



SOUTH AFRICA

GUMS, HONEY BEES & BIODIVERSITY

A guide to supporting honey bees to rebuild healthy ecosystems for nature and agriculture.

THIS BOOKLET
WAS DEVELOPED BY
WWF SOUTH AFRICA
IN PARTNERSHIP
WITH NEDBANK.





A LANDOWNERS GUIDE

This booklet aims to assist and guide landowners protect or grow forage resources for honey bees understanding that these support other pollinators & natural predators too.

This reference guide helps you understand why Eucalyptus trees are vital to the beekeeping and agricultural industries in South Africa, while contextually managing healthy indigenous biodiversity. There are useful QR codes to link you to further information and legislation.

Over the last decade or so there has been some conflict and confusion around the rules that apply to the removal of

Eucalyptus species based on their level of invasiveness and their intensive water usage.

This caused a massive outcry from the beekeeping industry, which later resulted in studies being commissioned followed by the revision of some of the regulations. This about turn is understandable when we explore how critical these trees are to the survival of managed honey bees, the beekeeping industry – and all other sectors that benefit directly from their service provisions.

These include, but not limited to, our surrounding environment,

biodiversity and the agricultural sector.

Not all Eucalypts are bad. And with the revision of the regulations, from October 2014, came the identification of six (6) Eucalyptus species that you should remove, but only if they are not in what are called ‘sensitive areas’.

Examples of a sensitive area includes riparian habitats such as rivers, dams, wetlands, estuaries as well as any conservation areas within formally (Nature Reserves) or informally protected landscapes (conservancies, private land).



© ReWild



CONTENTS

A LANDOWNERS GUIDE	3
IT’S A FACT - IT’S TIME	6
WHY GUMS FOR HONEY BEES	8
HOW TO ACCURATELY ID A GUM	10
SENSITIVE AREAS - WHAT TO DO OR NOT TO DO	12
GUMS WITH HIGH RISK OF IMPACT	13
TO PERMIT OR NOT PERMIT	14

CREDITS

Written & edited by: Eve Puttergill and Dr. Tlou Masehela, PhD, Shelly Fuller.
Design & layout: Geometry Design
Front cover photo: ReWild

This information was produced with full permission using parts in whole and as reference material, from the Gums & Bees publication produced by the South African National Biodiversity Institute.
Content compiled by Dr Tlou Masehela, PhD, Entomology and The Bee Effect for Nedbank and WWF.

Published in 2022 by WWF South Africa, Cape Town. Any reproduction, in full or in part, must mention the title and credit the publisher as the copyright owner.

© Text 2022 WWF
WWF-SA is a registered non-profit organisation, number 003-226 NPO. © 1986 panda symbol and “WWF” are registered trademarks of WWF – World Wide Fund for Nature (formerly World Wildlife Fund).



IT'S A FACT - IT'S TIME



Caring for honey bees supports our food security.

We must maintain viable hive numbers to keep up with crop pollination needs.

Honey bees thrive on a diverse healthy diet, effectively sustaining and expanding their population.

Fewer honey bee populations = less food choices = food security threats = job security threats = agri industry threats.

