

# The Bridal Creeper

newsletter of the national asparagus weeds management committee

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## Welcome from the Coordinator



Welcome to the July 2008 edition of The Bridal Creeper.

I'd like to take this opportunity to introduce myself as the new National Asparagus Weed Management Coordinator, replacing Dennis Gannaway who continues

his passion for pest plant work in Queensland. My start date happily coincided with the 16th Australian Weeds Conference, so I've already had the chance to meet with a number of dedicated bridal creeper

battlers and have gained an insight into the tremendous efforts focussed on our Weed of National Significance.

This edition takes a look at the results of an Asparagus Weeds Risk Assessment; recent research on the barriers to restoration of invaded sites; and funding and training opportunities. If you would like to make comments or contributions to the next edition please contact me using the details at the bottom of the page.

Shauna Potter

## Thanks and farewell to Mae Adams & Dennis Gannaway

The National Asparagus Weed Management Committee would like to extend their sincere thanks to Mae Adams who has signed off after serving two years as the Committee's Chair.

Not one to shy away from a challenge, Mae is embarking on a new project- establishing and running an eco lodge in Venus Bay, a coastal town in South Gippsland. Mae is an active member of the Friends of Venus Bay Peninsula and will continue her work on bridal creeper and other environmental weeds in the local area.

Obviously this leaves us without a chair! Do you know of a community member with an active interest in asparagus weeds that may be interested in this role? The chair's role is invaluable in lobbying for a greater focus on asparagus weeds at the national level. Please contact the Coordinator if you would like to make a suggestion.

The Committee would also like to thank and farewell Dennis Gannaway, former National Coordinator, for his 3 year commitment to the position.

Dennis' appointment enabled the achievement of a number of key objectives under the National Bridal Creeper Strategy, including the development of the Best Practice Management Manual, and perhaps most importantly maintaining contact with many of the people involved in asparagus weed management at the coalface.

Best wishes and sincere thanks to Mae and Dennis.



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# Comparing the weed risk of *Asparagus* species

Given the potential for a range of *Asparagus* weed species to impact on our native vegetation, the National *Asparagus* Weeds Management Committee sought to determine the relative risks of these weedy *Asparagus* species in Australia, so that recommendations on their most appropriate management actions can be made.

John Virtue and Justin Williams of the SA Department of Water Land & Biodiversity Conservation, undertook species assessments using the South Australian Weed Risk Management System (SAWRMS) and potential distribution information generated by John Scott of CSIRO. A report is currently being prepared for the WoNS website and a preview of results is presented below.

The SAWRMS calculates weed species scores for 'Comparative Weed Risk' and 'Feasibility of Containment', which are then compared in a matrix to determine the most appropriate management action. To achieve this:

- A score for 'Comparative Weed Risk' (CWR) is generated from multiplying separate scores (each ranging between 0 and 10) for the three criteria of 'Invasiveness', 'Impacts' and 'Potential Distribution'.
- A score for 'Feasibility of Containment' (FoC) is generated by multiplying separate scores (again,

each ranging between 0 and 10) for the three criteria of 'Control Costs', 'Current Distribution' and 'Persistence'.

- Scores for each of the six criteria are generated from a series of multiple-choice questions (e.g. high/medium/low), with definitions to aid in consistency of assessments.

Figure 1 summarises the position on the matrix for nine weed species, at national and state scales. Assessments vary between national and state levels due to differences in climate and in current distribution (e.g. what may widely established in one state may be relatively restricted on a national scale). Bridal creeper, *Asparagus asparagoides*, is ranked as "manage weed" on a national scale, recognising that it is a major threat but also widespread.

"Manage weed" indicates that efforts are best directed towards developing and promoting integrated weed management packages (including herbicides and biological control), particularly for use at key sites/assets.

An email will be sent out to recipients of The Bridal Creeper newsletter when the weed risk management report for *asparagus* weeds is on the national website.

