

A Good Weed



The Newsletter of the Weed Society of New South Wales Inc.

ISSN 1325-3689

#42 June 2007

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A Good Weed is Published by the Weed Society of New South Wales Inc., PO Box 438, Wahroonga, NSW, 2076. Website:

www.nswweedsoc.org.au

Secretary: Alan Murphy. Material for the Newsletter should be sent to the Editor at the above address.



**THE WEED SOCIETY
OF NEW SOUTH WALES INC.**

Office Bearers for 2006/07

President	Stephen Johnson [Orange]
IPP	Warwick Felton [Tamworth]
Secretary	Alan Murphy [Umina]
Treasurer	Jim Swain [Sydney]
Public Officer	Mike Barrett [Sydney]

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Assistant Secretary	Emilie-Jane Ens [Wollongong]
Newsletter Editor	Mike Hood [Newrybar/Bangalow]
Assistant NE	Lawrie Greenup [Sydney]
CAWS Delegates	Rex Stanton [Wagga Wagga], Stephen Johnson [Orange]
Committee	Peter Harper [Ingleburn], Peter Dowling [Orange], Rex Stanton [Wagga], Jim Dellow [Orange], Luc Streit [Sydney], Alex McLennan [Sydney], Bob Trounce [Orange],

Committee meeting dates have been set as follows;

April 20	Katoomba Council Chambers	October 19	Orange [date and time may be changed]
June 15	Forestry, West Pennant Hills	December 14	TBA
August 17	Wollongong		

All members are welcome at meetings; check with the Secretary for the final date, time and place as changes can be made to these arrangements.

Aims of the Weed Society of NSW

The Society was formed in 1966, the first weed society in Australia. It is affiliated with similar societies in Queensland, Victoria, South Australia, Western Australia, Tasmania and New Zealand under the umbrella organisation The Council of Australasian Weeds Societies [CAWS]

The aims of the society are:-

- To promote a wider interest in weeds and their management
- To provide opportunities for those interested in weeds and their management to exchange information and ideas based on research and practice.
- To encourage the investigation of all aspects of weeds and weed management
- To co-operate with other organisations engaged in related activities in Australia and overseas
- To encourage the study of weed science and the dissemination of its findings
- To produce and publish such material as may be considered desirable

Membership is open to all and costs \$30 per annum. For an application form contact the Secretary at PO Box 438 Wahroonga, NSW, 2076 or www.nswweedsoc.org.au

Presidents Column

Busy times

It has been a busy time since the last newsletter arrived in your hands.

First and foremost activity has centred around preparation for the Environmental Weeds seminar. This seminar will be held at the Blaxland Auditorium at Ryde TAFE on Friday July 13. Invited speakers including Rachel McFadyen (CRC for Australian Weed Management) and Tim Low (author and invasive species campaigner) will give their perspectives on research, education, legislation and control of environmental weeds. I would encourage all members and any others you have contact with who deal with environmental weeds to come along to what promises to be an excellent value-for-money day. Further details can be found in this newsletter.

Your Executive recently decided to support the Weed warriors program. In particular, grants will be made available to fund eight schools in different geographic areas of NSW annually with each school to receive \$125 each. This is another way that we, as a society, can support the fight against weeds in NSW and encourage further education of the weed managers of the future. An article in this edition gives a lot more detail on this ground-breaking biological control educational program.

Your executive will also continue to meet with conference organisers in Sydney to develop a bid for the 2012 International Weed Science Society Congress. A small committee has been formed of executive and general members to progress this bid and we would be very interested in expanding this committee to include others. Feel free to contact the

newsletter editors so that your interest can be relayed to me.

This newsletter edition also has a range of other information including updates on activity against two Weeds of National Significance, these being Parthenium and Boneseed and a travel grant report by University of New England PhD candidate Vinod Chejara. They all make for interesting reading! Another article details how you can subscribe to the NSW Department of Primary Industries Weed Resource Bulletin to keep up-to-date with all the new publications that have been produced by NSW DPI recently. Well worth the effort.

Recent discussion has focussed around whether or not the society should produce an electronic copy of the newsletter, in addition to producing hard copies. If you would be happy receiving an electronic (.pdf) copy of the newsletter in addition to, or perhaps instead of a hard copy feel free to contact the newsletter editors. Depending on your responses the executive would be very happy to discuss this further (and try and save a few trees in the process).

Finally, as fellow members please feel free to send the newsletter editors any other articles on current research, management or any other aspect of the fight against weed that you think may be of interest to others.

We look forward to your interest and participation throughout the year.

Happy weeding

Stephen Johnson (Dr.)

