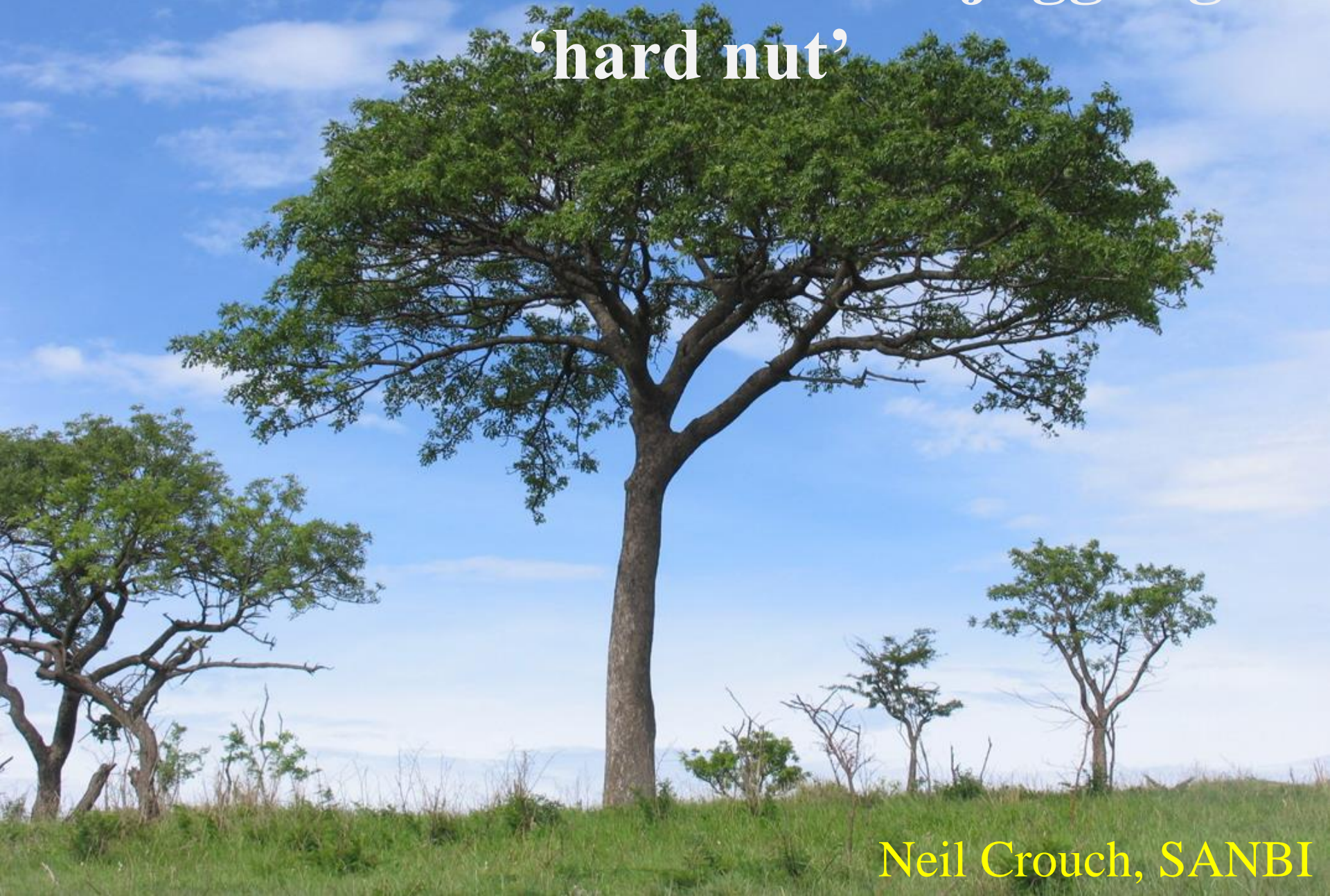


Sustainable use of Marula: juggling a 'hard nut'



Neil Crouch, SANBI

- **‘Sustainable’**, in relation to the use of a biological resource, means the use of such resource in a way and at a rate that-

- (a) would not lead to its long-term decline;
- (b) would not disrupt the ecological integrity of the ecosystem in which it occurs; and
- (c) would ensure its continued use to meet the needs and aspirations of present and future generations of people

Act 10 of 2004 (NEMBA)

24. Environment.-Everyone has the right-

(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-

(i) prevent pollution and ecological degradation;
(ii) promote conservation; and
(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.



