

National Invasive Alien Species Awareness and Advocacy Support Project 2021 - 2022

Department of Forestry, Fisheries
and the Environment (DFFE)



forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



1998 - Working for Water - Partnerships



Working for Wetlands



Working for Water



Working for Fire

Forestry Industry
Partnership

Horticultural Industry
Partnership

Pet Trade Partnership



forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Environmental Programmes Treasury

Funding: R1,2 billion

Natural Resource Management Programmes

NRM

EPIP

Environmental Protection & Infrastructure Programmes

Working for Water
Working on Fire
Working for Wetlands
Working for Land
Working for Forests
Working for Energy

Nurseries
Partnership

Working on Waste
People & Parks
Working for the Coast
Eco-Furniture Factories
Greening and Open
Space Management

2001 – Social Conflict

70 000 jacaranda trees in Pretoria

40 000 in public places | 30 000 in gardens

“Jacarandas are a problem, but not to the extent that they should be allowed to get in the way of the bigger objective.

We have to box clever and rather ensure support for the fight against far worse species.”



Jacaranda Fly Fishing Club



FRUIT FILE

White flower on plant before fruiting

True purple dragons

Beautiful to look at and delicious to eat.

Thai true purple dragon fruit (*Hylocereus costaricensis*) is one of the most exotic fruits and has such a vibrant colour that it will sparkle in your summer fruit salad. It also has an excellent rating for flavour, and tastes similar to a combination of a kiwi fruit and a pear. The darker the flesh, the juicier and sweeter it is.

The true purple variety includes a potent antioxidant called indicaxanthin also found in plants like beets and prickly pears. They also have high levels of vitamin C.

As its name suggests, it comes from Costa Rica and is also known as the Costa Rican pitaya. This cactus species produces flowers that only bloom at night and are a massive 35 - 40cm in diameter. The flowers have to be pollinated manually to set fruit, although there are varieties that are self-pollinating. The dinner-plate flowers

Success



Pink dragon fruit

Invasive - Not listed

Hylocereus costaricensis

Failure

White dragon fruit

Invasive. Cat 2

Hylocereus undatus



Watch out for:

One of the strangest things to watch out for, especially because we are talking about a cactus, is sunburn. To avoid this, as it may cause your plants to subsequently rot, it is to provide some shade during the hottest part of the day. This particular variety, however, has thicker 'wings' that make it more sunburn resistant.

Also look out for mealybugs and aphids. Bacterial infections can lead to stem rot at the end of branches and overwatering can lead to root rot.

Growing

The leaves of this fast-growing cactus are three-sided when viewed as a cross-section and have medium-length spines. The plant itself grows like a vine, and in the wild tropical forests where it comes from is scramble up trees for support. So the first thing to consider is position in the garden, as it will need a strong support structure like a trellis, fence, wall or even a tree. It will grow in either sun and semi-shade, in soil that is rich and well-draining, and it needs a surprising amount of water to grow well. The soil should be allowed to dry out between waterings, though.

It prefers a climate with higher temperatures and will not withstand frost. In frosty areas, rather plant the cactus in a large pot with good drainage and protect it over the cold spells.

It will take between 2 and 3 years for plants to mature, but if all the elements are correct, you could get a harvest in the second season. Feed every month in the growing season with a fruit and flower fertiliser for the best results. Stop feeding in winter. The plants flower in high summer - January and February - with fruit ready for harvest from March, although they have been known to continue cycles of flowering and fruiting beyond that.

Dragon fruit can be grown from seed, but cuttings will get you to harvest quicker.

Harvesting

When the wings of the fruit start to dry out, turn brown and wither, the fruit is ready to be harvested and eaten. Peel and eat the fruit as is, in a summer salad or added to ice cream and yoghurt. It's also great for smoothies and can be stored in the fridge for up to 5 days and frozen for up to 3 months.

NOTE: In South Africa, the dragon fruit species *Hylocereus undatus* has been declared an alien invader plant under category 2, which means that a permit is required to grow it. The fruit, however, is not listed as for human consumption, which means that if you find this type of dragon fruit in a store, it's okay to buy it. The variety in this article is available as cuttings from Livingreeds in spring.



The Gardener | Die Tuinier Magazine

PhD candidate, Patricia Duncan

Paterson's Curse

Echium plantagineum

1b



Invasive rose-ringed parakeets

Build on old material



Develop a toolbox



Make it available to all...

- Develop a campaign
- Collaborate on a control plan
- Choose the target group



CONSTITUTION OF THE PARROT BREEDERS' ASSOCIATION OF SOUTHERN AFRICA

ARTICLE 1: NAME:

Parrot Breeders' Association of Southern Africa. Hereafter "PASA".



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Issuing Authority, Department of Environmental Affairs, Directorate: Biosecurity Services, Private Bag X 4390, Cape Town, 8000,
14 Loop Street, Cape Town 8001 Tel: 021 441 2748, Email: ASpermits@environment.gov.za

PERMIT CONDITIONS FOR THE ROSE-RINGED PARAKEET (*PSITTACULA KRAMERI*) BREEDING IN TERMS
OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, 2004

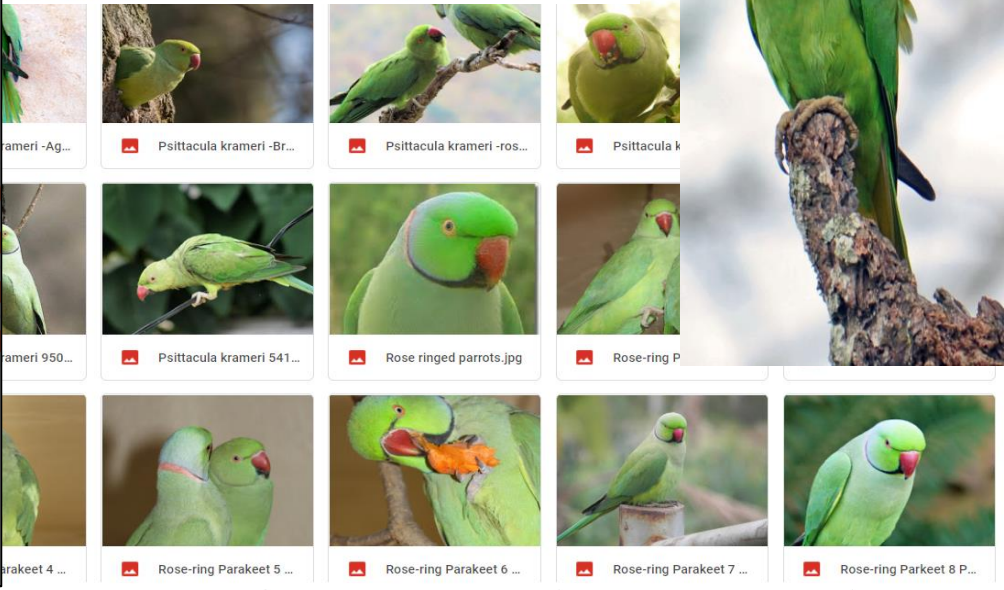
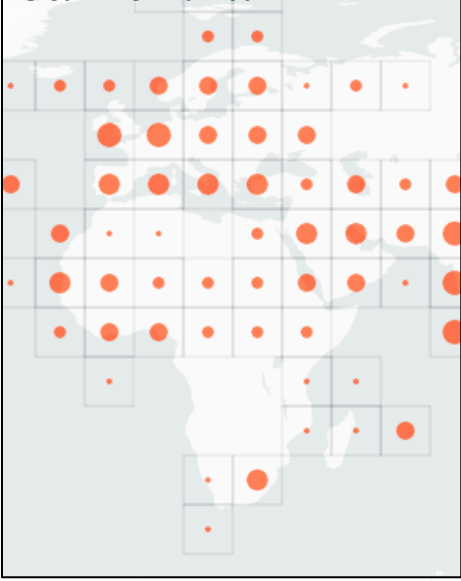


A threat to seven avian fynbos endemics?

