

Executive summary

This report reviews the Taranaki Regional Council's performance and achievement on its pest plant management functions for the 2006/2007 year. The report also fulfils the Council's statutory obligation under section 85 of the Biosecurity Act 1993 to review and report back on its performance as management agency with respect to activities undertaken under the *Pest Management Strategy for Taranaki: Plants*.

Set out below is a summary of the main activities carried out by the Council in 2006/2007:

- In 2006/2007, the number of properties identified as having significant infestations of 'containment pest plants' (i.e. Category C properties) slightly increased. Council officers undertook 357 inspections of Category C properties, 1201 inspections of Category B properties and 4 982 inspections of Category A properties.
- Compliance with the strategy rules has been satisfactory. In total, 265 Notices of Direction to control pest plants were issued. All the Notices (which expired before 30 June 2007) were complied with and there was no subsequent need for further enforcement action.
- The Council continued its programme of monitoring the effectiveness of the release of biological control agents in the region.
- The Council received and responded to 155 complaints pertaining to pest plants. These complaints led to the issuing of 42 Notices of Direction.
- The Council inspected 43 plant nurseries and retail outlets in Taranaki to ensure they are not selling, propagating or distributing pest plants. In conjunction with these inspections the Council looked for and enforced a ban on pest plants banned from sale, propagation and distribution under the National Pest Plant Accord.
- The number of requests from the public for information on pest plant management continued to rise, with Council receiving and responding to 586 requests for information about weeds and other plants this financial year (up from 232 the previous year).
- The Council provided advice and information and published advertisements and other press items highlighting new land occupier obligations relating to, pest plants, in particular *Gunnera* and common and purple pampas.
- In relation to 'eradication pest plants' the Council treated 75 properties and directed land occupiers to treat a further 42 infestations. This control has addressed the control of all 'eradication pest plant' infestations that were known as of 2001 (when the previous Strategy became operative), the control of most infestations subsequently discovered after that time, and, as appropriate, the re-treatment of these sites.
- During the year the Council invested in improved computer technology to facilitate more accurate recording and reporting of information gathered in the field by pest plant officers.
- Through its pest plant management activities, the Council in conjunction with the community have restricted the spread of invasive pest plants and protected agricultural production values and environmental values in the region.

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1. Introduction

1.1 Purpose

This report reviews the Taranaki Regional Council's performance and achievement on its pest plant management functions for the 2006/2007 year.

1.2 Background

The Taranaki Regional Council ('the Council') has accepted responsibility for pest plant management in the Taranaki region, a responsibility enabled by the Biosecurity Act 1993.

Under the Biosecurity Act, the Council prepared and adopted the *Pest Management Strategy for Taranaki: Plants* (2007). The Strategy provides a strategic and statutory framework for the control and eradication of plants identified as pests in the Taranaki region. Through the Strategy, the Council is also empowered to exercise the relevant advisory, enforcement and funding provisions available under the Biosecurity Act.

1.2.1 Objective

The overall objective for pest plant management activities for 2006/2007, as set out in the Council's 2006/2016 *Long Term Council Community Plan* is to:

"Control or eradicate pest plants to minimise their adverse effects on biodiversity, primary production and the regional economy and environment."

1.2.2 Performance measures

In response to the above objective, the Council adopted the following performance measures for 2006/2007, as set out in the Council's 2006/2016 *Long Term Council Community Plan*.