The Constitution

of the Republic of South Africa, 1996



BIODIVERSITY ECONOMY STRATEGY (BES) FOR THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

BES objectives...

- **Biodiversity Economy Growth**
- **Growth in GDP**
- **Increase in employment**
- **Sustainability**
- **Transformation**

DEA Biodiversity Economy Strategy draft

- Chapter 6 of Act 10 of 2004 sought:
- ... (d) to ensure that the nation's indigenous genetic and biological resources are developed and utilized in an ecologically sustainable manner while promoting social and economic development, in particular in the areas where the indigenous genetic or biological resources and associated traditional knowledge is accessed.

Framing biodiversity conservation for decision makers: insights from four South African municipalities

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Keywords

Audience research; communication; implementation; land use planning; social marketing; sustainability; systematic conservation planning.

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Received

9 April 2010

Accepted

20 August 2010

Editor

Bill Adams

doi: 10.1111/j.1755-263X.2010.00149.x

Abstract

Priority maps for biodiversity conservation are increasingly aimed at their implementation by local governments in their land use decision making. However, these biodiversity planning products usually rely on the implicit assumption that biodiversity and related concepts are the appropriate ones for communicating the need to safeguard nature. We investigated the level of understanding of the terms “biodiversity” and “sustainability” of decision makers in four South African coastal municipalities and identified the prevalent frames of interpretation they held regarding nature conservation in land use planning. We demonstrate that understanding of the term “biodiversity” is very limited; however, the term is well linked to the natural environment. Conversely, the concept of “sustainability” is clearly established—but only marginally connected to nature. The frame analysis showed that the preservation of nature is regarded as fundamentally in opposition to socio-economic development. Conservation is frequently interpreted as being a socially unjust endeavor, disrespectful toward people and lacking realism. We use these insights to provide recommendations on how conservationists should proceed to reframe biodiversity issues in order to more effectively mainstream conservation plans into local land-use decision making.

Four South African municipalities – local land use decision makers

Identified prevalent frames of interpretation:

“The frame analysis showed that the preservation of nature is regarded as fundamentally in opposition to socio-economic development.

Conservation is frequently interpreted as being a socially unjust endeavor, disrespectful toward people and lacking realism”.

Wilhelm-Rechmann & Cowling (2010)

Top 7 species earmarked for sustainable harvesting



Aloe ferox



**Adansonia
digitata**
Baobab



**Sclerocarya
birrea**
Marula



**Cyclopia
intermedia**
Honeybush



**Cyclopia
genistoides**
Honeybush



**Agathosma
betulina**
Buchu



**Harpagophytum
procumbens**
Devil's claws

Marula

Taxonomy

Scientific Name	<i>Sclerocarya birrea</i> (A.Rich.) Hochst. subsp. <i>caffra</i> (Sond.) Kokwaro
Higher Classification	Dicotyledons
Family	ANACARDIACEAE
Synonyms	<i>Commiphora subglauca</i> Engl., <i>Sclerocarya birrea</i> in sense of Van der Veken, not of (A.Rich.) Hochst. (misapplied name), <i>Sclerocarya caffra</i> Sond., <i>Sclerocarya schweinfurthiana</i> Schinz
Common Names	Cider Tree (e), Maeroola (a), Maroela (a), Maroelaboom (a), Maroola (e), Marula (e), Moroelaboom (a), Morula (ns), Morula (tw), Mufula (v), Nkanyi (ts), Umganu (z)

