites have been included in provincial protected area strategies and are currently being targeted by the provincial Biodiversity Stewardship programmes. CREW has shared this data with certain provinces and NGOs working in the landscape. Surveying these species has, for many of our groups, become the fieldwork focus over the next few years whereby we shall verify their population status and conduct habitat condition assessments.

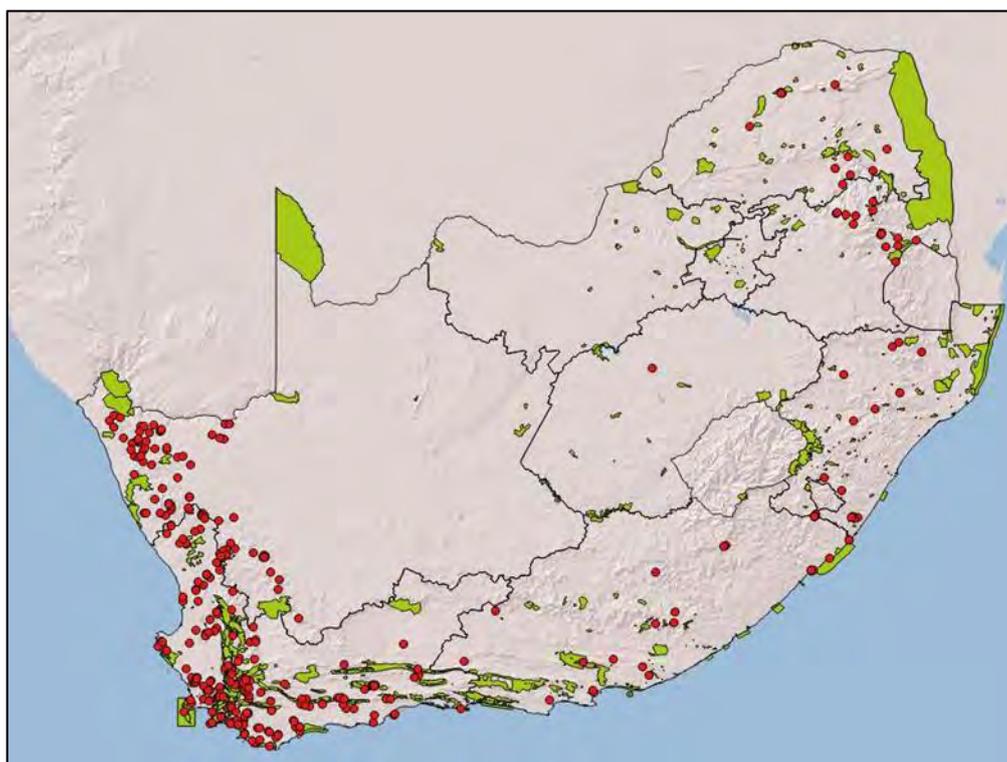


Figure 4: Distribution of Critical Habitat sites across South Africa

The Department of Environmental Affairs issued a directive to allow municipalities to initiate emergency water augmentation projects to circumvent Day Zero. In December 2017, CREW received data from Cape Nature highlighting the potential borehole drilling sites. It was evident that there was a lack of consideration of the biodiversity data in the borehole locality planning, leading to a workshop with concerned ecologists and conservation officials. The CREW team contributed to this workshop by providing threatened plant data, and subsequently identified two main sites of concern – Steenbras Dam and Wemmershoekvlei. As a result of this intervention, the City of Cape Town has established an environmental working group to advise on locations of the next drill sites as well as guaranteeing environmental compliance.

Having already drilled the boreholes at Wemmershoekvlei and started installing a pipeline, the municipality’s Environmental Control Officer was alerted and supplied with a detailed map (Figure 5) of the populations of threatened plants at the site. The map specified locality points for the species together with a polygon indicating the preferred habitat of the species.

The CREW CFR node arranged seed collecting of the affected species with SANBI’s Millennium Seed Bank (MSB) Partnership project. The area will be rehabilitated after the pipeline has been completed and the CREW Friends of Tygerberg Hills (FOTH) group will be involved in monitoring the site.

