**JAEI ENVIRONMENTAL CORNER**

**Weedbusting!**

**What is *WeedBuster Week?***

***WeedBuster*** *Week* is an annual event during the ***2nd week of October each year***. Its aim is to let everyone know what invasive alien plants are, the extent of the problems they cause and how we can combat them.

The South African *WeedBuster Week* represents the annual culmination and highlight of the ongoing campaign aimed at the management and containment of invasive alien plants. The campaign is an initiative led by the Department of Environmental Affairs through the Environmental Programmes branch, and supported by various partners and stakeholders. The South African campaign is linked to the invasive plant control initiatives by countries such as Australia and New Zealand, as well as to the broader Global Invasive Species Programme.



*Chains hold back 6km of water hyacinth on the Vaal River, Orkney*

The Working for Water Programme is the largest public-funded initiative aimed at managing invasive alien plants in the world, and an excellent example of integrating environmental conservation and poverty alleviation objectives.

Much remains to be done towards increasing public awareness on the issue of invasive alien plants, promoting voluntary pro-active responses and community ownership of initiatives aimed at the management and containment of invasive alien plants (IAPs). *WeedBuster Week* is aimed at supporting these objectives.

Invading alien plants (IAPs) are the single biggest threat to plant and animal biodiversity in South Africa. The cost of controlling IAPs in South Africa is estimated at R600 million a year over the next 20 years.

**What are invasive alien plants (IAP)??**

A great deal of South Africa's water is used by **plants** that do not belong here. They are called "invading **alien**" **plants**. These **plants** are invasive because they spread and displace our natural trees and **plants**.

Alien invasive plants (IAPs) have invaded 10 million hectares of South Africa or an area the size of KwaZulu-Natal). This is 10% of our available land. Invasive alien plants in South Africa use 7% of our water...which is about the same amount of water needed by humans to survive in SA.

IAPs cause major damage to ecosystems by crowding out key species and thereby threaten the biodiversity which attracts tourists to our country. IAPs also reduce our ability to farm; intensify flooding and fires; cause erosion, destruction of rivers, siltation of dams and estuaries, and poor water quality and can cause a mass extinction of indigenous plants and animals. Aquatic invaders cover dams and lakes and block rivers. If IAPs are left uncontrolled, the problem will double within 15 years.

There are 27 000 indigenous plant species in the country and 9000 exotic or alien species in South Africa (ie plants that came from foreign lands). **Only 198 of the 9000 foreign plant species in South Africa are deemed to be problem invader aliens - or ‘bad' plants.**

IAPs are plants that have been introduced from other countries and out-compete the indigenous species. They are highly adaptable and don't have the natural enemies they would have back home. They easily invade many ecological niches in their new homes, from rivers to mountain kloofs.

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*Working for Water removal teams cut away bramble in KwaZulu-Natal*

**They grow fast and produce enormous amounts of seed,** or they have deep or spreading root systems that are difficult to remove. This helps them to multiply quickly and crowd out local plants. Because of the way they grow, and **if we do nothing about the spread of IAPs, the land they occupy could double in the next 15 years.**

What are some of the culprits? Their common names are wattle, lantana, bugweed, pampas grass, syringa, Port Jackson, rooikrans and gum trees. In the water, invader aquatics include water hyacinth, water lettuce and parrot's feather. These trees are commonly seen in gardens and in the veld and therein lies the problem.

**The trouble they cause.**

Invasive alien plants (IAPs) manage to spread so fast by growing very quickly, producing lots of seeds or having tough invasive root systems

What damage do they cause?

* **They invade land**and have covered nearly 8% of South Africa and if we do nothing about the spread of IAPs, the land they occupy could double in the next 15 years.
* **They waste water:** We lose more than 7% of all water run off to 198 invasive alien plants.
* **They threaten biodiversity:**Invasive alien plants displace the more delicate and slow growing indigenous plants especially in the Cape Floral Kingdom, one of the world's biodiversity hotspots with some 8 600 species of which 70% occur nowhere else on the planet.

