



Weedscene

Volume 18 Issue 5

Newsletter of the Weed Society of Victoria Inc.

September 2007

ACN:A0011723W ABN:15 496 325 152 Print Post Approved – Publication Number 310279/00029



WSV President's Update...

Australian Centre for Weed Research Campaign

WSV Committee has support in establishing the Australian Centre for Weed Research Campaign, and also has requested members to write to respective Cabinet ministers in regard to supporting the new CRC proposal.

Thanks to all those members who have assisted in this campaign. Special thanks to Denice Spence who not only wrote a campaign letter but has also informed us the response (positive / hopeful) from Senator Abetz. (See letter within this edition of Weedscene).

Victorian budget

2007–08 Victorian Budget has identified \$30M in weed and pest management initiatives. WSV has written letters to the Victorian Minister for Water, Environment and Climate Change and Minister for Agriculture seeking clarification on the budget items and if the allocated funding covers the funding / activities that will be lost with the demise of the current Weeds CRC.

3rd Biennial Victorian Weeds Conference Earth, Fire, Wind and Water – October

Conference is adopting refereed papers this year (Authors opted to have their papers refereed or not – earlier submission date). All papers due by the end of August. Registrations for the conference are going well, but there are still room for those who have not yet registered.

Commercial Weeds Symposium – May 2008

Work is under way to hold a symposium looking at the issue of commercial weeds – plants that have been commercially sown/planted that either have become or have the potential to become weeds. A range of speakers from around Australia and possibly overseas are being looked at for the symposium. Topics to be considered are

risk assessment of new cropping, pasture and environmental protection species, legal aspects of allowing plants to move from private or public land and become a pest species for other land managers.

Regional Weed Management Initiative Spring Tour 2008

This is in its formulation stage with possible visits to Roadside Weed management initiatives on the Hume Highway near Seymour, Blackberry Management in the NE Victoria, Community action on recognizing good weed managed properties near Shepparton, and reclamation of weed encroached natural areas around Bendigo. The tour will have both onsite inspections of the initiatives as well as evening or afternoon speakers addressing weed management issues. Participants can come along for the whole tour or part of the tour. It is expected the tour will be 3 days in length.

If members have any ideas that they can add to make this tour more informative and attractive please send them to either me or Ros our secretary.

Council of Australasian Weed Societies (CAWS)

The National Garden Industry Association has developed a National Plant Labelling Guideline document. CAWS representatives are concerned about the accuracy and level of documentation on a range of

species within the document. Examples were of the toxicity of some species are inaccurately or poorly documented. Also the document has little on the invasiveness of species. CAWS is developing a response to these guidelines.

CAWS has approved of a new travel award – Australasian Weeds Conference Travel Award for Weed Managers. This award will give a weed manager from each State early bird registration to the Australasian Weed Conference.

CAB has approached CAWS to get all of the Australian Weeds Conferences into their database (as a pdf format). This will then give CAWS a searchable database of pdf documents that members and public can get access to conference papers as far back as 1978.

Victoria has nominated Bulleen Art and Garden for the 2007 National Weed Wise Nursery Award. A committee of two weed experts and a journalist will be judges.

A call has been made for nominations for the annual CAWS Leadership Medal. For more details about the CAWS medal including past recipients please see the CAWS website (<http://home.vicnet.net.au/~weedss/>).

*Dr. Ken Young
President*

**Copy Deadline for November
Issue: 29 October 2007**

Earth Fire Wind Water Weeds

Third Victorian Weeds Conference

3–4 October 2007
Bendigo

Register now!

secwssv@surf.net.au • www.wsvic.org.au
(03) 9576 2949



DSE White Paper: Land and biodiversity at a time of climate change

In the *Our Environment Our Future: Sustainability Action Statement 2006* the Victorian Government committed to the development of a Land Health and Biodiversity White Paper on managing land and protecting terrestrial and aquatic biodiversity.

The objectives of the White Paper are to:

- Set the direction for Victorian Government policy and investment priorities in natural resource management, land health and biodiversity for the next two decades.
- Consider how environment and natural resource management activity at the regional, catchment, local and farm scale, and on public land, is contributing to Victoria's overall environmental health.
- Make sure Government policy and investment is responsive to new threats and opportunities.