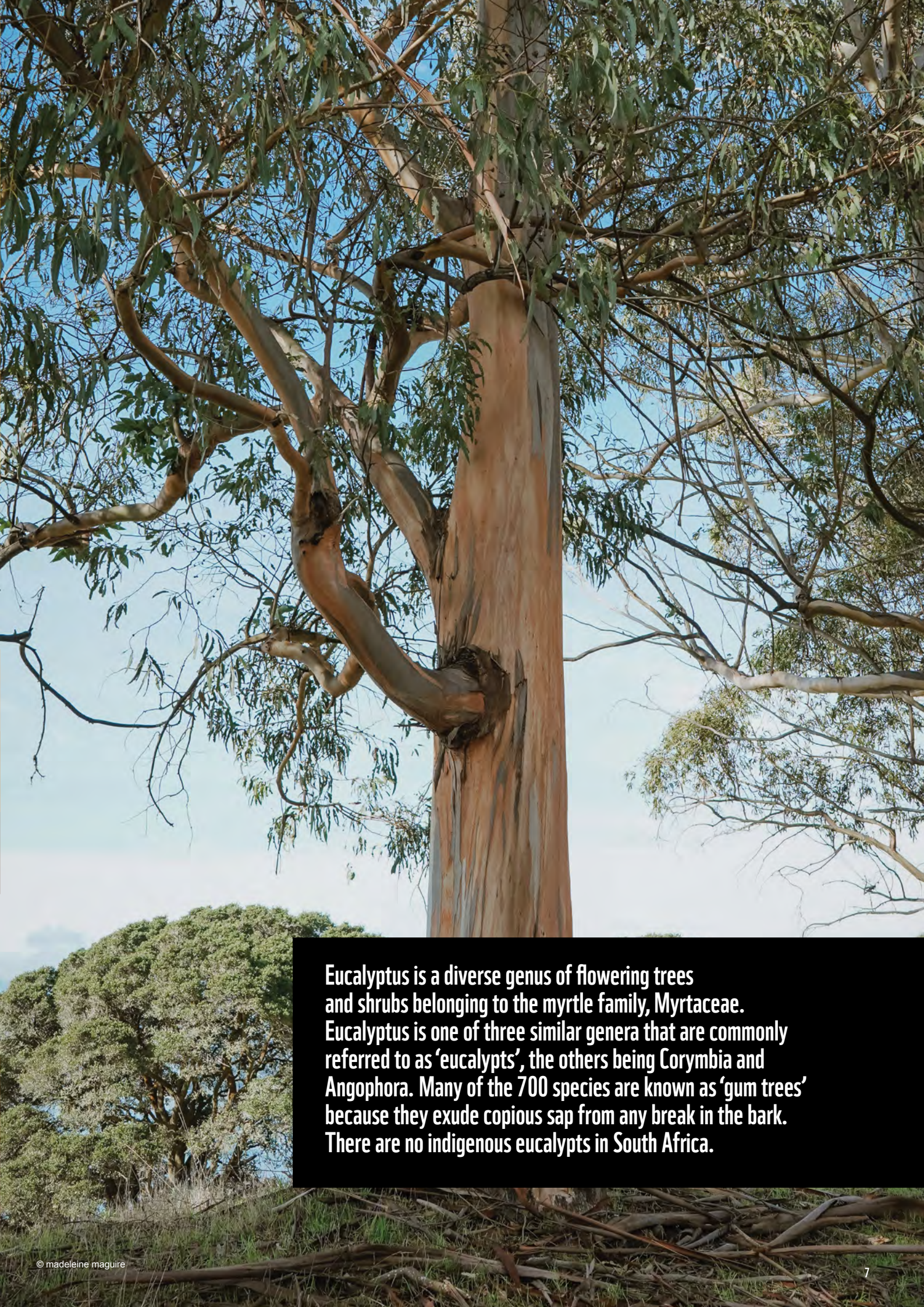
Agricultural crops pollinated by honey bees are worth over R10,3 billion per annum to the South African economy.

Honey bees pollinate over 50 crops in South Africa.

Then there's the honey - Less hives = less honey.

South Africa imports more honey than it produces, so there is an opportunity to grow a local honey industry while increasing hives to deliver on supporting a vibrant agricultural industry = food security.

We need to increase the amount of forage for honey bees to maintain and increase hive numbers, while managing the various other threats to honey bees.



Eucalyptus is a diverse genus of flowering trees and shrubs belonging to the myrtle family, Myrtaceae. Eucalyptus is one of three similar genera that are commonly referred to as 'eucalypts', the others being Corymbia and Angophora. Many of the 700 species are known as 'gum trees' because they exude copious sap from any break in the bark. There are no indigenous eucalypts in South Africa.