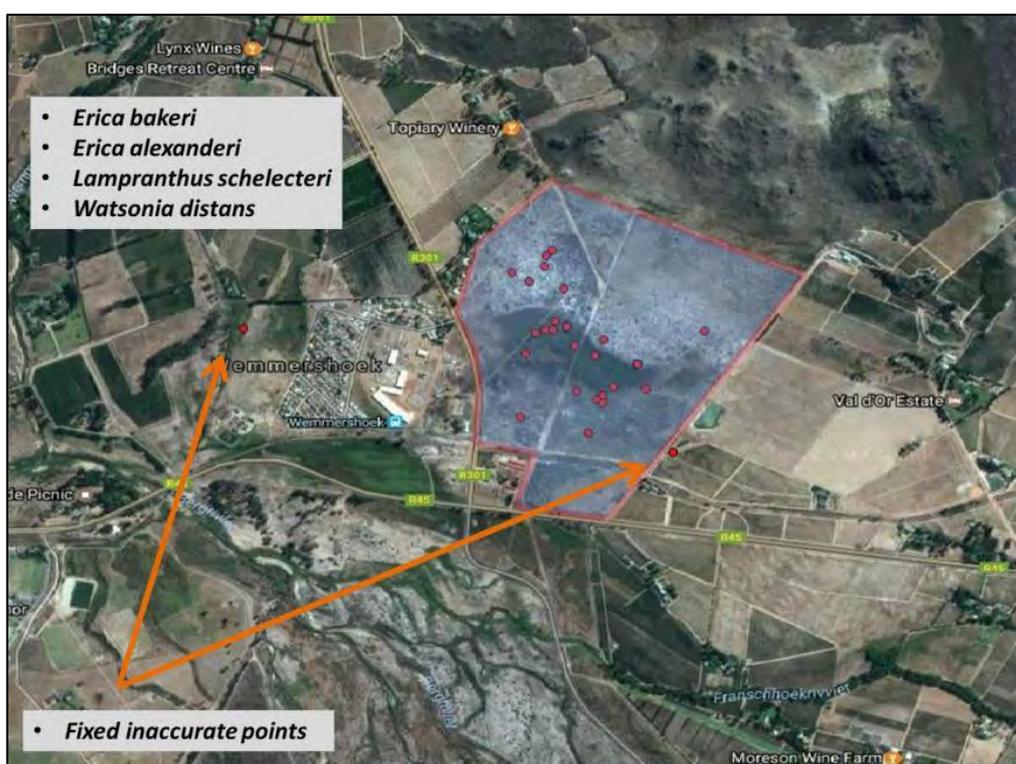


Figure 5: An example of the mapping process for the Critical Habitats project.

6.3 CREW collaborating with the MSB project to achieve Target 8

Through Target 8 – 60% of threatened plants conserved ex situ with 2% in active restoration programmes – the CREW programme has strengthened its collaboration with the MSB Partnership project and formed new partnerships with SANBI’s national botanical gardens (NBGs) nationally. The project began by mapping each NBG, overlaying the threatened plant species data, then used various sized buffers to select threatened species in close proximity to each of the NBGs. The mapping process allowed for the NBG’s horticulturists to add to their list of species for collections and for restoration

projects. Buffer sizes varied for each of the NBGs as it depended on the number of threatened species occurring around the NBG. In the Western Cape, where the concentrations of threatened plants are very high, a 20 km buffer was selected; whereas in the summer rainfall region the buffer was selected at either 50 or 100 km since the threatened species are much wider spread.