John Virtue

WEED	NATIONAL	QLD	NSW	VICTORIA	TASMANIA	SA	WA
<i>Asparagus aethiopicus/densiflorus</i>	MANAGE SITES	MANAGE SITES	MANAGE WEED	CONTAIN SPREAD	MONITOR	MONITOR	CONTAIN SPREAD
<i>Asparagus africanus</i>	CONTAIN SPREAD	CONTAIN SPREAD	CONTAIN SPREAD	CONTAIN SPREAD	MONITOR	ALERT	ALERT
<i>Asparagus asparagoides</i>	MANAGE WEED	CONTAIN SPREAD	PROTECT SITES & MANAGE WEED	MANAGE WEED	DESTROY INFESTATIONS	MANAGE WEED	MANAGE WEED
<i>Asparagus asparagoides</i> Western Cape	CONTAIN SPREAD	MONITOR	MONITOR	DESTROY INFESTATIONS	MONITOR	DESTROY INFESTATIONS	ALERT
<i>Asparagus declinatus</i>	PROTECT SITES	MONITOR	MONITOR	ALERT	MONITOR	PROTECT SITES	CONTAIN SPREAD
<i>Asparagus officinalis</i>	LIMITED ACTION	MONITOR	MANAGE SITES	MANAGE SITES	PROTECT SITES	LIMITED ACTION	LIMITED ACTION
<i>Asparagus plumosus</i>	LIMITED ACTION	PROTECT SITES	MANAGE SITES	MONITOR	MONITOR	MONITOR	MONITOR
<i>Asparagus scandens</i>	CONTAIN SPREAD	CONTAIN SPREAD	CONTAIN SPREAD	CONTAIN SPREAD	CONTAIN SPREAD	DESTROY INFESTATIONS	DESTROY INFESTATIONS
<i>Asparagus virgatus</i>	MONITOR	MANAGE SITES	MONITOR	MONITOR	MONITOR	MONITOR	MONITOR

Figure1 -Suggested management actions at National and State scales

# Barriers to Restoration- Research Update

A growing body of research papers are now emerging with a focus on the issue of restoration. Peter Turner, a PhD student with the University of Western Australia, CSIRO Entomology and the Weeds CRC has recently submitted his thesis "The impacts of the environmental weed *Asparagus asparagoides* and the ecological barriers to restoring invaded sites following biological control" for examination.

The biological control program for bridal creeper is already being considered as one of the most successful in Australia. In less than two years there had been a dramatic decrease in the cover of bridal creeper at Peter's study sites.

Peter's thesis reports that bridal creeper can reduce plant diversity. The main impact is expressed through a change in the structure of the native community, with understorey shrubs and trees that bridal creeper uses as supports being most heavily impacted. Bridal creeper can also transform native communities it invades by increasing the availability of soil phosphorus through changes in nutrient cycling.

Following biological control, there will be a suite of native and exotic plants that will benefit from this

control. Without additional restoration, we will see those species that readily germinate and those that respond positively to increased soil fertility replacing bridal creeper. This will be dominated by other weeds, given that Peter's bridal creeper invaded sites have large exotic seed banks that will readily germinate. The tuberous mats of older bridal creeper plants will also leave a legacy as they will remain many years after control and still impact on vegetation, even if control has killed the plant. These impacts will be highest at sites where bridal creeper has dominated over the longer term.

Although Peter's thesis has only recently been sent out for examination, it has already led to a number of publications.

Peter is now working on another Weed of National Significance by developing a National Lantana Threat Abatement Plan.

Results from Peter's research can be viewed in poster form on the website:

<http://www.weeds.org.au/WoNS/bridalcreeper/>

## Coming Events

### • Rust Fungus Workshops- South Australia

If you live in the Adelaide area you may be interested in participating in a bridal creeper rust fungus workshop. Workshops are being held in July by the Adelaide and Mt Lofty Ranges NRM Board on the following dates:

- **23rd July** from 10 am – 11.30 am in Victor Harbor
- **24th July** from 10 am – 11.30 am Belair National Park
- **30th July** from 1 pm – 2.30 am at Gumeracha

Bookings are essential. Please contact Susan Lawrie to make a booking on:

Ph: 08 8389 6166

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Email: [susan.lawrie@adelaide.nrm.sa.gov.au](mailto:susan.lawrie@adelaide.nrm.sa.gov.au)

### • Weed Buster Week

Weedbuster Week has a new date!

This year **Weedbuster Week will be the 1st - 7th September.**

The Theme for this year's event is 'Grow Me Instead' which is a great opportunity to engage with gardeners and the nursery industry to promote non-invasive alternatives to weedy species.

If you would like to learn more about Weedbuster Week or register an event visit the website:

<http://www.weedbusters.info/>



# Coming Events & Latest News

## Funding Opportunities

### Caring for Our Country Open Grants

The Australian Government is offering grants under Caring for Our Country, the new federal program for Natural Resource Management. Open Grants are being sought from interested groups for submissions of between \$80 000- \$400 000. Funding applications must align with the Government's three priority areas of:

- biodiversity & natural icons
- coastal environments & critical aquatic habitats
- sustainable farm practices

Emphasis is being placed on strategic, large scale projects that can be delivered in 9-12 months. Applications close on 1st August 2008.