WHY GUMS FOR HONEY BEES

01

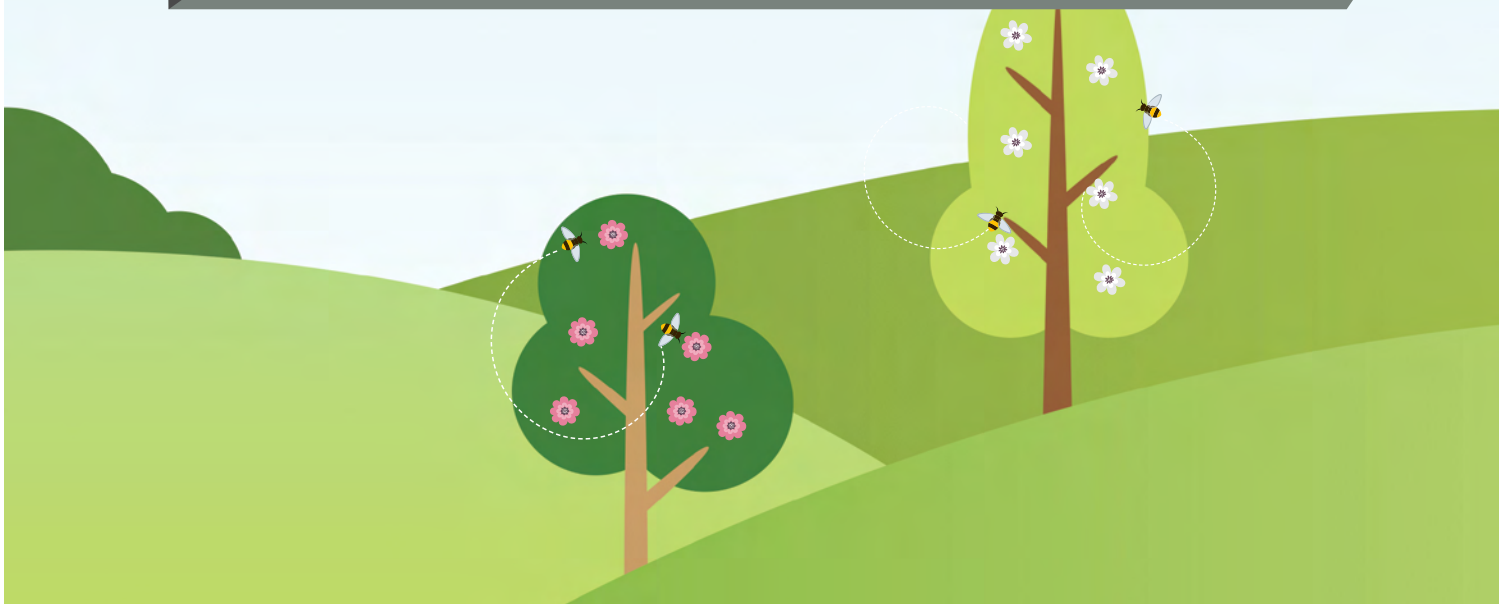
In South Africa there are 85+ different species of introduced gums. Because of their mass flowering at various times of the year, they provide a constant and reliable flow of nectar and a source of pollen, making them essential to the beekeeping industry. Essential to honey bees.

02

It's estimated that about 50% of SA's total honey crop comes off eucalyptus trees.

03

Gums are critical to honey bees, beekeepers and agriculture. But they are non-indigenous and can be invasive. There are only 6 gum species listed in SA as invaders and must be removed if they growing in a sensitive area on your land.





Gums, in the right place, are great for honey bees, timber, windbreaks, shade, and sometimes for a scent that acts as a natural insecticide.

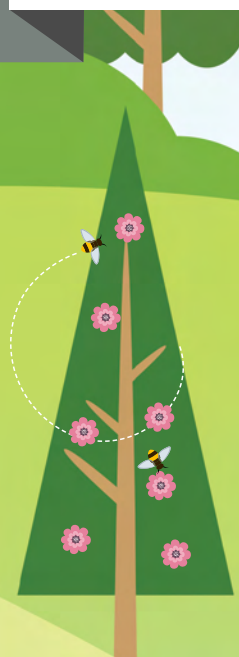
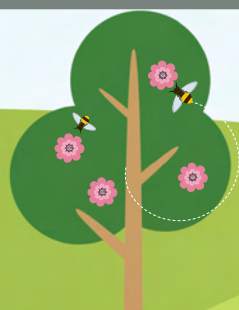
04

Be aware of unscrupulous contractors who claim that all gums must be removed. That is not true. Only 6 species fall in to this category because they are invasive, increase fire risk and use up to 12 times more water than indigenous tree species!