The strategic framework of the white paper will be developed around the questions:

- What are the environmental, social and economic values provided by healthy land and biodiversity?
- What impacts will climate change have on these values?
- What are the other threats and opportunities?
- What are the roles and responsibilities of individuals, community and government and how can we maximize the effectiveness of our joint effort?

- How well are the current institutional arrangements working and how could they be improved to deliver sustainable land, water and biodiversity outcomes?

A Scientific Reference Group has been established to provide advice on science and its interpretation and make recommendations to the Secretary of the Department of Sustainability and Environment (DSE). The Group is chaired by Sir Gustav Nossal and includes scientists Prof. Barry Hart, freshwater science (Monash University), Prof. Ralph MacNally, landscape ecology – biodiversity (Monash University), Dr Ruth Beilin, social and biophysical science – everyday landscapes and human interactions with 'place' (University of Melbourne), Prof. Mark Burgman, landscape ecology – botany / conservation biology (University of Melbourne) and Prof. Ary Hoffman, biomonitoring – climate change adaptation (University of Melbourne, Centre for Environmental Stress & Adaptation).

A Stakeholder Reference Group has also been established and includes representatives from approximately 25 organisations including Victoria Naturally, an alliance of the Australian Conservation Foundation, Environment Victoria, Wilderness Society, Trust for Nature, Greening Australia Victoria, Invasive Species Council and Bush Heritage Australia led by the Victorian National Parks Association.

The first stage of the process has been the call for submissions which was

concluded on 22 June 2007. The submission from the Victorian Naturally alliance identified tackling threatening processes, including invasive species as an essential part of a comprehensive and strategic approach to the conservation of Victoria's biodiversity. The submission quotes Wilson, Carr, Low (cited in Traill and Porter, 2001, p. 75): 'Environmental weeds are probably the single most important cause of habitat loss and degradation in Victoria at present.' There are 584 serious or potentially serious environmental weeds in Victoria with 129 considered to be very serious.

The submission points about that there are very significant economic costs from stressed ecological systems. At a national level the cost of dryland salinity is about \$130 million pa in lost agricultural production, \$100m pa in damage to infrastructure and at least \$40 million pa in loss of environmental assets. About 2.5m ha of land in the agricultural zone is affected (cost is \$110/ha pa). (National Dryland Salinity Program 1998, cited in Possingham *et al.* 2002).

In strong contacts is the cost of weeds estimated to be \$4 billion each year in Australia (Sinden *et al.* 2004), and feral animals \$720 million.

A draft Green Paper will be available in January 2008 for comment with the White Paper finalized by November 2008.

Further information: www.dsw.vic.gov.au follow the links under Conservation and Environment www.vnpa.org.au.

Invasive plants and climate change

All invasive plants can be expected to demonstrate a southward range shift, according to a Weeds CRC produced Briefing Note on 'Invasive plants and climate change'.

Current predictions for the future climate of Australia in the next 30+ years are for a general increase in mean temperatures with a larger increase in mean minimum temperatures as well as a reduction in frost days. Species currently restricted to the lowlands can be expected to move into the higher altitude areas. There is already some evidence that lantana, a temperature-sensitive plant, is already invading higher altitude areas. Frost-tolerant plants are expected to move further south. Some weed species not presently considered

high priorities and which are currently limited by temperature and rainfall may show increased spread with temperature rise and rainfall change.

Increased carbon dioxide can be expected to influence the invasiveness of some plants. Many weeds are C3 plants with a carbon metabolism, which benefits from increased carbon dioxide levels. Increased rainfall, with associated increased severity and frequency of floods will spread weeds such as athel pine and mesquite. The worst infestations of athel pine occur along 600 km of the Fink River in Central Australia near Alice Springs. A single tree can produce thousands of seeds/year. Outbreaks occur throughout inland Australia in SA, Queensland,

NSW and WA. Based on climate, athel pine could potentially infest inland watercourses throughout Australia including parts of north-west Victoria.