Obituary

Alex B McLennan – A Stalwart of The Weed Society

It is with great regret and sadness that we report the death of Alexander Brian McLennan FAIAST on 14 May 2007 at the age of 81, after a short illness.

After serving in the RAAF between 1943 and 1945 Alex was a graduate of Wagga Agricultural College and Hawkesbury Agricultural College, finishing his studies in 1951. Between 1952 and 1972 he developed his career in agriculture from shearing shed overseer to branch manager with Farmers & Graziers. This was then followed by 5 years with Anglo Chemical Group as agricultural manager – in particular being instrumental in the development of the foam spray system to reduce spray drift. In 1977 Alex joined the NSW Rail Authority as their inaugural agronomist with responsibility for reserve vegetation management along the extensive NSW rail network. This role saw him exhibit an extraordinary ability to negotiate and co-ordinate activities between government bodies such as State Rail and neighbouring general purpose and weeds county councils which in major part resulted in significant co-operative advances being made in the destruction and control of weeds in the Macquarie River catchment areas. During that period he served on the Macquarie Valley Noxious Plants Advisory Committee. In the 1990's he operated a consultancy practice in agronomic and spraying advice.

Alex was the founding president of the Agricultural Technologists of Australasia (ATA) and remained a director from its inception to its amalgamation with the Australian Institute of Agricultural Science to form the Australian Institute of Agricultural Science & Technology. He continued to serve on the NSW Branch Committee up until 2005. He was elected a Fellow of the AIAST.

He was a member of the Weed Society of NSW for many years and a committee member for almost as many. He served a term as president and was the treasurer for well over 10 years. He was the chairman of the organizing committee for the joint Australian Weeds Conference/Asian Pacific Weeds Conference held in Sydney. He had a great interest and knowledge in weeds, weed science and practical control methods and agriculture in general.

Many members of this Society were amongst a large attendance at Alex's funeral including Mike & Lola Barrett, Peter Michael, Lawrie Greenup, Zed Bodulovic and John Cameron. The Society made a donation to charity in lieu of flowers as requested by the family.

Chris Russell & Michael Hood

Travel Study Grant

A useful benefit offered to members by the Society is the Travel Study Grant. This grant is primarily designed to offer assistance with travel costs to a conference held within Australia or overseas; although a study trip may also be funded.

Applications close on June 30 each year, but may be submitted at any time. For application forms and further details contact the Secretary.

A report is expected from recipients on his or her return. This will be published in this newsletter.

Coming Events

- **14th Biennial NSW Weeds Conference**, University of Wollongong, Wollongong from Tuesday 25 – Thursday 27 September 2007. [Previously known as the local government weeds conference].
- **3rd Biennial Victorian Weeds Conference**, 3-4 October 2007, Bendigo, Victoria – Earth Wind Fire Water and Weeds. Email - secwssv@surf.net.au.
- **16th Australian Weeds Conference**. Cairns, north Queensland. 19-22 May 2008. www.16awc.com.au/
- **9th International Conference on the Ecology and Management of Alien Plant Invasions**. Hyatt Regency Hotel, Perth, WA. 17-21 September 2007. Organised by the Weeds Society of WA [WSWA]. www.congresswest.com.au/emapi9/.
- **5th International Weed Science Society Conference**. Vancouver, Canada, 2008.
- **9th Symposium of the Weed Society of Queensland**. June 3-6 2007. Gold Coast, Queensland. www.wsq.org.au
- **14th Symposium European Weed Research Society**, Hamar, Norway. 18-21 June 2007. www.EWRS-Symposium2007.com

Invitation to Attend 14th Biennial NSW Weeds Conference 2007

The organizing committee is delighted to extend an invitation to you to participate in the 14th Biennial NSW Weeds Conference, to be held at the University of Wollongong, Wollongong from Tuesday 25 – Thursday 27 September 2007. As the northern gateway to the Illawarra and South Coast regions, Wollongong will provide an exciting and vibrant backdrop for the 2007 Event, and we expect that many of our delegates will take the opportunity to visit some of the region's many renowned attractions.

The Conference venue, Wollongong University, is located in one of the most beautiful settings in Australia, just an hour drive south of Australia's largest city Sydney. The University of Wollongong's main campus occupies a site of 82.4 hectares, nestled between the escarpment of Mt Keira and the nearby Pacific Ocean. The environment is open, spacious and extensively landscaped, with native vegetation and water gardens being a feature. It is also located adjacent to the Wollongong Botanic Garden.