05

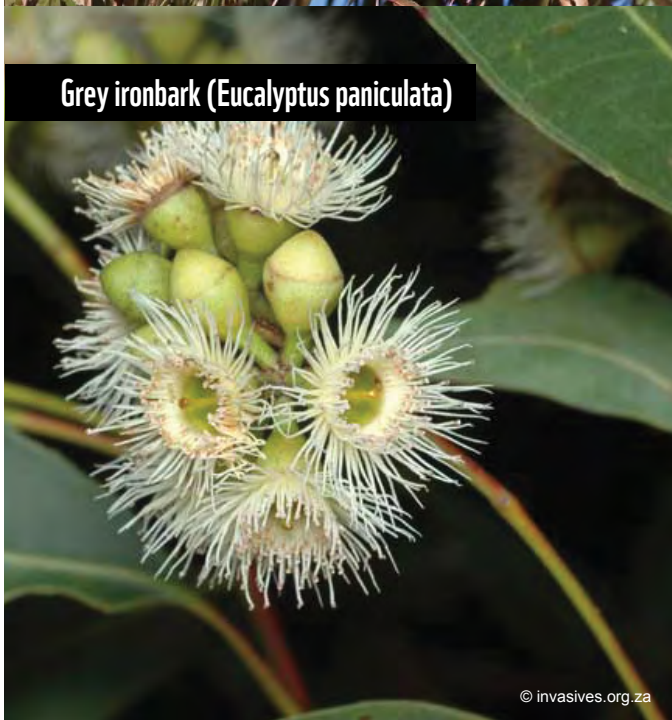
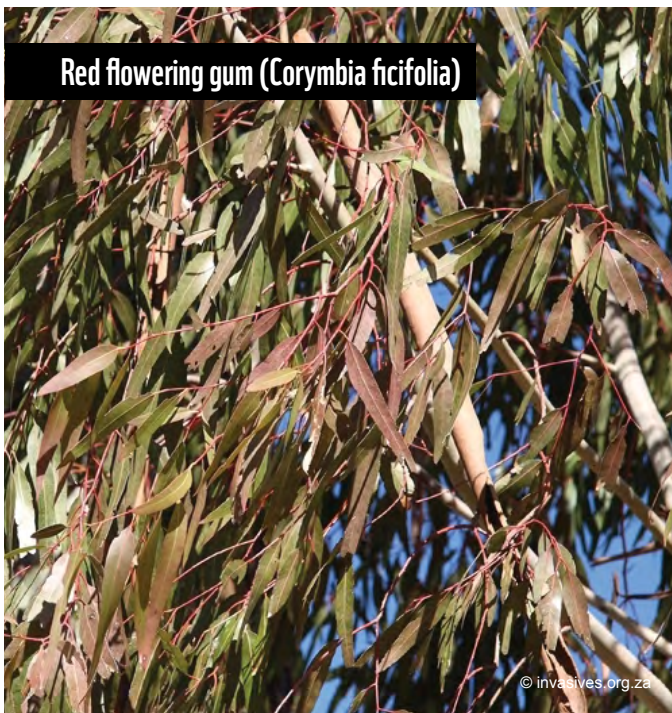
According to legislation, only invasive species must be removed from sensitive areas, but all species must be removed from riparian areas.