There is a strong need to modify existing weed risk assessment systems to take into account possible sleeper weeds that may be favoured by climate change. Further research will be needed on a regional basis to determine the most detrimental species within local contexts and to consider possible sleeper weed species establishing across different land uses.

You will find more information and a copy of the pdf at: http://www.weeds.crc.org.au/documents/bn_climate_change_2007.pdf.

Weed IDentity: Roger Cousins

A professor of weed science

Roger Cousins is one of the world's leading weed scientists. His background in mathematics combined with his love of biology has enabled him to carve out a niche internationally in modelling, statistical analysis and weeds – but, he points out, always in association with field work. 'Field data,' he says, 'are essential to generating models as well as testing them. There is a big opening in the field of biology if you have a background in maths. Population models, statistical analysis, dose responses to herbicides – all these are methodological. Modelling is important to understand weeds and the ways you should manage them.'

Roger first studied engineering, which did not capture his imagination. His family instilled in him a love of gardens and nature and he subsequently found that the field of biology was more to his liking. He completed a biology degree at Aberystwyth in Wales, majoring in environmental biology. Studying with Chris Pielou, a theoretical ecologist with an international reputation, Roger completed his doctorate on the ecology of an intertidal seaweed *Ascophyllum nodosum* in Nova Scotia, Canada.

At the UK Ministry for Agriculture, Fisheries and Food, Roger's first job was modelling fish stocks and their sustainable harvesting. It was a requirement of the position to spend three weeks per year at sea, which meant living on a trawler off Rockall in Scotland, 'a rock on a submarine bank in the middle of nowhere'. Seasickness provided the impetus for Roger to apply for a land-based position and led him to work at the Weed Research Organisation in the UK.

Harry Combellack, former president of the Weed Society of Victoria (WSV), invited Roger to speak at an Australian Weed Society Conference in Bendigo in 1987. Roger and his wife, Jane, spent a month in Australia with Roger also lecturing to audiences in South Australia, Western Australia and New South Wales.

Disenchanted with the Thatcher government and their cuts to funding for research, as well as wanting to work with students, he accepted a position as lecturer / researcher at the University of Sydney. Roger and Jane treated the move to Australia in 1989 as an adventure. The adventure later took them to WA where Roger took over Bob Martin's role as head of the weed science group in the Department of Agriculture, at the time one of the largest weed research groups in the world.



Roger Cousins, pictured with an *Opuntia* species (prickly pear).

Since 1995 Jane and Roger have lived in Victoria where Roger became a professor at La Trobe University and is now the Professor of Crop Science at the University of Melbourne. Some of the PhD students Roger has supervised will be known to WSV members including Ken Young who is the president of WSV, John Virtue, Clare Murphy, Soheila Mokhtari, Lisa Crowfoot, James Hunt and Ian Radford.

Roger's research interests are diverse and include plant population biology; weed ecology; dispersal; spatial patterns in plant populations; invasions; and the application of ecology to management decisions. He sees himself as an ecologist who works on weeds. 'Weeds are a fascinating and interesting intellectual, biological and ecological problem... the same approach for weeds is applied to those species which are rare and threatened,' he said. Another research interest is the population dynamics of terrestrial orchids.

Much of Roger's time is taken up writing books. He has co-authored *Western Weeds: a guide to the weeds of Western Australia*. The second edition was published in July 2007 by the Weed Society of WA. Together with Richard Law and Calvin Dytham from the University of York, Roger has just finished writing a book on the dispersal of plants and expects that it will be published by the end of 2007. He is also planning a revised edition of *Dynamics of Weed Populations*, which he first wrote with Martin Mortimer in 1995.

Roger also has a strong interest in the history of Victoria's regional botanic gardens. Using his own research, involving students at Burnley and working with local Historical Societies and Friends groups, he has now compiled the histories of four of these gardens with a fifth (Koroit Botanic Gardens) underway. This information is now displayed on the internet.

In addition to the busy professional life are Roger's interests away from work, one of which is competitive lawn bowls. Here his eye is firmly fixed on the spatial patterns of a somewhat different nature.