Cape rockjumper, Cape sugarbird, Victorin's warbler,
Orange-breasted sunbird, Protea canary,
Cape siskin, and Fynbos buttonquail.



©Calvin Shivambu



Rose-ringed Parakeet Stakeholder Engagement



PASA – Parrot Breeders Association of SA
A breeding pair sold for R60 000



- Control feral populations
- Permitting
- Research agenda
- Messaging to the public

Social media success



Did you know?

Rose-ring parakeet
Psittacula krameri

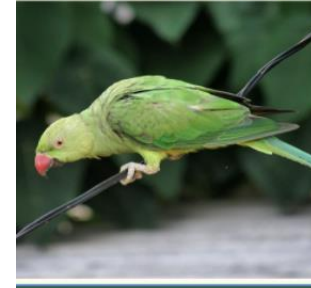
Where does this species come from? Central Africa and India

What is its invasive status in South Africa?
NEMBA 2020 - Category 2 – permit required

Where in South Africa is it a problem?
Gauteng Province and KwaZulu-Natal.

Why is it a problem?
Left unchecked, rose-ringed parakeets can form large flocks and are known to damage agricultural crops. Competes with indigenous birds for nesting cavities and food resources.

www.dffe.gov.za | www.invasives.org.za



Did you know?

Rose-ring parakeet

Psittacula krameri

Where does this species come from? Central Africa and India

What is its invasive status in South Africa?
NEMBA 2020 - Category 2 – permit required

Where in South Africa is it a problem?
Gauteng Province and KwaZulu-Natal.

Why is it a problem?
Left unchecked, rose-ringed parakeets can form large flocks and are known to damage agricultural crops. Competes with indigenous birds for nesting cavities and food resources.