National Status

Status and Criteria	Least Concern
Assessment Date	2008/01/15
Assessor(s)	V.L. Williams, D. Raimondo, N.R. Crouch, A.B. Cunningham, C.R. Scott-Shaw, M. Lötter, A.M. Ngwenya & C. Helm

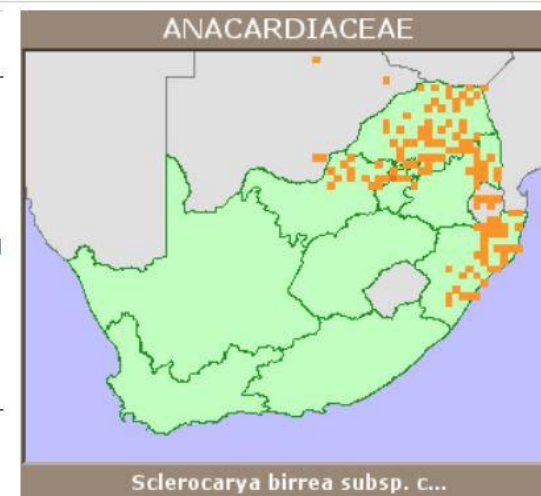
Distribution

Endemism	Not endemic to South Africa
Provincial distribution	Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, North West

Habitat and Ecology

Major system Terrestrial

Assessment History



Search for images of *Sclerocarya birrea* subsp. *caffra* on [iSpot](#)



***Sclerocarya birrea* (A.Rich.) Hochst. subsp. *caffra* (Sond.) Kokwaro**





Systematic land-cover change in KwaZulu-Natal, South Africa: Implications for biodiversity

AUTHORS:

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Timothy G. O'Connor^{2,3}

Ed T.F. Witkowski²

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²School of Animal, Plant and Environmental Sciences, University of the Witwatersrand, Johannesburg, South Africa

³South African Environmental Observation Network, Pretoria, South Africa

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Land-cover change and habitat loss are widely recognised as the major drivers of biodiversity loss in the world. Land-cover maps derived from satellite imagery provide useful tools for monitoring land-use and land-cover change. KwaZulu-Natal, a populous yet biodiversity-rich province in South Africa, is one of the first provinces to produce a set of three directly comparable land-cover maps (2005, 2008 and 2011). These maps were used to investigate systematic land-cover changes occurring in the province with a focus on biodiversity conservation. The Intensity Analysis framework was used for the analysis as this quantitative hierarchical method addresses shortcomings of other established land-cover change analyses. In only 6 years (2005–2011), a massive 7.6% of the natural habitat of the province was lost to anthropogenic transformation of the landscape. The major drivers of habitat loss were agriculture, timber plantations, the built environment, dams and mines. Categorical swapping formed a significant part of landscape change, including a return from anthropogenic categories to secondary vegetation, which we suggest should be tracked in analyses. Longer-term rates of habitat loss were determined using additional land-cover maps (1994, 2000). An average of 1.2% of the natural landscape has been transformed per annum since 1994. Apart from the direct loss of natural habitat, the anthropogenically transformed land covers all pose additional negative impacts for biodiversity remaining in these or surrounding areas. A target of no more than 50% of habitat loss should be adopted to adequately conserve biodiversity in the province. Our analysis provides the first provincial assessment of the rate of loss of natural habitat and may be used to fulfil incomplete criteria used in the identification of Threatened Terrestrial Ecosystems, and to report on the Convention on Biological Diversity targets on rates of natural habitat loss.

From Jewitt *et al.* (2015);

S Afr J Sci. 2015;111(9/10), Art. #2015-0019, 9 pages. <http://dx.doi.org/10.17159/sajs.2015/20150019>

Systematic land-cover change in KwaZulu-Natal, South Africa: Implications for biodiversity

- Between 2005 and 2011, 7.6% of natural habitat transformed in KZN

Sustainable?



