

FACT SHEET

The Status of Biological Invasions and their Management in South Africa in 2019

The report provides a comprehensive national-scale assessment of the status of biological invasions in the country and captures the effectiveness of the country's response to this issue.

It collates information from foundational research and on-going monitoring programmes and interprets it in order to help policy-makers and managers improve how biological invasions are managed.

This is the second report of its kind.

The key findings on the status and impacts of biological invasions in South Africa

- The ***number of alien species that have established in South Africa has increased by 15% from 1 637 to 1 880***, about a third of which are invasive. Formal assessments of the impact of invasive species are underway using a new United Nations scheme that was developed in collaboration with SANBI and CIB scientists.
- New alien species continue to arrive every year in South Africa. ***A notable new invasive species is the polyphagous shot hole borer***. The polyphagous shot hole borer and its associated fungus have already killed thousands of trees in South Africa and it looks set to be ***one of the most damaging and costly biological invasions*** faced by South Africa.
- ***Several of South Africa's protected areas are severely invaded***, and the extent to which biomes are invaded has increased, particularly for the Fynbos and Grassland biomes. Fynbos has had the highest increase in the number of invasive species.
- Invasive trees use up 3–5% of South Africa's surface water runoff each year, ***'Day Zero' in Cape Town was brought forward by 60 days due to invasive trees sucking up water***. The same impact occurs in other drought-stricken areas, e.g. Eastern Cape.
- ***The destructive wildfires in Knysna in 2018 were exacerbated by plant invasions***, 15% more fuel was burnt in invaded areas than uninvaded areas, increasing the severity of fires and making containment measures ineffective.
- ***Invasive plants reduce the value of livestock production from natural rangelands by ZAR 340 million per year***.
- Biological invasions are the third largest threat to South Africa's biodiversity (after cultivation and land degradation), and are ***responsible for 25% of all biodiversity loss***.

How has South Africa addressed the problem?

- The South African Government, through the Environmental Programmes of the Department of Forestry, Fisheries and the Environment, is spending **over a billion Rand a year on projects to control biological invasions and create jobs**.
- **South Africa's alien and invasive species regulations are comprehensive, innovative and are becoming effective**. These regulations were originally promulgated in 2014 (revised in early 2021), and evidence is growing as to the effects they have had. The regulations are increasingly being enforced – demonstrated with the first successful prosecution in 2019. In addition, the evidence underpinning the regulatory listing of invasive species is being formalised, and the process for granting permits is functioning well.
- **Effective protocols are increasingly being implemented to regulate the intentional, legal importation of alien species**.
- **New technologies have been developed to support actions to prevent the introduction of listed species**, but South Africa will continue to accidentally import invasive species or such species will spread naturally across our borders. The enormous economic trading opportunities, particularly on the African continent, need to be grasped without unduly risking invasions. **Biological invasions are a regional issue that requires co-operation across our borders**.
- **Alien freshwater fish (such as bass) have been successfully removed from selected wetlands and stretches of river leading to rapid recovery of native fishes** and biodiversity in general. The success of the new approach used means there are more options available to reverse the impacts of invasions.
- **The use of biological control against invasive alien plants has been shown to have very high positive returns on investment** (benefit: cost ratios from 8:1 to ~4000:1). Biocontrol is a critical and well-regulated tool to manage biological invasions, with South Africa recognised as a global leader in the field.
- The efficacy of interventions can be dramatically improved using goal-oriented management plans, with improved monitoring and evaluation of outcomes. **There are significant opportunities to improve existing management to reduce the ecological, economic and social consequences that biological invasions have on South Africa**.
- **South Africa is a global leader in invasion science**. This research has provided the foundation on which management and policy is based.

How is the report used?

Policy and Strategy: The assessment is used to inform policy and strategies relating to the management of biological invasions. Various sectors are impacted by and manage biological invasions and this assessment informs policies and strategies in sectors such as biodiversity, water, agriculture, health, transport and social development.

Planning: This report is used to prioritise the often limited resources that are available to manage biological invasions, especially actions aimed at preventing the introduction and spread of harmful species, managing established populations, and mitigating their impacts on ecosystems and people.

Research: The report is used to identify research priorities. The assessment guides this in two ways, first by identifying those areas where critical questions remain to be answered and, second, by showing where data gaps exist in the evidence required to inform planning and management actions.

Education: The assessment is a key reference and educational product that can be used to build capacity regarding the understanding and management of biological invasions in South Africa.

More about why and how the report is compiled

The report fulfils the legal requirement of the National Environmental Management: Biodiversity Act (NEM:BA, Act 10 of 2004), which stipulates that the South African National Biodiversity Institute (SANBI) must submit a report, every three years, to the Minister of Forestry, Fisheries and the Environment, on the status of biological invasions and the effectiveness of control measures and regulations.

The report was compiled with contributions from 36 experts from 16 organisations, led by SANBI in collaboration with the Department of Science and Innovation (DSI) - National Research Foundation (NRF) Centre of Excellence for Invasion Biology (CIB) at Stellenbosch University.

Important links

Details about the report: <http://iasreport.sanbi.org.za/>

Department of Forestry, Fisheries and the Environment: www.environment.gov.za

SANBI: www.sanbi.org/

The Centre for Invasion Biology: <https://blogs.sun.ac.za/cib/>

Social Media

Twitter: @environmentza @SANBI_ZA @scienceSUN

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Contact details for technical questions about the report

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