

Under Control

Pest Plant and Animal Management News

June 2004

Number 27

If there were no weeds ... we'd be \$4 billion richer

If there were no weeds, incomes to Australian agricultural producers and benefits to food consumers would rise by \$4 billion per year. 20% of the benefits (lower prices) would flow to consumers. In addition, at least \$112 million of government expenditure would be released each year for productive investment elsewhere. These are the conclusions of the first comprehensive study of the costs of weeds to Australia, undertaken by the Weeds CRC through the University of New England.

The report, *Economic Impact of Weeds in Australia*, says costs associated with lost production and controlling weeds are equivalent to 0.5% of gross domestic product, or 14 per cent of the value of agricultural production.

The only previous nationwide figure of the impact of weeds, by Harry Combellack (1987), estimated a \$2 billion loss per year for 1981-82. In comparison, one recent estimate of the annual net loss of agricultural production due to salinity is \$200 million.

The figures are based on known costs, prices and quantities for a five-year period ending in 2001-02. The authors adopted a 'top down' approach, measuring impact on agricultural sectors, natural environments etc., rather than attempting to combine data for particular weeds.

The impacts of weeds on agriculture were estimated as the costs of chemicals, vehicles and labour, plus the costs of lost production (e.g. reduced stock carrying capacity) that occur despite weed control measures. Labour costs of owner/operators were omitted because no reliable data was available. Where the estimation of costs was not possible (e.g. stock poisoning, contamination of the wool clip), costs were left out.

Actual losses vary from year to year because of changing seasonal conditions, commodity prices and weed infestations. The estimates undervalue the total economic costs because they exclude several important economic impacts. Some government agencies were unable to provide data on the costs of their activities. The impacts of weeds in urban areas and on public health were not included, and the authors were unable to estimate the opportunity costs of the increasing use of volunteers to manage weeds on public lands.

The estimates are also conservative because, when economic judgements were necessary, the authors generally chose minimum values.

Natural environments were taken to be the areas managed by national parks and wildlife authorities. Of the expenditure in these areas, 42% was direct costs of control by parks agencies and 25% was NHT funding. The costs do not include the value of ecosystem services lost due to weed invasion, or the costs to biodiversity, however a monetary value (\$68,700) was derived for the cost of protecting a plant species threatened by weeds in agriculture and production forestry.

Of the public authority (non-parks) expenditures that could be allocated, 64% were direct costs of coordination, inspection, survey and treatment, 6% were for education and extension and 7% for salaries and other administration. The authors highlight numerous deficiencies in their data on government weed spending. For instance, expenditure by Victorian public authorities and public land managers excludes all local governments, water authorities, Crown Lands and State Forests, and totalled \$14.6m for 2001-02, approximately half that of Queensland, where local government expended about \$9 m, but about seven times the reported expenditures in Tasmania. The increasing reliance on volunteers to undertake weed management indicates considerable cost avoidance by government.



...continues on page 3.

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Editor: Ian Faithfull.
Assistance from Raelene Kwong,
El Bruzzese, Daniel Joubert, Kerry
Roberts and Kate McArthur.

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(paper) copy, by email as a pdf file or
on the Department of Sustainability
and Environment web site.

**To have your name added to the
mailing list or for enquiries please
contact:**

DPI - Frankston

PO Box 48, Frankston, Victoria, 3199

DX 211791

Phone (03) 9785 0111

Facsimile (03) 9785 2007

Email: ktri@dpi.vic.gov.au

Internet: www.dpi.vic.gov.au

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Recent prosecutions for failure to control noxious pests

Under the *Catchment and Land Protection Act 1994* all land owners have a duty of care to protect and conserve their land and to ensure that their own neglect does not threaten the land and livelihoods of others. Among other things, land owners are legally required to take all reasonable steps to eradicate regionally prohibited weeds, prevent the growth and spread of regionally controlled weeds and prevent the spread of, and as far as possible eradicate, established pest animals.

In line with the priorities of the Regional Weed and Rabbit Action Plans of Victoria's ten Catchment Management Authorities, enforcement of these provisions of the Act is targeted at private rural land owners who fail to meet their obligations. Catchment Management Officers (CMOs) are employed by the Department of Primary Industries (DPI) to undertake extension and enforcement activity. The State Government promotes an integrated community approach to pest management, detailed in *Victorian Pest Management – A Framework for Action (VPMF)*, with education, training and incentives being the preferred methods of encouraging land owners to meet their responsibilities. However, the VPMF also envisages a substantial increase in the use of enforcement to support the Regional Weed and Rabbit Strategies. Amendments to the Act in May 2003 have increased penalties and enforcement powers, but prosecution is still undertaken as a last resort.