The Conference Program will feature a number of outstanding local and national speakers, concurrent sessions a trade display and expo. There will also be field trips and practical demonstrations. The Conference attracts researchers and practitioners from all around the State and Australia and provides a wonderful opportunity to meet and extend contacts.

Above all else, we invite you to enjoy the warm hospitality that Wollongong and its people have to offer, and that you too will share in the feeling of excitement that our conference and city will generate.

Vanni De Luca

www.weeds2007.com.au Email - weeds2007@iceaustralia.com

Society Supports NSW Weed Warriors Program

The Weeds Society of NSW recently announced a funding program to help NSW DPI deliver the Weed Warriors program to NSW schools. As part of the funding program, the Weeds Society will provide funds for eight schools across the State to participate in the weeds education program.

What is Weed Warriors?

Weed Warriors is a fun, hands on program designed for schools that aims to increase the awareness and actively involve the students in the management of local weed issues. During the program, students work closely with the local weed officers to implement a biological control program for a regional priority weed. The program runs

for approximately six to eight weeks with schools.

The program was launched in NSW in December 2006 with Port Kembla Public School and has now over twenty schools participating through the State. The funding from the NSW Weeds Society will allow the program to spread to more schools throughout the State.

How can your organisation get involved in Weed Warriors?

The support from local weed professionals is central to the success of any Weed Warriors program. There is the opportunity for your organisation to act in the role of Key Contact for your local Weed Warriors program.

The Key Contact is the person or organisation that organises, coordinates and implements the Weed Warriors program within a local area. The Key Contact is also someone who will become a driver for continuing and expanding the program within the region.

Anyone who is interested in addressing local environmental challenges can become a Weed Warriors Key Contact.

What are the benefits of Weed Warriors?

Weed Warriors offers great opportunities for Local Control Authority's, weed professionals and community groups such as Landcare to involve the community in solving local weed issues. It is also a great opportunity to help promote other weed initiatives your organisation is undertaking to your local community.

What weeds can be targeted as part of Weed Warriors?

Weeds that can be targeted as part of the Weed Warriors program includes bitou bush, blue heliotrope, bridal creeper, horehound, Paterson's curse and salvinia.

How to get involved?

For more information on Weed Warriors or the NSW Weeds Society funding program for Weed Warriors please contact the NSW Weed Warriors Coordinator, Alyssa Schembri on 6391 3850 or email Alyssa.Schembri@dpi.nsw.gov.au. More information on Weed Warriors can also be found at www.weedwarriors.net.au.

A NEW NSW DPI information service: The Weed Resource Update Bulletin

There is no doubt that having access to timely and current information is the key for weed professionals and weed managers to effectively minimise the impacts of weeds. This however, is a difficult thing to do. There is a wealth of information out there but it takes time to find it and often it is unclear how credible the information is.

The NSW Department of Primary Industries (DPI) has a long history of providing highly credible information to the community of NSW and a commitment to continue this into the future. However, a recent survey across NSW indicated that many clients didn't know what information was available or where to get it.

In response to this, DPI has initiated the **Weed Resource Update Bulletin** to better promote our information resources.

What is the Weed Resource Update Bulletin

The **Weed Resource Update Bulletin** is a free service offered by DPI to anyone who

has an interest in being informed on new information to identify and manage weeds.

As new information resources become available subscribers to the service receive a bulletin, by email or post, alerting them to its availability. The bulletin provides a link to the publication on the DPI website so the document can be easily reviewed and printed plus a simple ordering system if a hard copy is required.

The bulletin also includes a current catalogue of all the DPI weed resources available so subscribers can access our full range of weeds publications quickly.

From time to time, the bulletin will promote relevant saleable publications. It may also provide information about on-line resources appropriate for land managers and advisors such as weed identification keys.

Depending on how quickly resources are produced, the bulletin is issued approximately every two months with an

easy process to unsubscribe if you no longer want to receive the bulletin.

The benefits of subscribing to the service

Subscribers to the **Weed Resource Update Bulletin** will be able to access a full range of information on agricultural, aquatic, noxious and environmental weeds in a time efficient way and be confident the information is accurate and credible.

How do I subscribe to the service?

Subscribing to the service is easy.

Either:

- Send an email to weed.resource@dpi.nsw.gov.au with the word “subscribe” in the subject line and your name, address and contact number in the body of the email, or
- Call (02) 6391 3800 to arrange a subscription form to be posted out.

CAWS Matters – An Update from CAWS and a New Logo

What is CAWS?

The Council of Australasian Weed Societies (CAWS) is a national independent body representing National and regional views on all issues relating to weeds and their management throughout Australia and New Zealand. The Council promotes weeds, and the people involved in their management and science, through education, awards, travel grants and publications.