Visit the website for further information:  
<http://www.nrm.gov.au/funding/open.html>

## Community Coastcare

Small grants are available for up to \$50 000, while submissions for priority sites are eligible to apply for up to \$250 000. Applications must demonstrate that they will contribute to the priority areas of:

- protecting and rehabilitating Coastal environments and critical aquatic habitats and
- enhancing community skills, knowledge and engagement with Indigenous Australians, volunteers and coastal communities

Applications close on 25th July 2008.

Visit the website for further information:  
<http://www.nrm.gov.au/funding/coastcare.html>

## Funding Continues for WoNS National Coordinators

Welcome communication from the Department of Agriculture Fisheries and Forestry has come in the form of an announcement to continue funding for the Weeds of National Significance Coordinators. Funding will be provided under the Australian Government's new Caring for Our Country Program until June 2009.

## Changes to the Bridal Creeper Website

Bridal creeper has a dedicated page on the Weeds Australia website. If you haven't visited it you can do so at:

<http://www.weeds.org.au/WoNS/bridalcreeper/>

There have been some recent minor changes to the website, including:

- a reshuffle of existing information. Don't give up if you are searching for a particular document. It will be there, perhaps just in a different location
- the additional of four posters based on recent research by Peter Turner, John Virtue, John Scott and Helen Spafford Jacob. Research results documented
  - herbicide control of bridal veil
  - impact of bridal creeper on post fire succession
  - biological control of bridal creeper in WA
  - impacts of bridal creeper- implications for restoration

And of course, this latest edition of the newsletter will also appear shortly.

**Impacts of Bridal Creeper**  
Implications for Restoration

**Peter J Turner**<sup>1,2,3</sup>  
**John K Scott**<sup>2,3</sup>  
**Helen Spafford Jacob**<sup>1,2</sup>

1. University of Western Australia
2. CSIRO, Division of Entomology
3. Cooperative Research Centre for Australian Weed Management

**INTRODUCTION**

Bridal creeper (*Asparagus asparagoides*):

- is a weed from southern Africa
- invades disturbed and undisturbed habitats in native bushland (Figure 1)
- now widespread throughout southern Australia
- control is being achieved through the release of three biological control agents (Figure 2).

Will weed impacts be reduced after successful biological control?

**PROJECT DESCRIPTION**

This project is investigating the impacts of bridal creeper invasion and management on plant and insect biodiversity.

- Twenty monitoring plots have been set up in heavily invaded sites and reference sites within southern Western Australia.
- Bridal creeper within these invaded sites are yet to come under substantial attack by the biological control agents.
- Reference sites have minimal bridal creeper cover and are located adjacent to bridal creeper invasions.

Results from initial sampling in Spring 2004 are presented, which relate to differences between vegetation composition and soil conditions.

**RESULTS & DISCUSSION**

**Figure 1.** Bridal creeper invasion, Fitzgerald River National Park, W.A.

**Figure 2.** The bottom of the photo shows bridal creeper defoliated after infestation by a biological control agent, the bridal creeper rust. Growing over the infested bridal creeper is another weed from South Africa, *Dalichous pisa* (*Dipogon glaucus*). (Location: Bremer Bay, W.A.)

**Figure 3.** Bridal creeper sites have higher levels of phosphorus available to plants (Colwell method) ( $F=44.87$ , d.f. 1, 20,  $p < 0.001$ ).

**Figure 4.** An ordination of sites (NMDS) showing clear separation of sites based on plant abundance and species composition (ANOSIM  $R=0.723$ ,  $p < 0.002$ ).

**Figure 5.** The number of native plant species is negatively correlated to bridal creeper cover ( $R^2=0.58$ , d.f. 1, 18,  $p < 0.001$ ).

**Bridal creeper sites:**

- have higher levels of phosphorus (Figure 3)
- exhibit little natural variation between sites (Figure 4) and
- have a lower number of native plant species ( $5.7 \pm 0.7$  compared to  $10.7 \pm 0.9$  in reference sites,  $F=19.36$ , d.f. 1, 18,  $p < 0.001$ ).

The number of native plant species is also negatively correlated to bridal creeper cover (Figure 5).

The above impacts will have important consequences for the restoration of these invaded areas. Many studies in Australia have reported a positive association between phosphorus and exotic weeds. If other exotic species are favoured and establish quicker than native species, removing bridal creeper may lead to one weed being replaced by another.

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