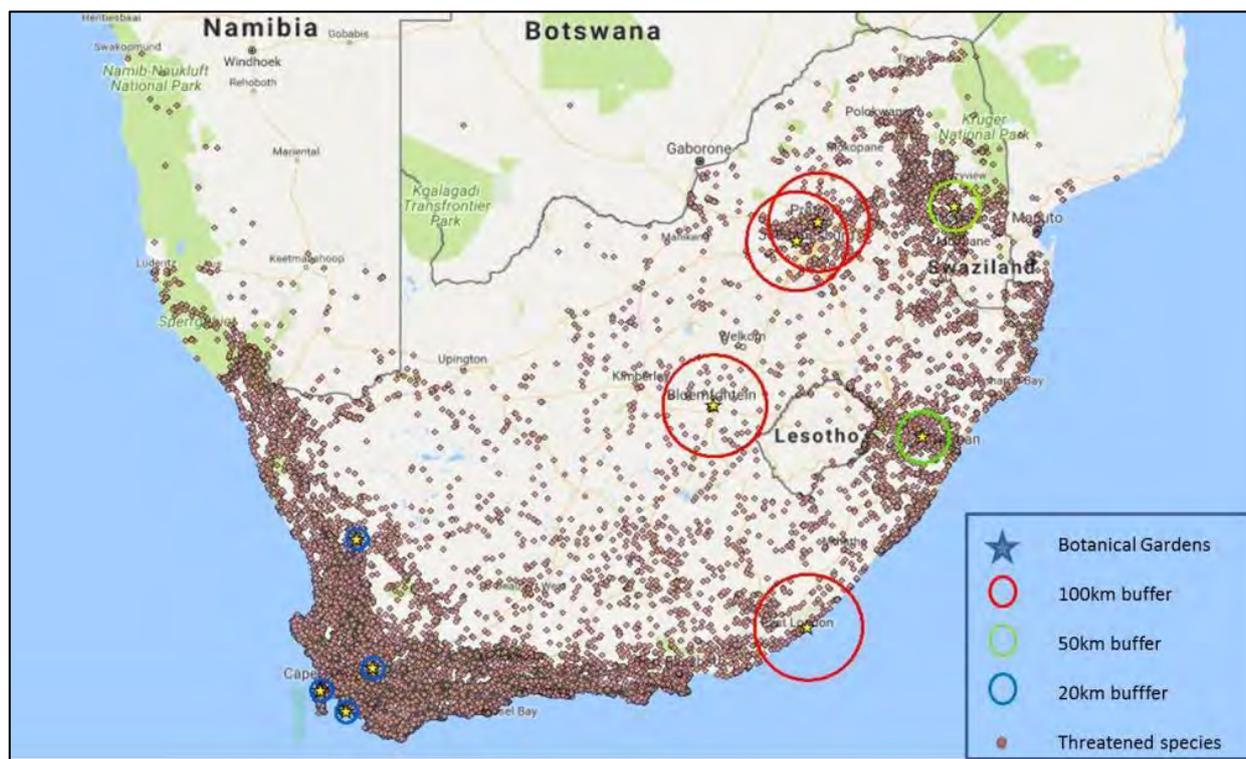


Figure 6: Map showing SANBI’s 10 national botanical gardens and buffers for each.

The CREW programme organised species prioritisation workshops at each of the NBGs at which the species lists were further interrogated using additional criteria to identify species that are of high conservation value, but are also species that are of horticultural importance. In addition, the CREW programme will be developing identification sheets of the priority species that have been identified for each NBG. The next phase of this project will be developing restoration projects with the NBGs.



Prioritisation workshops with SANBI’s Free State National Botanical Garden

6.4 CREW Human Capital Development project

a) Higher Education Institutions

In response to plant conservation being a scarce skill, the CREW Programme has introduced the CREW Human Capital Development project. The project is designed for 2nd or 3rd year Botany, Environmental Science, Horticulture and Nature Conservation students at higher education institutions across the country. CREW staff conduct a one hour lecture covering topics of South Africa's biodiversity, Plant Conservation Strategy, Red Listing, the CREW Programme, iSpot/iNaturalist and job opportunities within the plant conservation field. In addition, some universities request a fieldtrip either to monitor a threatened species or to learn plant families' characteristics.

The CREW summer-rainfall node has been leading this project since 2009 at the University of KwaZulu-Natal (PMB campus) and the Durban University of Technology. Over the years the node has extended the project to University of Zululand and Mangosuthu University of Technology. Last year, CREW engaged with students of University of the Witwatersrand, University of Pretoria and Tshwane University of Technology while the University of the Free State showed keen interest to host the CREW lecture in 2018. This engagement is increasing the number of students attending the CREW Gauteng and Midlands fieldtrips in particular.