The Council is composed of delegates from Australian State Societies including the Weed Society of New South Wales, and the Plant Protection Society of New Zealand that have weeds as their major focus. The Weed Society is currently represented by Dr Rex Stanton from Wagga Wagga (a former CAWS secretary) and Dr Stephen Johnson from Orange (current Weed Society of NSW President).

The new CAWS logo

The January 2007 meeting of the Council of Australasian Weed Societies adopted the new logo as illustrated below. The logo was chosen from a range of logos presented to each society. Readers will be pleased to learn that the logo was designed with some additional input from

our society members and one of their relatives, that is the logo was designed by Michelle Felton (daughter of Immediate Past president Warwick). Great work Michelle !!



A little history on CAWS

The Council of Australasian Weed Societies (CAWS) was known as the Council of Australian Weed Societies (CAWS) before the Plant Protection Society of New Zealand became a Council member in 2006. Prior to that it was known as the Council of Australian Weed Science Societies (CAWSS) until 2003 when the Council dropped Science from its name to assist in recognising the diversity of personnel involved in weed management.

The objectives of CAWS

The objectives of CAWS are to encourage and foster the study and promotion of weed science and technology in Australia and New Zealand and, in particular, to -

- provide, for member organisations, a representative voice on matters pertaining to weeds and weed science and technology assist in the co-ordination of the activities of member organisations;
- encourage a wider interest in weed science and technology by promoting the investigation of all aspects of weeds and their management encourage the formation of Weed Societies within areas of Australia where they do not exist (e.g. in the Northern Territory);
- encourage educational organisations, particularly at tertiary levels, to provide adequate training in weed science and technology and
- encourage continuing training for weed scientists, technologists and others involved with weeds.

For further information on CAWS see <http://home.vicnet.net.au/~weedss/>

Source: CAWS website

Inroads Made in Battle with Trees

Taken from The Press newspaper, Christchurch, New Zealand, 29 May 2007. Your editor [MH] has been a frequent visitor to the South Island of New Zealand over the past five years and has observed

how much conifer invasion is threatening the natural grassland landscape of the high country. It is good to read that something practical is now being done to stop this spread.

A multi-pronged attack on wilding conifers is making an impression on a plant pest

being called a scourge on the farming landscape.

In the first year of a \$600,000 three-year project, a group of foresters, farmers, conservationists and government agencies has begun mapping problem areas and sharing information on wilding control.

At Molesworth Station, in south Marlborough, where the errant trees have spread over 50,000 ha, big inroads have been made to flatten mostly scots pine at an over-riden 150 ha at Tarndale.

South Island Wilding Conifer Management Group project manager Nick Ledgard said good progress was being made to stop invasive wildings now that all the major players were on board and problem areas were being identified. 'Twenty years ago the word wilding was hardly known, and in 10 years the management of wildings will be an accepted part of wise land management' Mr. Ledgard said.

The group has taken an approach that includes sharing information rather than spending money on central research trials, which may not be valid for all areas, he said.

The group has set out to first map and find risk areas that will become control priorities. Strategies to control and remove trees will go into a manual so landowners can find the best way to get rid of the conifers. Ways to prevent other plant pests filling the vacuum when wildings are removed will be investigated.

Among the group are major funders such as the Department of Conservation, Landcorp Farming and Land Information New Zealand, with other organisations such as Forest and Bird, supplying data.

Contorta or lodgepole pine, is the worst offender. Its rigorous spreading means it is not allowed to be planted in most regions.

Molesworth manager Jim Ward said the project would benefit both the farm and other wilding-affected land in the South Island. "Instead of battling the problem on their own using trial and error, people will be able to tap into the latest knowledge and techniques for stopping it'.

Landcorp, which farms Molesworth, spends about \$50,000 a year controlling wilding conifers at New Zealand's largest farm.

Wildings tend to concentrate in the eastern South Island, covering tens of thousands of hectares from Marlborough to Southland, including around the Craigieburn, Lake Tekapo and Queenstown areas. Other problem species are mountain pine, Corsican pine and Scots pine. During the past 20 years Douglas fir has also become a threat.

Invading Anomalies

Professor Bruce Auld
Orange Campus
Charles Sturt University

Over the last few years I have visited Japan on several occasions. The longest stay was in 2002-2003 as a Visiting Professor at Kyoto University. While based there I was struck by the number of invading exotic plant species that were common to eastern Australia and Japan. Although in different hemispheres, the two regions extend across similar latitudes but they have quite different land-use histories. A study of this common invading flora was the subject of a paper published in *Cunninghamia* and also published in Japanese (Auld *et al.*, 2003).