And this is not the only ecosystem under threat; aliens are found along rivers in Mpumalanga, in Northern Province, in kloofs in KwaZulu-Natal, and even in the arid areas of the Northern Cape. These are all areas tourists commonly visit. Biodiversity is one of South Africa's key tourist attractions and earns billions of rands in foreign exchange each year. IAPs could threaten this industry.

**IAPs such as the pompom weed are invading grasslands - taking up productive land that could be better used for crops and livestock grazing**. In South Africa, IAPs can smother and kill trees, hamper forestry operations, crowd out sweet grazing grass and fatally poison cattle which graze on them in times of drought.

* **They cause run away fires and erosion.**

Many of invasive trees are ‘born to burn' using fire to germinate seeds in huge numbers afterwards. After fires, and before plants have re-established themselves on burnt ground, invasive aliens leave large patches of bare ground which are vulnerable to erosion. This silts up dams and estuaries and results in poor water quality.

* **Many are toxic to humans and livestock.**

Tickberry (*Lantana camara*) is just one of many invaders that is toxic to livestock, resulting in large financial losses to farmers. Common plants such as oleanders, syringas, privets and morning glories are toxic to humans and often eaten by children.



*The bug weed (Solanum mauritianum) invasion of Gauteng has now reached crisis proportions.*

*A single bug weed can grow into a 2m high tree in one summer, but it is in autumn and winter that birds eat the berries and spread the seeds. Bug weed is designated a Category 1 invasive alien plant, and by law, gardeners are obliged to remove and destroy the plant*.

* **They take over dams, lakes and rivers.**

Water hyacinth has taken over the Benoni Lakes system, water sports at Roodeplaat Dam, north east of Pretoria have come to a grinding halt, and continually clearing the Mzunduzi of water hyacinth near Pietermaritzburg costs millions in taxpayer’s money each year. Hydrilla, a submerged aquatic invader has taken over 800 hectares of the Pongolapoort Dam, northern KZN.

* **They are difficult and expensive to eradicate.**

Many are able to evolve constantly - and expensive to remove**.**

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| **Did you know?**South Africa has spent R400 million a year for the past 15 years attempting to control invasive alien plants and is needing R600 million a year to continue the fight for the next 20 years |

**The laws against invasive alien plants**

Huge losses are caused by alien invasive plants (IAPs): the amount of water they consume, the amount of productive land they cover, the fires they cause and loss of biodiversity, to name just a few. It makes sense then that these destructive plants have been declared illegal. As the legislation stands today, 198 plants are declared alien invaders (under the Conservation of Agricultural Resources Act, 2001). These invaders are divided into three categories:

* **Category 1a: Remove and Destroy.**

Invasive species requiring compulsory control. Remove and destroy. Any specimens of Category 1a listed species need, by law, to be eradicated from the environment. No permits will be issued. Examples include lantana, pom pom weed, bugweed, azolla, queen of the night cactus, pampas grass, cat's claw creeper, red sesbania, yellow oleander, yellow bells and water hyacinth.

* **Category 1b: Control the listed invasive species before it gets out of hand**

Invasive species requiring compulsory control as part of an invasive species control programme. Remove and destroy. These plants are deemed to have such a high invasive potential that infestations can qualify to be placed under a government sponsored invasive species management programme. No permits will be issued. Examples include: Famine weed, Moth Catcher, Cat’s-claw creeper, Indian shot (canna), Chandelier plant, Canary bush/bird flower, Seringa, Yellow bells, Silver-leaf bitter apple

* **Category 2: Need a permit to grow in suburban gardens.**

Invasive species regulated by area. A demarcation permit is required to import, possess, grow, breed, move, sell, buy or accept as a gift any plants listed as Category 2 plants. No permits will be issued for Cat 2 plants to exist in riparian zones. Examples include black wattle, patula pine, sisal, red eye, grey poplar, watercress, Port Jackson willow, guava, cluster pine, honey locust and weeping willow (not be confused with the indigenous willows).