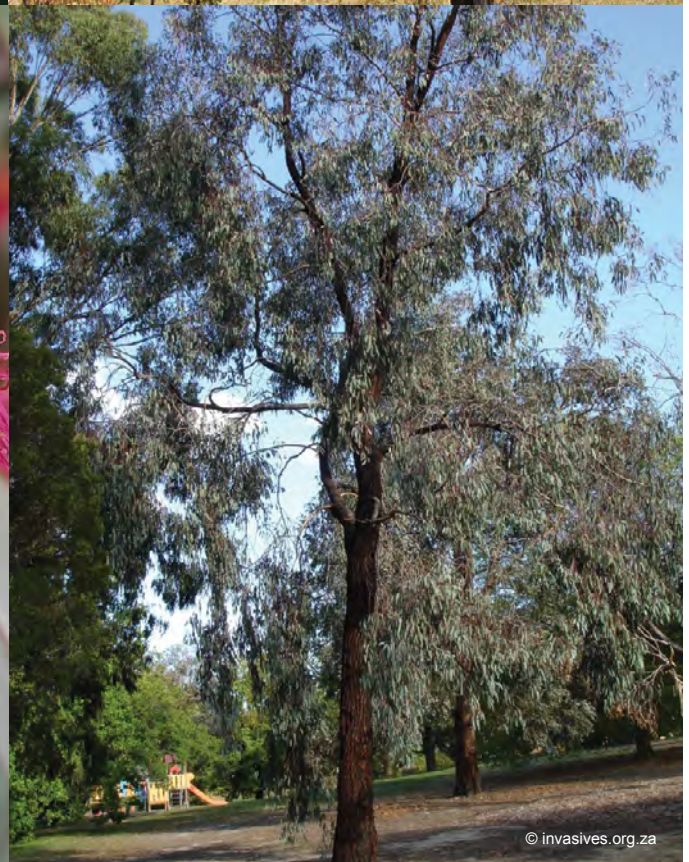
06



WONDERING HOW TO ACCURATELY ID A GUM?

You need the full-grown flower buds and a mature dry fruit, most likely found on the ground beneath the tree. Check out these examples of what to look for, they also happen to be popular with our beekeepers and honey bees.





Honey bees love these eucalypts along with the other 69+ species in our country that are not considered a threat to biodiversity. This is great for honey bees, but when are they a threat to our landscape, our ecosystems?

SENSITIVE AREAS - WHAT TO DO OR NOT TO DO

YOU CAN KEEP ALL SPECIES, INCLUDING RED LISTED SPECIES OF GUMS IN LINE WITH THE FOLLOWING CRITERIA:

	Your land is within the Nama Karoo, Succulent Karoo or Desert biomes, then eucalypts are exempt from removal. NB this includes all 6 invasive species.
	If the gums are within cultivated land and are at least 50 metres away from untransformed or natural land (natural land may not be cleared to achieve this) they do not need to be removed.
	If the gums are within 50 metres of the main house on a farm, they are exempt from removal.
	Gums in urban areas are exempt from removal if their trunk diameter is more than 400mm (at 1000mm height) at the time of publishing of the Regulations (1 October, 2014).
	If the gums are on an existing formal plantation, no intervention is required.

All gums in riparian areas must be removed, even if any of the above are true¹. * Listed gums in Protected Areas (nature reserves, national parks) or in ecosystems identified for conservation should also be removed.

You must remove all species when:

	Eucalyptus trees within a 'riparian area' (i.e. within 32m of the edge of a river, lake, dam, wetland or estuary, or within the 1:100 year floodline, whichever is the greater), must be removed. This is necessary to prevent their spread downstream, and impacts on water, sedimentation and on biodiversity. *
	Gums in Protected Areas (declared national parks, provincial reserves, mountain catchment areas and private nature reserves) must be removed. Discretion can be applied for non-invasive species that add value to a Protected Area – e.g. shade for parking or historical value.

¹Their removal or restrictions from riparian areas isn't because all gums have invasive traits or potential to be invasive, but because of their high water consumption rate. This will have negative impacts to downstream landscapes and ecosystems, and their functions.

GUMS WITH HIGH RISK OF IMPACT

The 6 listed species have been declared invasive because of their negative impact on water resources, biodiversity, erosion and increased fire risk.

In sensitive landscapes, these gum species can be maintained by a permit². Eucalypt trees maintain honey bee colonies during the nectar & pollen shortages of the hot and dry summer months.