www.dffe.gov.za | www.invasives.org.za



66,193

People reached

8,829

Engagements

53 comments 277 shares

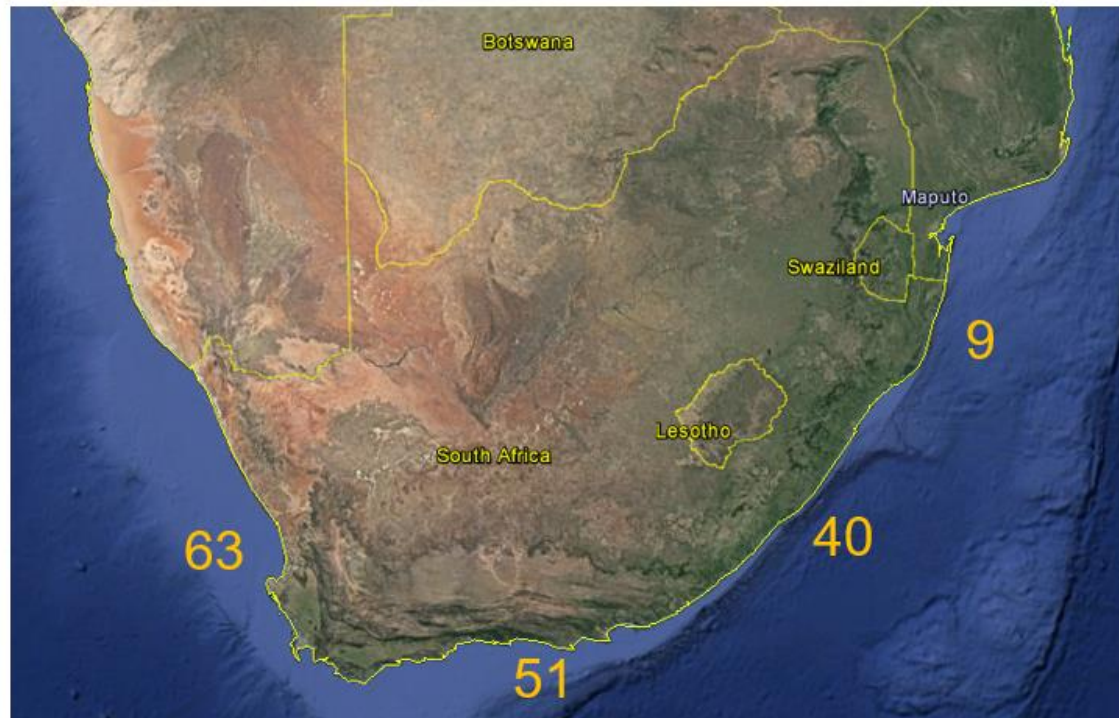
Build on old material



Invasive Marine Species

Marine invasions in South Africa

- 90 Alien species – 84 animals
- 54 Invasive species – 49 animals



- Choose the species to promote
- Develop a campaign
- Choose the target group

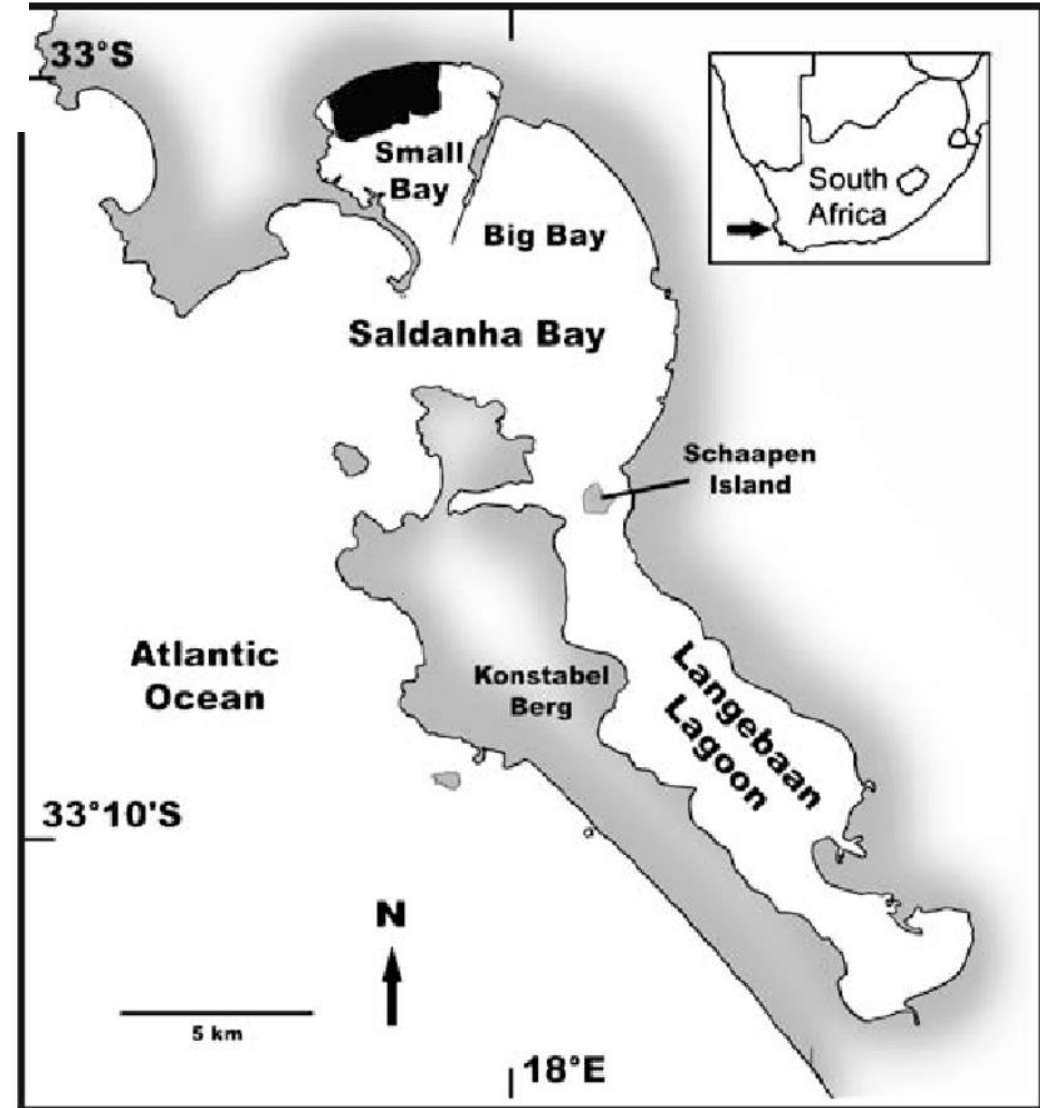
Pilot Project: Invasive marine species

Aquaculture industry stakeholder engagement in Saldanha Bay

Mussel Farming



Oyster Farming



Invasive biofouling species

Saldanha Aquaculture Industry Bio-Fouling Pilot Project

Mussel Farming in Saldanha Bay



White colonial sea squirt

Didemnum perlucidum



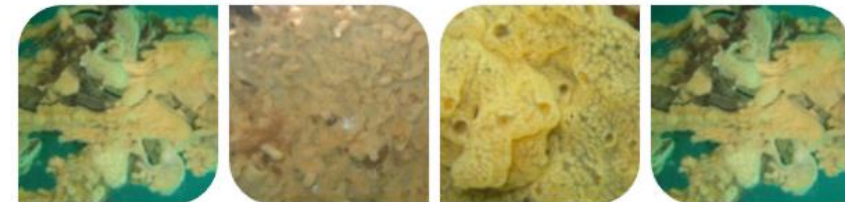
Boring sponges

Cliona celata



Carpet sea squirt

Didemnum vexillum



Aquatic Weeds: Conflict @ Roodeplaat Dam



- Springbok Rowing Team to Tokyo Olympics 2021
- World Masters Rowing Champs 2023 @ Roodeplaat



Meeting 8 February

Green Industries Invasive Species

Advocacy support

Primary campaign: 'Become an EcoChamp'

Secondary storyboards:

- * What's hiding in your garden?
- * What's hiding in your pond?

Ask your garden centre for advice...



Madagascar periwinkle
(*Catharanthus roseus*)



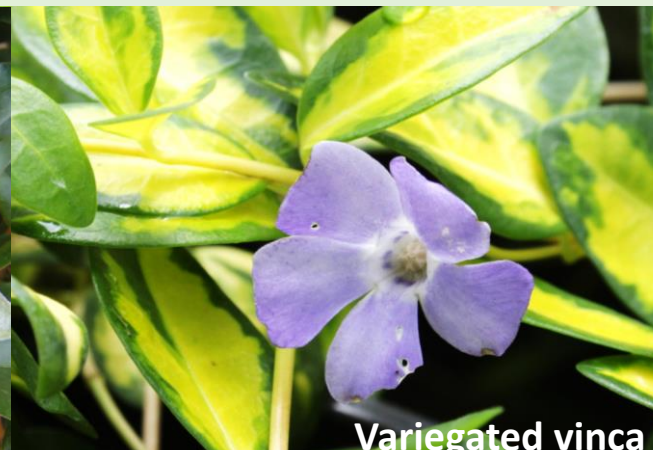
Yellow water lily
(*Nymphaea mexicana*)



Silver vine
(*Epipremnum aureum*)



Blue passion flower
(*Passiflora caerulea*)



Variegated vinca



Madeira vine
(*Anredera cordifolia*)

Green Industries Campaign – Become an EcoChamp – Targeting the Youth

Canadian Campaigns – Use of mascots inspired by gaming artwork



IN THE APP ▾

FOR PARENTS ▾

FOR TEACHERS ▾

SHOP ▾

GET THE APP



Got your ears on?



**To join Earth Rangers,
download the App and sign up
for your FREE membership!**

**Download on any mobile
device to get started.**



**ALREADY
A MEMBER?**
CLICK HERE



Green Industries Campaign – Become an EcoChamp – Targeting the Youth


- *Choosing trendy youth colours
- * Inspiration from similar campaigns abroad
- * Creating identifiable mascots
- * Linking to 10 worst invasives in your garden – pond – park – region
- * In-store promotional backup

Latest NEMBA Invasive Species Lists | Help Center | Contact

INVASIVES SOUTH AFRICA

HomePlants A-ZAnimals A – Z ▼Legislation ▼Resources

Search your cours



Become An EcoChamp

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Quis ipsum suspendisse ultrices gravida. Ut commodo viverra maecenas accumsan.

What’s hiding in your garden?

GARDEN?


What’s hiding in your park?

PARK?

What’s hiding in your pond?

NEIGHBOURHOOD?

? FIND OUT...

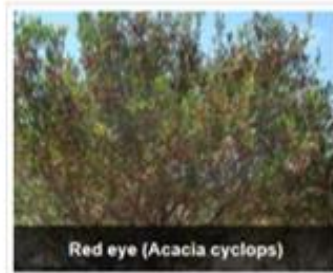


Find out here...