From Jewitt *et al.* (2015);

S Afr J Sci. 2015;111(9/10), Art. #2015-0019, 9 pages. <http://dx.doi.org/10.17159/sajs.2015/20150019>

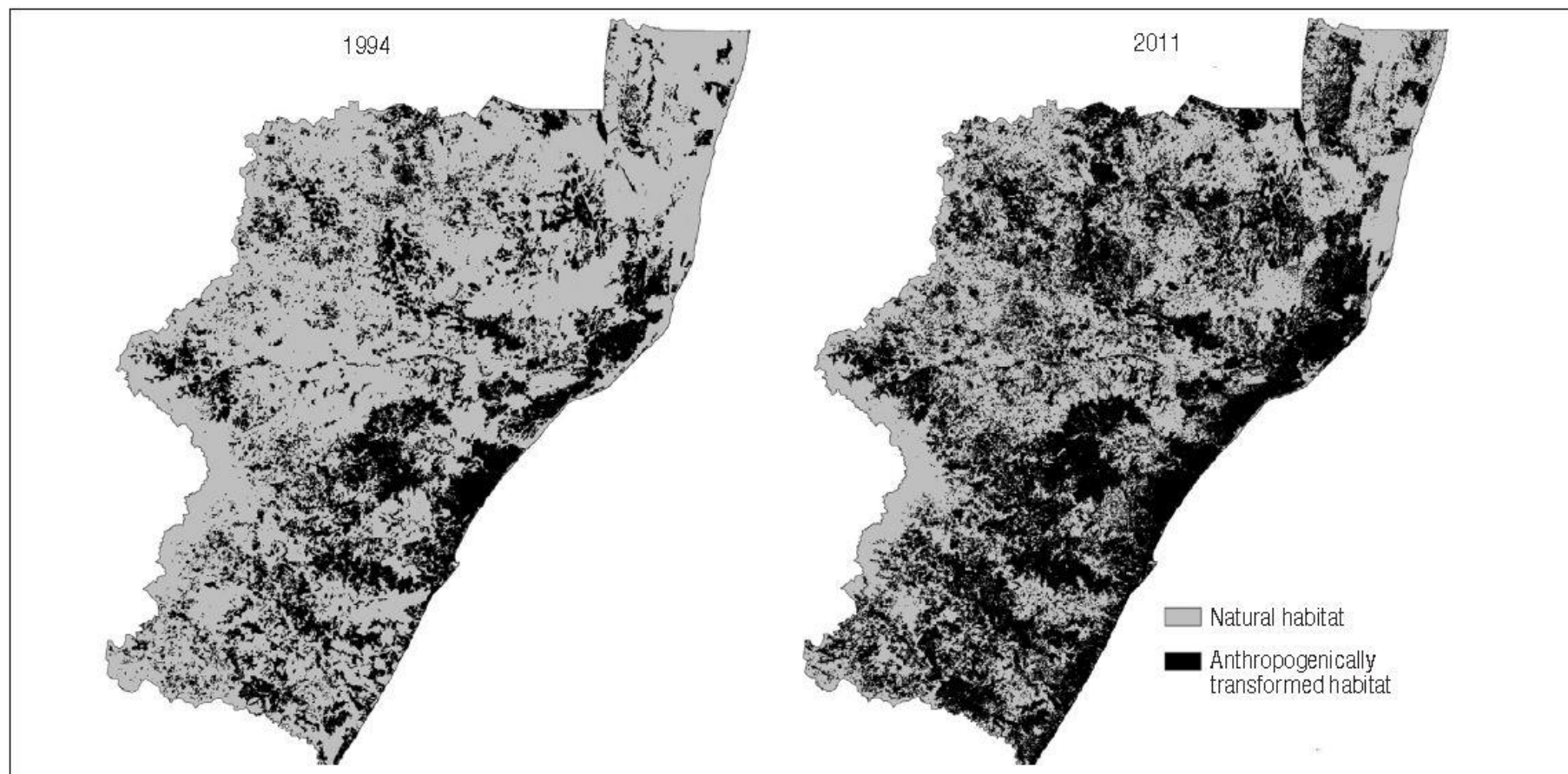


Figure 5: Accumulated transformation in KwaZulu-Natal from 1994 to 2011. The black areas represent anthropogenically transformed areas whilst the grey areas represent natural habitat.