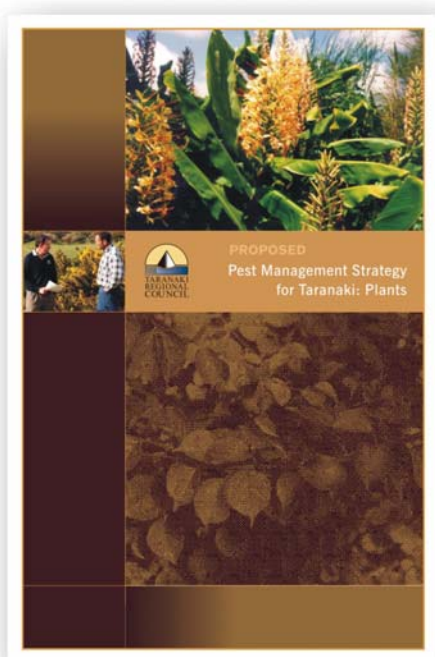
- *Implement and regularly review the Council's Pest Management Strategy for Taranaki: Plants 2001 which, in brief, comprises:*
 - *undertaking the direct control and eradicating all known infestations of Senegal tea, climbing spindleberry, mignonette vine, giant reed and Darwin's barberry in the region*
 - *confining the spread of and, where appropriate, reducing the extent of 'eradication' and 'containment' pest plants through a programme of inspections and, where necessary, enforcement on all Category C properties at least three times per year, on all Category B properties at least once per year, and on Category A properties as time permits*
 - *developing and implementing biological control programmes for old man's beard, giant buttercup, ragwort, gorse, nodding and plumeless thistles*
 - *responding to and taking necessary actions on all pest plant complaints within five days of receipt*
 - *undertaking a publicity and education programme in relation to the control of mignonette vine, Darwin's barberry and Gunnera*
- *Monitor, provide advice on and, if necessary, implement small-scale control of unwanted plant organisms.*

- *Implement the National Pest Plant Accord, inspecting all plant nurseries and retail outlets to promote and, where necessary, enforcing the prohibition from propagation, sale or distribution of specified unwanted plant organisms.*

2. Report on progress

2.1 Reviewing the Pest Management Strategy for Taranaki: Plants

The *Pest Management Strategy for Taranaki: Plants* was reviewed under part V of the Biosecurity Act 1993. It became operative on 1 March 2007.



With respect to the changes made from the previous Strategy, the most significant changes to note are:

- the inclusion of new pest plants – undaria, pink ragwort, the giant Gunnera species *Gunnera manicata*, and woolly nightshade;
- amendments to strategy rules relating to the control of old man's beard and pampas grass increasing land occupier obligations; and
- provision for the Council to undertake pest plant management on sites with regionally significant indigenous biodiversity values.

The Council prepared an Operational Plan as required under section 85(1)(a) of the Biosecurity Act 1993 that sets out the

objectives, management programmes and performance measures adopted by the Council in relation to implementing the *Pest Management Strategy for Taranaki: Plants*.

2.2 Providing information on pest plants

Each year, the Council receives numerous requests from the public for information on pest plant management. In 2005/2006, the Council received and responded to 586 public enquiries relating to pest and other harmful plants, including poisonous plants.

Table 1 Number of public enquiries

Number of public enquiries			
2003/04	2004/05	2005/06	2006/07
324	239	232	586



The Council's plant website is a popular site:
www.taranakiplants.net.nz



Council officers provide landowners with advice and information on identifying and controlling pest plants.

The Council continued to undertake an advice and education campaign informing land occupiers and contractors of new obligations to control pest plants – particularly *Gunnera* and common and purple pampas. The Council also continued to provide advice and education in the form of pamphlets addressing land occupier obligations.

Council officers, as part of the Council's inspection programme, also provide the land occupier with information on the control of any

infestations of 'regional surveillance' pest plants, National Accord pest plants and other harmful plants.

Council ran a public awareness programme on behalf of Biosecurity New Zealand to raise the importance to users of waterways of the risks of spreading didymo. Didymo is a highly invasive freshwater algae that is currently only found in the South Island. Human activity has been identified as the biggest risk of spreading this microscopic diatom from one waterway to another.



Council monitoring staff are adopting cleaning protocols to ensure that they do not inadvertently transfer anything between waterways.

Didymo presentations were made at 7 events to a total of 148 people and to over 100 senior secondary students. A presentation was given at the Taranaki Jet Boat Association's local competition covering 11 boats and 49 individuals.

This financial year the Council began facilitating a multi-agency group to address the issue of didymo, and a response plan is in early stages of preparation.



**KEEP DIDYMO OUT OF TARANAKI:
CHECK:CLEAN:DRY**

2.3 Inspection and monitoring programme

2.3.1 Property inspections

The Council implements a programme of property inspections to ensure occupiers are complying with any strategy rules requiring them to control pest plants on their land. The inspection programme is based on the following categories:

Category A refers to an inspection category assigned to rural or urban properties that have no recent problems relating to the management of eradication pest plants or containment pest plants.

Category B refers to an inspection category assigned to rural or urban properties that have had a problem relating to the management of eradication pest plants or containment pest plants, within the last three years, but which are now being managed to the satisfaction of the Taranaki Regional Council.