Become an EcoChamp Mascots



Top 20 Invasive Species



Red eye (*Acacia cyclops*)



Long-leaved wattle (*Acacia longifolia*)



Giant reed (*Arundo donax*)



Sponge-fruit saltbush (*Atriplex inflata*)



Find invasives in your garden

Nursery industry conflict cultivars – Understand the issues

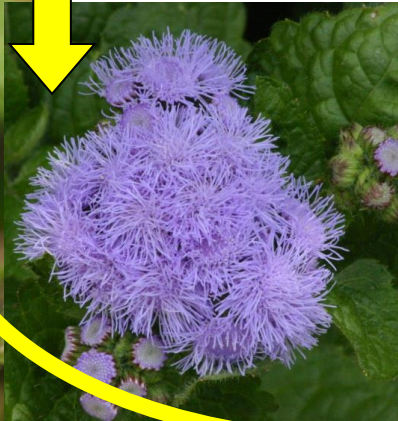
Murraya paniculata
Murraya exotica



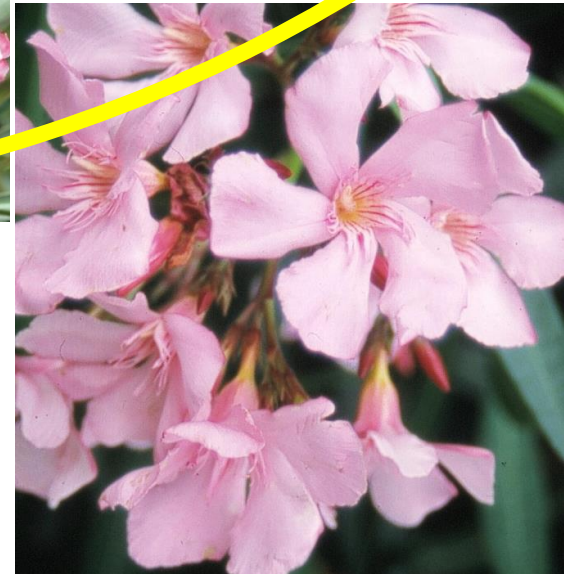
Canna hybrids
Not related to indica

Canna indica
(Indian shot)

Ageratum houstonianum
(Mexican ageratum)



**Double-flowered
oleander**
Nerium oleander



What's hiding in your garden?

Durban

Are these alien invasive plants lurking in your garden?
Learn to identify and remove alien invasive plants.

What's hiding in your garden?



1b
Mexican sunflower
(*Tithonia diversifolia*)

Why are invasive plants a problem?

- Use up precious water resources
- Outcompete indigenous plants
- Change the chemical constituents of soil
- Threaten rare and endangered plants
- Threaten subsistence farming
- Clog up waterways
- Exacerbate wildfires



What's hiding in your garden?

Cape Town

Are these alien invasive plants lurking in your garden?
Learn to identify and remove alien invasive plants.



1b
Spanish broom
(*Spartium junceum*)

Why are invasive plants a problem?

- Use up precious water resources
- Outcompete indigenous plants
- Change the chemical constituents of soil
- Threaten rare and endangered plants
- Threaten subsistence farming
- Clog up waterways
- Exacerbate wildfires



Fountain grass (*Pennisetum setaceum*)



Bluebell creeper (*Billardiera heterophylla*)



Chandelier plant (*Bryophyllum delagoense*)



Montpellier broom (*Genista monspessulana*)



Madeira vine (*Anredera cordifolia*)

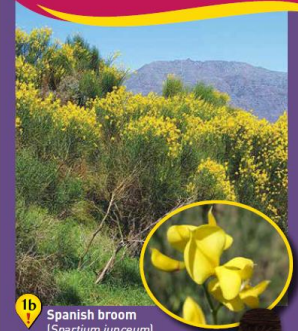


Purple loosestrife (*Lythrum salicaria*)

What's hiding in your garden?

Cape Town

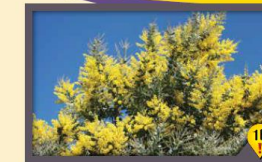
Are these alien invasive plants lurking in your garden?
Learn to identify and remove alien invasive plants.



1b
Spanish broom
(*Spartium junceum*)

Why are invasive plants a problem?

- Use up precious water resources
- Outcompete indigenous plants
- Change the chemical constituents of soil
- Threaten rare and endangered plants
- Threaten subsistence farming
- Clog up waterways
- Exacerbate wildfires



Pearl acacia (*Acacia podalyriifolia*)



Devil's beard (*Centranthus ruber*)



Pampas grass (*Cortaderia selloana*)



Yellow flag (*Iris pseudacorus*)



Tree-of-Heaven (*Ailanthus altissima*)



Balloon vine (*Cardiospermum grandiflorum*)

Controlling invasive species

Invasive species are controlled under the National Environmental Management: Biodiversity Act (Act no. 10 of 2004) Alien and Invasive Species (AIS) Regulations.
The National List includes 567 invasive species in four categories.

Category 1a

- Combat, eradicate and remove these invasive species.
- Any form of trade or planting is strictly prohibited.

Category 1b

- Control and wherever possible, remove and destroy.
- Any form of trade or planting is strictly prohibited.
- Property owners and organs of state must develop control plans to detail the long-term control of these species.

Category 2

- Species requiring a permit issued by the Department of Forestry, Fisheries and the Environment (DFFE).
- Species must not spread outside of demarcated land.
- Unpermitted Category 2 species revert to Category 1b.

Category 3

- Species may remain in prescribed areas or provinces.
- Further planting, propagation or trade, is prohibited.
- If species occur within a protected area or riparian (wetland) they revert to Category 1b.

For more information

www.environment.gov.za | www.invasives.org.za
Call Centre: 086 111 2468
Info: callcentre@environment.gov.za
Permits: AIScompliance@environment.gov.za
Environmental Crimes Hotline: 0800 205 005



Invasive Cactus Advocacy Campaign 2021 - 2022

Build on old material



Develop a toolbox



Make it available to all...