River red gum *Eucalyptus camaldulensis*
(and hybrids with *E. tereticornis*)



Spider gum *Eucalyptus conferruminata*



Sugar gum *Eucalyptus cladocalyx*



Saligna gum *Eucalyptus grandis*
(and hybrids)



Forest red gum *Eucalyptus tereticornis*

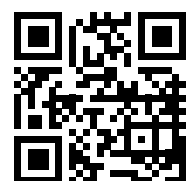


Karri *Eucalyptus diversicolor*

SUPPORT HONEY BEES IF YOU CAN. Permits are required to maintain two species on the list, the Sugar Gum in the Western Cape, a top-quality source of nectar & pollen over dry seasons when forage is in short supply, and the Saligna Gum, a favourite in the east of SA for honey, with the nectar & pollen flows profitably used for queen rearing.

IT'S THE LAW! Alien and Invasive Species Regulations were promulgated under the National Environmental Management: Biodiversity Act, 2004 (NEMBA), published in the Government Gazette and supplemented by various regulations that are revised and updated regularly.

For details on categories of prohibition and/or restricted activities in terms of the NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, 2004 (ACT NO. 10 OF 2004), its subsequent amendments and various Alien and Invasive Species Regulations.



²A demarcation permit that can be obtained through a formal consultation and application process with the local municipality and the relevant government departments.

TO PERMIT OR NOT TO PERMIT

If the gum species on your property is a listed invasive or hybrid of it, and legally needs to be removed but it is used as part of a plantation, woodlot, bee-forage area, wind-row or to line avenues - you can still keep these trees as long as you are granted a permit to do so.

The Permit will rank the trees as Category 2 invasive species under the NEMBA Alien Invasive Species (AIS) Regulations and gives you permission to maintain the trees within limitations.

Category 2 listed invasive species require a permit to carry out a restricted activity. The restricted activities most relevant to landowners include 'having in possession'; 'growing, breeding, propagating'; and 'spreading or allowing the spread of.'

Although the permit will allow you to keep the trees in the demarcated area, you will have to clear them outside of those areas. You will also be accountable should your gum spread into a neighbouring property.

In the Western Cape, selling a property populated with invasive gums means passing on a liability to the new owner. Invasive gum need to be listed on the compulsory Declaration of Invasive Species form filled out by any seller of property - and handed as notification to the buyer - before any sale of property can be concluded in South Africa. A copy of this form needs to be sent to: The Biosecurity Compliance Officer, Department of Environmental Affairs, 14 Loop Street, Cape Town, 8001 or AIScompliance@environment.gov.za

Permit applications and queries to AISpermits@environment.gov.za. Or download a permit application for your Category 2 gum tree species from: www.environment.gov.za/documents/forms or www.invasives.org.za Applicants applying for a permit to carry out a restricted activity involving Category 2 species need to compile an Environmental Risk Assessment (EIA) report that will accompany their permit application.

You've chosen not to permit a Category 1 tree to Category 2, so now it's time to safely remove your tree, what is the best way?

REMOVING YOUR INVASIVE GUM(S)

It is important to follow the legislation on removal of gums in sensitive areas, and make sure that the correct gum(s) - species as identified by legislation - and taking into consideration it's context within the landscape - is accurately assessed for removal.

GOOD TO GO

Try and find a contractor who does something positive in communities with the wood. Email info@invasives.org.za for more information.