Category C refers to an inspection category assigned to a rural or urban property that, in the opinion of an Authorised Person of the Taranaki Regional Council, has had a problem relating to the management of eradication pest plants or containment pest plants.

In 2006/2007, Council undertook 357 inspections of Category C properties, undertaking three inspections on each property. On the first visit, Council officers inspect the property and, if need be, provide information to the occupier on the best timing and treatment methods for effective pest plant control. On a second visit, officers check progress with respect to the implementation of advice and, if necessary, serve a Notice of Direction (the first step towards possible enforcement action). On the third visit, officers confirm whether the occupier has undertaken effective pest plant control. In the event that the occupier has not, enforcement action would generally follow.



Figure 1: Number of Category C properties

The increase in Category C properties over the last few years can be attributed to the Council's shift in focus from the pasture pest plants, where compliance is now generally high, to the environmental pest plants such as old man's beard, *Gunnera*, pampas grass and wild ginger. It is anticipated that this increase will be temporary as compliance with the Strategy improves.

In 2006/2007, Council undertook 1 201 inspections of Category B properties. Inspections were undertaken at least once on each property, to confirm that pest plants were being managed effectively on these properties. Where appropriate, Council

officers provided advice on pest plant control or, if necessary, determined whether properties should be added to the Category C list or lowered to the A list.

Council officers also visited 4 982 Category A properties – this was in association with urban surveys covering several townships in the region, as well as visits in response to requests for information from land occupiers or in response to public complaints about pest plant infestations.

This financial year, Council installed a new GIS application and provided field officers with computer tablets enabling more accurate and more effective recording and reporting of field information. Modifications are being made to the application for the 07/08 season.

2.3.2 Monitoring

In addition to inspecting private properties, Council also undertakes an annual aerial survey. This year the focus was to determine extent of ragwort and *Gunnera* infestations. These annual surveys are carried out at the end of summer and enable Council to check on land occupier compliance with the Strategy, identify any properties not yet included in the inspection programme and for ragwort, gives a good indication of the impact biological control agents are having.

Council staff also annually inspect road and railway corridors when they are out and about in the region. All state highways and rural roads are inspected and advice provided to the controlling agency (Transit and the District Councils respectively) directing them to undertake the necessary pest plant control work.

2.3.3 Notices and enforcement

During 2006/2007 the Council issued 266 Notices of Direction directing land occupiers to control pest plants (this represents almost a 22% increase from the preceding year when 207 were issued). The Notices of Direction primarily related to the control of gorse, ragwort and pampas grass (Table 2 and Figure 2).

Despite the increase in the number of Notices of Direction served in 2006/2007, overall land occupier compliance with the strategy rules in the *Pest Management Strategy for Taranaki: Plants* has been satisfactory. Most of the increase is attributed to the Council's increased focus on environmental pest plants such as pampas grass and wild ginger in New Plymouth. Of note, all Notices were complied with and no further enforcement action was necessary in 2006/2007.

Table 2: Number of Notices of Direction

Pest plants	Number of Notices		
	2004/05	2005/06	2006/07
Wild Ginger	19	46	21
Gorse	19	41	93
Old Mans Beard	6	35	21
Ragwort	18	32	55
Broom	1	17	1
Common & Purple Pampas	2	15	46
Chilean Rhubarb	4	13	7
Giant Buttercup	13	6	0
Darwin's Barberry	-	2	20
Nodding Thistle	1	0	2
Total	83	207	266

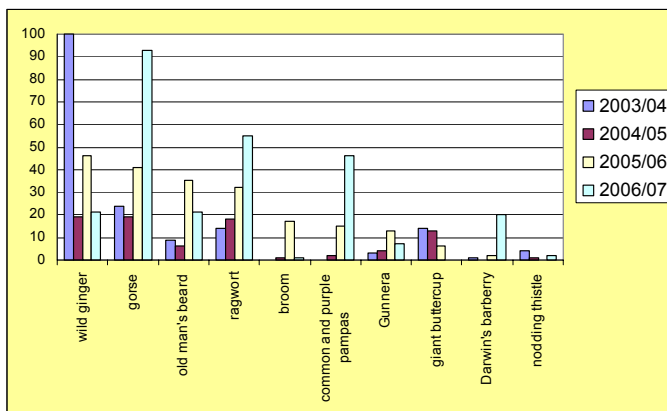


Figure 2: Notices of Direction issued per year for each pest plant

Through property inspections and the enforcement of rules requiring land occupiers to control pest plants, the Council and land occupiers have generally restricted the spread of invasive pest plants and protected agricultural production values and environmental values in the region.