Rabbits

A Black Range farmer who failed to comply with a May 2001 Land Management Notice issued by DPI has been fined \$400 in the Stawell Magistrates Court and ordered to pay \$490 in costs. She pleaded guilty of failing to deep rip rabbit warrens and was placed on a good behaviour bond. Significant rabbit damage was found on the property when DPI officers inspected it, with 65 warrens unripped. The Black Range Land Management Group invested about \$47,000 in rabbit control works from 1995 to 2000.

Serrated tussock and ragwort

Two land owners were convicted of weeds charges in the Broadmeadows Magistrate's Court in early April. One, who failed to control serrated tussock, was fined \$100 and ordered to pay costs of \$68.09. In the second case, where the land owner failed to control ragwort, the fine was \$150 with costs of \$50.49. The low fines reflected the fact that both land owners pleaded guilty, were low wage earners and had completed the required weed control works after the Land Management Notices had expired.

Gorse

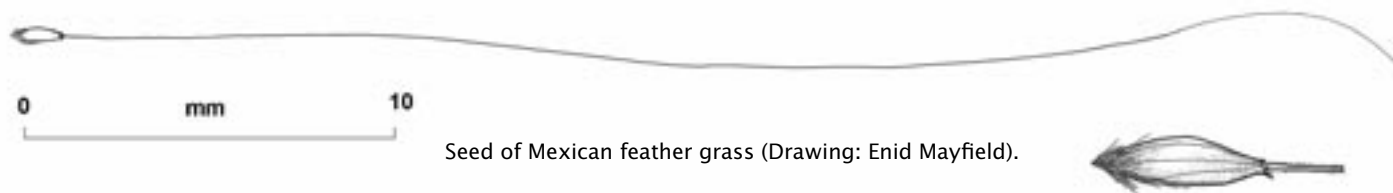
A 72-year-old landholder was found guilty in the Ballarat Magistrate's Court in early April of failing to control gorse on his property in the Daylesford district. The Strathfieldsaye man was found guilty of not complying with a Land Management Notice which required him to control an infestation on his property at Wheatsheaf. He was fined \$500, and costs of \$150 incurred by DPI were awarded against him. DPI Catchment Management officer Steven Field said that under the Act landholders in the North Central Region had a legal responsibility to prevent the growth and spread of gorse on their properties and that "DPI is pleased to be working with local community groups and landholders in a strategic effort to get rid of gorse in the targeted areas". The offence occurred prior to the recent amendments to the Act. However, under the current legislation, the maximum fine for such offences is \$24 000.

DPI officers will be moving into new target areas in the coming months and will continue to have the same expectation – landholders must take responsibility for their weeds.

For listings of the weeds and pest animals declared under the CaLP Act search for the "Notes Series" on the DPI website (www.dpi.vic.gov.au) and look for the following two Notes:

- A guide for the control over the possession, trade and movement of declared pest animals
- Declared noxious weeds

Prohibited weed discovered in Geelong nursery



Seed of Mexican feather grass (Drawing: Enid Mayfield).

Donna Smithyman

Project Officer, Department of Primary Industries, Geelong

The Weed Alert Rapid Response program has proved its value again with the discovery in late February of the State Prohibited Weed Mexican feather grass (*Nassella tenuissima*) for sale in a Geelong nursery. Twenty-one pots were confiscated and the plants were destroyed.

Mexican feather grass is one of the most serious weeds in Australia, with the potential to spread quickly and invade pastures and native grasslands. The plants being sold were labelled incorrectly as *Stipa stipoides*, the old name for coast speargrass (now *Austrostipa stipoides*), a native of coastal Victoria with a markedly different appearance. The grass was sold from two sites, the nursery itself and a retail outlet which sourced plants from the nursery.