From Jewitt *et al.* (2015);

S Afr J Sci. 2015;111(9/10), Art. #2015-0019, 9 pages. <http://dx.doi.org/10.17159/sajs.2015/20150019>

60. Establishment of scientific authority

- (1) The Minister must establish a scientific authority for the purpose of assisting in regulating and restricting the trade in specimens of listed threatened or protected species and species to which an international agreement regulating international trade applies.

Act 10 of 2004 (NEMBA)

GENERAL NOTICES

NOTICE 255 OF 2015

DEPARTMENT OF ENVIRONMENTAL AFFAIRS

NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, 2004 (ACT NO. 10 OF 2004)

THREATENED OR PROTECTED SPECIES REGULATIONS

I, Bomo Edith Edna Molewa, Minister of Environmental Affairs, hereby give notice of my intention, under section 97 (1)(b)(ii); (iii); (v); (viii); (ix); (f); (g) and (h), read with section 100 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), to make regulations relating to listed threatened or protected species, set out in the Schedule hereto.

Members of the public are invited to submit to the Minister, within 30 (thirty) days after the publication of this notice in the *Gazette*, written comments or inputs to the following addresses:

By post to: The Director-General
 Department of Environmental Affairs

(1) The scientific authority must-

- (a) monitor in the Republic the legal and illegal trade in specimens of listed threatened or protected species;
- (d) make non-detriment findings on the impact of actions relating to the international trade in specimens of listed threatened or protected species and species to which an international agreement regulating international trade applies;

Act 10 of 2004 (NEMBA)



Home

- ▶ Non Detriment Findings (NDF)
- ▶ View existing reports database

Submit a report



Please log in to access

Other issues

- ▶ CITES 'Non-detriment findings'
- ▶ CITES and livelihoods
- ▶ International Consortium on Combating Wildlife Crime
- ▶ Introduction from the sea
- ▶ Wildlife trade policy reviews

Non-detriment findings



The preamble to the Convention recognizes that international cooperation is essential for the protection of certain species of wild fauna and flora against over-exploitation through international trade, and recognizes also the urgency of taking appropriate measures... [See more](#)

Current policies on NDFs

In Resolution Conf. 13.2 on *Sustainable use of biodiversity: Addis Ababa Principles and Guidelines*, Parties were urged, when adopting NDF...

[See more](#)

Guidance on NDFs

In 1992, the CoP adopted Resolution Conf. 8.6 on the *Role of the Scientific Authority* which arose initially from a document by the United States of America discussed at the fifth... [See more](#)

Convention Requirements

In detail, the NDF requirements in the text of the Convention are:

a) Article III (Appendix-I species):

i) An export pe... [See more](#)