2.4 Biological control programmes

The Council has a programme for releasing biological control agents in the region as a means of promoting sustainable and effective long-term pest plant control. Such agents include beetles that 'dine' on ragwort, flies that infest nodding thistle and a fungus and leaf miners that damage old man's beard.

In 2006/2007, only one new biological control agent release was made - Scotch thistle gallfly pupae at one site. In addition, a more vigorous strain of the Gorse soft shoot moth was released in December 2006 at a site in Urenui. The new strain was sourced from Blenheim and thought to be more vigorous than the strain released in Taranaki in the 1990s.

The Council's focus this financial year in relation to biological control programmes has been monitoring. In relation to the distribution of biological control agents for old man's beard, monitoring confirms that both the leaf fungus (first released in 1997) and the old man's beard leaf miner (first released in late 1996) are becoming increasingly widespread. The effect of the fungus is to cause 'die-back' on the leaves of old man's beard, which along with the leaf miner, weakens the plant. To date the effect of these biological control agents has not manifested itself by destroying the plants, however, their effects should become increasingly apparent over time.



Council and Landcare Research staff inspect gorse for biocontrol agents.

Table 3: Progress with biological control agents

Pest Plant	Biological Control Agent	Date released	Control effects to date
Gorse	Gorse seed weevil, Gorse soft shot moth, Gorse spider mite, Gorse thrips-european and portuguese	1990-2004	Most of these agents can be found on gorse throughout Taranaki. The spread of some of these agents is naturally slow. The thrips have spread well in the release areas. The spider mite is now appearing throughout Taranaki. Gorse seed weevils are widespread and a new release of gorse soft shoot moth was made in December 2006. These gorse control agents are considered effective over the long term.
Ragwort	Cinnabar moth, Ragwort flea beetle	1987-1995	Cinnabar moth and flea beetle are now widespread throughout Taranaki and have been effective. As with most gorse agents, the ragwort agents now need no hand in spreading.
Old Man's Beard	Leaf fungus, Leaf Miner and Sawfly	1996-2003	Old man's beard leaf miner and leaf fungus are wide spread through out Taranaki. Control effects have been poor. Old Man's Beard Sawfly was released in 2004 and has yet to become established in the region.
Nodding Thistle	Crown Weevil, Gall Fly and Receptable Weevil	1994-1997	These three agents are now widespread throughout Taranaki and are self spreading. There has been good control of Nodding Thistle in the eastern area of the region.
Scotch Thistle	Thistle Gall Fly	2004 and 2006	The Gall Fly has spread beyond the initial release site.
Blackberry	Blackberry rust	1990 (self released – arrived by wind)	Widespread throughout Taranaki. Working well at suppressing blackberry growth.
Mist Flower	Mist flower fungus	2003 (self released – arrived by wind)	The fungus has spread to all mist flower in the New Plymouth area.
Giant Buttercup	Buttercup fungus (<i>Sclerotiniaia selerotiorum</i>)	2004	The buttercup fungus is still in development period and data on control capabilities is not yet available.

All the above agents are sourced through Landcare Research, apart from buttercup fungus that comes from AgResearch, and the blackberry and mist flower agents which were blown here.

2.5 Response to public complaints

In addition to its inspection programme, the Council records and takes action in response to any public complaint received in relation to pest plants. Responding to public complaints is an integral part of the Council's inspectorial and enforcement activities.

In 2006/2007, officers responded to 155 complaints from the public pertaining to pest plants (compared with 81 complaints in 2005/2006). This represents a 91% increase in the number of complaints relating to pest plants compared to the preceding year. All properties for which a complaint was received, were inspected within five days and, where appropriate, advice was given or enforcement action taken.