Mexican feather grass is closely related to serrated tussock (*Nassella trichotoma*), which is widely regarded as the worst pasture weed in Australia, but it has the potential to invade a greater range of land, and if left unchecked, could spread throughout eastern Australia and as far as Queensland. The seed heads consist of thousands of tiny seeds that have a long tail (the awn) which gives a feathery appearance. When not in flower, Mexican feather grass is very difficult to distinguish from serrated tussock.

The possession and sale of Mexican feather grass is prohibited in Victoria. Anybody who suspects they have purchased it should ring their local Department of Primary Industries office or the Customer Service Centre on 136 186 for assistance. If you believe you have this plant, do not dispose of it yourself. DPI will collect and dispose of State Prohibited Weeds free of charge and will ensure that correct hygienic disposal procedures are followed.



DPI Catchment Management Officer, Wendy Vella, with the prohibited weed Mexican feather grass (Photo: Donna Smithyman).

Continued from page 1.

Estimated costs of weeds (\$m per year, 2001-02)

	Low	Mean	High
Costs of control and yield losses			
Agriculture	3 442	3 927	4 420
Cost of control, no output losses			
Natural environment	20	20	20
Public authorities	81	81	81
Indigenous lands	3	3	3
Federal govt. research	8	8	8
Total	3 554	4 039	4 532

The data for indigenous lands includes only the Northern Territory. Weed control results in very high benefits per hectare, and high benefits relative to other environmental problems, so should be a major recipient of investment funds. The challenge ahead is to ensure that the investment is proportionate to the severity of the problem, and to reduce these very substantial losses.

Financial costs and yield losses due to weeds 2001-02 (\$m)

	Financial costs		Yield losses	Total	
	Low	High		Low	High
Crops	1 033	1 121	346	1 379	1 467
Livestock	315	345	1 870	2 185	2 215
Horticulture	17	53	2	19	55
Total	1 365	1 519	2 218	3 583	3 737

Sinden, J., Jones, R., Hester, S., Odom, D., Kalisch, C., James, R. & Cacho, O. (2004) The economic impact of weeds in Australia. *CRC for Australian Weed Management Technical Series No. 8*, viii + 55 pp. http://www.weeds.crc.org.au/publications/technical_series.html (pdf file: 330KB) Available from Publications Dept., Weeds CRC, PMB 1, Waite Campus, Glen Osmond, SA, 5064, ph. 08 8303 6590.

Combella, H. (1987) Weed control pursuits in Australia. *Chemistry and Industry*, 20 April, pp. 273-280.

Staff Profile: Beth Jones Statewide Weeds Coordinator



In May 2003 the Victorian Government announced new four-year programs of \$10 million to deal with weeds on private land and \$14 million to deal with pests (weeds and animals) on public land. Beth Jones has been appointed to the Statewide Weeds Coordinator role, responsible for coordination, implementation, reporting and monitoring of all components of the Tackling Weeds on Private Land initiative. Through a range of programs and activities, the initiative will seek to ensure that government and the community take co-responsibility for weed management and that private land managers are capable and empowered to act to decrease the impacts of weeds on the state's social, economic and environmental values.

The program aims to assist land managers to tackle weed problems on private land by providing state-wide and regional coordination, support for local government, community education, targeted incentives, training packages and quality assurance programs, and by supporting community programs.

2003-04 has been the first year of the initiative, with the emphasis for funding being the areas of North East Victoria and Gippsland affected by the massive bushfires in the summer of 2003. These areas are especially susceptible to invasion by weeds because of the disturbance caused by the fires and associated fire-suppression works.

The initiative commenced in 2003/04 with the allocation of \$1m, which has been distributed to bushfire affected areas of the North East and Gippsland regions, a social research project that is considering the level of awareness of weeds policy by stakeholders and the level of cooperation between different stakeholders in weed management (due for completion in early July 2004), and a trial on the use of portable wash-down equipment for use by local government staff. This trial also focuses on a partnership approach targeting weed spread prevention and hygiene practices, community awareness and training programs for local government staff (12 month trial with three municipalities due for completion in June 2005).

Beth graduated with an honours degree in Environmental Management from the University of Ballarat. Her research studies focused on vegetation associations within primary saline land. During this time she worked as a consultant in the Ballarat region carrying out botanical and fauna surveys and roadside vegetation assessment in south-western Victoria, and working as a volunteer in the Land for Wildlife program.