While there were some 187 invading exotic species in common, in Japan there appeared to be far fewer invasions of forested areas, both natural and planted. Although perennial woody exotics such as *Pyracantha angustifolia*, *Lantana camara*, *Ulex europaeus*, *Ligustrum lucidum*, *Cytisus scoparius*, *Robinia pseudoacacia* and *Rubus fruticosus*, were present, they rarely appeared to invade forests or forest margins.

On a subsequent trip, with considerable help from Japanese colleagues, particularly Dr Hirohiko Morita, I inspected 15 forest sites across Japan from the southern island of Kyushu to the northern island of Hokkaido. At each site I made several transects into each forest from the edge. The forest types included larch, birch, beech, cryptomeria, oak, pine, magnolia and various combinations of these.

At most sites there were no invading exotic woody perennials. The only invader of any significance was broom, *Cytisus scoparius*, found at two localities in central Japan, Myoko and Numappara. Even at these sites there were only a few plants invading.

Robinia pseudoacacia, a native of North America, occurred in several areas but was not invading forests. It has been in Japan for more than 100 years and was previously used for erosion control.

The possible reasons for the lack of invasion by species such as *Rubus fruticosus*, *Pyracantha angustifolia* and *Ligustrum lucidum* are intriguing:

Firstly, there was often complete ground cover by understorey species. Prominent among these was dwarf (Sasa) bamboo, usually 1-1.5m high. Other significant ground-cover plants included rhizomatous species such as ferns and native shrubs. Even in cleared areas within forests, native

Rubus, *Hydrangea* and native grasses, *Miscanthus*, typically occupied the space. In addition, forest margins were often covered by native shrubs and vines. At one site in Kyushu there were four species of native shrubs and three native vine species sealing the forest edge. Dr. Morita mentioned a comment from the renowned Japanese ecologist, Makoto Numata : “A protective mantle covers the edge of our forests”.

Thus the flora of Japan is somewhat adapted to disturbance and resistant to invasion. Agriculture has been practised for more than 2,500 years and there is a similarly long history of forest use.

There appeared to be fewer fruit eating birds in Japan compared with eastern Australia. (Something I have not been able to confirm yet.) This could account for the lack of spread of some species such as blackberries and lantana.

Moreover, there are generally no widespread plantings of exotics in Japan (as there were for many subsequent pest species in Australia) so that their population pressure has never been high.

In Japan, native plants are widely used as ornamentals. There are far fewer exotic species used in Japanese gardens than in Australian gardens. Perhaps there is a lesson here!

Reference

Auld, B., Morita, H., Nishida, T., Ito, M. and Michael, P. (2003). Shared exotica: Plant invasions of Japan and south eastern Australia. *Cunninghamia*, **8**: 147-152. Also published in *Japanese* in the journal: *J. Weed Sci. Tech.* **48**: 143-154 (2003).

Expressions of Interest - Weed Spread Assessment Survey

Associate Professor Brian Sindel, Agronomy and Soil Science,
University of New England, Armidale NSW 2351

The University of New England is currently undertaking an Australia-wide research project under the national Defeating the Weed Menace program entitled "Assessing risk of different pathways of weed ingress".

Purpose of the Project

1. Assess the relative risks of sources and pathways of weed ingress within Australia; and
2. Identify ways to reduce these risks.

Issues Addressed by the Project

1. How do weed propagules spread within Australia?
2. Which sources and pathways account for the majority of weed ingress?
3. Which sources and pathways currently pose the greatest risks?
4. In what ways are the risks changing with changing environmental conditions and local trade and other patterns of movement?
5. How can current and emerging risks be managed?
6. On what potential sources and pathways do we have insufficient information to identify their importance or to design management strategies?

How You Can Contribute

The issues listed above will be addressed in part through a survey of weed scientists and weed managers, to be conducted in June of this year.

Currently, we are building a list of experts to take part in the survey. We are accepting expressions of interest from anyone who would like to contribute their experience, views and knowledge on these issues.

Your input will help to identify the risks associated with various weed ingress pathways, and the best methods to meet these risks.