Lisa Minchin

Roger will speak on the topic 'How far do weed seeds actually travel' at the Third Victorian Weed Conference: Earth Wind Fire Water and Weeds which will be held from 3-4 October 2007 in Bendigo.

Council chemical use

Has your council undertaken any work or considered the issues of chemical use for integrated pest and weed management? The MAV is keen to get a better understanding of the current council activities and interests surrounding this issue. Contact Pablo Brait (03) 9667 5529, pbrait@mav.asn.au.

Weeds after the Tsunami

In the wake of the tsunami that struck southern Asia in 2006, weeds are invading. In coastal districts of Sri Lanka, prickly pear cactus (*Opuntia dillenii*), mesquite (*Prosopis juliflora*), lantana (*Lantana camara*) and Siam weed (*Chromolaena odorata*) are spreading in coastal scrublands, mangroves and within shore vegetation.

The cactus in particular is threatening the nesting habitats of five species of threatened marine turtle. The International Union for the Conservation of Nature (IUCN) has initiated a control program targeting prickly pear and mesquite.

From *Global Invasive Species Program News* (www.gisp.org)

Missing WSV Member

Can anyone provide contact details for Sebastian Leith, Combined Rural Traders, 8-12 Barrie Road, Tullamarine? If so, please contact Ros Shepherd on Tel: (03) 9576 2949 or email secwssv@surf.net.au.

Web-based tools assist in replacing fruity weeds

Invasive species are regarded as second only to habitat loss as a threat to birds in Australia, so new web-based tools to help choose replacement plants for fleshy-fruited weeds will be a welcome relief to our feathered friends.

As weeds greatly modify the habitat of birds via contributing to changes in fire regimes and vegetation structure, altering the quantity, quality and/or seasonal availability of food, and directly ensnaring birds, these web-based tools will be of great use to land managers, restoration practitioners, gardeners, nursery industry personnel and others.

Dr Carl Gosper and Dr Gabrielle Vivian-Smith's Weeds CRC project, 'Selecting weed replacement plants for use by frugivorous birds' produced these tools to help end-users choose replacement plants for fleshy fruited weeds.

The web-based tools include:

- Two replacement plant factsheets for target weeds – one focused on north-east NSW and south-east Qld, the other on Weeds of National Significance.
- A how-to guide for plant selection based on traits such as fruit size and structure, fruit colour, fruiting season.
- Native plant trait databases. These are provided as Excel spreadsheets, suitable for searching, sorting, extracting data etc. by end users. There is a database for NSW, SA, Tasmania, Victoria and south-western WA.

More information can be found at www.weeds.crc.org.au/projects/project_3_2_3_1.html or contact Dr Carl Gosper, carl.gosper@yahoo.com.au or Dr Gabrielle Vivian-Smith, gabrielle.viviansmith@nrw.qld.gov.au, 07 3375 0700.

Journal articles on Victorian weeds

A selection of recent scientific journal articles about weeds found in Victoria and articles from elsewhere in Australia and overseas that are relevant to Victorian weed research is listed below.

Andrew C. Baker, Brad R. Murray, Grant C. Hose (2007). Relating pine-litter intrusion to plant-community structure in native eucalypt woodland adjacent to *Pinus radiata* (Pinaceae) plantations. *Australian Journal of Botany* 55 (5): 521-532

Stefano Benvenuti (2007). Weed seed movement and dispersal strategies in the agricultural environment. *Weed Biology and Management* 7 (3): 141-157.

Yvonne M. Buckley, Benjamin M. Bolker, Mark Rees (2007). Disturbance, invasion and re-invasion: managing the weed-shaped hole in disturbed ecosystems. *Ecology Letters* 10 (9): 809-817.

Scott P. Carroll, Charles W. Fox (2007). Dissecting the evolutionary impacts of plant invasions: bugs and beetles as native guides. *Global Change Biology* 13 (8): 1644-1657.

K. Dhileepan, E. L. Snow, M. A. Rafter, M. Treviño, J. McCarthy, K. A. D. Wilmot Senaratne (2007). The leaf-tying moth *Hypocosmia pyrochroma* (Lep., Pyralidae), a host-specific biological control agent for cat's claw creeper *Macfadyena unguis-cati* (Bignoniaceae) in Australia. *Journal of Applied Entomology* 131 (8): 564-568.