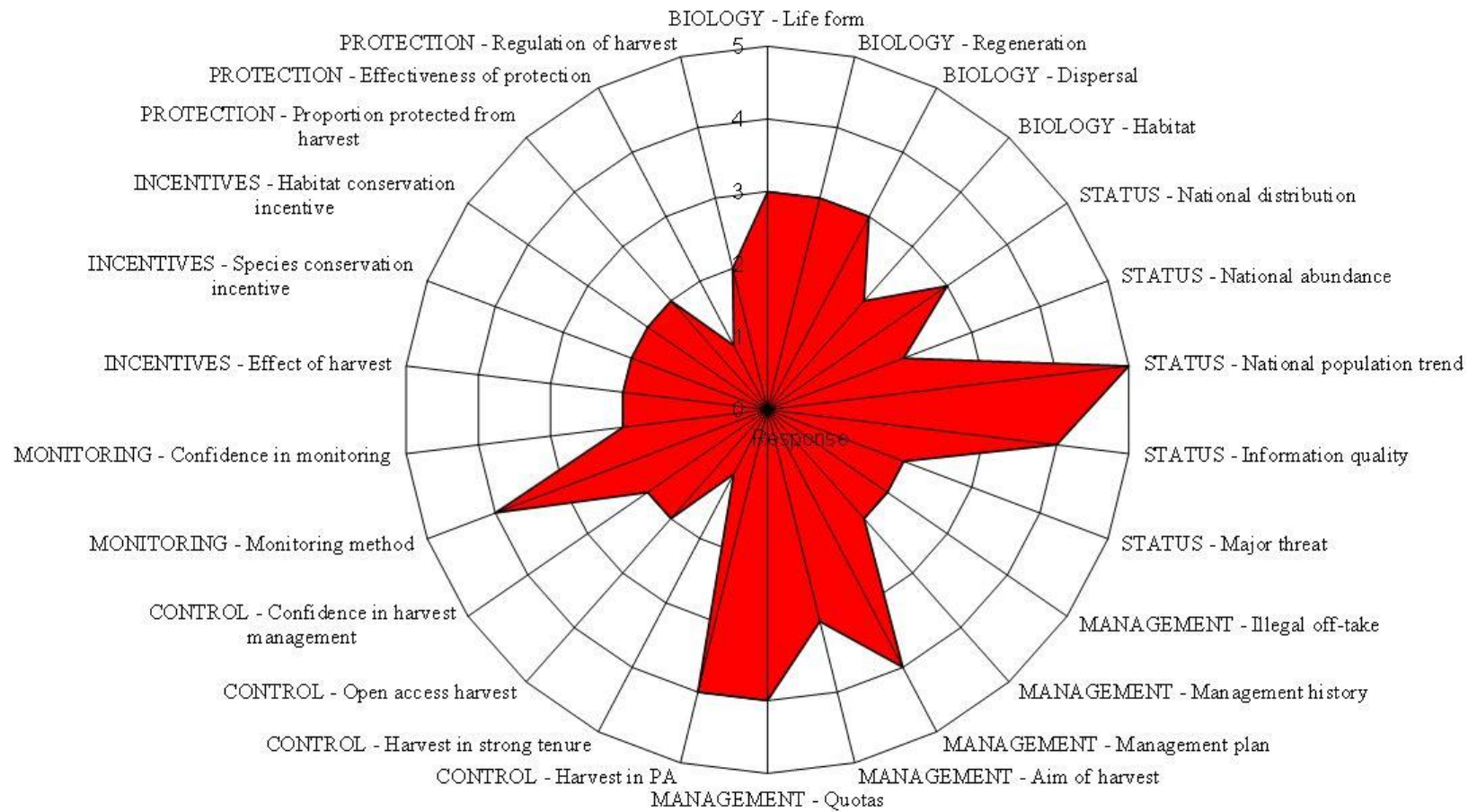


Figure 1: Radar chart summarizing the non-detriment finding assessment for *A. ferox* in accordance with the CITES NDF checklist. Explanations of scores given are detailed in Table 1. Higher scores are indicative of higher risks to the species. The area shaded in the radar chart indicates an overall low to moderate risk to the species.