Completing a Survey

If you would like to contribute to this important research by completing a survey, please send your postal and email address details to:

Associate Professor Brian Sindel, Agronomy and Soil Science, University of New England,
Armidale NSW 2351

Email: bsindel@une.edu.au

Phone: 02 6773 3747

Fax: 02 6773 3238

Web site: <http://www.une.edu.au/agronomy/weeds/>

THE WEED SOCIETY OF NEW SOUTH WALES TRAVEL STUDY GRANT REPORT

Vinod Kumar Chejara

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Hyparrhenia hirta (Coolatai grass) is becoming of increasing importance as a weed of natural environments in New South Wales and many other parts of Australia due to its dominating, invasive nature. There has been very little study carried out on *H. hirta* as a weed of natural environments and thus very little is known about its biology and ecology in these ecosystems. The understanding of the seed bank dynamics, resource competition, effects on biodiversity, value of native ecosystems and invasive habit of *H hirta* will be significant tool for the planning and implementation of control and management techniques. I am currently doing Ph D at the University of New England. I am looking at the “Biology, ecology and management of *Hyparrhenia hirta* (L.) Stapf. (Coolatai grass)”.

The Weed Society of New South Wales provided a travel grant of worth \$600 to attend a conference to present some preliminary findings from my research. I presented a paper, “Impacts of Coolatai grass (*Hyparrhenia hirta* (L.) Stapf.) on native vegetation in a travelling stock route in northern New South Wales”, at the 15th Australian Weeds Conference, which was held in Adelaide, South Australia from September 24 to 28 in 2006. The main theme of this conference was “managing weeds in a changing climate”.

Around 260 weed experts presented their work in this conference. I had the opportunity to interact with many weed experts from Australia and overseas, who are working on different aspects of weed management. I got some useful feedback from some weed experts, including Prof. Hal Mooney, Stanford University, USA. He is currently working on the ecology and impacts of invasive alien species and suggested to me some experiments about seed germination ecology of *Hyparrhenia hirta*. The findings of these experiments will help me to understand its seed germination ecology and prediction of its distribution in different climatic conditions. I attended some conference sessions on different aspects related to weed management, for example, seed bank studies, seed germination ecology, weed ecology and implications for management, mapping of weed distribution using remote sensing and geographical information system (GIS) and predicting the potential geographic distribution of weeds in the changing climatic conditions. I also spoke to a postgraduate student from the University of Reading, UK, who is working on weed-crop competition and weed management. The discussion with him will help me in one of my research objectives, a resource competition study. Overall, this conference was really helpful for me.

I am greatly thankful to The Weed Society of New South Wales for providing a travel grant to attend this conference without this assistance it would not be possible for me to attend. This conference was really a great opportunity for me to exchange information and get some useful feedback on my research project on the ecology and management of Coolatai grass.



Photo 1: Dr. Chris Nadolny and Dr. Paul Kristiansen recording the species richness in a controlled plot without *Hyparrhenia hirta* (Coolatai grass). The dominant grass is *Sorghum leiocladum*.



Photo 2: Vinod Chejara and Dr. Chris Nadolny recording the species richness in a plot infested with *Hyparrhenia*

Boneseed: A Threat from the Mallee to the Mountains

Hillary Cherry

Boneseed (*Chrysanthemoides monilifera* ssp. *monilifera*) is a Weed of National Significance (WONS) that threatens New South Wales (NSW). Like its close relative bitou bush (*C. monilifera* ssp. *rotundata*), boneseed aggressively invades native coastal areas where it can form dense thickets and impact native biodiversity. However boneseed poses an additional threat because, unlike bitou bush, it readily invades inland and upland regions, from the “mallee to the mountains”.

Boneseed is widespread in South Australia (SA), Tasmania and Victoria (Vic) and appears to be spreading up through the mallee regions of Vic and SA towards the western regions of NSW. It has been found as far inland as Griffith, Tumbarumba and Dareton, as well as north to the Blue Mountains. Boneseed is also interspersed with coastal infestations of bitou bush on the NSW south coast and Sydney regions, especially on headlands and cliffs, and as far north as Cessnock. More infestations of boneseed are likely to be found as land managers become aware of the differences between bitou bush and boneseed (see table 1). Recent mapping efforts show that boneseed is also more widely distributed in NSW than previously thought, and there is considerable potential for boneseed to spread throughout southern and western NSW (see map).