Katherine J. Evans, David E. Symon, Molly A. Whalen, John R. Hosking, Robyn M. Barker and Julie A. Oliver (2007). Systematics of the *Rubus fruticosus* aggregate (Rosaceae) and other exotic *Rubus* taxa in

Australia. *Australian Systematic Botany* 20 (3): 187-251.

Carla J. Harris, Brad R. Murray, Grant C. Hose, Mark A. Hamilton (2007). Introduction history and invasion success in exotic vines introduced to Australia. *Diversity and Distributions* 13 (4): 467-475.

Graeme T. Hastwell, Andrew J. Daniel, Gabrielle Vivian-Smith (in press). Predicting invasiveness in exotic species: do subtropical native and invasive exotic aquatic plants differ in their growth responses to macronutrients? *Diversity and Distributions* (OnlineEarly Articles – Blackwell Publishing).

J. A. Hawkins, N. Boutaoui, K. Y. Cheung, R. D. van Klinken, C. E. Hughes (2007). Intercontinental dispersal prior to human translocation revealed in a cryptogenic invasive tree. *New Phytologist* 175 (3): 575-587. [article about Jerusalem Thorn *Parkinsonia aculeata*]

Roger A. Lawes, Anthony C. Grice (2007). Controlling infestations of *Parkinsonia aculeata* in a riparian zone at the landscape scale. *Austral Ecology* 32 (3): 287-293.

Michelle R. Leishman, Tammy Haslehurst, Adrian Ares, Zdravko Baruch (in press). Leaf trait relationships of native and invasive plants: community- and global-scale comparisons. *New Phytologist* (OnlineEarly Articles – Blackwell Publishing).

M. Noonan and C. Chafer (2007). A method for mapping the distribution of willow at a catchment scale using bi-seasonal SPOT5 imagery. *Weed Research* 47 (2): 173-181.

Mechelle J. Owen, Michael J. Walsh, Rick S. Lewellyn and Stephen B. Powles (2007).

WSV DIRECTORY

Correspondence and enquiries

Weed Society of Victoria Inc.
PO Box 987, Frankston Vic 3199
Telephone (03) 9576 2949

Web Site www.wsvic.org.au

Secretary

Ros Shepherd secwssv@surf.net.au

Weedscene Editor

Lisa Minchin lminchin@tpg.com.au

President and CAWS Rep

Ken Young kryoung@unimelb.edu.au

Past President and CAWS Rep

Daniel Joubert
Daniel.Joubert@dpi.vic.gov.au

Treasurer

Norm Stone
norm.stone@bayercropscience.com

Committee Members

Ian Faithfull Ian.Faithfull@dpi.vic.gov.au
Michael Hansford
Michael.Hansford@dpi.vic.gov.au
Kelly Raymond
KRaymond@parks.vic.gov.au
Sarah Partington
sarah.partington@dpi.vic.gov.au

Co-opted Members

Chris Knight cknight@lmsonline.com.au
Stephen Bitter
stephen.bitter@bayercropscience.com

Country Representatives

Les Mitchell
agriserve@shepparton.net.au
Ron Davies Mobile 0419 308 822

Widespread occurrence of multiple herbicide resistance in Western Australian annual ryegrass (*Lolium rigidum*) populations. *Australian Journal of Agricultural Research* 58 (7): 711-718.

David M. Richardson and Wilfried Thuiller, (2007). Home away from home – objective mapping of high-risk source areas for plant introductions. *Diversity and Distributions* 13 (3): 299-312.

Mark van Kleunen, Steven D. Johnson (2007). South African Iridaceae with rapid and profuse seedling emergence are more likely to become naturalized in other regions. *Journal of Ecology* 95 (4): 674-681.

Mark van Klueenen, Steven D. Johnson, Markus Fischer (2007). Predicting naturalization of southern African Iridaceae in other regions. *Journal of Applied Ecology* 44 (3): 594-603.

Chris Timewell