After graduating from her honours year, Beth joined the Department of Natural Resources and Environment as a Flora and Fauna Officer, and worked in Bairnsdale, Colac and Geelong before commencing as a Catchment Management Officer in the Pest Plants and Animals program at Geelong. Prior to her appointment to the Weeds Coordinator role, Beth was Leader of the Pest Plants and Animals team in the Colac/Camperdown/Geelong region. She managed a number of regional programs related to priority weeds and pest animals, including the South West Ragwort Program and pest plant and animal extension and enforcement programs related to serotinous tussock, Paterson's curse, gorse, rabbits and exotic pest animals.

She completed a secondment to the Catchment and Water Division of the Department of Sustainability and Environment in 2003, during which time she managed the Rabbits and

National Chilean needle-grass website

The National Chilean Needle Grass Co-ordinator, Linda Iaconis, has established a National CNG web site. The site contains information on the identifying features, ecology and biology of the grass, and the different management options that can be applied for its control in a range of situations. The site also provides the opportunity for organisations or individuals to register an upcoming event or demonstration site. The latest information resulting from national projects (outlined in the March 2003 issue of *Under Control*) will be published on the site; particularly useful will be the best bet management guides (currently under development), which land managers will be able to easily download.

To access the site, go to www.dpi.vic.gov.au, hit 'Agriculture and Food', then 'A-Z Index', and scroll down to 'C' in the index where you will find 'Chilean needle grass'.

WEEDBUSTER WEEK 2004

October 16-24

This year's theme is
**"Fighting the
weed invaders"**

For further
information contact
Victorian Weedbuster
Coordinator

Penny Gillespie

(03) 9785 0111

penny.gillespie@dpi.vic.gov.au

Good Neighbour Program across Victoria. Beth looks forward to working with a range of stakeholders to improve weed management across the State.

Weed research or summer holidays, which would you choose?

While many students were lazing at the beach this summer, University of Melbourne students Emily Creese and Steve Faulkner chose to spend their summer doing weed research. DPI Frankston was successful in gaining two summer studentships from the CRC for Australian Weed Management this past summer, which gave the two students \$3,000 to conduct 10-week research projects of benefit to weed research in Australia. The studies contributed to the bridal creeper and dock moth biological control programs and were supervised by research scientists Sarah Holland Clift and Tom Morley. The students still managed to have fun in the sun, with fieldwork taking Emily to Coolart Wetlands on the Mornington Peninsula to study the "Impacts of bridal creeper senescence on the bridal creeper leafhopper". Steve traveled across rural Victoria to look at the "Establishment and dispersal of the Dock Moth in Victoria". Below is a review of Emily Creese's project.

Impact of bridal creeper senescence on the bridal creeper leafhopper

Emily Creese

CRC for Australian Weed Management, Summer student, University of Melbourne

Bridal creeper (*Asparagus asparagoides*) is a Weed of National Significance which causes extensive damage to conservation reserves. It was introduced into Australia in 1857 as a decorative plant and became a regular feature of bridal bouquets. A leafhopper (*Zygina* sp.) was released in Australia in 1999 as a biological control agent.



Bridal creeper leafhopper (Photo: CSIRO).

The leafhopper depletes the capacity of the plant to photosynthesise and, over time, reduces tuber production and subsequent regeneration. Above-ground parts of bridal creeper die off in mid spring when the leaves are progressively dropped. Generally, no green growth is present during summer. The leafhopper is nevertheless able to survive, and reappears on the plant after new growth appears in autumn. How it manages to do this is not understood.

The Coolart Wetlands and Homestead in Somers, Victoria, was chosen for field investigations. Leafhoppers had been released at

this reserve in December 1999 and were well established, making it an ideal site. Six sites were chosen, three with little canopy cover and three with a dense canopy. At weekly intervals over summer, pots of bridal creeper were placed at each of the sites to assess leafhopper activity. The plants were replaced each week with undamaged ones, and the plants were assessed for leafhopper damage.

The leafhopper maintained activity at all sites. Greater leafhopper activity was observed at the dense-canopy sites than the exposed ones, suggesting that leafhoppers can remain more active in shaded, moist areas.