Advocacy support to Cactus Working Group

- Choose the target groups
- Choose target species
- Identify a campaign



Cactoblastis
cactorum 1933

Explain biocontrol



Dactylopius opuntiae 1938



Cactus Working Group

Social Media Packages

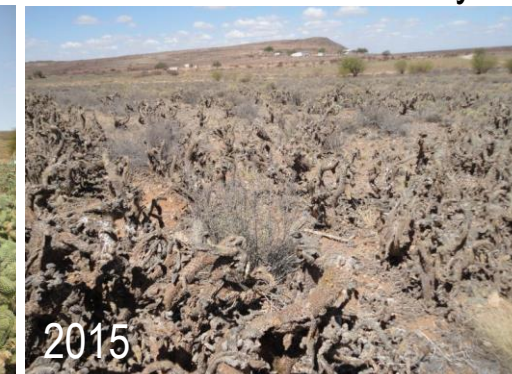
- 20 FB uploads
- 20 Tweets

Digital posters

How to buy 'the' book

DFFE Roadshow Training Workshops

Before and afters: A ultimate visual success story



Success

1920

Prickly pear
invasion



Tandjiesberg Mountains
Graaf Reinet area

1958

Biocontrol
wins



Department of Agriculture archives

2015

New invasion
Torch cactus
NO Biocontrol



Good rain = Torch cactus flowers
Trichocereus spachianus

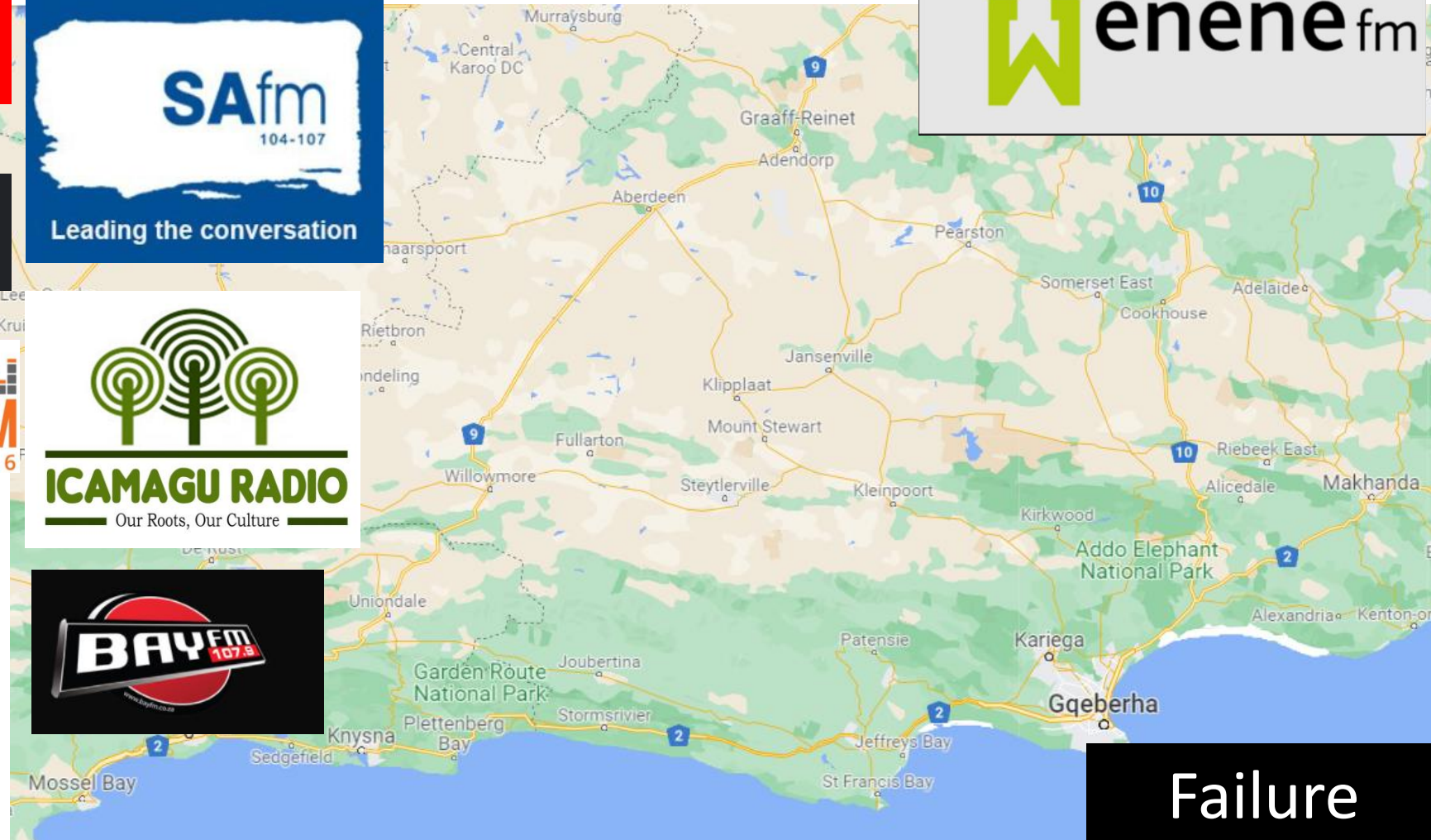
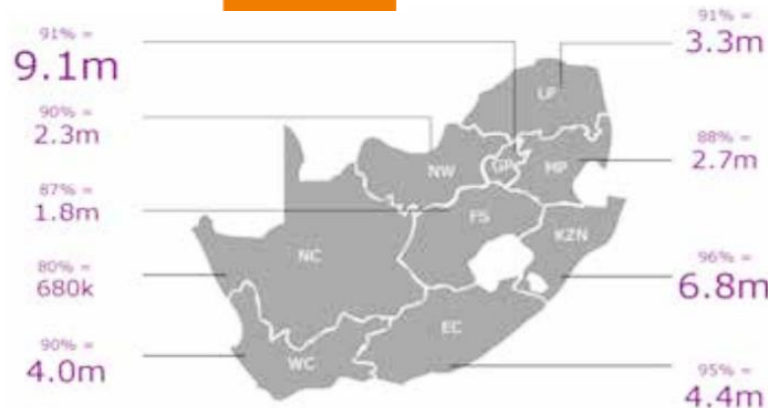
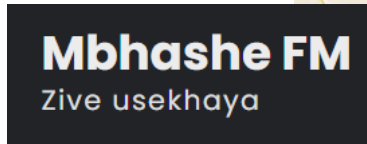


Pilot Project: Biocontrol distribution to rural farmers invaded by cactus in E Cape

Radio advocacy: 3 cactus species – 3 biocontrol agents

Partner: Centre for Biological Control,
Rhodes University

KINGFISHER
103.8 / 107.5 FM




Failure

National Cactus Working Group - Invasive cactus by province

Invasive cacti
Western, Eastern & Northern Cape

Organs of state and private property owners are responsible for controlling and removing Category 1a and 1b invasive species from all state-owned and privately-owned land.



1b

Pencil cactus
(*Cylindropuntia leptocaulis*)

Why are invasive cacti a problem?

- Reproduce and spread rapidly
- Outcompete indigenous plants
- Threaten agriculture
- Threaten livestock through sharp spines
- Threaten rare and endangered plants
- Devalue and degrade the land
- Prevent access to shade trees

Invasive cacti
KwaZulu-Natal & Mpumalanga

Organs of state and private property owners are responsible for controlling and removing Category 1a and 1b invasive species from all state-owned and privately-owned land.



1b

Barbados gooseberry
(*Pereskia aculeata*)

Why are invasive cacti a problem?

- Reproduce and spread rapidly
- Outcompete indigenous plants
- Threaten agriculture
- Threaten livestock through sharp spines
- Threaten rare and endangered plants
- Devalue and degrade the land
- Prevent access to shade trees

Invasive cacti
Free State & Gauteng

Organs of state and private property owners are responsible for controlling and removing Category 1a and 1b invasive species from all state-owned and privately-owned land.



1b

Queen of the night
(*Cereus-jamacaru*)

Why are invasive cacti a problem?