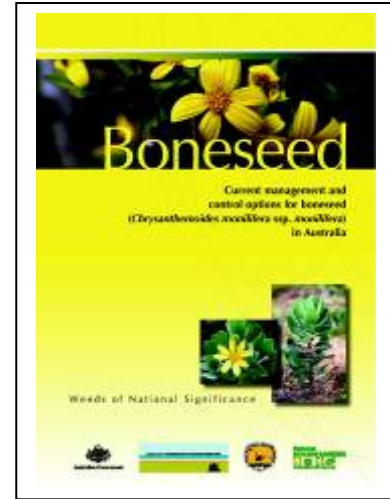
In response to the boneseed threat, the National Boneseed WONS program is focusing on eradicating outlier populations of boneseed in NSW and has worked with NSW DPI to ensure appropriate legislation is in place. During recent revisions to the NSW *Noxious Weeds Act*, bitou bush and boneseed (previously listed together as *Chrysanthemoides monilifera*) were listed as individual subspecies. This will allow Local Control Areas (LCAs, which are generally councils) to address these two weeds separately. Currently, bitou bush is a Class 4 weed in all coastal LCA's, with the exception of Bega, Blue Mountains and Sydney regions LCA's where it is Class 3, and on Lord Howe Island where it is Class 2. The Lord Howe Island declaration supports local efforts to eradicate the plant from the island (and as a notifiable weed, results in a ban in trade and distribution of boneseed within all of NSW).

Boneseed currently has these same listings, however there are moves afoot to strengthen the listing of boneseed to a Class 2 weed in inland areas where it has a limited distribution, yet poses a significant threat. Hillary Cherry, the National Boneseed & Bitou bush Coordinator, has been working with the Eastern and Western Riverina Noxious Weeds Advisory Groups to progress an application for the listing of boneseed as a Class 2 weed in those regions. This will assist weed officers in garnering support from their councils to quickly control the small outlier infestations and eliminate boneseed from these regions. The National Coordinator is also keen to work with other LCA's and regional weed groups where boneseed poses a threat to encourage eradication of small outlier populations and help “stop the weed before it seeds.”

To assist with control efforts, the WONS Boneseed Program has produced the *Boneseed Management Manual*, which provides the most updated information on best practice management of boneseed. This manual was produced in consultation with community groups, land managers, weed officers and scientists, and contains the following:

- Boneseed ecology
- Registered herbicides
- Detailed explanations of control methods for all situations where boneseed occurs
- A guide to developing a weed management plan
- Information on monitoring your weed control program
- Case studies from community groups, land managers and researchers.

The *Boneseed Management Manual* was produced by the Department of Environment and Conservation NSW with a grant from the Australian Government's Defeating the Weed Menace Program. You can see more information on bitou bush and boneseed and download the manual at www.weeds.org.au/WoNs/bitoubush, or contact National Boneseed Coordinator for a free hard copy (details below).

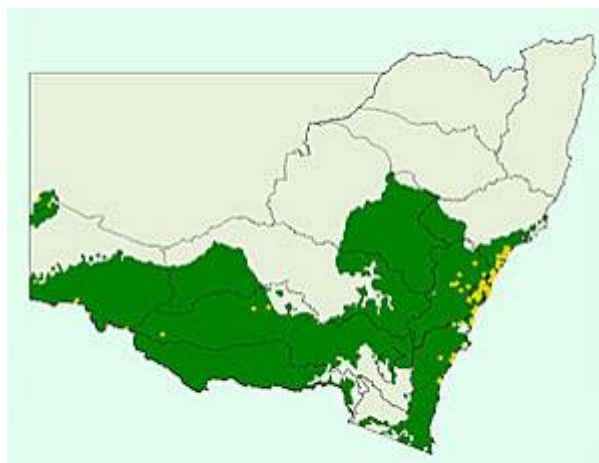


The National Program has also produced **full-colour boneseed fliers and posters, and bitou bush fliers that are available free of charge**. The fliers and posters have excellent identification photos and are a great resource for educating the wider community about the threat of these two weeds. For copies of the fliers, posters or a hard copy of the manual contact Hillary Cherry on 02 9585 6587 or hillary.cherry@environment.nsw.gov.au.

Keep an eye out for boneseed's bright yellow masses of flowers this August to October, and please let Hillary know if you find a new infestation!



Boneseed: leaves, flowers and fruit
photo: © Hillary Cherry



The current distribution of Boneseed in NSW is shown in yellow, the potential for its spread in green.
photo: © The National Bitou Bush & Boneseed Management group

Table 1: Differences between boneseed and bitou bush (see Boneseed Management Manual for more information: www.weeds.org.au/wons/bitoubush)









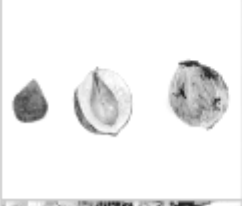



boneseed (<i>ssp. monilifera</i>)			bitou bush (<i>ssp. rotundata</i>)	
	erect shrub, up to 3 m high	habit	sprawling shrub, 1–2 m high	
	3–9 cm long, elongated oval shape, irregularly toothed edges	leaves	3–7 cm long, broader oval shape, smooth or only slightly toothed edges	
	4–8 'petals' flowers from late winter to spring (mainland), to early summer (Tas)	flowers	11–13 'petals' flowers year round with a peak from April to June	
	round fruit	fruit	egg-shaped fruit	
	round, smooth, bone-coloured	seeds	egg-shaped, rough, dark brown to black	
	leaves with toothed edges	seedlings	leaves with smooth edges	