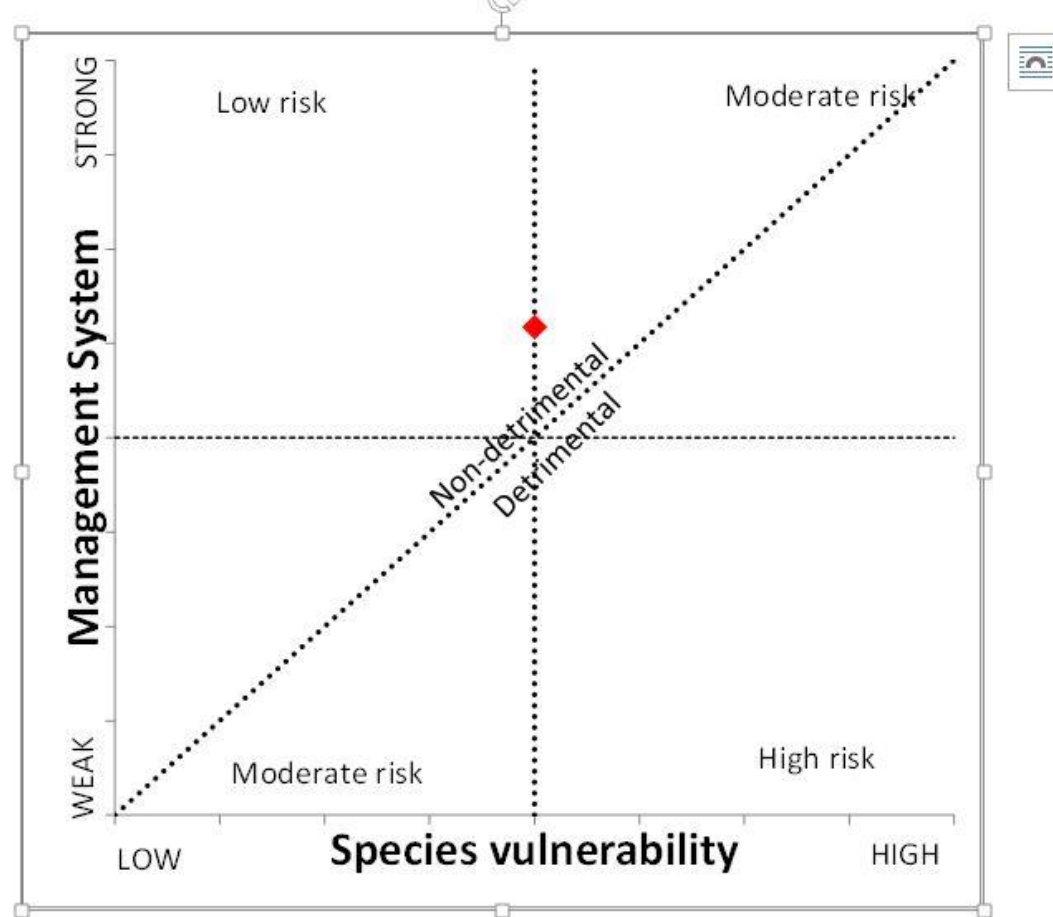


Figure 2: The risk of trading in *A. ferox*, as represented by the relationship between species vulnerability (biology and status) and the management system to which the species is subjected (management, control, monitoring, incentives and protection). The figure shows that the species is currently at a low to moderate risk and trade is non detrimental.

Social and Ecological Characteristics of an Expanding Natural Resource Industry: *Aloe* Harvesting in South Africa

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⁶Department of Zoology, University of Oxford, South Parks Road, Oxford, OX1 3PS, UK

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“To ensure *A. ferox* is harvested at sustainable levels in the region, an effective resource management plan needs to be implemented including:

- Harvest quotas
- Restricting harvest to certain size classes
- System of rotation between harvests”

Melin *et al.* (2017). *Econ. Bot.* 71: 58-74

GOVERNMENT NOTICE

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM

No. R. 214

3 March 2009

NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, 2004 (ACT 10 OF 2004)

NORMS AND STANDARDS FOR BIODIVERSITY MANAGEMENT PLANS FOR SPECIES

I, Marthinus Christoffel Johannes van Schalkwyk, Minister of Environmental Affairs and Tourism, hereby publish the Norms and Standards for Biodiversity Management Plans for Species in terms of section 9(1)(a)(i) and 43 of the National Environmental Management: Biodiversity Act, 2004 (Act no 10 of 2004), as contained in the Schedule.

Marthinus van Schalkwyk





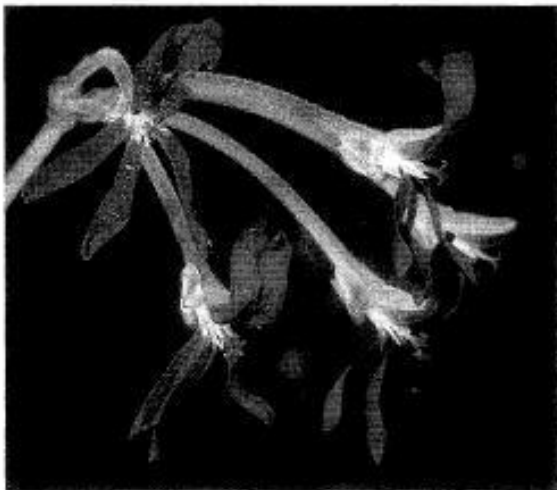
environmental affairs

Department
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

SCHEDULE

Biodiversity Management Plan for *Pelargonium sidoides* DC.