- Reproduce and spread rapidly
- Outcompete indigenous plants
- Threaten agriculture
- Threaten livestock through sharp spines
- Threaten rare and endangered plants
- Devalue and degrade the land
- Prevent access to shade trees

Invasive cacti
North West & Limpopo

Organs of state and private property owners are responsible for controlling and removing Category 1a and 1b invasive species from all state-owned and privately-owned land.



1b

Sweet prickly pear
(*Opuntia ficus-indica*)

Why are invasive cacti a problem?

- Reproduce and spread rapidly
- Outcompete indigenous plants
- Threaten agriculture
- Threaten livestock through sharp spines
- Threaten rare and endangered plants
- Devalue and degrade the land
- Prevent access to shade trees

Invasive mammals and reptiles

Listed Mammals Invasive Species Compliance



Lechwe (*Kobus leche*)

Why are invasive animals a problem?

- Indigenous animals play a vital role in local ecosystems.
- Invasive animals are a threat to indigenous species through hybridization and competitive displacement
- Category 1a species are not welcome in South Africa

Listed Deer, Antelope and Goats Invasive Species Compliance



Bongo (*Tragelaphus euryceros*)

Why are invasive animals a problem?

- Indigenous animals play a vital role in local ecosystems.
- Invasive animals are a threat to indigenous species through hybridization and competitive displacement
- Category 1a species are not welcome in South Africa

Permits for Reptiles Eastern Cape, KwaZulu-Natal, Mpumalanga & Limpopo

In accordance with NEMBA Alien and Invasive Species Regulations, the following reptiles require a permit to be legally kept in the above provinces.



Boa constrictor
(*Boa constrictor*)

Why are invasive animals a problem?

- Indigenous animals play a vital role in local ecosystems.
- Invasive animals are a threat to indigenous species through hybridization and competitive displacement
- Category 1a species are not welcome in South Africa

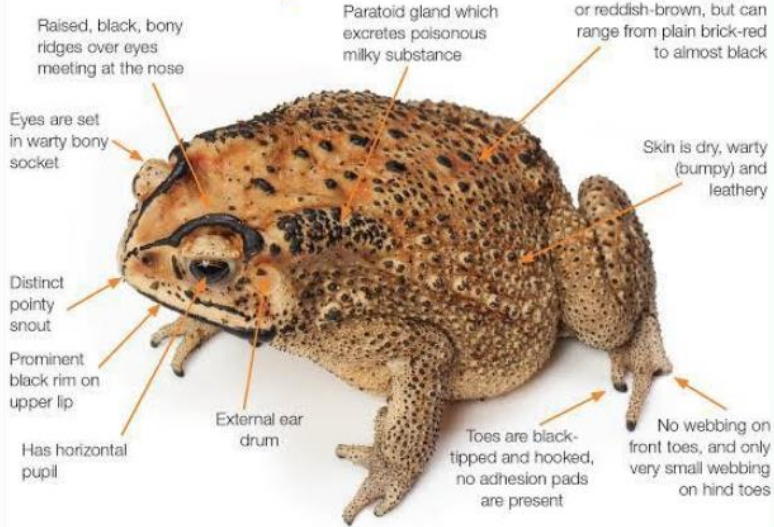
Invasive Black-spined Toads

Build on old material

Develop a toolbox

Make it available to all...

Asian black-spined toad



Habit: Nocturnal, becoming active in large open areas, such as on roads and lawns. Can be found congregating beneath street lamps and other lights to catch insects. Adults shelter during the day under rocks, leaf-litter, logs and man-made structures such as drains, rubbish piles and sometimes houses.

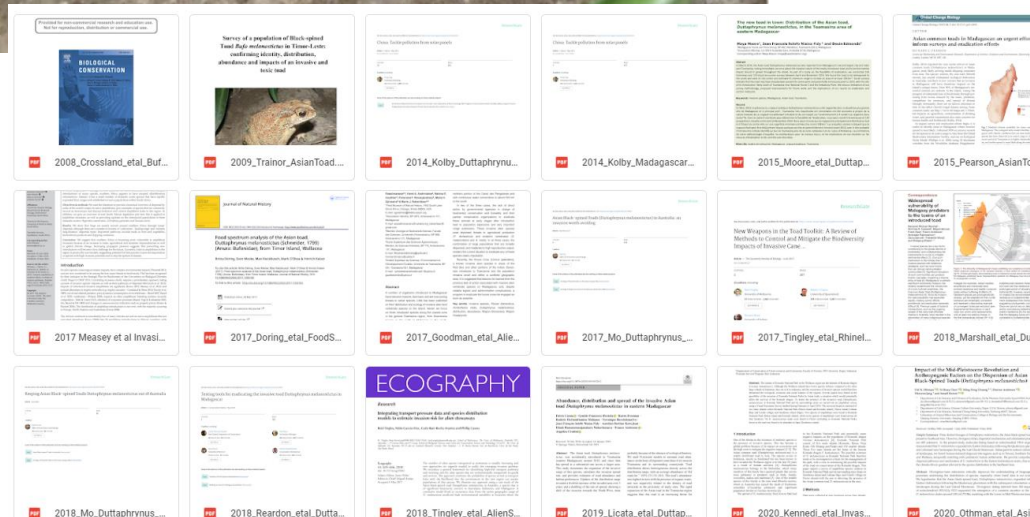
Call: Sounds like a telephone dial tone (creo-o-o: cro-ro-ro-ro-ro) sustained for about 30 seconds.



Advocacy support to
Black-Spined Toad Strategy



Taxon: (as in BAC4)	Area: (as in BAC9)
Compiled by: (from BAC1)	Approved by: (leave empty)
Picture of Taxon	Alien distribution map (BAC8)
Risk Assessment summary:	Risk Assessment summary:





Black-spined Toad

Black-spined Toad

Did you know? The Black-spined Toad is a **highly invasive amphibian** from southern Asia and has been detected in South Africa.

These toads are adaptable stowaways and can survive long journeys tucked away inside furniture, agricultural produce and other imported goods.

This toad can compete with indigenous toads for similar resources and can spread novel diseases to our indigenous amphibians.

#Invasives #Black-spinedToad #Madagascar #Toads #Category1a

Identifying toads



Invasive Guttural Toad



Indigenous Leopard Toad



Invasive Guttural Toad



Indigenous Leopard Toad

Social Media Packages



Uploads will be available to all

Invasive house crows

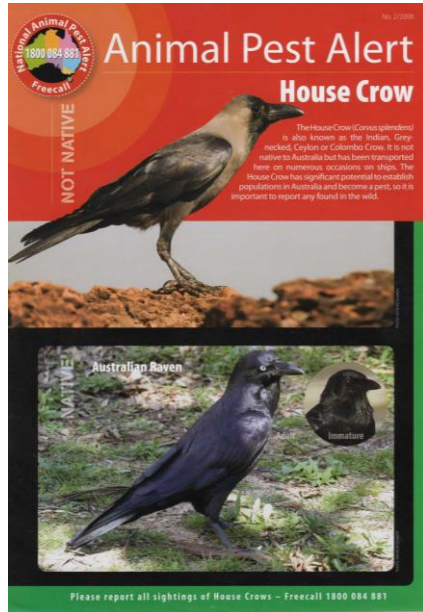
Build on old material



Develop a toolbox



Make informaton
available to all...