Field sampling of branches, leaf litter and soil/bridal creeper tubers was undertaken to try to assess where leafhoppers go during summer. Samples were examined using a

dissecting microscope. Analysis of the branch samples involved brushing to remove any material on the branch. Leaf litter samples were sifted in the laboratory. Soil/tuber samples were immersed in water to float out any insects. No leafhoppers were detected in any of the samples. To ensure that it was not the sampling methods but the absence of leafhoppers that caused this result, three branch, leaf litter and soil/tuber samples were set up in cages with bridal creeper trap plants to see if leafhoppers would emerge. After two weeks, the trap plants were assessed for leafhopper damage. No leafhopper emergence was detected.

The study found that, given a constant supply of healthy bridal creeper foliage, leafhoppers are able to remain active throughout the summer. But how they survive when bridal creeper dies off still remains a mystery.



Emily Creese places a potted bridal creeper plant into a covered site at Coolart Wetlands and Homestead (Photo: M. Sedgman).

Weeds of National Significance **Weed Management Guides**

Funded by the Commonwealth Department of Environment and Heritage, the CRC for Australian Weed Management has produced a series of 6 or 8-page colour brochures covering each of the 20 Weeds of National Significance. These are regarded as the worst weeds in Australia because of their invasiveness, potential for spread, and economic and environmental impacts. The guides are written in an easy to read manner and contain numerous illustrations. They cover the problems the weed causes, the weed's biology and identification, plants with which it can be confused, a growth calendar (flowering, seed production, seed drop, germination and growth periods), how it spreads, where it grows, potential distribution, the management and treatment techniques available and detailed advice on control, plus an instructive case study. These are an excellent resource and should have wide use.

The 20 WONs are: alligator weed (*Alternanthera philoxeroides*), athel pine or tamarisk (*Tamarix aphylla*), bitou bush (*Chrysanthemoides monilifera* ssp. *rotundata*), boneseed (*C. monilifera* ssp. *monilifera*), blackberry (*Rubus fruticosus* aggregate), bridal creeper (*Asparagus asparagoides*), cabomba (*Cabomba caroliniana*), Chilean needle grass (*Nassella neesiana*), gorse (*Ulex europaeus*), hymenachne (*Hymenachne amplexicaulis*), lantana (*Lantana camara*), mesquite (*Prosopis* spp.), mimosa (*Mimosa pigra*), parkinsonia (*Parkinsonia aculeata*), parthenium weed (*Parthenium hysterophorus*), pond apple (*Annona glabra*), prickly acacia (*Acacia nilotica*), rubber vine (*Cryptostegia grandiflora*), salvinia (*Salvinia molesta*), serrated tussock, *Nassella trichotoma* and willows (*Salix* spp.).

The guides are available as pdf files at: http://www.weeds.crc.org.au/publications/weed_man_guides.html

Hard copies are available from State Government Agencies and the Commonwealth Department of the Environment and Heritage. To obtain copies in Victoria contact the DPI/DSE Customer Service Centre, telephone 136 186.



Weed Society of Victoria Urban Grassland Weeds Seminar

Tuesday 5 October 2004

Melton Shire Council, Community Hall, High St Melton

Melways 115 C9

Registration closes 24th September,
Contact WSV, PO Box 978, Frankston, 3199
Ph/Fax 03 9576 2949, Email: secwssv@surf.net.au

PROGRAM

8.00-8.55	Registration
8.55-9.00	Welcome & house-keeping Richard Denver, President WSV
9.00-9.30	Integrated control of serrated tussock at Bush's Paddock native grassland Richard Rowe, Pinkerton Forest Landcare & Environment Group
9.30-10.00	Local Government grassland management perspectives: Shire of Melton Alan Brennan, Melton Shire Council
10.00-10.30	Morning Tea
10.30-11.00	Management of Chilean needle-grass in native grasslands Louise Beames, Victoria University of Technology
11.00-11.30	Recent perspectives on integrated grassland management to maintain or improve ecosystem health Colin Hocking, Victoria University of Technology
11.30-12.00	Direct seeding in weed infested remnant grassland situations using native forbs Randal Robinson, Victoria University of Technology
12.00-12.30	Clean green grassland repair using kangaroo grass Bram Mason, Melton Shire Council
12.30-13.00	Grassland edges: Weed invasion patterns and strategies for keeping weeds out Nick Williams, Melbourne University
13.00-13.10	Grazing & regional best practice management of Chilean needle-grass Charles Grech, DPI
13.10-14.00	Lunch
14.00-16.00	Visit to Melton Grasslands – remnant wildflower displays and management sites

Registration: \$100, WSV members \$80, Students \$60, late registrations after 3 September add \$20.