* **Category 3: No planting. No selling.**

Invasive species regulated by activity. An individual plant permit is required to undertake any of the following restricted activities (import, possess, grow, breed, move, sell, buy or accept as a gift) involving a Category 3 species. No permits will be issued for Cat 3 plants to exist in riparian zones**.** Examples include jacaranda (excluding the sterile variety), seringa, Australian silky oak, cotoneaster, Formosa lily, sword fern, tipuana tree and New Zealand Christmas tree.

*(For illustrations of these plants – and more – visit* [*www.invasives.org.za*](http://www.invasives.org.za) *)*

**What happens if you are found with one of these plants on your land?**

You may be visited by a weed inspector from the National Department of Agriculture or your local council and issued with directive to remove an illegal plant or obtain a permit for it. If you fail to comply after a reasonable time, prosecution follows and on being found guilty, the penalty can be two years in prison or R10 000, or both.

In reality, there are only 19 inspectors to police the whole of South Africa, so it may take a while before you are caught. In the meantime it's up to all of us to take responsibility for the weeds on our properties and get rid of them. Remember, each weed you leave standing will produce hundreds more and this means more damage to the environment. It is also our legal duty to eradicate the weeds on our land.

**Who is fighting the weeds?**

In South Africa, the fight against aliens has been spearheaded by the Department of Water and Environmental Affairs’ - Working for Water (WfW) Programme set up in 1995. Its main aim is to clear IAPs from priority catchments to release more water for productive uses.

This programme works in partnership with local communities, to whom it provides jobs, and also with national government departments including the Department of Agriculture, KZN Invasive Alien Species Programme, provincial departments of agriculture, conservation and environment, research foundations and private companies. WFW also have partnerships with the green industries, pet trade and forestry sector.

**Planting good plants vs bad plants**

In August 2009, the WFW Nurseries Partnership Programme launched Plant Me Instead campaign in 150 garden centres across South Africa. The aim is to educate gardeners to remove ‘bad' plants and replace them with ‘good' plants.

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| **Did you know?**Because invasive species are such a problem all over the world, a Global Invasive Species Programme (GISP) was first set up in Los Angeles in 1998 to control the movement of alien species and 50 countries (including South Africa). |

**So, here’s what we can do ……**

IAPs grow quickly which makes them very popular garden plants. Old habits and favourites die hard. We are all responsible for what grows on our *land sino* it is our responsibility to wean ourselves off those ‘grow-like-weeds' IAPs and plant more sustainable local (indigenous) plants.

* **Learn to identify IAPs**

The first thing to do is to get a list of the worst offenders. For a copy of the alien invader plant list, visit [www.invasives.org.za](http://www.invasives.org.za) (this website is a wonderful resource for everything to do with all invasive species)

* **Look out for pictures of IAPs**

Then you may need some help in identifying the plants. See pictures of invasive alien plants at [www.agis.agric.za/agisweb/wip](http://www.agis.agric.za/agisweb/wip) .

* **Remove IAP**

Next you need information on eradicating aliens. This normally involves a combination of:

* 1. Mechanical felling, weeding by hand and controlled burning.
	2. Chemical killing with environmentally safe herbicides.
	3. Obtain advice on treatment methods by contacting the Working for Water WeedBuster toll free line 0800 005 376 or visit the DWAF website on <http://www.dwaf.gov.za/wfw> or contact 011 723 9000 (WFW Nurseries Partnership Programme).

***It's darn hard work getting rid of invaders!***

To get rid of IAPs successfully you need three steps:

* **Initial control:**drastic reduction of existing population.
* **Follow-up control:**control of seedlings, root suckers and coppice growth.
* **Maintenance control:**sustain low alien plant numbers with annual control.

**Aliens cost money**

Declared weeds and invader plants are one of the most significant drivers of environmental changes worldwide. They contribute to social instability and economic hardship, placing constraints on sustainable development, economic growth and environmental conservation. The direct costs of weeds to a single country can amount to billions of dollars annually.