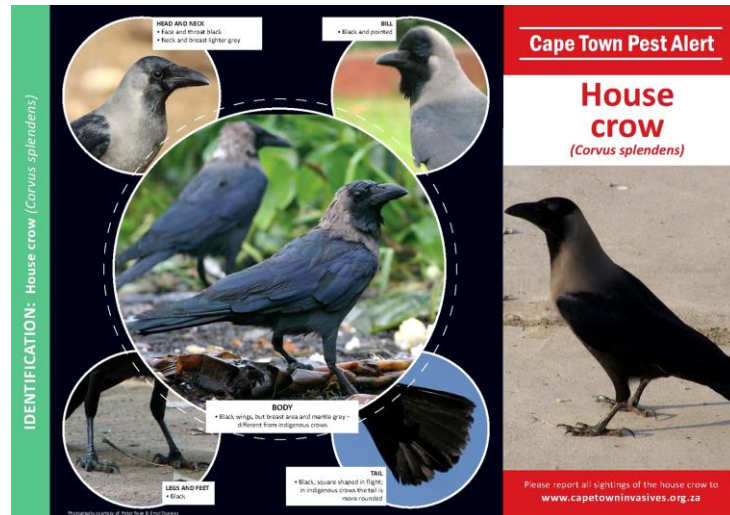
1a






ID: No
confusion
with local
crows

Advocacy support to
National House Crow Strategy



A threat to indigenous
bird species?



House Crow (<i>Corvus splendens</i>)	Pied Crow (<i>Corvus albus</i>)	White Necked Raven (<i>Corvus albicollis</i>)	Cape Crow (<i>Corvus capensis</i>)	Red Winged Starling (<i>Onychognathus morio</i>)
				
Measurements: Body Length 40-43cm Wingspan 76-85 cm	Measurements: Body Length 46-52 cm Wingspan 85-98 cm	Measurements: Body Length 50-54 cm Wingspan 75-86 cm	Measurements: Body Length 48-50 cm	Measurements: Body Length 27-30 cm
Head and Neck: Black face and throat. Grey breast and neck. Bill is pointed, black and medium sized	Head and Neck: Glossy black head with white collar and breast. White plumage extends down to belly. Bill is black and medium sized	Head and Neck: Shiny black head with a white patch on the nape of the neck. Faint purple gloss on the throat, breast and neck. Bill is black with a characteristic white tip and is arched and large	Head and Neck: Completely Dark brownish, black plumage with a faint purple gloss. Bill is black and slim	Head and Neck: Males heads have the same iridescent, shiny black plumage which is on the body. Females, however, have ashy grey heads and upper breasts
Body: Medium sized slender body with shiny black plumage except around breast, nape and mantle where the plumage is grey	Body: Medium to Large stocky build. Glossy black plumage except on breast and collar where the plumage is white	Body: Large, stocky build. Glossy black plumage except on the nape of the neck, where it's white.	Body: Medium to large slim build with completely black plumage which has a faint purple gloss	Body: Small to medium slim build with iridescent, shiny black plumage with chestnut brown/orange flight feathers (near wing tips), which are notable in flight
Habitat: Urban and industrial areas. Frequent Rubbish dumps where they scavenge for food	Habitat: Mainly Farmlands, savannah and urban areas. Frequent Rubbish dumps where they scavenge for food	Habitat: Mainly mountainous areas, gorges and cliffs. Open country at times	Habitat: Open grasslands, cultivated fields and exotic plantations	Habitat: Mountains, cliffs, gorges, rocky hills and buildings in urban and rural areas



Invasive Shot Hole Borer

Arborists predict that oak trees in urban areas will disappear in the next decade

Invasive Shot Hole Borer
Devastation among the
oak trees in George,
Western Cape



Infected firewood enters Knysna forests



Source: Wilhelm de Beer - FABI - University of Pretoria

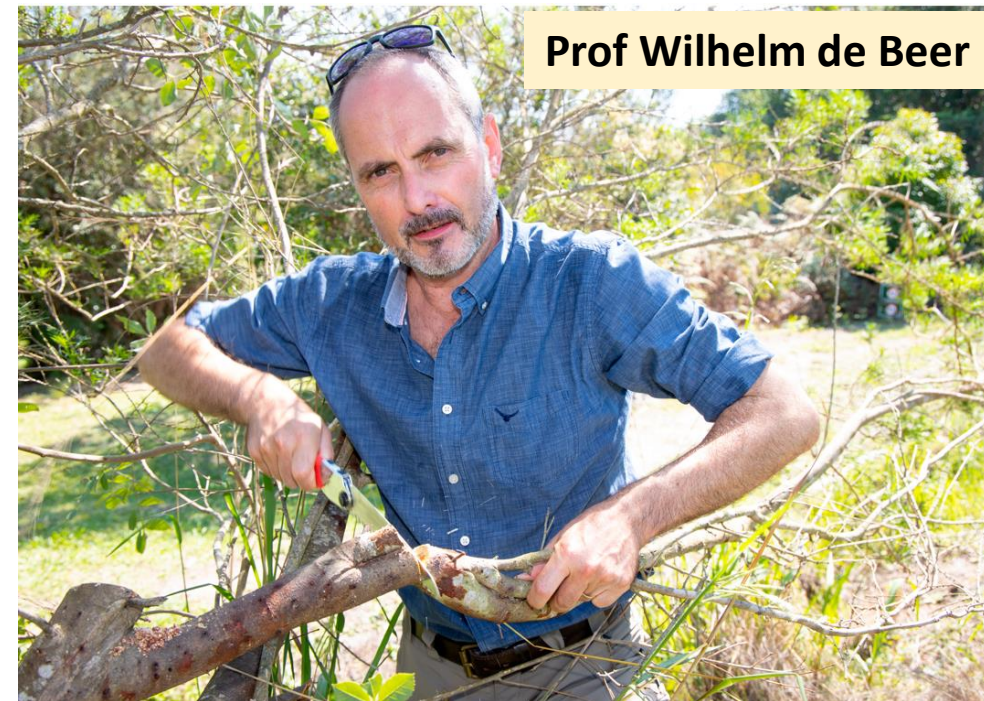
Researching the invasion ...

Heather Nependa

Prof Francois Roets



Prof Wilhelm de Beer



Prof Martin Hill



Levels of Shot Hole Borer Management



Republic Road, Randburg

Level of Infestation	# Entry/Exit Holes	Dieback Observed
Low	< 50	No
Moderate	50-150	No
Heavy	>150	No
Severe	≥ 150	Yes

Source: University of California Agriculture and Natural Resources, Davis, USA.