Red-eared slider

The red-eared slider tortoise, *Trachemys scripta elegans*, the tortoise equivalent of the cane toad, has been found in farm dams at Mango Hill and Kallangur in south-east Queensland. About 80 individuals had been found by 11 March. Two that were being kept as pets in Brisbane were surrendered under the national exotic reptile amnesty on 19 March. Colonies have also been found in NSW, where it is established in the Sydney region. In Victoria, two have recently been handed in as part of the amnesty and a billabong in Blackburn is to be drained in an attempt to capture two individuals believed to have been released there by their owners. Another was left with the National Zoo and Aquarium in the ACT in March. It is believed that the animal was brought to Australia as an aquarium pet in the 1960s and 1970s before imports were banned.

The red-eared slider has distinctive red stripes behind the eyes, which fade as the animal ages, and retracts its head straight back into the shell, unlike all native freshwater tortoise species, which wrap their heads and necks around to the side of the shell. The slider is native to the Mississippi Valley area of the USA and is a problem in many parts of the world. Millions of farmed red-eared sliders have been exported from the USA for the pet trade. It is listed among the 100 'World's Worst' invaders by the World Conservation Union (IUCN), and is considered a major threat to biodiversity. The red-eared slider is a very aggressive species with a strong bite, which could harbour exotic diseases and is able to out-compete native species for food and space.

The red-eared slider and related exotic tortoises are Controlled Pest Animals in Victoria and can only be kept under permit in high security collections.

Sources

Brendan O'Malley, Hostile turtles join pest list, *The Courier Mail* (Brisbane), 11 March 2004.

Queensland Department of Natural Resources, Mines and Energy (2004), *Red-eared slider turtle Fact Sheet*. www.nrm.qld.gov.au/pests/warning_brochures/pdf/red_eared_slider_turtle.pdf

Exotic creatures seized in raid on factory. *The Age* 3 June 2004; p.7.

Department of Primary Industries, Frankston Pest Plant & Animal Contacts

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Weeds of Natural Ecosystems
Pest Plant Impact Assessment
Economic Evaluation
Aquatic Weeds
Riparian Weeds
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Biological Control of Weeds
Weed Warriors
Blackberry National Coordinator
Chilean needle-grass National Coordinator
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Raelene Kwong
Kate McArthur
Sarah Keel
Linda Iaconis
Kate Blood
Daniel Joubert
Jim Backholer
Michael Johnston
Greg Lefoe

Eligio.Bruzzese@dpi.vic.gov.au
David.McLaren@dpi.vic.gov.au
Nigel.Ainsworth@dpi.vic.gov.au
John.Weiss@dpi.vic.gov.au
Tereso.Morfe@dpi.vic.gov.au
Lalith.Gunasekera@dpi.vic.gov.au
Nigel.Ainsworth@dpi.vic.gov.au
Graeme.Pritchard@dpi.vic.gov.au
Rae.Kwong@dpi.vic.gov.au
Kate.McArthur@dpi.vic.gov.au
Sarah.Keel@dpi.vic.gov.au
Linda.Iaconis@dpi.vic.gov.au
Kate.Blood@dpi.vic.gov.au
Daniel.Joubert@dpi.vic.gov.au
Jim.Backholer@dpi.vic.gov.au
Michael.Johnston@dpi.vic.gov.au
Greg.Lefoe@dpi.vic.gov.au

Department of Primary Industries (DPI), Frankston,
PO Box 48 Frankston, Victoria, 3199, Australia (03) 9785 0111 Fax (03) 9785 2007 DX 211791
email: ktri@dpi.vic.gov.au internet: www.dpi.vic.gov.au

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If you wish to have your name added to the mailing list please contact: Belinda Fisher, ph. (03) 9785 0111, email: Belinda.Fisher@dpi.vic.gov.au. Please let us know if you have changed your address or no longer wish to receive the newsletter.

Enquiries or feedback about the content of the newsletter should be directed to the editor: Ian Faithfull ph. (03) 9785 0105, email: Ian.Faithfull@dpi.vic.gov.au

Aggressive US turtle here. *Media release*, Queensland Department of Natural Resources, Mines and Energy, 10 March 2004.
http://www.nrm.qld.gov.au/about/media/mar/10_turtle_threat.html

Acknowledgement

Thanks to Lisa Connors of Qld NRM&E.