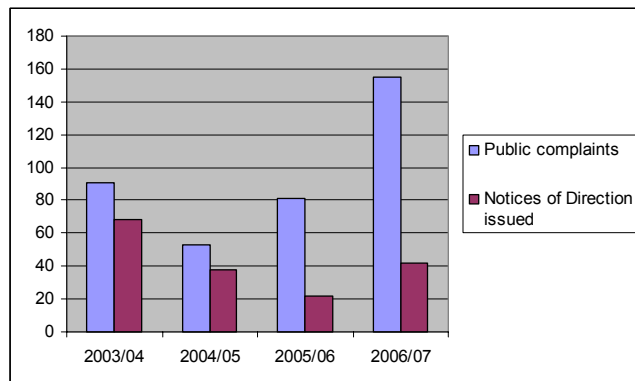


Figure 2: Public complaints are on the increase as the public become more aware of the Strategy rules.

Forty two Notices of Direction to control pest plants were issued following receipt of public complaints. The Council values the input from the public in notifying it of pest plant infestations in the region.

2.6 Plant nursery and retail outlet inspections

Many pest plants were initially introduced as garden plants. However, on a plant being declared a 'pest', the propagation, sale and distribution of that plant becomes prohibited under the Biosecurity Act.

In 2006/2007, Council officers inspected 43 plant nurseries and retail outlets known to be growing or selling plants.

Pursuant to its agreement to participate in the National Pest Plant Accord (in conjunction with other regional councils and relevant central



Officers visit plant nurseries and retail outlets to ensure retailers are aware of their obligations and are not selling or displaying pest plants

government departments), the Council also inspected the plant nurseries for the National Accord pest plants that have been declared 'unwanted organisms' and which are also prohibited from propagation, sale and distribution.

To assist nurseries and retail outlets to identify which plants are banned from propagation, sale or distribution, the Council distributed relevant information including copies of the National Pest Plant Accord list. There was one instance where nursery inspection identified a plant that had only recently been added to the National Pest Plant Accord. The plant was then withdrawn from sale, and no further action was necessary.

2.7 Spray trials

Council aims to provide land occupiers with good information on how to control certain pest plants. However, often the information on the effectiveness of certain techniques is just not available for certain pest plant species in Taranaki.

For example, there was uncertainty about the effectiveness of using certain herbicides to control giant buttercup. Council is currently undertaking spray trials in order to be able to provide land owners with the best available advice on how to control this pest plant.

A paddock, heavily infested with giant buttercup, had been treated in October 2006 and was re-sprayed in December 2006. The site was inspected in February 2007. Only about a dozen giant buttercup plants were visible in the whole paddock, representing close to a 99% control within two seasons. Thus Council is now able to advise landowners that carrying out two spray applications, with the appropriate spray, using a spraying oil to increase the spray's penetrating properties, can successfully get giant buttercup under control.



Trials indicate that effective control to stop the spread of giant buttercup is achievable over a number of seasons.

2.8 Direct control of 'eradication pest plants'

Council has continued its direct control programmes for 'eradication pest plants' (eradication pest plants are identified in Appendix I). These are pest plants of limited distribution in the region for which the Council aims to prevent their establishment by destroying all known infestations in the region.

For 2006/2007, the eradication focus was on the control of mignonette vine, climbing spindleberry, Senegal tea, giant reed and Darwin's barberry. The Council treated 38 properties around the region for mignonette vine, nine properties for climbing spindleberry, one property for Senegal tea, three properties for giant reed and 24

properties for Darwin's barberry. Mignonette vine and climbing spindleberry was treated on an additional seven properties by the land occupiers.

In relation to giant reed, all known infestations were treated. Some did not need re-treatment as the weed has been successfully suppressed for 12 months. Some property owners are now taking on the responsibility for monitoring and re-treating plants once they have been brought down to a manageable level.

All the direct control operations successfully destroyed targeted infestations, although on-going surveillance and re-treatment of some of the plants will be required to ensure treated plants do not recover nor seedlings emerge.



Department of Conservation staff holding up undaria on a mooring line.

A new eradication pest plant in the *Pest Management Strategy for Taranaki: Plants, 2007* is undaria. This seaweed is currently confined to Port Taranaki. Council is working with Department of Conservation to eradicate it from the Port.

In relation to 'eradication pest plants' the Council successfully met its Strategy targets of destroying all 'eradication pest plant' infestations that were known as of 2001 (when the current Strategy became operative). In addition, the Council has responded to the discovery of new infestations of 'eradication pest plants'.

All new infestations are treated, as soon as practicable, by the Council or by the land occupier (in accordance with land occupier obligations). Both known and newly discovered infestations, following treatment,

need to be revisited and retreated to ensure treated plants do not recover nor seedlings emerge.