Compiled by David Newton¹, Domitilla Raimondo², Lisebo Motjotji¹, and Christine Lippai¹ in extensive collaboration with the Pelargonium Working Group³.

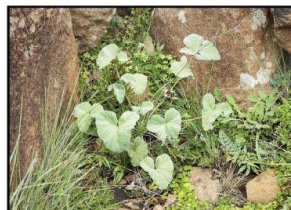


¹ TRAFFIC East/Southern Africa, Private Bag X11, Parkview 2122, South Africa.

² South African National Biodiversity Institute, Private Bag X101, Pretoria 0001, South Africa.

³ The Pelargonium Working Group, started in 2007, is represented by government, industry and the NGO sector. The group was chaired during the process of drawing up this management plan by the South African National Biodiversity Institute.

Harvesting Guidelines for *Pelargonium sidoides*



Based on the Recommendations
in the Biodiversity Management
Plan for *Pelargonium sidoides*
Government Gazette No 36411
of 26th April 2013

Designed by Parceval • June 2018 version #1



Remove all soil from the roots.



Break off the leaves together with a little bit of root.

What can be harvested?

Only *Pelargonium sidoides* – with the dark red to black flowers – must be harvested. The pink flowered *Pelargonium reniforme* must not be harvested. Make sure you know which species you are harvesting!



Harvest only the main root and leave the smaller side roots behind – they will grow into mature roots over time and can be harvested in the future.

Roots must be red to dark red when broken – light coloured roots will not be purchased as they are too young and do not make good medicine.



Remove some of the leaves from the root.



Re-plant the leaves and root. Make sure that the hole is fully closed again. Compact the soil around the plant lightly with your foot.

When can it be harvested?

Pelargonium can be harvested all year round. It is however preferably harvested in the rainy months of October to May when plants can be replanted easily and will re-sprout for future harvesting.

How must it be harvested?



Use a pick, a hoe or a fork to dig up the plant.

Be careful not to disturb too many plants and soil around the plant you harvest. If other plants are affected, re-place them into the harvesting hole and compact the soil around them so they can continue to grow.



How do I transport and store the *Pelargonium*?

Place the roots into a clean PE woven bag and take to your home.



At your home, store the *Pelargonium* in a shady and cool place without direct sunlight. Open the bag so that the roots can breathe. Mould will reduce the quality and the price paid for the roots.

Do not store for more than 1 week – make sure they are collected regularly. The bags should be transported in a closed vehicle e.g. bakkie with canopy to avoid any contamination or damage.

How often and how long can I harvest *Pelargonium*?

Mostly, after 2-3 years of harvesting in an area, the number of mature and therefore harvestable plants are becoming less. This is a good time to stop harvesting. Ideally, the next harvesting in the same area takes place 7 – 10 years later again.

Second field survey of selected sub-populations of
Pelargonium sidoides DC in the Free State and Eastern Cape



Author: A. de Castro

Date: 2nd September 2018

Status: Draft


 **ROOIBOS**

The Red Tea



Uniquely South African

- Caffeine Free
- Antioxidant rich

 **ROOIBOS**

The Red Tea



Uniquely South African

- Caffeine Free
- Antioxidant rich





From Wynberg (2016); SAJB 110:39-51

Rooibos cultivation impacts

- From 14,000 ha in 1991 to 60,000 ha in 2016
- In 12 years, 300% increase in Red Listed taxa
- 149 taxa threatened with extinction
- Increased industry awareness
- Expected expansion of industry