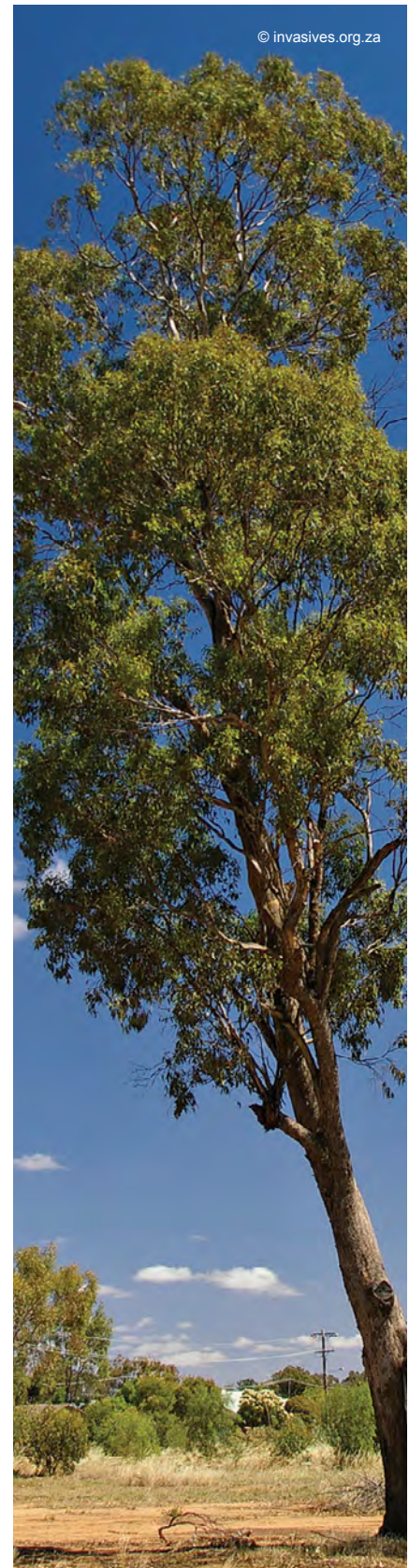
Avoid contractors who incorrectly insist that all gum trees must be removed (at all costs), as they plan to profit from the wood harvest and often leave a damaged landscape.

BEST METHODS

The best methods for removing gums include:

- Uproot young gums with a basal stem less than 45mm in diameter.
- Ringbark large trees by removing a ring of bark 25cm wide. Peel the bark to just below ground level.
- Dead trees fall over. Remove them before they are dangerous.
- Knock off any coppices that appear on stumps before they shoot.
- Avoid the use of herbicides wherever possible.

Note that biological control is not an option for gum trees.



LANDOWNERS PLAY AN IMPORTANT ROLE IN PROVIDING HABITAT AND FORAGE FOR OUR HERO HONEY BEE & OTHER POLLINATORS. WHAT CAN YOU DO TO REBUILD YOUR FORAGE SOURCES FOR HONEY BEES & OTHER WILD POLLINATORS WITH REMOVAL OF INVASIVE SPECIES IN SENSITIVE AREAS?

BUILDING BIODIVERSITY: BEING A HONEY BEE HERO & POLLINATOR FRIENDLY LANDOWNER

Registered beekeepers are serious about their honey bees and are always looking for new forage sites. In already landscaped or cultivated areas such as vineyards, orchards or gardens, adding in a diversity of species that can provide food for the bees and other pollinators. If you are looking for a bee keeper in your area visit www.sabio.org.za for a list of associations who can assist you with relevant referrals.

PROTECT HIVES

Work with beekeepers to ensure that beehive (apiary) sites are secure and inaccessible to vandals. One of the big challenges for beekeepers in South Africa is that their hives are damaged and/or stolen. Vandalism is one of the major threats to the industry in SA.

USE CHEMICALS RESPONSIBLY

Honey bees will visit any flowering crop (especially the very attractive ones like canola, lucerne, sunflowers, citrus) as well as other flowers and weeds. Please take this into account when spraying chemicals – consult the label and adhere to its instructions. Most important, never spray chemicals close to any flower/weed/crop when in flower.

FARM WITH BEST PRACTICE FOR HONEY BEES

For guides, tips and information on best practices for bees to support landowners and beekeepers in honey bee sustainability, you can visit The Bee Effect website. Scan the QR code for direct linking.



© ReWild



© ReWild



Lasting positive outcomes for people and nature in the places where we work and from priority environmental challenges we focus on.

FOR NATURE. FOR YOU.

www.wwf.org.za

© 2022
Paper 100% recycled

WWF-SA is a registered non-profit organisation, number 003-226-NPO. © 1986 panda symbol and "WWF" are registered trademarks of WWF - World Wide Fund for Nature (formerly World Wildlife Fund)

1st Floor, Bridge House, Boundary Terraces, Mariendahl Lane, Newlands, Cape Town.
PO Box 23273, Claremont, 7735, t: +27 21 657 6600, e: info@wwf.org.za, www.wwf.org.za