Photo - Mike Hood

This is someone who takes their weeds seriously – large scale Camphor Laurel control between Byron Bay and Bangalow on the far north coast. Camphor Laurel spreads quickly and forms dense thickets rendering land useless for any purpose. It is expensive to carry out a programme like this, presumably the land owner used herbicide injection. The photograph shows about 50% of the area treated.

Caulerpa taxifolia – a Threatening Marine Invasive Weed

The invasive marine plant *Caulerpa taxifolia* threatens coastal ecosystems in NSW. By growing quickly, it can potentially alter marine habitats and biodiversity.

Caulerpa taxifolia can easily be spread. Pieces that break off can start whole new plants. Even after a week out of water, if in a warm damp place such as a wetsuit or anchor well, pieces can start a new plant. Because of its invasive nature, *Caulerpa taxifolia* is listed in NSW as [noxious marine vegetation](#).

NSW DPI's Control Plan for *Caulerpa taxifolia* in NSW is currently under review.

WHERE IS IT IN NSW?

Caulerpa taxifolia was first identified in NSW during April 2000 in Port Hacking, 30km south of Sydney. This invasive seaweed has since been identified in nine other locations: Lake Conjola,

Burrill Lake, Narrawallee Inlet, St Georges Basin, Botany Bay, Sydney Harbour, Pittwater, Brisbane Water and Lake Macquarie.

How to recognise it

[Help with Identifying Caulerpa and other Marine Pests.](#)

Caulerpa taxifolia is a bright green seaweed with a characteristic 'creeping' stem called the stolon. The stolon can measure over 1 m in length and is fixed to the bottom by the 'roots' called rhizoids. The stolon bears 'leaves' or fronds. The fronds can be 5 to 65 cm in length.




Photo: Alan Millar, Royal Botanic Gardens, Sydney

What you can do

- Avoid boating near Caulerpa taxifolia outbreaks. Propellers cut the plant into many fragments that can drift into areas only to grow into new outbreaks.
- Inspect anchors, ropes and chains before leaving an area.
- Inspect fishing equipment; nets, traps and fishing lines before use.
- Inspect dive gear such as wetsuits bags and other equipment before use.
- Collect fragments of Caulerpa you have accidentally picked up. Seal the pieces in a plastic bag and dispose of them in a bin where they can not re-enter a waterway.
- Collect information on where you have seen Caulerpa. An accurate map, size of the outbreak, depth, habitat type (seagrass, bare sand, rocky reef) are important details.

Report sightings of Caulerpa taxifolia to the Aquatic Pest Taskforce on (02) 4982 1232 or email pests@dpi.nsw.gov.au, or to NSW DPI 24hr reporting hotline on (02) 4916 3877. Alternatively, download the Threatened, Protected and Pest Species Sighting Form. 115KB

For further information

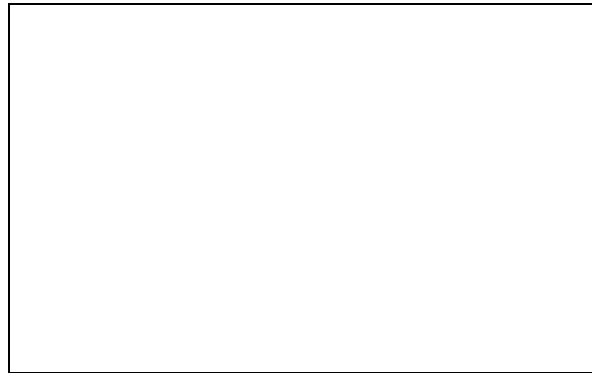
- [Helping with protected and threatened species sightings](#)
- Report sightings of Caulerpa taxifolia to the Aquatic Biosecurity, Pest Unit on (02) 4982 1232, [online](#), or by downloading the [Protected, Threatened and Pest Species Sighting Form](#)  115Kb and send to: Port Stephens Fisheries Centre, Locked Bag 1, Nelson Bay NSW 2315 Fax: 02 4982 1107 Email: pests@dpi.nsw.gov.au

A Good Weed

The Newsletter of
The Weed Society of New South Wales
PO Box 438
Wahroonga NSW 2076

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PP247134/00010

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