Red eared slider turtle in hand. Arrow indicates red stripe behind eye. (Photo: DNRME Qld).

Continued from back page.

Unlike orange hawkweed, it has yellow flowers that occur in multiple clusters of 3-35 heads on stems that can grow to over 70 cm tall and which have small leaves at the base. The leaves are pale green, bluish green or reddish green with smooth (untoothed) edges that are often folded inwards. They are hairy above, hairless below (except on the midrib and edges) and more or less erect (rather than lying flat to the ground). The hairs, which also occur on the stems, are fine and 2-5 mm long. The sap is pure white.

The infestations are being treated with herbicide under strict hygiene guidelines to avoid spreading the plant further.

All *Hieracium* species are State Prohibited Weeds in Victoria. They must not be grown or sold. Please report any suspect plants to your local office DPI/DSE office.

Further Reading:

Espie, P. (2001) *Hieracium in New Zealand: Ecology and Management*. AgResearch Ltd., Lincoln, New Zealand, 65 pp.

Weed Alert! Hawkweeds invading the high country

Kate Blood, Project Leader, Weed Alert Rapid Response, DPI

Hawkweeds (*Hieracium* species) have become a problem in Australia only recently, but they have been significant weeds in other temperate areas of the world for many years. They can reproduce and disperse rapidly, are strong competitors for light, moisture and soil nutrients and can quickly displace native species. Orange hawkweed (*Hieracium aurantiacum*) was first found established in the Victorian high country in January 1999.

Orange hawkweed update

A meeting to discuss the ongoing management of orange hawkweed was held at Falls Creek in January 2004. A variety of government, education, industry and community agencies and groups were represented. The currently known infestations in Victoria are in and around Falls Creek, where the plant escaped from a garden within the village. There is good recognition of the weed by the Falls Creek community and reports are passed on promptly to Stan Cantwell at the Resort Management Board. There is an ongoing eradication program: existing infestations and any new occurrences are treated with herbicide by local contractor Jill Dawson.

Surveying further afield this summer has been carried out by Ecology Australia under contract from Parks Victoria, with Bushfire Recovery funding. The large scale of the 2003 fires has meant that there are huge areas of burnt land that are more susceptible to weed invasion. In addition to the target survey weeds, they found three other significant invasive species: woolly yarrow *Achillea tomentosa*, bighead knapweed *Centaurea macrocephala*, and the grass *Holcus mollis* creeping fog. The former two species are newly recognised invasives in Victoria.

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King devil hawkweed – a new weed for Australia has been found at Falls Creek.



Creeping fog has previously been recorded from South Gippsland and currently has an extremely limited range compared to its infamous cousin Yorkshire fog, *H. lanatus*.

The orange hawkweed infestation found and destroyed at Mt Buller in 2002 is monitored regularly by Gerard McHugh of the Mt Buller Resort Management Board. No further plants have been found. There are no known infestations at Mt Hotham.

The meeting was presented with a disturbing new report of orange hawkweed by NSW National Parks & Wildlife Service's David Lawrence and Jim Killen. An infestation in a remote area of the Jagungal Wilderness in Kosciuszko National Park was found by botanists, including Neville Walsh from the National Herbarium of Victoria, in December 2003. It has been treated and the site will be regularly monitored.

New Hawkweed for high country

The meeting also heard from Rudi Pleschutschnig of DSE, who reported on the first detection of another invasive *Hieracium* species. The new species was found in the Alpine National Park in December 2003, just south of the Falls Creek village, next to the Rocky Valley Dam. This plant, *Hieracium praealtum* subsp. *bauhini* (king devil hawkweed), has been confirmed by botanists at the National Herbarium of Victoria as a new naturalisation for Victoria. It is also a new weed for Australia. The infestation is currently recorded occupying an area of 0.8 ha. Subsequently, the Ecology Australia team found a couple of smaller populations (while looking for orange hawkweed), 2 km south-west and 1 km north-east of the existing population.

King devil hawkweed is superficially similar to many other daisies, both native and exotic, that occur in the high country. Like orange hawkweed, king devil hawkweed has stolons – horizontal or arched stems that run along the ground and are capable of forming roots and new plantlets.