The CFR node continue to work with the University of the Western Cape, Cape Peninsula University of Technology (CPUT) and Stellenbosch University. In addition to conducting the lecture and fieldtrip, the Eastern Cape node has assisted Rhodes University Botany Department's bi-weekly practical sessions (as per the Memorandum of Understanding between the university and SANBI) as well as helping the academic staff with a plant collecting fieldtrip.



CPUT students at Kenilworth Racecourse. SANBI Cape Town interns' fieldtrip to Harold Porter NBG.



University of Limpopo lecture.

b) Citizen Scientists

Each of the three CREW nodes organises specific hands-on training that will better enable the citizen scientists to achieve the programme's objectives. In the past year, the CREW CFR node arranged a host of iNaturalist training courses as well as a plant identification symposium and practical session at the annual workshop covering the genera *Othonna* and *Cotula* and the family Thymelaeaceae. The Eastern Cape node held plant pressing and basic identification courses with the new groups.

The summer rainfall node coordinated a range of courses, some held at universities, at no cost:

- Two identification courses on the family Asteraceae in Pretoria, facilitated by Paul Herman.
- Acanthaceae course facilitated by Kevin Balkwill at the CREW summer rainfall workshop.
- iSpot training in Gauteng and Limpopo.
- Edible plant workshop facilitated by Ernst Van Jaarsveld and Anton Cilliers in Limpopo.
- iNaturalist course at the CREW summer rainfall workshop as well as two sessions in Gauteng.



M. Pretorius

Gauteng Asteraceae course.



B. Egan

Edible plant workshop.



S. Parbhoo

Acanthaceae course by Prof. Kevin Balkwill.



S. Parbhoo



S. Parbhoo

iNaturalist course at the CREW summer rainfall workshop.

7. CREW working with conservation agencies and adding to their datasets

Species of conservation concern data are highly sensitive as many of these species are either highly localised or are targeted directly for trade. SANBI's Threatened Species Programme obtains and manages the spatial occurrence data collected from data partners who retain ownership of these data. In consideration of the complexity of the sensitive data, the Threatened Species Programme has endorsed 20 data sharing agreements with the provincial conservation agencies, a few municipalities, non-government organisations and biodiversity consultants.

CREW data combined with herbarium data and accurate distribution data for all threatened species surveyed during the year are shared with all nine provincial conservation agencies and were submitted to the provinces in May 2017. The data assist the provincial agencies in identifying Critical Biodiversity Areas, which is taken into consideration during the land-use planning and decision-making process.

7.1 Biodiversity Stewardship support

Most threatened plant populations occur on fragments of natural veld that are part of privately or communally owned land. One of the most effective ways to conserve threatened plant species is to engage with the local stewardship officers to build landowner awareness of the species that exist on their land. Some citizen scientists conduct regular visits to proclaimed Stewardship sites and provide feedback to landowners. The CREW programme has formed partnerships with provincial (Cape Nature and Ezemvelo KZN Wildlife) and municipal (eThekweni, Nelson Mandela Metropolitan and City of Cape Town) biodiversity stewardship programmes and is an active member in their Working Group meetings where, among other items, possible sites are discussed.

The CFR node focussed on supporting the expansion of Stewardship sites in the Ceres area over the past year. The CREW EC coordinator had undertaken the training provided by SANBI's Biodiversity Stewardship Programme to better understand the process and how to assist the province. She has since been actively involved in assisting with site visits, participating in the panel review process and presented about the CREW programme at the Stewardship forum held in Umtata.

The KZN Biodiversity Stewardship Programme has breathed fresh inspiration over the past year with productive working group meetings. Several non-government organisations have partnered with the provincial authority, Ezemvelo KZN Wildlife, to ensure the progress of biodiversity stewardship in the province. Regular meetings have led to the CREW programme forming new partnerships and being introduced to new stewardship sites. The summer rainfall node has collaborated with the Endangered Wildlife Trust (EWT) and conducted botanical surveys for two sites whereby one of these surveys has sparked interest for a new CREW group to be formed in the Newcastle area. The Durban, Pondoland, Wakkerstroom and Mpumalanga Plant Specialist CREW groups continue their involvement in surveying Biodiversity Stewardship sites

7.2 Provincial agency support

The CREW EC node's partnership with the ECPTA is growing with the other municipal officers joining the CREW Programme. The pilot project run in 2016 to build the capacity of the ECPTA rangers has resulted in two successful outputs during 2017. The first is the reserve compiling a plant species dataset and the second is SANBI building recent and accurate plant occurrence data in the gap areas as the specimens have been lodged at the Compton Herbarium.