Management Matrix for an Urban Forest invaded by ISHB

			ISHB Infestation Level & Management Options				
LOW VALUE TREES ¹	Host Type	Hazard Level ¹	No Infestation	Low	Moderate I	Heavy	Severe
	Reproductive Host	Low	Monitor	Monitor & Spot Inject	Monitor ² Remove Actively Infested Branches	Monitor ² Remove Actively Infested Branches	Remove Actively Infested Tree ² & Stump
		High	Monitor	Monitor & Remove Hazard Branches	Monitor ² Remove Hazard Branches	Remove Hazard Branches, or Remove Tree & Stump	Remove Tree ² & Stump
	Non-Reproductive Host	Low	Monitor	Monitor	Notify UC ANR ; consult with FD – ISHB experts to determine if species is a new reproductive host		
		High	Monitor	Monitor			

			ISHB Infestation Level & Management Options				
HIGH VALUE TREES ¹	Host Type	Hazard Level ¹	No Infestation	Low	Moderate I	Heavy	Severe
	Reproductive Host	Low	Monitor	Treat/Remove Infested Branches ³	Treat/Remove Actively Infested Branches ³	Treat/Remove Actively Infested Branches ^{2,3}	Remove Actively Infested Tree ² & Stump
		High	Monitor	Treat/Remove Hazard Branches ³	Treat/Remove Hazard Branches ³	Remove Infested Branches, or Tree ² & Stump	Remove Tree ² & Stump
	Non-Reproductive Host	Low	Monitor	Monitor	Notify UC ANR ; consult with FD – ISHB experts to determine if species is a new reproductive host		
		High	Monitor	Monitor			

Don't Move Firewood: North American Campaigns



Buy it where you burn it... Canada

**BUY IT WHERE
YOU BURN IT.**

Get local firewood
at or near where
you'll camp to
avoid spreading
tree-killing insects
and diseases.



**DONTMOVE
FIREWOOD.org**



**BUY IT WHERE
YOU BURN IT.**



**DONTMOVE
FIREWOOD.org**

Asian long-horned
beetle
(*Anoplophora
glabripennis*)

**BUY IT WHERE
YOU BURN IT.**



**DONTMOVE
FIREWOOD.org**

Emerald ash
borer (*Agrilus
planipennis*)

What does the shot-hole borer do?

How to identify infested trees?

Wide entry-holes to beetle tunnels.
Wet staining; thick gumming; streaks
of coarse or fine sawdust coming from holes.
Patterns unique to each tree species.

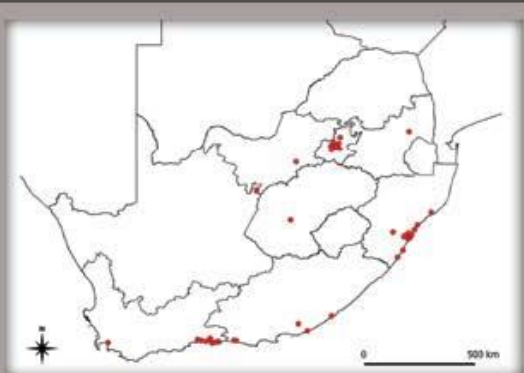
What does invasive shot hole borer do to your trees

1b



Where is shot-hole borer found?

Identified in South Africa in 2017, it has since been found in all provinces except Limpopo. This makes the invasion in South Africa the largest geographical outbreak of this beetle in the world. The epicentre of the invasion is Gauteng.



Shot-hole borer beetle Invasive Species Compliance

The polyphagous shot hole borer (*Euwallacea fornicatus*) is native to Southeast Asia and has a symbiotic relationship with the fungus (*Fusarium euwallaceae*).

In 2020, two ministers (Environment & Agriculture) issued emergency notifications, making the two species notifiable invasive pests in South Africa.

Proposed

1b



Polyphagous shot-hole borer beetle

What is the problem in South Africa?

Shot hole borer beetle and its symbiotic fungus ...

- Have infested 130 tree species
- Are killing thousands of urban trees
- Cause die-back on susceptible trees
- Pose a threat to agricultural trees
- Pose a threat to indigenous forests
- Spread easily in infested firewood

How to manage infested trees on your property

How to report infested trees on state land

Manage infested trees on your property

Treatment or removal of infested trees on private land is the responsibility of the landowner. Firstly, try to determine whether or not your tree is a reproductive host and how severely it is infested. This will determine which action should be taken.

- If the tree is a heavily-infested reproductive host (list of reproductive hosts), cut it down. If you are unsure, your local arborist might also be able to advise.
- If the main stem is not infested, only the infested branches need to be removed. (But this is unlikely, as PSBH usually infests the stem first)
- If the tree has only a few beetle holes, and no signs of further activity after the initial attacks are seen, it is most likely a non-reproductive host (list of non-reproductive hosts)

Treat infested wood on your property

Preferably treat the cut wood on site in one of the following ways:

- Chip the wood (if possible to finer than 5cm), and allow chips to compost by keeping the heap wet.
- OR burn the wood on site if fire is permitted in the area where you live. Some beetles will fly away when the wood becomes hot or when smoke appears, so do not burn wood in uninfested areas.
- OR solarize (leave in full sun) chopped wood under thoroughly-sealed clear plastic sheets for at least one month in summer or several months during winter.

If the wood has to be removed from the property, dump the wood at a dedicated dumping site.

Do not move firewood around, especially not out of the infested area where you live.

Report infested trees on state land

Inform the relevant authority.
Trees ...

- On municipal land (e.g. streets and parks) are the responsibility of the municipality. They may not be removed by private citizens. Contact your local, parks and recreation or environment department
- In protected areas or nature reserves are managed by a variety of provincial and national government bodies. Report the problem to the managing organ of state (e.g. SANParks, CapeNature, Ezemvelo KZN Wildlife)
- In Cape Town: Fill in the online report form at www.capetowninvasives.co.za
- In Johannesburg: email trees@jhcityparks.com or Whatsapp: 082 803 0748

Low res image. Please supply new image



Controlling invasive species

Invasive species are controlled under the National Environmental Management: Biodiversity Act (Act no. 10 of 2004) Alien and Invasive Species (AIS) Regulations.

The National List includes 567 invasive species in four categories.

1a Category 1a

- Combat, eradicate and remove these invasive species.
- Any form of trade or planting is strictly prohibited.
- Report sightings to SANBI.

1b Category 1b

- Control and wherever possible, remove and destroy.
- Any form of trade or planting is strictly prohibited.
- Property owners and organs of state must develop control plans to detail the long-term control of these species.

2 Category 2

- Species requiring a permit issued by the Department of Forestry, Fisheries and the Environment (DFFE).
- Species must not spread outside of demarcated land.
- Unpermitted Category 2 species revert to Category 1b.

3 Category 3

- Species may remain in prescribed areas or provinces.
- Further planting, propagation or trade, is prohibited.
- If species occur within a protected area or riparian (wetland) they revert to Category 1b.

For more information

www.dffe.gov.za | www.invasives.org.za

Call Centre: 086 111 2468

Info: callcentre@environment.gov.za

Permits: AIScompliance@environment.gov.za

Environmental Crimes Hotline: 0800 205 005





Thank You