It is estimated that alien invasions may have reduced the value of fynbos ecosystems by US$11,75 billion. The cost to clear plant invasions in South Africa could amount to US1,2 billion. South Africa spends R600 million a year removing invasive alien plants.

**Plant good plants - *Plant Me Instead***

Having removed invasive alien plants from your garden, replace them with good plants. There are 27 000 indigenous plants in the country and 9000 exotic or alien plants in the country. Only 198 of the 9000 foreigners are deemed to be bad invaders. The Plant Me Instead Campaign in 150 garden centres nationwide offers information on the range of good plants available for ecologically minded gardeners to plant in their gardens. See *[www.randomharvest.co.za](http://www.randomharvest.co.za)* or www.witkoppenwildflower.co.za

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| **Facts about Invasive Alien Plants*** **Did you know** that New Zealand's Airport Control for Invasive Alien Species has twenty inspectors, stringent laws and harsh penalties for anyone bringing foreign plants or animals into the country?
* **Did you know** that Britain regards its outbreak of foot and mouth disease as an invasive alien virus which cost the UK tourism, trade and agriculture sectors over R135 billion (12,5 billion pounds).
* **Did you know?**Our indigenous flora is causing havoc in Australia! Our own indigenous watsonia, arum, gazania and agapanthus are regarded as invader alien weeds in Australia. Watsonias are a huge problem in Melbourne. Gazanias are a problem in Perth.
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**What happens if we do nothing?**

If South Africa takes no action it is estimated that alien infestations will double in the next 15 years.

**What else can you do to help?**

* If you own land, keep it clear of invasive alien plants.
* Do not buy invasive alien plants from nurseries, and do not support nurseries that sell such plants.
* Join a volunteer clearing or hack group.
* Buy firewood, charcoal, crafts, furniture, toys, building material, mulch, etc made from invasive alien plants.
* Do not bring foreign plants and animals into our country or transplant them from other parts of our country - and do not send ours to other countries.
* Inform authorities about landowners who are causing the spread of invasive alien plants.
* Encourage your local authority, agricultural union, school, community, etc to work with the Working for Water programme.

*WfW toll free line 0800 005 376 or visit the DWAF website on*[*http://www.dwaf.gov.za/wfw*](http://www.dwaf.gov.za/wfw)

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| **Some poisonous garden ‘companions'*** The South American lantana (*Lantana camara* - category 1) is regarded as one of the world's ten worst weeds and occurs in 2,2 million hectares across South Africa. The green fruits are highly toxic and child fatalities have been recorded.
* The syringa (*Melia azedarach* - category 3) occurs in three million hectares of land across South Africa. The berries are highly toxic and fatalities have been reported.
* The small black seeds of the castor oil plant *(Ricinus communis* - category 2) are extremely toxic. One seed is enough to kill a child.
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**Vital statistics on invasive aliens**

Only 15% of tree species introduced to South Africa are regarded as invasive. 750 tree species and 8 000 herbaceous species introduced into South Africa 1 000 introduced species are naturalised, 200 are invasive.

* 84 species introduced from South and Central America
* 14 from North America
* 30 from Australia - 45% of species from Australia have become important pests
* 29 from Europe
* 36 from Asia

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| **Did you know? IAPs have been around for a long time**Since 1652, when Dutch horticulturist Hendrick Boom set up a garden for the Dutch East India Company in Cape Town, exotics ranging from English oaks to Australian acacias have been arriving on our shores. For example, the timber industry introduced blue gums (*Eucalyptus globulus*) and black wattle (*Acacia mearnsii*) to KwaZulu-Natal in 1839 and by 1904 there were 75 000 hectares of wattle plantation in and around Durban. |

***Acknowledgements to:***

<http://lifeisagarden.co.za/>

[www.invasives.org.za](http://www.invasives.org.za)

[www.sanbi.org/](http://www.sanbi.org/)

www.dwa.gov.za