7.3 Municipality support

As a response to the poor conservation of the indigenous, highly endemic and species-rich, yet critically endangered, KwaZulu-Natal Sandstone Sourveld Grassland vegetation, the eThekweni Municipality's Environmental Department prioritised purchasing various biodiversity rich sites. Much of the Durban CREW group's site surveys are undertaken on the municipality-owned sites that have been burnt prior to field season. It has been rewarding to find several plant species of conservation concern, knowing that the habitats are formally protected. The species lists generated feed both into the CREW node as well as the municipality's integrated development plans. The improved management of sites over the years is proof that citizen scientists have a big role to play within the local conservation agency, especially with the management of threatened species sites. Likewise, the Blaauwberg Conservation Area (BCA) and the Friends of Tygerberg Hills (FOTH) CREW CFR Groups have made remarkable contributions to the City of Cape Town's environmental department in identifying new areas to survey within the threatened vegetation types: Cape Flats Dune Strandveld, Cape Flats Sand Fynbos and Atlantis Sand Fynbos. The groups have found a number of new populations of plant species of conservation concern.



The CFR node citizen scientists undertaking field surveys in Stewardship sites.



The KZN node citizen scientists undertaking field surveys in Stewardship sites.

8.1 CREW Financial Report 2017/2018

8.1 Income Report

Funder	Description	Amount
SANBI	Salary: TSP Manager (20 % time)	R 118 000.00
	Salary: CREW Manager – Cape Floristic Region	R 487 757.32
	Salary: CREW Manager - Summer-Rainfall Region	R 487 757.32
	Salary: CREW coordinator - Eastern Cape	R 300 256.98
	Salary: CREW Support officer - Cape Floristic Region	R 487 757.32
	TOTAL	R 2 066 241.33
Botanical Society of South Africa	Salary: CREW KZN coordinator	R 240 000.00
	Salary: CREW EC project assistant	-
	Operations costs for summer-rainfall region	R 376 134.10
	TOTAL	R 545 706.43
Mapula Trust	Operations costs for CFR	R 545 706.43
	TOTAL	R 3 257 008.26

8.2 Expenditure Report

Budget Items	Cape Floristic Region		Summer-rainfall Region	
	Budget	Spent	Budget	Spent
Office costs	17 860.63	5994.80	17 000.00	3 434.88
Computer equipment	24 500.86	0.00	23 000.00	6 416.08
Conferences, meetings	33 288.71	34449.21	45 000.00	63 663.47
Air travel	16 830.62	37830.61	70 000.00	96 963.27
International travel				13 317.20
Fieldtrips	112 703.96	59290.69	25 500.00	7 256.27
Field equipment	8 575.30	3010.00	1 000.00	848.00
Vehicle usage	147 730.38	116530.26	8 000.00	39 314.35
Annual Workshop	72 737.05	39811.03	40 000.00	39 981.86
Support to CREW groups	80 852.84	107490.00	15 000.00	10 522.20
Identification courses			10 000.00	6 217.84
Herbarium plant identification fee	18 375.65	13900.00	10 000.00	2 822.26
Education activities	12 250.43	3 639.00	2 500.00	1 395.21
Student stipend	119988	119.988	30 000.00	3 230.00
Marketing			5 000.00	21 286.17
Staff training				13 703.16
TOTAL	R 545 706.43	R 418 306.60	R 302 000.00	R 330 372.22
Total Expenditure	R 748 678.82			

9. CREW Team Profile



In closing, the CREW Programme would like to express our deepest gratitude to each of our supporters, mentors and citizen scientists, for their time and energy in surveying botanical rich sites in addition to adding Human Capital to the CREW Programme. We gratefully acknowledge the financial support of the Botanical Society of South Africa; the Mapula Trust and the South African National Biodiversity Institute.

Domitilla Raimondo (Ms)

Head: Threatened Species Programme

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