2.9 Monitor, provide advice and, if necessary, implement small-scale control of unwanted plant organisms

The Council, as part of the Council's inspection programme, records infestations of regional surveillance pest plants and National Accord pest plants. The Council will, in special circumstances, also undertake the control of pest plants and other harmful plants of limited distribution.

In 2006/07 the Council treated boneseed, banana passionfruit, mile-a-minute vine, parrots feather, woolly nightshade, wild ginger, gorse and Gunnera. This occurred in situations where it was the most cost effective form of action and it was appropriate to

do so, or where plants are of limited distribution in the region and potentially could have an extraordinary impact on indigenous biodiversity values if the plants become established in the region (such as bone seed and banana passionfruit).

The declaration of a small-scale management programmes under section 100 of the Biosecurity Act was not considered necessary given that the Council obtained permission from affected land occupiers to undertake the aforementioned eradication actions.

3. Conclusion

In summary, the Council met all of the performance measures for pest plant management functions, as set out in the *2006/2016 Long Term Community Council Plan*. The 2006/2007 financial year represents the fifth year in the Council's implementation of the *Pest Management Strategy for Taranaki: Plants 2001*.

The Strategy was reviewed this year, and new pest plants were added – undaria, pink ragwort, *Gunnera manicata* and woolly nightshade. Amendments were made to Strategy rules increasing land occupier obligations relating to the control of old man's beard and pampas grass.

Overall occupier compliance with Strategy rules continues to be satisfactory and public providing information to the Council continues to rise, indicating general public awareness of the Strategy and land owner obligations is increasing.

Through its pest plant management activities, the Council, in conjunction with the community, have restricted the spread of invasive pest plants and protected agricultural production and environmental values in the region. Considerable progress has been made in preventing the establishment of pest plant species of limited distribution, while the impacts of more widespread pest plants are also significantly minimised.

With continued land occupier and public support for the *Pest Management Strategy for Taranaki: Plants* the Council believes it will continue to promote effective action against pest plants and meet Strategy objectives.

This report will be forwarded to key stakeholders in relation to pest plant management.

Appendix I: Pest plants of the Taranaki region

The Taranaki Regional Council has determined that different pest plant species warrant different types and levels of regional intervention according to the objective to be achieved. For the purposes of the *Pest Management Strategy for Taranaki: Plants*, the following terminology applies:

Eradication pest plants: pest plants that are of limited distribution or density in a region and for which the long-term goal is eradication. These are:

- Climbing spindleberry (*Celastrus orbiculatus*)
- Darwin's barberry (*Berberis darwinii*)
- Giant reed (*Arundo donax*)
- Mignonette vine (*Anredera cordifolia*)
- Pampas grass – common pampas (*Cortadera selloana*) and purple pampas (*Cortadera jubata*)
- Senegal tea (*Gymnocoronis spilanthoides*)
- Undaria (*Undaria pinnatifida*).

Containment pest plants: pest plants that are abundant in suitable habitats in a region or part of a region and for which the long-term goal is to prevent the spread of the plant to new areas or to neighbouring properties. These are:

- Australian sedge (*Carex longebrachiata*)
- Giant buttercup (*Ranunculus acris*)
- Giant gunnera (*Gunnera* species)
- Gorse (*Ulex europaeus*)
- Nodding (*Carduus nutans*) and plumeless (*Carduus acanthoides*) thistles
- Old man's beard (*Clematis vitalba*)
- Ragwort (*Senecio jacobaea*) and pink ragwort (*Senecio glastifolius*)
- Variegated thistle (*Silybum marianum*)
- Wild broom (*Cytisus scoparius*)
- Wild Ginger – Kahili ginger (*Hedychium gardnerianum*) and yellow ginger (*Hedychium flavescens*).

'Surveillance pest plants': pest plants are those for which there is no rule in the Strategy requiring the land occupier to control the species, although there are rules prohibiting the sale or distribution or propagation of the species. These are:

- Brush wattle (*Paraserianthes lophantha*)
- Egeria oxygen weed (*Egeria densa*)
- Japanese walnut (*Juglans ailantifolia*)
- Lagarosiphon oxygen weed (*Lagarosiphon major*)
- Spanish heath (*Erica lusitanica*)
- Woolly nightshade (*Solanum mauritianum*).